The University of Maine 2025-2026 Undergraduate Catalog

025-2026 Un rgraduate Catalog

University of Maine
Undergraduate Catalog for the
2025/26 Academic Year



Bear Paws are smart links to special information designed to help you learn more about what UMaine has to offer. They may link to digital presentations, photos, or even to departmental websites.

We are always seeking new ways to enhance your experience with UMaine, and we'd like to hear what you think about our online catalog. Please send an email to um.catalog@maine.edu with any suggestions or ideas you would like to share with us.

Updated on July 25, 2025

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President's Message

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Welcome to the University of Maine and the University of Maine at Machias, respectively located on Marsh Island in the homeland of Penobscot Nation and in the Passamaquoddy territory.

As a learner-centered Research 1 institution, the University of Maine provides you with unparalleled opportunities to engage directly in cutting-edge research, receiving the personalized attention that ensures your success. Whether you arrive with a clear vision of your future career or wish to explore, we encourage you to discover possibilities you may have never imagined.

With 89 options for undergraduate majors, 123 graduate programs, certificates, specializations and emphases, and 30 undergraduate certificate programs, you have the academic flexibility to pursue the field that you are most passionate about and to explore entirely new disciplines that capture your curiosity. Our Research Learning Experiences begin on day one, connecting you immediately with faculty who are advancing knowledge, making discoveries, and creating new ideas. They are ready to prepare you for careers in all kinds of industries, including ones that may not yet exist.

The University of Maine at Machias offers another exceptional option for your undergraduate education. As the easternmost university in the United States, UMaine Machias provides a community-focused environment where student-led learning and close faculty mentorship create ideal conditions for academic growth. Here, you can pursue your studies while taking advantage of unique opportunities in marine science, environmental studies, and interdisciplinary programs that leverage our distinctive coastal location and specialized expertise.

Our commitment to being learner-centered means that whether you choose UMaine or UMaine Machias, your education will be tailored to your interests to help you achieve your goals. Through partnerships with over 450 industry organizations, internship programs, and external research centers, you will graduate prepared not just for your first job, but for a lifetime of professional growth and adaptation.

The pages that follow detail the academic programs and pathways available to you. We encourage you to explore broadly, engage deeply, and prepare for a future filled with possibilities.

Welcome to the University of Maine community.

Sincerely,

Joan Ferrini-Mundy
President

University Overview

The University of Maine, established in Orono in 1865 under the provisions of the Morrill Act, is located on Marsh Island in the homeland of the Penobscot Nation. UMaine's regional coastal campus, the University of Maine at Machias, is located in the Passamaquoddy homeland. The universities are student-centered and community-engaged, with a foundational commitment to diversity, equity, and inclusive excellence.

UMaine is the state's land grant, sea grant, and space grant institution. As Maine's only top-tier R1 research university, UMaine has a statewide mission of teaching, research, and community engagement. UMaine has agricultural field stations including Aroostook, Highmoor, and Blueberry Hill Farms, and J.F. Witter Teaching and Research Center. UMaine also operates a marine sciences research facility called the Darling Marine Center. The University of Maine Cooperative Extension offices, camps, and learning centers serve the 16 counties in Maine. UMaine Machias has an integral regional focus in Downeast Maine, including a marine sciences field station at Downeast Institute. Both campuses extend the resources of the learning communities to address educational, economic, cultural, and social needs of Maine, the nation, and the world.

UMaine is the flagship institution of the University of Maine System, broadening opportunities for students, faculty and staff statewide. In 2020, the University of Maine System received a $240 million investment from the Harold Alfond Foundation. The grant helps to support Black Bear athletics, the Maine College of Engineering and Computing, the Maine Graduate and Professional Center, and undergraduate student success and retention programming. The grant aligns with UMS unified

accreditation goals and UMaine Strategic Vision and Values, which focus on fostering student success, discovering and innovating, and growing and advancing partnerships. Additionally, the UMS TRANSFORMS student success and retention initiative includes research learning experiences that introduce students to discovery and knowledge creation early in their college careers. The initiative helps students succeed in courses that have traditionally been a barrier to academic progress and supports a pathways to careers program that expands access to internships with employer partners.

UMaine is a vibrant community of more than 11,200 students from Maine, the United States and the world, offering nearly 100 undergraduate and more than 150 graduate programs taught by world-class faculty and grounded in research. UMaine is featured in multiple national guides of best colleges and is one of the Princeton Review's green colleges. UMaine Machias offers its more than 500 students baccalaureate degrees, associate degrees, and certificates within an active and diverse community of learners who share a commitment to exploration, leadership, collaboration, interdisciplinary problem solving in the Washington County region. UMaine is comprised of the Maine Business School and five colleges - Maine College of Engineering and Computing; College of Earth, Life and Health Sciences; College of Education and Human Development; College of Liberal Arts and Sciences; and Honors College. UMaine Machias offers two-year and four-year programs through its divisions of Integrative and Marine Sciences and Creative Arts and Professional Studies.

Among the state's public universities, UMaine and UMaine Machias award 44% of all four-year degrees, 47% of all master's degrees, and 94% of the state's Ph.D.s and Ed.D.s. The newest graduates join more than 110,000 alumni worldwide.

UMaine is home to Maine's only Division I athletics program with 17 sports programs. The Black Bears boast numerous team and individual conference championships, many trips to the NCAA Tournament, academic champions, and two National Championships in Men's Ice Hockey. Maine Athletics has developed student-athletes who have gone on to achieve much success, both in sports and in their chosen professions, including several professional athletes, Super Bowl Champions, Stanley Cup Champions and Olympians.

Fogler Library, the state's largest library, is a regional depository for federal government publications, and an official depository for Canadian federal and Maine state government publications. It also is the state-designated Maine Business, Science, and Technology Library, and is the only Patent and Trademark Resource Center in Maine.

UMaine is a cultural hub for the state - with the Zillman Art Museum, Hudson Museum, and Page Farm and Home Museum. Numerous visual and performing arts events take place at the Lord Hall Gallery, Collins Center for the Arts, School of Performing Arts, and the Versant Power Astronomy Center UMaine enhances and advances community engagement, learning for all ages, and diversity and inclusion.

For more than a century, UMaine has conducted research of global and local relevance, contributing to the greater good in Maine and beyond. Faculty, staff and students have conducted nationally and internationally recognized research and scholarship in every county in Maine, on all continents and in all the oceans of the world. UMaine's impact comes through research and innovation in climate change, engineering, advanced structures and composites, advanced manufacturing, forestry, marine sciences, agriculture, healthcare, and the arts and humanities. UMaine and UMaine Machias partner with the private and public sectors to stimulate and support the state's economic growth and development. The university has a sustained focus on research, innovation and entrepreneurship, and 2023 research and development expenditures exceeding $245 million. In 2022, UMaine achieved the highest Carnegie Classification as a doctoral university with very high research activity (R1) through the outstanding work of faculty and students.

The UMaine student experience in and out of the classroom reflects the breadth and depth of a research university, with interdisciplinary, immersive learning opportunities and mentoring by faculty and graduate students who are leaders in their fields. Those opportunities begin in a student's first year with new Research Learning Experiences at UMaine and UMaine Machias focused on education through knowledge creation. Students engage in research, creativity and community building a problem-solving mindset. Immersive learning and community engagement, from volunteerism and capstone projects to internships, ignite passion in students, and help address issues globally and locally.

UMaine and UMaine Machias are committed to accessible lifelong learning for learners of all
ages, the creation of new knowledge and research-based problem solving to address needs and inform the future, and comprehensive outreach to improve lives and communities. Providing opportunities in an atmosphere that honors heritage and diversity are cornerstones of our mission. Through integrated teaching, research and outreach, UMaine and its regional campus improve the quality of life for people in Maine and around the world, and promote responsible stewardship of human, natural and financial resources.

Academic Calendar

2025-2026 ACADEMIC YEAR CALENDAR

Class information is based on full semester classes.
MaineStreet provides information on non-standard dated classes.
For information about Winter Session and Summer Session classes,
please see MaineStreet's Schedule of Classes.

Fall Semester 2025	
No Classes Labor Day	Monday, September 1
Classes begin	Tuesday, September 2
Last day to add courses	Monday, September 8
Last day to drop classes for refund*	Monday, September 15
Application for graduation filing deadline (Dec.)	Wednesday, October 1
Classes dropped on or before this date will not appear on transcript	Friday, October 3
Fall break begins	Monday, October 13
Classes resume	Wednesday, October 15
Enrollment for Spring 2025 begins	Monday, October 27
No classes Veterans Day Observed	Tuesday, November 11
Last day to withdraw from a class and receive 'W' grade (Withdrawn classes after this date will receive failing grade.)	Friday, November 14, 4:30 p.m.
Thanksgiving break begins	Wednesday, November 26
Classes resume	Monday, December 1
Classes end	Friday, December 12
Final exams begin	Monday, December 15
Final exams end	Friday, December 19
Final grades due	Friday, December 26

Winter Session: Monday, December 29, 2025 - Friday, January 16, 2026 (tentative)

Spring Semester 2026	
Classes begin	Tuesday, January 20
Last day to add courses	Monday, January 26
Applicaton for graduation filing deadline (May)	Sunday, February 1
Last day to drop courses for refund*	Monday, February 2
No classes President's Day	Monday, February 16

Classes dropped on or before this date will not appear on transcript	Friday, February 20
Spring break begins	Monday, March 16
Classes resume	Monday, March 23
Enrollment for Fall 2026 begins	Monday, March 30
Last day to withdraw from a class and receive 'W' grade (Withdrawn classes after this date will receive failing grade.)	Friday, April 10, 4:30 p.m.
UMaine Student Symposium	Friday, April 17
Maine Day Week	Monday - Friday, April 27-May 1
Classes end	Friday, May 1
Final exams begin	Monday, May 4
Final exams end	Friday, May 8
Commencement - Graduate	Friday, May 8- Orono Graduate
Commencement - Undergraduate	Saturday, May 9 - Orono Undergraduate
	Sunday, May 10 - Machias
Final grades due	Friday, May 15

Summer University: Monday, May 11 -- Friday, August 21, 2026 (tentative)

*Class information is based on full semester classes. MaineStreet provides information on non-standard dated classes.

Summer University classes have variable start and end dates; Holidays: Memorial Day, Juneteenth & Independence Day

Grading options (audit, graded or pass/fail) on classes may be changed through the add period of the class section.

Admission

Admission to the University of Maine and the University of Maine at Machias, the Downeast regional campus of the University of Maine is selective. The University of Maine (UMaine) and the University of Maine at Machias (UMM) seek candidates whose academic credentials, scholastic achievement and motivation indicate promise for success in its programs. Applications from prospective degree candidates are considered without regard to race, color, creed, sex, national origin, handicap or age. The University belongs to the National Association for College Admission Counseling, and as such subscribes to the Statement of Principles of Good Practice.

Visiting the Campus

All prospective students are encouraged to visit the University of Maine and the University of Maine at Machias for a Campus Tour and Admissions Welcome.

At UMaine, Campus Tours and Admissions Welcome are typically offered weekly Monday- Saturday. In addition to daily tours, numerous open houses and other programs are also offered. To learn more or to schedule a visit, please visit our web page at

https://go.umaine.edu/visit/ or contact the Office of Admission toll-free at 207.581.1561.
At UMM, Campus Tours and Admissions Welcomes are typically offered weekly Monday- Friday. In addition to daily tours, numerous open houses and other programs are also offered. To learn more or to schedule a visit, please visit our web page at machias.edu/admissions/visit-us or contact the Office of Admission toll-free at 888-468-6866.

Academic Entrance Requirements

Academic course requirements for admission are established by each of the UMaine's five undergraduate colleges and UMM. Students are expected to complete a college preparatory curriculum with well-developed skills in writing, reading comprehension, reasoning, mathematics, the natural sciences, history and social sciences, foreign languages and the fine arts. Applicants are reviewed for entrance into the first choice major selected on the application, or second choice major if the student is not eligible for admission to her/his first choice. Please visit Academic Requirements for Admission for specific course requirement information. Candidates no longer in high school who have not completed requirements to earn a high school diploma must provide an official copy of the General Equivalency Diploma (GED) or the HiSET test results as approved by the Department of Education.

College and Program-Specific Admissions

Division of Lifelong Learning Admission

The University of Maine offers a variety of academic programs through the Division of Lifelong Learning. Courses are taught online, on campus, at selected off-campus sites using distance technology. Categories of enrollment include:

- **Non-degree Students:**

Undergraduate students interested in taking University of Maine or University of Maine at Machias courses for personal or professional enrichment as non-degree students are advised to complete and submit an Online Registration Form. This form is not an application form for admission into the University of Maine. Go to the DLL Ways to Register webpage to locate the correct Online Registration Form based on the term for the course. A confirmation letter will be sent to the student upon completion of the non-degree course registration form. Please visit the DLL Advising Center webpage or contact the DLL Advising Center for assistance or stop by in person at Estabrooke Hall Room 435, for class schedules and registration information. Non-degree graduate students interested in taking graduate level courses should complete the Graduate non-degree application.

- **Baccalaureate Students:**

The Division of Lifelong Learning offers the Bachelor of University Studies adult completion degree which can be completed fully online or on- campus . Courses are offered during all terms- Summer, Fall, Winter and Spring. Students who desire additional information about the Bachelor of University Studies may visit https://umaine.edu/universitystudies/ or email universitystudies@maine.edu. To apply for admission into UMaine, please visit: https://go.umaine.edu/.

UMaine New Media Program

First year and transfer admission to the New Media Program at UMaine is available for qualified candidates for all "year-one" students. Continuing status and admission to upper-level classes is, however, limited and highly competitive. A "year-one" student is any student, regardless of number of credits earned, who has not taken all required first year courses in New Media and/or whose portfolio has not been approved by the New Media faculty. All entering first year students will, at the end of their first year sequence (May of each year), present a portfolio to the New Media faculty for review. Transfer students, including those changing majors, may submit a portfolio at any time, either after taking the first year sequence, or at an earlier time if they choose. Each student's work will be evaluated and the student will be granted or denied continuing status on the basis of academic, artistic and technical merit. If granted continuing status, students will then be allowed to take intermediate and advanced level classes in New Media.

All "year-one" students denied continuing status will be given a written review of the submitted portfolio, so that if they choose, they may work to improve the portfolio and reapply to the New Media Program. Any "year one" student who is denied continuing status

may continue to take 100 level NMD classes, courses in related areas, and open enrollment NMD classes, but will not be allowed to take core, intermediate and upper level new media classes. A student may reapply for continuing status one additional time in the next year. Students who are not awarded continuing status in the New Media Program may enroll in another program at the university provided they meet program requirements.

UMaine Nursing Program - First Year Applicants

First year nursing applicants applying to UMaine are required to submit written responses to specific Nursing essay prompts and will be reviewed using a holistic admission process. Nursing essay prompts and instructions on how to submit them are available online. For first year applicants go to: https://go.umaine.edu/nursing-application-essay-fyr/. Please note that students applying to the Nursing Pathway program at UMM do not need to submit Nursing prompts.

UMaine Nursing Program - Transfer Applicants

Transfer admission to the UMaine Nursing program is very competitive. Transfer admission is based on achievement in specific courses related to UMaine's nursing curriculum, the cumulative grade point average from all colleges and universities attended, responses to specific Nursing essay prompts, and space available in the program. Questions about the application process should be directed to the Office of Admission. Please note that because of the course sequencing in the UMaine Nursing program, it is not unusual for an extra semester of academic work at UMaine to be required for students transferring into the Nursing program, resulting in a December graduation date.

Nursing essay prompts and instructions on how to submit them are available online on the Transfer Nursing Student Admission Essay Prompt webpage. General admission information for transfer nursing applicants and minimum requirements to be considered for transferring into the Nursing program are also listed on that webpage.

A student transferring from a baccalaureate nursing program to the School of Nursing baccalaureate program is required to provide a letter of reference from a faculty member teaching in the student's most recently attended completed semester and a statement from the head of the nursing program stating that the student is in good academic standing. These materials are to be mailed directly to the Office of Undergraduate Admission, 5713 Chadbourne Hall, Orono, ME 04469-5713 from the originating institution.

Admission to the nursing program is competitive, based on both the applicant's credentials and space available in the program. Admission to the Nursing program is extremely competitive and limited because of restricted space.

UMaine Teaching Certification Programs - Transfer Applicants

Effective January 2008, the College of Education and Human Development requires students who transfer into a teacher certificate program to successfully pass PRAXIS Core, based on the State of Maine requirements, after one semester of attendance at UMaine. Transfer students with 45+ credits not passing PRAXIS Core after one semester will not be allowed to continue in a teacher certificate program. All transfer students for any College of Education and Human Development program must have a minimum grade point average of 2.5 on a 4.0 scale to be considered for admission. Transfer admission is competitive and will be based on achievement in appropriate academic coursework and available test scores.

Domestic Student Admissions

Applying for Admission

Candidates are encouraged to apply electronically by visiting the UMaine undergraduate admission website at www.go.umaine.edu or the UMM admission website at apply.machias.edu. Application forms are also available to download from either website and may be available in many high school guidance offices, or by contacting the UMaine Office of Undergraduate Admission by calling toll-free at 207.581.1561, or by e-mail at umaineadmissions@maine.edu or contacting the UMM Admission Office by calling toll-free at 888.468.6866, or by e-mail at ummadmissions@maine.edu.

UMaine and UMM accept the following forms of application: Common Application and ApplyMaine Application, other application forms available are listed on the UMaine Admission website (www.go.umaine.edu) and the UMM Admission website (apply.machias.edu).

Admission for Permanent Residents

Candidates who are permanent residents of the United States, and hold a resident alien card issued by the United States Citizenship and Immigration Services (USCIS), must submit their A number (at the time of application.) This is required to document the candidate's status with the USCIS. Permanent residents should use the regular undergraduate application. Other international applicants should refer to the section on International Admission. Permanent residents for whom English is not their first language may be required to take the Test of English as a Foreign Language (TOEFL) or a similar test. This requirement will be evaluated on a case by case basis depending upon the number of years the student has lived in the United States and fluency in the English language.

Permanent residents will be notified if a TOEFL is required after their application has been received.

Recommended Filing Dates

The Office of Admission reviews fall applications received after December 1st, early action candidates deferred to the regular admission process and spring applications on a modified rolling basis as long as space is available. UMaine and UMaine Machias first-year applicants for fall semester entrance applying through the regular admission process are encouraged to submit a complete application by March 1st to receive full consideration for financial aid and campus housing. Transfer applications for the fall semester are encouraged to apply by February 1st to facilitate early course registration and by June 1st for full consideration for financial aid and housing. Spring semester applicants should apply by January 1st. It is to the applicant's advantage to apply as early as possible in the admission cycle.

Contingent Admission

All candidates approved for admission prior to the completion of their current academic work are accepted contingent upon successful completion of all academic work and the receipt of an official transcript of grades. Final high school transcripts must contain the date of high school graduation. The University reserves the right to rescind a decision if the applicant fails to graduate from high school (or its equivalent), or if the student's academic performance fails to meet university admission standards.

Accepting the Offer of Admission - Enrollment Deposit

Students accepted to the University of Maine or the University of Maine at Machias for fall entrance must confirm their plans to attend the University by submitting an enrollment deposit by May 1st to reserve their spot in the incoming class. For UMaine the confirmation deposit amount is $175. For UMaine Machias the confirmation deposit is $50.

Students accepted after May 1st must confirm their plans to attend and submit their enrollment deposit within two weeks of notification.

If plans unexpectedly change, students may submit a written request to the UMaine Office of Admission for a refund of their UMaine or UMaine Machias deposit no later than August 1st. Deposits are not refundable after August 1st.

Students accepted to the University of Maine for the spring semester are requested to submit a $175 non-refundable enrollment deposit by January 1st or two weeks from the date of acceptance if the acceptance is later than January 1st. Questions about the enrollment deposit should be directed to the Admissions Office.

Students accepted to the University of Maine at Machias for the spring semester are requested to submit a $50 non-refundable enrollment deposit by January 1st or two weeks from the date of acceptance if the acceptance is later than January 1st. The enrollment deposit is credited to the student's account by the Student Financial Services Office.

Admission Categories

First-year Students

A graduating high school student (regardless of number of college credits taken while in high school) or a high school graduate or GED recipient who has attempted fewer than 12 college credits after graduation and is applying to a four year bachelors degree program.

In addition to the admission application, students must submit official high school transcripts complete through the most recent set of grades available at the time the application is submitted and an official letter of recommendation from their high school, usually from the guidance counselor. Students offered admission are required to submit their final high school transcript, complete with date of graduation, as soon as it is available, to complete their admission application.

Home-schooled students must submit the above listed necessary documents, replacing the high school transcript with a listing and description of coursework completed and competency level achieved. Home-schooled applicants are encouraged to submit official results from the General Equivalency Diploma (GED) or HiSET test results to certify the completion of high school or its equivalent. Those who choose not to submit the GED must submit detailed course descriptions (including texts and curriculum used).

- **Standardized Test Policy**

First year candidates have the option of submitting their results on the Scholastic Aptitude Test (SAT) or the American College Test (ACT). The University will consider only the highest standardized test scores from the combined SAT Evidence-Based Reading; Writing and Mathematics tests or the ACT composite score. The highest individual test results for the SAT Evidence-Based Reading & Writing test and the SAT Mathematics test will be used from the same or multiple test administrations to create the highest composite SAT score. Because only the highest scores are used, candidates are encouraged to submit all test results from all test administrations. When reporting test score information for the incoming class, UMaine reports only the test scores (SAT or ACT) that were used in the admission decision and not all test scores submitted by an applicant.

Transfer Admission

Candidates applying for transfer from other colleges or universities are encouraged to apply by January 1st for spring admission

and February 1st for fall admission to allow for ample processing time. Spring applications received after January 1st and fall applications received after June 1st will be reviewed on a space available basis. Generally, students who have earned a grade point average of at least a 2.00 on a 4.00 scale from accredited colleges or universities, and have met academic course requirements, are considered for transfer admission. Exceptions to this standard may include candidates who have completed only a minimal level of college coursework and/or present a marginal high school record, and students applying to selected programs in the University having limited space or more competitive entrance criteria.

Along with the application, transfer students must submit an official final high school transcript showing date of graduation and official transcripts of all attempted college-level coursework. Transfer credit is awarded through the dean's office of the college to which the student has been admitted. Please refer to the Transfer Credit section in this catalog for complete information on the University's policies for awarding transfer credit.

Students who are unable to obtain an official transcript(s) due to financial indebtedness at other colleges or universities will not be considered for admission until such documents have been received. Students seeking admission after a dismissal or suspension from other institutions must include with their applications written petitions that provide clear and convincing reasons to justify admission and information that would negate the likelihood of a repetition of the conduct or conditions which led to the dismissals or suspensions.

Early Admission (high school juniors)

Upon the recommendation of high school principals and guidance counselors, the University will consider candidates prior to high school graduation who have demonstrated outstanding academic achievement and whose motivation and maturity reflect a strong desire to pursue University degree programs. Candidates must have completed a minimum of three years of college preparatory work in high school and have the option of submitting test results from either the Scholastic Assessment Test I (SAT I) or the ACT examination. Candidates are requested to arrange an on-campus interview and will also be required to have the support and endorsement of their parents or legal guardians. High school students who enter the University of Maine or the University of Maine at Machias prior to graduation from high school are not eligible for federally funded financial aid.

Early Action Admission Program for UMaine Applicants

Students wishing to participate in UMaine's non-binding Early Action Admission Program for the upcoming fall semester should have a completed application on file in the Office of Admission or postmarked by December 1st. Decisions will be made by the end of January. Early Action candidates will be given preference for highly selective majors, Honors College review and merit scholarships that are awarded by the Office of Admission.

Deferred Admission

Approved degree candidates may defer University enrollment for up to one year from the offer of admission. The intent of this delayed degree status is to allow students the opportunity to seek employment as a means of saving funds for college or the opportunity to travel and take a "break" from academic study. Deferred admission is generally approved on a case by case basis and takes into consideration many factors. Candidates approved for deferred admission will be required to submit a non-refundable deposit of $175 to confirm their plans to attend UMaine or a non-refundable deposit of $50 to confirm their plans to attend UMaine Machias, the deposits will be held on account by the University Student Business Services Office. The request to defer enrollment must be made in writing to the Office of Admission prior to the beginning of the semester in which the applicant was originally offered admission: August 1st for fall semester enrollment and prior to January 1st for spring semester enrollment.

Deferred Enrollment (Active Military Duty)

The University of Maine participates in the Concurrent Admission Program (ConAP) administered by the U.S. Army Recruiting Command. This option allows eligible soldiers to defer their enrollment at the University while serving active duty enlistment. Requests for military deferred enrollment will be considered on an individual basis. Requests must be made in writing to the Admissions Office and be received by August 1st, for candidates who applied for the fall semester and by January 1st for spring semester candidates.

Reactivation and Readmission

Reactivation

Students who previously applied to the University of Maine or the University of Maine at Machias, but did not enroll within two years of the original date of application, may request a reactivation of their application by completing a http://go.umaine.edu/reactivate-your-application-to-umaine/. Students must provide official transcripts of all academic work that has been attempted since the application was first filed and a final high school transcript showing the date of graduation if one is not already on file. Students normally seeking re-admittance to the university less than thirty days prior to the start of the semester may not be processed in time to fully serve the returning student. Specific classes, housing and other services may not be available as the start of the semester approaches.

Readmission

Former University of Maine or University of Maine at Machias degree candidates planning to return to either UMaine or UMM to resume their undergraduate work must first apply for readmission by submitting a readmission form (readmit form). The readmit form can be found on the Student Records Forms webpage and should be submitted to the dean of the college or director of the program that the student wishes to enter. Since the application process may vary depending on a student's academic history and intended major, it is advisable to seek instructions from the academic dean of the undergraduate college or the director of the program in which enrollment is sought. Students who have a 2.0 or better cumulative UMaine GPA are normally readmitted to the program they are seeking to enter but readmission is not guaranteed and certain programs have special admission criteria. Students who have less than a 2.0 cumulative UMaine GPA may be readmitted to their program of choice contingent on previous coursework and related factors, or be referred to either the Undergraduate Advising Center in the College of Liberal Arts and Sciences or the Bachelor of University Studies (BUS) program in the Division of Lifelong Learning for information about alternative pathways to completing a UMaine degree. Students will be notified in all cases of the readmission decision. Requests for re-admittance made fewer than 30 days prior to the start of the semester may not be processed in time to meet a returning student's academic and student-life needs, meaning that specific classes, housing options, and other services may no longer be available.

- *Time Limitations for Course Work:* Some subject areas have changed dramatically over time. Courses completed 10 or more years before the date on which the student is seeking readmission will be subject to additional review. Courses determined to be missing important material reflecting the current state of knowledge in a given field will not be applied to the student's degree program upon readmission.

Placement Tests and Credit by Examination

Placement Tests

• Mathematics:

The department of Mathematics and Statistics administers placement examinations for the purpose of appropriate registration in introductory level mathematics courses. Information about the Mathematics Placement Test is sent to all newly accepted applicants and is available on the UMaine web site.

• Foreign Language:

The Department of Modern Languages and Classics offers the Foreign Language Placement Examination for purposes of both placement and credit. For more information about the Foreign Language Placement Examinations, visit https://umaine.edu/mlandc/placement-faqs/#language-placement

Seal of Biliteracy

The University of Maine awards credit for successful certification of a Foreign Language when a student achieves the Seal of Biliteracy. Seal of Biliteracy Credit Table outlines the course equivalents for the certification. Students should ensure that the High School Transcript with the Seal of Biliteracy are submitted when applying for admission to the University of Maine. Students that receive credit for Foreign Language course equivalent through the Advanced Placement Examination cannot receive credit through the Seal of Biliteracy for the same language.

Advanced Placement (AP)

The University of Maine awards credit for successful completion of most AP exams according to the Advanced Placement Credit Table . Students should request copies of their scores to be sent directly to the Office of Student Records for evaluation and awarding of transfer credit.

Students that receive credit for Foreign Language course equivalent through the Seal of Biliteracy cannot receive credit through the Advanced Placement Examination for the same language.

College Level Examination Programs (CLEP)

CLEP is a national program of credit-by- examination that offers the opportunity to obtain recognition for college-level achievement. Personal reading, on-the- job experience, adult education, correspondence or television courses may have prepared you to earn

college credit. The faculties of each of the colleges of the University of Maine have adopted policies on the granting of CLEP examinations.
(College Level Examination Program Table)
If you have already taken one of these tests, submit an official score report to the Office of Student Records.
CLEP Information and Policies

1. The CLEP Testing Center is in Alumni Hall. Inquiries on procedure should be directed to 207.581.2318. Registering for CLEP Exam may be done online. For more information, visit http://umaine.edu/csp/clep. Duplicate credit may not be granted.
2. Each department is free to develop or adopt examinations other than CLEP examinations for the purpose of granting credit for specific courses.

Early College Programs (high school students)

Through a partnership between the Maine Department of Education and the University of Maine, qualified public high school students in Maine may earn up to 12 college credits per year tuition-free while in high school, and may enroll in course work during fall, spring, and summer terms. The annual cycle for these credit counts begins with summer. In addition, a reduced tuition rate is available to students attending Maine private high schools, out-of-state or international students, and Maine public high school students exceeding the standard 12 credit limit for free tuition. The University of Maine Early College program offers high school students the opportunity to take college courses and experience life as a college student. It helps students build confidence, explore potential careers, and earn college credits that can give them a head start on their education. Open to students from all backgrounds, the program ensures everyone has the chance to succeed in college and make a meaningful impact on their future and community.
In accordance with Maine statute, eligible students include:
● Publicly funded high school students,
● Registered Maine homeschool students, and
● Any student attending a Maine Academy that does not pay tuition.
The UMaine Early College Program is committed to providing quality teaching and learning, college-level rigor and academic integrity; access and support to under-resourced communities and first-generation students; and multiple layers of support to ensure student success, including a comprehensive orientation experience and academic advising. For more information: umaine.edu/earlycollege or contact us at: um.earlycollege@maine.edu or 207.581.8024.

New England Regional Student Program

The New England Board of Higher Education (NEBHE) has established the Regional Student Program (RSP) under which qualified residents of the region may receive reduced tuition rates when attending college in another New England state if the program they enroll in meets certain requirements and is available for the tuition reduction by the institution the student plans to attend. Students accepted in these programs at the University of Maine and the University of Maine at Machias pay 55% above resident tuition rate rather than the normally charged out-of- state tuition.
Eligible undergraduate programs begin during the student's first year of enrollment at the University. Current enrolled students who change their major to a regional major must notify the Office of Student Records. Tuition reduction under the program takes effect the semester following notification.
The qualifying (regional) major must be the student's primary major. To maintain the discounted tuition rate, students must be progressing toward on-time graduation in the given major. Progress will be assessed at the end of each academic year, and students judged not to be making progress in the regional major will be removed from the program and charged full non-resident tuition the following semester. In addition, students who change their major to a non-qualifying major will be charged full non-resident tuition the following semester.
For a current listing of qualifying UMaine majors by state view the New England Regional Student Program Table . For complete details of the Regional Student Program, visit www.nebhe.org.

International Student Admission

The University of Maine and the University of Maine at Machias welcome s applications from international students to be considered for degree program admission or conditional admission. Applicants can find application information and instructions for UMaine at https://umaine.edu/international/ and for UMM at machias.edu/admissions/international-students.
Acceptable ways to apply include The Common Application, and the Maine System Application. The email address for UMaine international admissions questions is internationaladm@maine.edu and for UMM international admission questions is

umm.international@maine.edu.
Candidates for degree program admission are required to submit the completed application, official results of approved English language proficiency exam scores (if English is not the candidate's native language), and official copies of academic transcripts, grade reports, etc., along with a certified English translation. Educational records must include subjects studied by year, grades or percentage earned in year-end examinations, as well as copies of diplomas, degrees or certificates, and a description of the grading system. Applicants can find detailed English proficiency documentation and waiver information at www.umaine.edu/international/. Submitting SAT or ACT scores is suggested but not required.
The University of Maine and the University of Maine Machias will require applicants to order an external credential evaluation of their international credentials to assist with the admission decision and the awarding of any transfer credit. Approved external evaluation agencies are listed on the website of the Office of International Programs at www.umaine.edu/international/transfer_credit/.
The Admission Office notifies students after their application is reviewed and informs them if they are academically admissible to the University. Admitted students must then submit appropriate financial documentation, before immigration documents are issued to them. Required financial documents include copies of bank statements and official affidavits of support that must be less than one year old, as well as completed and signed a financial declaration form. Financial documents must be in English and clearly indicate available funds. Transfer students who have studied at schools in the United States for at least two years (in non ESL courses) are not required to submit English proficiency scores. Transfer students from outside the U.S. must submit approved English language proficiency exam scores and original educational records, including academic transcripts, grade or mark sheets, diplomas, degrees, certificates, etc.
Conditional admission will be offered to students whose academic background meets regular University of Maine admission standards but their English proficiency falls below the required level for degree program admission. Students will be offered admission to the UMaine Intensive English Institute, an English language preparation program. More information visit www.umaine.edu/iei.
International applicants are urged to start the admission process early. Applications are reviewed on a rolling admissions basis. To ensure on campus room and board availability, the suggested applications deadline for Fall admission and enrollment confirmation is no later than May 1st. All applicants are considered for international merit scholarships at the time of application review. No additional scholarship application is required.
International students and their dependents must purchase or provide proof of existing appropriate medical health insurance coverage in the United States that meets limits required by the University of Maine.
Transfer credit evaluation will not be performed on any transcripts from a college or university that were not included in a student's application for admission. Students are required to list the names and dates of attendance of all institutions (secondary and post-secondary) they have attended on their application for admission to the University of Maine. Omitting information about previous institutions attended is considered dishonest and a violation of the Student Code of Conduct to which we expect students, even those seeking admission to the University of Maine, to adhere. Students who submit new credentials for transfer credit evaluation, which have not been disclosed during the application process will be referred to the conduct process.

Financial Aid

Financial Aid and Scholarships

The Office of Student Financial Services administers a variety of Federal, State and University aid programs to help University of Maine students finance their education. Office staff award, process, and disburse financial aid for University of Maine students, and advise students and their families, the campus community, and the general public on issues related to financial aid. Financial Aid Advisors are available on a walk-in basis in Wingate Hall, as well as by appointment between 8:30 a.m. and 4:00 p.m. Monday, through Friday.

For assistance with the application process, status updates, or answers to other questions about financial aid, visit umaine/edu/sfs, or contact the office via phone at (207) 581-1324 or via e-mail at um.sfs@maine.edu. Documents concerning financial aid should be submitted online via Secure Upload or mailed to the Office of Student Financial Services, 5781 Wingate Hall, Orono, ME 04469-5781.

Financial Aid Programs

Some of the financial aid programs available to undergraduates pursuing their first bachelor's

degree include:

Federal Pell Grants - Awarded based on the Student Aid Index (SAI) from the FAFSA to eligible undergraduate students enrolled in a degree program; these grants do not have to be repaid.

*Federal Supplemental Educational Opportunity Grants - A*warded based on federal need from the FAFSA to eligible undergraduate students enrolled in a degree program at least half-time; these grants do not have to be repaid.

Institutional Grants - Awarded based on federal need from the FAFSA to eligible undergraduate students enrolled in a degree program at least half time; these grants do not have to be repaid.

Scholarships - Awarded to eligible students based on merit/talent and/or need as defined by the eligibility criteria for each scholarship; these awards do not have to be repaid. The Admissions Office awards scholarships to new first-year and transfer undergraduate students based on academic performance. For specific eligibility for Merit Scholarships, visit the Office of Admissions website at go.umaine.edu/apply/scholarships. Students are required to meet GPA requirements in order to retain merit scholarship eligibility. Students who do not meet these requirements will receive a notification via their MaineStreet Message Center that will explain the appeals process. Questions about merit scholarship policies should be directed to the Office of Student Financial Services.

Federal Work-Study - Awarded based on federal need from the FAFSA to eligible undergraduate students enrolled in a degree program at least half-time; offers students the opportunity to earn spending money and/or living expenses while gaining valuable work experience. Job listings are available on CareerLink through the Office of Student Employment.

Federal Direct Loans (subsidized and unsubsidized) - Available through the U.S. Department of Education to eligible undergraduate and graduate students enrolled in a degree program at least half-time who have applied for federal financial aid, up to the maximum allowable amount of loan based on grade level (see chart in section entitled "Grade Level"). First-time borrowers of a Federal Direct Loan must complete Entrance Counseling and a Loan Agreement/Master Promissory Note (MPN) before the loan proceeds will be released. The Entrance Counseling and Loan Agreement are completed electronically at studentaid.gov.

NOTE: Subsidized loans are need-based loans and the government pays the interest on the loan while the student is enrolled at least half-time and during other authorized periods called deferments; federal regulations specify annual loan limits based on grade level; actual eligibility may be less than the annual maximum depending upon enrollment level and the amount of all other educationally-related assistance, if any; repayment of principal is deferred for both subsidized and unsubsidized loans while enrolled at least half-time; interest rates are fixed and are set each academic year and are available on the Office of Student Financial Services website, the interest begins to accrue or can be paid by the student once the student enters into the six-month grace period; any break in continuous enrollment, such as a leave of absence, will result in the student entering into the six-month grace period, and repayment could begin before the student re-enrolls in a degree program at least half-time.

Eligibility for Financial Aid

To be eligible for most types of Federal, State and University financial aid, each student must:

•be a U.S. citizen or eligible non-citizen

•have earned a high school diploma or GED

•be offered admission to a University of Maine degree program

•not be in default on a previous federal educational loan program

•continue to be in good academic standing
•continue to make satisfactory progress toward a degree (see Satisfactory Academic Progress for Financial Aid Recipients)

Most types of financial aid require at least half-time enrollment (6 credits or more undergraduate credits, or 3 or more graduate credits) each semester. Financial aid is awarded based upon actual credit load each semester, regardless of official University status. Each student's enrollment level (see chart in section entitled "Enrollment Level") is verified at the end of the Add/Drop period each semester; financial aid eligibility is recalculated and offers are adjusted if necessary. The student is notified by email if the financial aid offer changes.

Federal, state and university financial aid programs are not available for non-degree enrollment. Some lending institutions offer loan programs to students who are currently taking classes in non-degree programs. Further information is available upon request.

Limits on Financial Aid Eligibility

Most University of Maine students remain eligible for financial aid until they have completed their first bachelor's degree. However, eligibility is impacted by academic performance. To maintain eligibility for financial aid, each student must make progress toward a degree according to the University's Satisfactory Academic Progress Policy: Students are measured once a year for Grade Point Average (GPA), completion of attempted credits and length of time it takes to complete their degree. See the section entitled "Satisfactory Academic Progress for Financial Aid Recipients" for more information on this policy.

Federal regulations limit financial aid funds to paying for one repetition only of a previously passed course even if a higher grade is still needed to advance in the academic program or is required for a subsequent course.

The Federal Pell Grant program includes a limit on how much Pell Grant students are eligible to receive. Students may receive a maximum of 12 semesters (or 600%) of Federal Pell Grant eligibility during their undergraduate career.

The Federal Direct Loan program places limits on the total amount that can be borrowed by any student, called "aggregate" limits. These limits are specified by Federal Student Aid on their website https://studentaid.gov/understand-aid/types/loans/subsidized-unsubsidized

Applying for Financial Aid

To allow the Office of Student Financial Services to determine the amount and types of assistance each student is eligible to receive, students are required to apply for financial aid. The University of Maine requires only one financial aid application: the **Free Application for Federal Student Aid (FAFSA).** Students must apply for financial aid each year.

The FAFSA may be completed online at fafsa.gov. For prior year applicants, some information will be pre-populated from a prior year's application by using their FSA ID. Both the student and any Contributors (parents or spouse, if applicable) must provide consent to disclose Federal Tax Information (FTI) and electronically sign the FAFSA in order for the FAFSA to be processed.

Certain types of financial aid, including institutional grants, the Federal Supplemental Educational Opportunity Grant, and Federal Work-Study are limited. Consequently, even students who are otherwise eligible will not initially be considered for these funds unless they meet our **"priority FAFSA filing" deadline of March 1**. To meet our "priority filing" deadline, the student's FAFSA must be **received at the federal processing center by the March 1** deadline prior to the start of the Fall Semester for which the student wishes to receive financial assistance. Students selected for federal verification by the Department of Education must

provide information that verifies the data provided on the FAFSA. This information could include, but is not limited to, using the IRS Direct Data Exchange (FA-DDX), or providing an official tax return, your parent's official tax return, or independent or dependent verification forms.

Requests for information will be through your MaineStreet To Do List and will include detailed instructions, links to specific forms, and deadlines. Financial aid is still available for applicants who apply after the deadline, but may be limited.

After submitting the FAFSA, the student will receive a **FAFSA Submission Summary**. Students are responsible for making any necessary corrections immediately, or contacting the University of Maine Office of Student Financial Services for assistance. As long as the University of Maine (school code 002053) is listed on the SAR in the school section, the Office of Student Financial Services will receive the application data within 3-5 business days. The application will be reviewed and the student will be notified if any additional information is required.

Once the student's file is complete, an offer of financial aid will be made available to the student. The student should accept (or decline) offered loans and follow all instructions to ensure continued processing and disbursement of funds to the student's account.

Grade Level

The following definitions are used to determine grade level when awarding financial aid and when certifying student loan eligibility.

Degree Credits Earned So Far	Grade Level	Maximum Subsidized Loan per Year	Maximum Loan Per Year (combined subsidized and unsubsidized)
Less than 24	First-year	$3,500	$5,500
24 - 53	Sophomore	$4,500	$6,500
54 - 83	Junior	$5,500	$7,500
84 or more	Senior	$5,500	$7,500

NOTE: Federal regulations limit students who have already earned a bachelor's degree to receive only Federal Direct Loans.

Enrollment Level

The following definitions are used to describe a student's enrollment level when awarding financial aid and when certifying student loan eligibility.

Credits Per Semester	Enrollment Level
12 or more	Full-time
9-11	Three-quarter-time
6-8	Half-time
1-5	Less than half-time

NOTE: Students participating in cooperative employment programs, internships and field experiences may not be eligible for financial aid unless they are enrolled at least half-time. Financial aid eligibility may be reduced for students who audit one or more classes during any semester.

Changes to Financial Aid Offers

Changes to financial aid can occur even after it has been offered, and aid can be retracted even after it has been posted to a student's account. Students are notified whenever their financial aid offer is adjusted. Changes to offers may be necessary at any time during the academic year due to any or all of the following circumstances:

•changes in enrollment level each semester
•auditing a course
•withdrawal from all classes
•discontinued attendance in classes
•corrections and updates to original application data
•receipt of additional information affecting continued eligibility
•changes in housing plans
•changes in residency status
•changes in student and/or family circumstances
•receipt of additional assistance and/or scholarships

Students are encouraged to contact the Office of Student Financial Services to discuss the impact on their financial aid eligibility before their status changes.

Financial Aid for Summer University

Summer University is considered to be the end of the University's academic year. To be eligible for Summer University federal aid, students must have applied for federal financial aid for the previous year. Generally, financial aid is limited to Federal Pell Grant (if eligible) and/or any remaining Federal Direct Loan eligibility (subsidized and/or unsubsidized). Federal Work-Study may also be available, and requires a separate application that is available early in the spring semester and must be turned in prior to the deadline listed on the application. In addition, students who enrolled in fewer than in 30 credits during the Fall, Winter, and Spring semesters may have remaining merit available for the Summer.

Withdrawal from All Classes

If a student withdraws from the university after the semester begins, federal regulations stipulate that financial aid eligibility must be re-evaluated and prorated based on the portion of the semester the student completed. Eligibility for continued deferment of any prior loans is also affected. Any potential refund of tuition and fees from the University may be retained to repay financial aid programs before any reimbursement may be made to the student. In some cases, the student may be required to repay some or all financial aid funds previously disbursed to them. Students considering withdrawing from all classes must contact their academic area, who will coordinate with the Office of Student Financial Services to determine the impact of the withdrawal on financial aid. This policy is available on the Office of Student Financial Services website.

Institutional (Unofficial) Withdrawal

Federal regulations require the Office of Student Financial Services to determine the last date of attendance for an academic related activity for all students who discontinue class attendance. For those students who do not **officially** withdraw, the mid-point of the semester may be used as the official withdrawal date. Once a withdrawal date has been determined, charges and financial aid will be recalculated based on this date. Please be aware that as a result of this action financial aid funds may be adjusted and money may be owed to the University. You will be notified of any change. This policy is available

on the Office of Student Financial Services website.

Special Circumstances and Appeals

Any special circumstances, such as changes in the student's (or other family member's) employment, loss of a benefit or other type of income, changes in marital status or unexpected/unusual costs should be brought to the attention of the Office of Student Financial Services.

Satisfactory Academic Progress for Financial Aid Recipients

Federal financial aid regulations require financial aid recipients to make progress toward earning their degree, stay above specific GPA minimums, and complete the degree within a maximum time-frame. You can lose eligibility for aid if you are not doing well in your classes, frequently withdraw from classes, if it is taking you a very long time to earn your degree. If you are not meeting the minimum standards, even if you are allowed by your academic dean to continue your enrollment, you will have to do so without the benefit of financial aid.

Progress is reviewed once each academic year, normally at the end of the spring semester. This review includes all attempted coursework, even if the student did not receive financial aid for some or all of that coursework. Students who are not meeting the minimum standards for Satisfactory Academic Progress are notified in writing via the MaineStreet Message Center of the loss of eligibility for further financial aid, effective the following enrollment period.

A copy of the Satisfactory Academic Progress Policy is available on the Office of Student Financial Services website at umaine.edu/stuaid/sap.

If you are not meeting the Satisfactory Academic Progress Policy, you can appeal if you believe that you have special circumstances that caused undue hardship. Appeals are considered by a committee. Please submit the SAP Undergraduate Appeal Form, along with appropriate supporting documentation to Secure Upload. Students approved for appeal will be placed on SAP Financial Aid Probation for the next enrollment term, are eligible for financial aid during that term and may be required to meet a specific academic plan.

If financial aid eligibility is suspended a student can request a review of their record after completing additional academic coursework.

Student Financial Services

For information regarding Tuition and Fees - UMaine Orono Campus and UMaine Machias Campus, click here: https://umaine.edu/sfs/tuition-and-fees/

Invoices and Due Dates

Billing statements are provided online through MaineStreet; students are notified via email regarding any outstanding balance. Charges are calculated using pre-registrations, room sign-up information, and data supplied by the Admissions Office. Students may authorize parents or other third parties to view and pay on their accounts online.

Fall 2025 billing statements are available online beginning in mid-July, and bills are due August 15th.

Spring 2026 billing statements are available online beginning in mid-December, and bills are due January 15th.

Summer 2026 billing statements are available online in mid-April, and bills are due by May 15.

Late Payment Fee

A $50 late payment fee will be assessed monthly, capped at 4 late fees per term, to students who fail to pay their bills or fail to notify The Office of Student Financial Services of any third party sponsorship or anticipated resources by the due date (see Anticipated Resources).

Anticipated Resources

Upon receipt of the first bill for each semester, students can report Anticipated Resources in MaineStreet to notify the University of any pending payments from other sources that are not shown on the billing statement (i.e. third party/sponsor payments, waivers, loans). Instructions for entering anticipated resources can be found online.

3rd Party/Sponsor Billing

Students must use the Anticipated Resources area of Student Self-Service on MaineStreet to notify the University of any third party sponsorship. It is the student's responsibility to obtain authorization from the third party sponsor (purchase order/authorization form) which indicates how much the third party sponsor will be paying on the bill. Students are responsible for sending the authorization form, copy of the statement and payment (if any due) to the University by the payment due date. If these items are received by the payment due date shown on the statement, no late fee will be assessed. Full details on the 3rd party billing process and procedure are available online.

Payment Plan

Students and Authorized Users have the option to enroll in 5-installment monthly payment plans each fall and spring, and a 3- or 4-installment monthly plan for summer term courses through the MaineStreet student center or TouchNet Authorized user access. Enrolling in a payment plan requires payment of an enrollment setup fee of $30 and the initial payment (20% down payment for the 5 installment plan or 25% down payment for the 4 installment plan) at the time of enrollment. For more information, please visit https://umaine.edu/sfs/payment-options/ .

Financial Aid Refunds

A credit balance created by the disbursement of student financial aid is normally disbursed to you by the start of each semester, unless you have a refund hold on your MaineStreet account. Enrollment changes prior to the add or drop deadlines may delay any available refund.

Refunds for Tuition and Fees

For refunding purposes the following definitions apply:

- "Standard" full semester classes are classes which are scheduled to start during the first week of a semester and meet through the end of that semester.
- "Non-standard" classes are classes with start and end dates that do not coincide with the starting and ending dates of the Fall or Spring semester including all Summer University classes.
- The "Drop" period is the time frame a student may drop classes from their schedule without academic or financial penalties. For standard full semester classes, the last day to drop classes for a refund is listed on the Academic Calendar, available from the Office of Student Records.
- Dropping classes is a reduction in a student's class load during the Drop period while remaining enrolled in other classes at any of the University of Maine campuses. Withdrawing from classes is a reduction in a student's class load after the Drop period while remaining enrolled in other classes at any of the University of Maine campuses.
- Withdrawing from classes is a reduction in a student's class load after the Drop period while remaining enrolled in other classes at any of the University of Maine campuses. Students are not eligible for a refund, and there will be no change to a student's financial aid, if a course is dropped after the drop deadline.
- "Withdrawal from the University", either temporary or permanent, involves the student withdrawing from all classes at all University of Maine System campuses for which he/she is registered as well as notifying appropriate administrative officials of his/her decision to leave. Financial aid and bills may be affected if a student fully withdraws after the start date of a

semester, and these adjustments may take up to 30 days to process.

Students who cease attendance, in any or all of their classes, without providing official notification, are not entitled to a refund. If a student ceases attendance for emergency reasons, the University will accept a written appeal.

Tuition and fee charges will be adjusted according to the refund percentages listed below. A student's financial aid eligibility and bill may vary depending on the student's last date of attendance, and students are responsible for monitoring their bill for changes.

For Withdrawals from the University:

"Standard" Full Semester classes and "Non-standard" classes of 12 weeks or more:		
Withdrawal	Percent of Refund	Prior to the end of the second week
100%	Prior to the end of the fourth week	75%
Prior to the end of the sixth week	50%	Prior to the end of the eighth week
25%	After the eighth week	0%

"Non-Standard" classes of less than 12 weeks in length:		
Withdrawal	Percent of Refund	Withdrawal on or before the number of days equal to the number of weeks a class is scheduled. For example, for a six week course, a refund will be granted through the sixth day.
100%	After the number of days equal to the number of weeks a class is scheduled	0%

For Dropped Classes:

"Standard" Full Semester Classes:		
Withdrawal	Percent of Refund	Prior to the end of the Drop Period
100%	After the Drop Period	0%

"Non-standard" classes:

Withdrawal	Percent of Refund	Withdrawal on or before the number of days equal to the number of weeks a class is scheduled. For example, for a six week course, a refund will be granted through the sixth day.
100%	After the number of days equal to the number of weeks a class is scheduled	0%

Determination of Attendance

Withdrawal date is used to determine financial aid eligibility. For "standard" full semester classes, the attendance period begins on the opening day of scheduled university classes, includes weekends and holidays, and ends on the date the student notifies the University in writing that they are withdrawing.

For "Non-standard" classes, including all Summer University classes, the attendance period begins on the start date of the class as specified on the class schedule of classes, includes weekends and holidays, and ends on the date the student notifies the University in writing that they are withdrawing.

Room and Board Cancellations

For information on room and board cancellation policies, please refer to the University of Maine Housing Services website - http://umaine.edu/housing/cancellation-fee/

Advance Deposits

No part of an advance deposit is refundable after May 1 (January 1 for Spring) for tuition and fees. After June 1 (January 1 for Spring), room charges for students withdrawing from a University of Maine System institution are non-refundable. Although such deposits are applicable to tuition and room charges for students who remain enrolled, students who withdraw forfeit them.

Involuntary Withdrawals

Consideration for retroactive refunds of tuition and fees for involuntary withdrawals, e.g., extended illness or military service, will be considered by the university on a case-by-case basis. Administrative dismissals are not covered by these procedures and thus are not entitled to refunds of institutional charges.

In order to be eligible for a refund under the conditions below, the student must submit the required notification of withdrawal and the appropriate substantiating data that supports the withdrawal to the appropriate university office. The university official makes a decision based on the documentation and/or conditions presented.

Normally, appeals will be considered up to 90 days after the close of the semester/session for which the student is claiming a refund. For a typical semester/session the dates are no later than March 31 (Fall), August 31 (Spring) and November 30 (Summer). University academic appeals committees hear appeals on academic matters and have no authority to authorize refunds.

Involuntary withdrawals may include but are not limited to the following

Involuntary active duty in the Armed Forces - The request for withdrawal must be substantiated with copies of military orders that show proof of date of entry. The individual's commanding officer or another appropriate official must sign the orders.

Illness of the student or an immediate family member - A physician's certification must be provided stating the student's or family member's illness that required the student's withdrawal.

Death of the student or an immediate member of the family - Appropriate documentation must accompany the request for withdrawal.

Involuntary transfer by the student's employer that precluded continued enrollment (armed services are considered employers under this section) - The request for withdrawal must be substantiated by appropriate documentation from the employer.

Voluntary withdrawal - Voluntary withdrawal results from students who give official notification of their withdrawal to the university after a semester/session begins.

General Information

The University expects the student to be financially responsible. All accounts are carried in the name of the student and billing statements are provided electronically to the student, regardless of the source of payment.

All charges are payable in full by the due date on the invoice. After that, a monthly $50.00 late fee is assessed.

Students whose accounts have fallen into a delinquent status will be subject to the following administrative sanctions:

They must contact The Office of Student Financial Services and the total balance must be lower than $2,500 before receiving an official certified copy of their transcript and diploma.
They may be prevented from registration or pre-registration at any university in the University of Maine System.
The University of Maine System or its universities may disclose (directly or through its collection agencies) to a credit bureau organization that the student has failed to pay an assessed charge.
The University of Maine System or its universities may use in-house collection efforts, commercial collection firms, legal services, and the State of Maine Bureau of Taxation for collection on the accounts.
The financial requirements of the University, changing costs, state and legislative action and other matters may require an adjustment of these charges and expenses. The University reserves the right to make such adjustments to the estimated charges and expenses as necessary in the opinion of the Board of Trustees up to the date of final registration for a given academic term.

Student Financial Appeal

The following is an appeal process for students who dispute financial claims by the University of Maine; i.e., tuition, fees, room and board, and amounts due on outstanding student loans.
Students should submit a written statement to the Office of Student Financial Services stating the amount and nature of the disagreement and why he or she feels the charge is incorrect.
Students should submit their written appeal within thirty (30) days of the initial billing of a disputed charge. The Office of Student Financial Services should respond in writing to the student's complaint within 30 days of the receipt of the appeal.
If the decision is considered incorrect by the student, the student may appeal that decision (within 30 days) in the following order:
To the Chief Business Officer or equivalent official as designated by the university.
To the President of the university whose decision shall be final.

Residency Guidelines

Refer to University of Maine System Administrative Practice Letter IV-G for full details: https://www.maine.edu/apls/apl-iv-g/
Residency Classification: There are many factors that determine residency for in-state tuition purposes. No one factor can be used to establish domicile, rather all factors and circumstances must be considered on a case-by-case basis. A domicile or residency classification assigned by a public or private authority neither qualifies nor disqualifies a student for University of Maine System (UMS) in-state status.
Please note that initial residency is determined by the Admissions office for degree-seeking undergraduate students, the Division of Lifelong learning (DLL) office for non-degree seeking undergraduate students, and the Graduate School for graduate students based on application information.
The decision, made by the University, shall be made based on information and documentation furnished by the student and other information available to the University. No student is eligible for in-state tuition classification until he or she has become domiciled in Maine, in accordance with University guidelines, before registration. If the student is enrolled full-time in an academic program, as defined by the University, it will be presumed that the student is in Maine for educational purposes, and that the student is not in Maine to establish a domicile. A residence established for the purpose of attending a UMS institution would not by itself constitute domicile. The burden will be on the student to prove that he or she has established a Maine domicile for other than educational purposes. An individual who has lived in the State of Maine, for other than educational purposes, one year prior to registration or application to a campus is considered an in-state student.
In general, members of the Armed Forces and their dependents will be granted in-state tuition during such periods of time as they are on active duty within the State of Maine or if their Military State of residency is Maine as evidenced by appropriate official documentation. Individuals who have been granted in-state tuition under these conditions but then cease from active duty would continue to be granted in-state tuition. A Maine resident who is absent from the State for military or full-time educational purposes will normally remain eligible for in-state tuition.
A student, or spouse or domestic partner of a student, who currently has continuous, permanent full-time employment in Maine before the student decides to apply for degree status at the University will be considered in-state for tuition purposes.
A student who is dependent on his/her parent(s) and/or legally appointed guardian (or to whom custody has been granted by court order) is considered to have a domicile with the parent(s) for tuition purposes.
In-state tuition is not available to anyone who holds a non-immigrant U.S. visa. If an individual is not a domiciliary of the United States, they cannot be a domiciliary of the State of Maine.
A student who attended an out-of-state educational institution at in-state tuition rates in the immediately preceding semester, shall be presumed to be in Maine for educational purposes and not to establish a domicile. Again, the burden will be on the individual to prove that he or she has established a Maine domicile for other than educational purposes.

Change of Residency Classification.
The "Request for Change in Tuition Status" cover sheet and application must be filed with the Office of Student Financial Services before the first day of classes for the summer session, fall or spring semester for which residency is requested. All applications are prospective.
The request will be forwarded to the University of Maine System (UMS) Residency Committee for review. If the committee's written decision, to be issued within 30 days of the first day of classes is considered incorrect by the student, the student may appeal that decision in writing within 30 days to the Vice Chancellor for Finance and Adminstratoin. After receiving a written decision from this level within 30 days, the student has 30 days to submit a written appeal to the President (or designee).
The President (or designee) will issue a final decision within 30 days.
In the event that the Office of Student Financial Services possesses facts or information indicating a student's change of status from in-state to out-of-state, the student shall be informed in writing of the change in status and will be given an opportunity to present facts in opposition to the change. The student may appeal the decision as set forth in the preceding paragraph.

New England Regional Student Program
Expanded study opportunities are made available each year to New England residents through the New England Regional Student Program, administered by the New England Board of Higher Education (NEBHE). When a program is not offered at a student's home state institution, a qualified student may apply for enrollment at an out-of-state institution offering that program under the Regional Student Program. Depending upon the institution in which they enroll, students qualifying for study under the Program are charged either the institution's resident tuition or an amount 75 percent above the resident tuition.
Requests for detailed information should be directed to the Student Records office of participating state universities. It is essential that students read the individual catalog, since degree nomenclature differs by institution. Application for enrollment is made directly to the institution, which has sole authority over admissions. Applicants must clearly indicate, both in their initial inquiries and on their application forms, that they are seeking admission under the terms of the New England Regional Student Program. Further information is available from the New England Board of Higher Education, New England Regional Student Program, 45 Temple Place, Boston, MA 02111, (617)357-9620. Information about qualifying programs can also be found online at www.nebhe.org

Canadian Resident Tuition Rate
Residents of Canada are assessed reduced tuition equivalent to the Maine resident tuition rate at The University of Maine.

Department of Veteran Affairs "Covered Individual Policy":
In compliance with United States Code section 3679 of title 38, any individual who is entitled to educational assistance under chapter 31, Vocational Rehabilitation and Employment, or chapter 33, Post-9/11 GI Bill® benefits will be permitted to attend or participate in the course of education during the period beginning on the date on which the individual provides to the educational institution a certificate of eligibility for entitlement to educational assistance. A certificate of eligibility can also include a "Statement of Benefits" obtained from the Department of Veterans Affairs' eBenefits website, or a VA form 28-1905 form for chapter 31 authorization purposes.
The University of Maine will not impose any penalty, including the assessment of late fees, the denial of access to classes, libraries, or other institutional facilities, or the requirement that a covered individual borrow additional funds, on any covered individual because of the individual's inability to meet his or her financial obligations to the institution due to the delayed disbursement funding from the VA under chapter 31 or 33.
This agreement will terminate on the date on which payment from the VA is made to the institution or 90 days after the date the institution certified tuition and fees following the receipt of the certificate of eligibility, whichever date is most beneficial to the covered individual.
GI Bill® is a registered trademark of the U.S. Department of Veterans Affairs (VA). More information about education benefits offered by VA is available at the official U.S. government website at www.benefits.va.gov/gibill.

Abbreviations

College Abbreviations
DLL - Division of Lifelong Learning
EDHD - College of Education and Human Development
MCEC (EGR) - Maine College of Engineering and Computing
ELH - College of Earth, Life and Health Sciences
LAS - College of Liberal Arts and Sciences
MBS - The Maine Business School

Course Prefixes

ACC - Accounting
AED - Art Education
ANT - Anthropology
ARA - Arabic
ARH - Art History
ARP - Academic Recovery Program
ART - Art
ASL - American Sign Language
AST - Astronomy
AVS - Animal and Veterinary Sciences
BCS - Bachelor of College Studies
BEH - Behavioral Sciences
BEN - Bioengineering
BIS - Business Information Systems
BIO - Biological Sciences
BMB - Biochemistry, Microbiology and Molecular Biology
CAN - Canadian Studies
CET - Civil Engineering Technology
CHE - Chemical Engineering
CHF - Child Development and Family Relations
CHI - Chinese
CHY - Chemistry
CIE - Civil and Environmental Engineering
CISA - Computer Info Systems
CLA - Classics
CMJ - Communication and Journalism
CMY - Community Studies
COE - Cooperative Education
COS - Computer Science
CRJ - Criminal Justice
CSD - Communication Sciences and Disorders
DAN - Dance
DIS - Disability Studies
ECE - Electrical and Computer Engineering
ECO - Economics
ECP - Engineering Communication Project
EDT - Education-Telecommunications
EEL - Education-Early Literacy
EES - Ecology and Environmental Science
EET - Electrical Engineering Technology
EHD - Education-Human Development
ELH - Earth, Life and Health Sciences
ELL - Education-Language Learning
EMA - Education-Mathematics
ENG - English
ERL - Education-Literacy
ERS - Earth Sciences
ESC - Education-Science
ESS - Education-Social Studies
FAS - Franco American Studies
FIN - Finance
FRE - French
FSN - Food Science and Nutrition
FYS - First-Year Seminar
GEE - General Engineering

GEO - Geography
GER - German
GIS - Geographic Information Systems
HBR - Hebrew
HCI - Human Computer Interaction
HON - Honors
HTY - History
HUD - Human Development
IEI - Intensive English Institute
IMD - Intermedia
INA - International Affairs
IND - Independent Study
INT - Interdisciplinary Studies
INV - Innovation Engineering
JST - Judaic Studies
KPE - Kinesiology and Physical Education
LAS - Liberal Arts and Sciences
LAT - Latin
LBR - Library
LDR - Leadership Studies
LST - Labor Studies
MAT - Mathematics
MEE - Mechanical Engineering
MES - Maine Studies
MET - Mechanical Engineering Technology
MGT - Management
MHR - Mental Health Rehabilitation
MKT - Marketing
MLC - Modern Languages and Classics
MSL - Military Science and Leadership
MUE - Music-Education
MUH - Music-History
MUL - Music-Literature
MUO - Music-Organizations and Ensembles
MUP - Music-Performance Techniques
MUS - Music
MUY - Music-Theory
NAS - Native American Studies
NAV - Naval Science
NFA - Natural Sciences, Forestry and Agriculture
NMD - New Media
NUR - Nursing
PAX - Peace Studies
PHE - Physical Education
PHI - Philosophy
PHY - Physics
POS - Political Science
PPA - Pulp and Paper Technology
PSE - Plant, Soil and Environmental Science
PSY - Psychology
REM - Recreation Management
SED - Education-Special Education
SFR - School of Forest Resources
SMS - Marine Sciences
SOC - Sociology

SPA - Spanish
SSC - Social Sciences
STS - Statistics
SVT - Surveying Engineering Technology
SWK - Social Work
THE - Theatre
UST - University Studies
VOX - Critical Language
WGS - Women's, Gender, Sexuality Studies
WLE - Wildlife Ecology

Course Descriptions

Academic Recovery Program

ARP 100 - Academic Recovery Seminar

This pass/fail course for first-year students on academic probation during the spring semester will enhance their ability to successfully develop critical academic skills, utilize available supportive resources, and balance academic and social demands. Students will identify and understand the tools that will facilitate a successful college experience, and in so doing, share the traditions, mission, and academic expectations of The University of Maine. (Pass/Fail)

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission.

Course Typically Offered:
Spring

Credits: 1

Accounting

ACC 201 - Principles of Financial Accounting

This is an introduction to the organization, presentation and use of financial accounting information. Students will understand the elements of the accounting system - assets, liabilities, equity, revenues, expenses and dividends. Emphasis is on acquiring familiarity with the double-entry system and gaining an understanding of the purposes and uses of the information found within the income statement, balance sheet, statement of stockholder's equity and the statement of cash flows.

Core Curriculum/Core Requirements: [""] Prerequisites:
Sophomore Standing or Accounting or Small Business Management Majors

Course Typically Offered:
Fall & Spring

Credits: 3

ACC 202 - Principles of Managerial Accounting

This course is an introduction to the use and preparation of accounting information for management decision-making and analysis. It includes techniques that can be used by all businesses in evaluating, planning and controlling operations. The course focuses on how manufacturing costs are accounted for and used to make business decisions, the nature of cost-volume-profit relationships and the contribution margin approach to decision making, preparation and use of budgets and financial statements for a manufacturing company. It includes an introduction to job order and standard costing systems.

Core Curriculum/Core Requirements: [""] Prerequisites:
ACC 201 with a C- or higher.

Course Typically Offered:
Fall & Spring

Credits: 3

ACC 290 - Introduction to Topics in Accounting

Introduces students to aspects of the Accounting discipline. Special topics may include areas relevant to any aspect of accounting at an introductory level. This course may be repeated for credits.

Prerequisites:
Business Major or Minor

Course Typically Offered:
Variable

Credits: 1-3

ACC 301 - Intermediate Accounting I

This course provides an examination of the conceptual framework underlying financial accounting, as well as an in-depth look at accounting for assets. While heavily mechanical, the course devotes attention to the economic environment in which financial accountants work, as well as the incentives and consequences associated with specific accounting choices.

Core Curriculum/Core Requirements: [""] Prerequisites:
A grade of C- or better in ACC 201, sophomore standing.

Course Typically Offered:
Fall & Spring

Credits: 3

ACC 302 - Intermediate Accounting II

A continuation of ACC 301, this course focuses on the recognition, measurement, and presentation of accounting information related to (among others) investment, general liabilities and contingencies, income taxes, lease obligations, pension liabilities, and equity. It further focuses on the preparation, calculation and interpretation of financial measures including earnings per share.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
A grade of C- or better in ACC 301; sophomore standing.

Course Typically Offered:
Spring & Fall

Credits: 3

ACC 305 - Cost Accounting

The course includes concepts of cost and overhead allocation, cost systems (activity-based, job order, process, and standard), budgeting, cost behavior and CVP analysis including an introduction to regression using Excel.

Core Curriculum/Core Requirements: [""] Prerequisites:
Junior Standing and a grade of C- or better in ACC 202.

Course Typically Offered:
Spring

Credits: 3

ACC 309 - Accounting for Governmental and Not-For-Profit Entities

This course is an introduction to Financial Accounting for not-for-profit and governmental entities and hospitals, voluntary health and welfare organizations. It includes coverage of fund accounting and reporting financial statements under GASB standards.

Core Curriculum/Core Requirements: [""] Prerequisites:
A grade of C- or better in ACC 201; junior standing.

Course Typically Offered:
Variable

Credits: 3

ACC 310 - Auditing

This course focuses on understanding auditing and assurance services. It examines the public accounting profession, auditing standards, and professional ethics. It introduces the student to a variety of auditing procedures and to the steps taken by public accounting firms in conducting audits, including audit data analytics (ADA). It discusses different potential problems that auditors face in completing audit assignments using illustrative cases. It provides an opportunity for students to study auditing concepts and theory at an intermediate level by examining a number of risk assessment issues. Finally, it covers material pertinent to the audit section of the Certified Public Accountant (CPA) examination.

Core Curriculum/Core Requirements: [""] Prerequisites:
A grade of C- or better in both ACC 301.

Course Typically Offered:
Fall

Credits: 3

ACC 312 - Federal Income Taxation

A study of federal income tax laws as they affect individuals and businesses. The course takes a conceptual approach to understanding income tax principles such as gross income, exclusions, deductions, credits, capital gains and losses, property transactions, and other investment and business issues. The course provides a detailed coverage of individual income tax, along with an introductory coverage of other entities including corporations, partnerships and S corporations.

Core Curriculum/Core Requirements: [""] Prerequisites:
A grade of C- or better in ACC 202, junior standing.

Course Typically Offered:
Fall

Credits: 3

ACC 314 - Small Business Accounting

Small Business Accounting is a comprehensive course designed to provide students with an understanding of accounting principles and practices for small businesses. Throughout the course, students will learn how to prepare and analyze financial statements, develop budgets and forecasts, manage cash flow, and use accounting software to manage business finances. Additionally, students will gain knowledge on the role of taxation in small business accounting, including the preparation and filing of tax returns. The course is designed to equip students with the skills necessary to communicate financial information to stakeholders, make informed financial decisions, and manage accounting functions effectively in a small business setting. Upon completion of this course, students will have the knowledge and skills necessary to analyze and interpret financial data, make informed financial decisions, and manage business finances using accounting software.

Prerequisites:
MGT 111 and BUA 105 or with permission from the instructor.

Course Typically Offered:
Variable

Credits: 3

ACC 315 - Accounting Information System

This course is an introduction to accounting information systems, internal controls, business processes, and data analytics. The course helps students understand the role of accounting in collecting, storing, and communication information for management planning and control. It also provides students with hands-on experience in using some data analytical tools to manage and analyze data. If this course was taken under as a topics course in ACC 490, it cannot be repeated for credit.

Prerequisites:
Sophomore standing and a grade of C- or better in ACC 202

Course Typically Offered:
Spring

Credits: 3

ACC 396 - Field Experience/Internship in Accounting

Students may earn from one to six credit hours for a pre-planned, supervised field experience in business relevant to the student's educational development and career goals. Credit will not be awarded for work experience acquired prior to registration for this course. (Pass/Fail Grade Only.)

Course can be repeated 9 completions for a total of 54 of credits

Core Curriculum/Core Requirements: [""] Prerequisites:
Business Majors with 2.50 GPA or better; Junior Standing

Course Typically Offered:
Fall, Spring, Summer

Credits: 1-6

ACC 406 - Advanced Managerial Accounting

This course is a continuation of ACC 305, focusing on contemporary management accounting tools such as Strategic and Activity Based Management, Lean Accounting, the Balanced Scorecard, Productivity Measurement and Control, Quality and Environmental Costing, JIT Inventory Management and the Theory of Constraints.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in ACC 305; junior standing. Graduate business students can take the course with permission of the instructor.

Course Typically Offered:

Spring

Credits: 3

ACC 490 - Special Topics in Accounting

Study of various aspects of functional areas of accounting. Topics vary depending on faculty and student interests.

Course note: May be repeated 3 completions for a total of 9 credits if the topics differ.

Core Curriculum/Core Requirements: [""] Prerequisites:

ACC 202 and Junior Standing

Course Typically Offered:

Variable

Credits: 1-3

American Sign Language

ASL 101 - Elementary American Sign Language I

Introduction to American Sign Language syntax, morphology, phonology, history and culture. Focus on dialogue.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall

Credits: 3

ASL 102 - Elementary American Sign Language II

Continuation of skill building in American Sign Language syntax, morphology, phonology, cultural awareness. Focus on monologue.

Core Curriculum/Core Requirements: [""] Prerequisites:

ASL 101 or permission.

Course Typically Offered:

Spring

Credits: 3

Animal and Veterinary Science

AVS 104 - Fundamentals of Animal-Assisted Therapy

Introduction to animal-assisted therapy, including history and evidence-based research. The course will cover physical (i.e. fine and gross motor skills, balance and other mobility issues) and psychological benefits from animal-assisted activities, education (i.e. Reading with Rover) and intervention. Guidance on using animal-assisted therapy with children, families and the elderly, in counseling and psychotherapy settings and for treating a variety of specific disorders will be provided. Students will learn how to design and implement animal-assisted interventions and about the efficacy of animal-assisted therapy with different disorders and patient populations. The importance of species selection for therapeutic modalities, animal care and zoonotic concerns are addressed.

Course Typically Offered:

Spring

Credits: 3

AVS 107 - Dog Sports & Service Dog Training

This is an introduction to dog sports and how these training techniques relate to owner-trained service dogs. A service dog is one specially trained to perform a task or work that aids a person with a physical or emotional disability, allowing them more freedom to live independently. The course will cover basic psychological principles of operant conditioning used with animal training. There will be hands-on opportunities for basic dog training that require the application of operant learning techniques. Dogs will be

provided; other dogs will need to be pre-approved.

Course Typically Offered:
Variable

Credits: 3

AVS 145 - Introduction to Animal Science

Participants will be introduced to the scientific fundamentals of animal sciences, including animal nutrition, genetics and breeding, reproduction, microbiology, health, management of major domesticated animal species, and current topics, including food safety, animal welfare, and sustainable agriculture.

Core Curriculum/Core Requirements: [""] Prerequisites:
Animal Science, Zoology, Sustainable Food Systems or Sustainable Agriculture major or permission

Course Typically Offered:
Fall

Credits: 3

AVS 146 - Introduction to Animal Science Laboratory

Participants will be introduced to foundational applied techniques in animal nutrition, reproduction, and management of major farm animal species relevant to Maine. At the end of the course, students will apply class content to develop an animal business idea and present it to their peers.

Core Curriculum/Core Requirements: [""] Prerequisites:
Pre or Co-requisite AVS 145, and Animal and Veterinary Sciences or Sustainable Food Systems major or permission

Course Typically Offered:
Fall

Credits: 1

AVS 196 - Introduction to Equine Cooperative

Introductory field experience in the handling and care of the University of Maine equine herd.

Course Note: May be repeated for credit for 8 completions with a total of 8 credits.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Fall, Spring, Summer

Credits: 0-1

AVS 203 - Equine Management

An introductory course designed to familiarize students with the equine industry and with the principles of equine anatomy, nutrition, disease management and routine care. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:
BIO 100 and sophomore standing.

Course Typically Offered:
Spring

Credits: 3

AVS 211 - Introduction to Aquaculture

Principles and practices of aquaculture from international, national and local perspectives. Includes field trip. (Students may not take both SMS 211 and AVS 211 for credit).

Core Curriculum/Core Requirements: ["Applications of Scientific Knowledge"] Prerequisites:
BIO 100

Course Typically Offered:
Fall

Credits: 3

AVS 249 - Laboratory and Companion Animal Science

An introduction to laboratory and companion animal science. Species covered include dogs, cats, birds, reptiles, amphibians, rodents, ferrets, rabbits, and horses. Topics include characteristics of each species, welfare, uses, anatomy, physiology, behavior, breeding, genetics, nutrition, health, handling, care and career opportunities.

Core Curriculum/Core Requirements: [""] Prerequisites:
Grade of C- or higher in AVS 145 and Sophomore standing

Course Typically Offered:
Spring

Credits: 3

AVS 254 - Introduction to Animal Microbiomes

This course introduces students to host-associated microbiomes; the genomic collection of bacteria, archaea, fungi, protozoa, and viruses present in a host ecosystem. In each lecture, we will focus on an anatomical location, and discuss the host and environmental pressures which select for the resident microbial community. The material is primarily in animals (mammals, birds, fish, amphibians) but includes some human-specific comparisons. This course will introduce ecological theories (e.g. environmental selection, neutral theory) in the context of microbial communities, the history of host-associated microbiology, and how technology has contributed to or limited our understanding of organisms and their critical role in our health and development. The skill-set objectives includes group discussions, reading scientific literature, and scientific writing in a variety of styles and both technical and non-technical formats.

Core Curriculum/Core Requirements: ["Population and Environment"] Prerequisites:
BIO 200 or BIO 208 or BMB 155 or BMB 280 or SMS 201; or instructor's permission

Course Typically Offered:
Fall

Credits: 3

AVS 270 - Winter Dairy Travel Course

An extended travel course to various dairy farms, processing plants, agricultural facilities, and research centers in a designated region each year. Students will travel and engage in discussion with peers and instructors from various New England land grant institutions. This is a one-week travel course that takes place over the Winter term with additional assignments to be completed upon return.

Prerequisites:
Department consent

Course Typically Offered:
Spring

Credits: 2

AVS 303 - Equine Management Cooperative

Work experience at the equine operation at the J.F. Witter Teaching and Research Center. Students work in teams to manage the University equine herd, including feeding, nutrition, health management, retraining of donated horses, maintenance and marketing.

Core Curriculum/Core Requirements: [""] Prerequisites:
Sophomore standing, ANV Major or ANV or EQU Minor; or permission

Course Typically Offered:
Fall, Spring, Summer

Credits: 2

AVS 346 - Dairy Cattle Management

Fundamentals of applied dairy cattle management. Areas covered include industry trends, lactation, genetics, reproduction, nutrition, health, housing and financial principles and practices involved in operating and managing a modern dairy herd.

Core Curriculum/Core Requirements: [""] Prerequisites:
Grade of C- or higher in AVS 145.

Course Typically Offered:
Fall

Credits: 3

AVS 347 - Dairy Cattle Technology Laboratory

Student will gain "hands-on" livestock experience through the management of the dairy herd at University of Maine Witter Farm. Responsibilities will include the feeding, milking, reproduction, health, finances and marketing of the cattle and milk products produced. Under the guidance of faculty, staff and student advisors, students evaluate herd performance, identify problems, form

strategies and implement management decisions that affect the operation of the dairy. The first of a two-course sequence (with AVS 371, University Dairy Cooperative) involving dairy work experience at the Witter Farm. Lab 4.

Core Curriculum/Core Requirements: [""] Prerequisites:

AVS 346 or concurrently.

Course Typically Offered:

Fall, Spring, Summer

Credits: 2

AVS 353 - Equine Reproduction and Breeding Management

A survey of the reproductive biology of the horse and a discussion of horse breeding practices, including artificial insemination, semen evaluation and embryo transfer.

Core Curriculum/Core Requirements: [""] Prerequisites:

Sophomore standing or permission.

Course Typically Offered:

Spring

Credits: 3

AVS 368 - Independent Study in the Animal Sciences

An in-depth study into a specific area to be approved by the staff advisor at time of registration. (1) breeding, (2) disease, (3) management, (4) nutrition, (5) physiology. Not more than five credit hours will be permitted toward graduation.

Course may be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

AVS 145 and permission.

Course Typically Offered:

Fall, Spring, Summer

Credits: Ar

AVS 393 - Training the Standardbred Horse

An introduction to the Standardbred harness racing industry with detailed instruction on training and management of the Standardbred race horse.

Core Curriculum/Core Requirements: [""] Prerequisites:

sophomore standing or permission of instructor.

Course Typically Offered:

Fall

Credits: 3

AVS 396 - Internship Experience in Animal and Veterinary Sciences

An approved program of work experience which contributes to the academic major for which academic credit is given. Students may work part time or full time for a semester in a job related to their professional career goals. Four sections of AVS 396 will be offered including Dairy Science, Equine Science at Witter Farm, External Equine Science, and General Animal Science or Veterinary Science Internship Experience.

Course note: Maybe be repeated for credits for a total of 9 completions and 144 credits, however students may not repeat the same section for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

permission.

Course Typically Offered:

Fall, Spring, Summer

Credits: 0 - 16

AVS 401 - Capstone in Animal Science I

Students will draw together the knowledge and experiences they have gathered in their undergraduate program to create a Capstone experience. This takes the form of a hypothetical or potential project which reflects the culmination of their degree and the work typical of their academic field of study. Students design a hypothetical or potential research project which investigates a

problem in animal or veterinary science, aquaculture, or a related field. The hypothetical project may include scientific research in a laboratory, farm,
or field site; literature review; meta-analysis; survey; design problem solving; or other hypothesis-driven testing. Course assignments are designed to teach about research planning, experimental designs, writing research proposals, and presenting their ideas as an oral report to faculty and students. Students are not required to perform research during this course.

Core Curriculum/Core Requirements: ["Writing Intensive. Also Capstone Experience Requirements when combined with AVS 402."] Prerequisites:

Junior Standing and Pre or Co-requisite of ENG 315 or ENG 317

Course Typically Offered:

Fall

Credits: 3

AVS 402 - Capstone in Animal Science II

Students participate in hands-on learning experiences based on their academic interest, career goals, faculty mentor, and available resources. Students may opt to conduct hands-on research experiences stemming from either the proposal written in AVS 401 Capstone in Animal Science I, conduct a different research project, develop a business plan, or conduct a non-research project based on their interest in AVS (could be an internship experience). In this course, students present a poster presentation to the instructor and other students at an AVS symposium.
AVS 401 and AVS 402 collectively serve as the Capstone experience for Animal and Veterinary Sciences students.

Core Curriculum/Core Requirements: ["Satisfies the General Education Capstone Experience Requirements when combined with AVS 401."] Prerequisites:

AVS 401 and ENG 315 or ENG 317; or instructor's permission to take ENG concurrently

Course Typically Offered:

Spring

Credits: 1

AVS 405 - Livestock and Companion Animal Behavior

Provides both theoretical and practical knowledge of livestock and companion animal behavior. Enables students to understand why simple improvements in management practices can bring about tremendous changes in production and performance of the animals as well as improve the ease of handling for their human caregivers. A background in the human-animal bond and the impact of humans on livestock and companion animals will be provided. Designed for animal and veterinary scientists, graduate students interested in the human-animal bond and animal-assisted therapy, and those who wish to understand more about the behavior of their companion animals.

Core Curriculum/Core Requirements: [""] Prerequisites:

Grade of C- or higher in AVS 145 and Junior standing

Course Typically Offered:

Fall, Even Years

Credits: 3

AVS 411 - Advanced Aquaculture

Advanced aquaculture will build upon the foundations of the Introduction to Aquaculture course (AVS/SMS 211). Students will be exposed to more advanced concepts including aquaculture engineering and system design; broodstock management; live feeds and algae production; economics and marketing; as well as biosecurity. Application of principles and concepts presented in this class will be emphasized. At the conclusion of this course students should have a firm grasp of critical concepts in aquaculture and be better prepared for careers in private, state, and federal organizations as well as academia.

AVS 411 and AVS 511 cannot both be taken for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

AVS 211 or SMS 211, or permission

Course Typically Offered:

Spring

Credits: 3

AVS 430 - Animal Genetics and Selection

An application of qualitative and quantitative genetics to animal breeding and selection. An animal's performance is determined by genetics and their environment, and animal breeders aim to identify the genetically best animals according to their breeding objective. The course will cover population genetics, heritability and repeatability, selection response, mating systems, genomics, progeny testing and additional technologies. AVS 430 and AVS 530 cannot both be taken for credit.

Prerequisites:
BIO 200

Course Typically Offered:
Fall

Credits: 3

AVS 433 - Equine Exercise Physiology

Covers current concepts regarding the metabolic and physiologic factors associated with exercise and training the horse. Provides students with the scientific basis for properly designing a physical conditioning program for the equine athlete.

Core Curriculum/Core Requirements: [""] Prerequisites:
CHY 121 or BMB 207, BIO 208 or BIO 377 or permission.

Course Typically Offered:
Spring, Even Years

Credits: 3

AVS 437 - Animal Diseases

Introduction to the study of disease in animals, including the causes, pathology and control of diseases of domestic animals. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:
BIO 377 or permission.

Course Typically Offered:
Spring

Credits: 3

AVS 446 - Forage Science and Range Management

Participants will be introduced to the biological fundamentals needed for understanding and managing forage and grassland resources used to feed livestock and wildlife.
AVS 446 and AVS 546 cannot both be taken for credit.

Core Curriculum/Core Requirements: ["None"] Prerequisites:
AVS, SAG, BIO, BOL, or WLE major or permission and Senior Standing

Course Typically Offered:
Spring

Credits: 3

AVS 454 - DNA Sequencing Analysis Lab

This course will take students from raw DNA sequencing data through quality assurance, through to data interpretation, statistical analysis, and presentation of the results as a mock scientific article. A background in microbiology, microbial ecology, or genetics would be beneficial. No programming or data analysis experience is required. Students who are performing research may bring their own sequencing data to process in class. Students will become familiar with command-line programs and basic computer programming techniques; understand bioinformatics methods such as quality trimming, assembling contigs, sequence alignment, using reference databases, and statistical comparisons; gain hands-on experience in bioinformatic analysis of DNA sequences using the R platform and its packages; primarily, DADA2, phyloseq, vegan, ggplot2; and be able to apply the knowledge gained in class to other sequence types and programs. Students may bring their own data, or some can be provided. AVS 454 and 554 cannot both be taken for credit.

Core Curriculum/Core Requirements: ["Quantitative Literacy"] Prerequisites:
AVS 254 or BIO 219 or Bio 350 or BMB 280 or WLE 200 or SMS 300, and STS 232 or STS 215; or instructor's permission

Course Typically Offered:
Fall

Credits: 2

AVS 455 - Animal Nutrition

An increased efficiency of nutrient use is not only imperative for achieving profitability in the currently globalized livestock markets, but also for the sustainable use of natural resources and climate change mitigation. Considering that around 70% of the costs of raising animals is due to feeding and that global demand for animal products is increasing, understanding the basic foundations of animal nutrition is essential for professionals that work with livestock, poultry, companion animals, and wildlife. This course will cover the biochemistry of nutrient use, gastrointestinal physiology and metabolism, feedstuff nutritional analysis, mathematical modeling of nutrient requirements, and the life-cycle of feeding animals. AVS 455 and AVS 555 cannot both be taken for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

Jr Standing; BMB 207 and 209 or CHY 121 and 123, and BIO 200 or BIO 208 or SMS 201

Course Typically Offered:

Fall

Credits: 3

AVS 466 - Livestock Feeds and Feeding

The practical application of nutrition to the production of livestock. Topics discussed include feed types and sources, feed composition and quality, nutritional requirements of various livestock and the formulation and evaluation of rations to meet nutritional needs and optimize animal performance.

Core Curriculum/Core Requirements: [""] Prerequisites:

AVS 455

Course Typically Offered:

Spring

Credits: 2

AVS 477 - Zoonoses and Animal Health

This course focuses on the ecology, evolution and epidemiology of infectious diseases from a One Health perspective that considers wild and domestic animals, public health and ecosystem health. Core biological principles as well as ecological and social issues will be explored. The historical and contemporary literature in disease ecology and evolution as it relates to animal health will be reviewed, with an emphasis placed on wildlife and livestock diseases. Additional topics covered include the factors driving heterogeneity in disease transmission in animal populations, the ecology of disease spillover in wildlife and livestock, host-pathogen evolution, antibiotic resistance, and animal disease management strategies. AVS 477 and AVS 577 cannot both be taken for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

Senior Standing and AVS 437, BIO 219, SMS 300 or WLE 200

Course Typically Offered:

Fall

Credits: 3

AVS 480 - Physiology of Reproduction

Comparative development and functions of the reproductive process in domestic animals. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior standing and Pre- or Co-requisite of BIO 377

Course Typically Offered:

Fall

Credits: 3

Anthropology

ANT 101 - Introduction to Anthropology: Human Origins and Prehistory

A survey course focusing on the evolution of humankind, the development of culture, and the beginnings of civilization. Required for Anthropology majors.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions and Cultural Diversity and International Perspectives"] Course Typically Offered:

Fall

Credits: 3

ANT 102 - Introduction to Anthropology: Diversity of Cultures

A survey course focusing on the nature of culture, similarities and differences among the world's cultures, relationships among cultures, and culture change. Required for Anthropology majors.

Core Curriculum/Core Requirements: ["Ethics and Cultural Diversity and International Perspectives"] Course Typically Offered:

Spring

Credits: 3

ANT 120 - Religions of the World

A survey of the distinctive features of the major world religions and the most studied Native American, African and aboriginal Australian religions. Focuses on the fit between myth and ritual, the problems involved in trying to understand both "from the believer's point of view," and what generalizations can be made about religion in general.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions and Cultural Diversity and International Perspectives"] Course Typically Offered:

Fall, Spring, Summer

Credits: 3

ANT 207 - Contemporary Archaeology

An overview of the human record as determined by archaeology using examples drawn from the global experience.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"] Course Typically Offered:

Variable

Credits: 3

ANT 210 - Biological Anthropology

Introduces current topics in human biology and evolution including human origins and the fossil record, human genetics and population variability, and human and non-human primate behavior.

Core Curriculum/Core Requirements: ["Applications of Scientific Knowledge"] Course Typically Offered:

Variable

Credits: 3

ANT 212 - The Anthropology of Food

Food is the most direct and meaningful connection people have with the environment, a connection that addresses both biological and cultural needs. This course aims at exposing students to the different ways in which anthropologists think about food across its sub-disciplines as a way to understand human origins, behavior, and cultural diversity. Themes include food procurement strategies, influence on human evolution, religious traditions and food, food as pertains to power dynamics, warfare, gender relations and identity, and the role of food in environmental and sustainable development policy-making.

Core Curriculum/Core Requirements: ["Population and the Environment and Cultural Diversity and International Perspectives"] Course Typically Offered:

Alternate years

Credits: 3

ANT 213 - Environmental Anthropology

The field of environmental anthropology explores human-environment relations around the globe and from prehistory to the present. It also strives to understand environmental issues and knowledge, not only from a Western scientific point of view, but also from the perspectives of people from other cultural backgrounds. In this class, students will survey the field of environmental anthropology and apply its method and theory to a problem where they live.

Core Curriculum/Core Requirements: ["Population and the Environment"] Prerequisites:

ANT 102 or SOC 101, or permission of instructor.

Course Typically Offered:

Spring

Credits: 3

ANT 221 - Introduction to Folklore

A survey of the different genres of folklore, its forms, uses, functions and modes of transmission. Emphasis on belief, custom and legend.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and the Cultural Diversity and International Perspectives"] Course Typically Offered:

Fall & Spring

Credits: 3

ANT 225 - Climate Change, Societies and Cultures

Surveys the human dimensions of climate change from a cultural perspective: The interactions among societies, cultures, and climate change. Reviews climate-change futures and their human implications around the world; drivers of climate change; and technological, social, and cultural mitigation and adaptations strategies. Perspective throughout is universalistic (all human societies, past and present) and holistic (all realms of thought and behavior, though with particular emphasis on social, political, and cultural dimensions).

Core Curriculum/Core Requirements: ["Population and Environment"] Prerequisites:

Sophomore standing

Course Typically Offered:

Variable

Credits: 3

ANT 235 - Cultural Perceptions of Nature

Examines the concept of nature in a variety of cultural contexts. Emphasis is on the development of contemporary views and their impacts on environmental management.

Core Curriculum/Core Requirements: ["Population and the Environment"] Course Typically Offered:

Spring

Credits: 3

ANT 240 - Hollywood Archaeology

Archaeology is the systematic study of the past, particularly (but not exclusively) for times and places when and where writing did not exist. Many people find the ancient past romantic and exciting. Consequently, many movies purport to be about, or to involve, archaeology and archaeologists and/or the prehistoric past. Very often, movies propagate perspectives on the past and on the practice of archaeology that diverge widely from what archaeologists do and have learned. Often, movies portray archaeologists acting unethically. In this class, we will discuss the use and abuse of archaeology in Hollywood movies, how to recognize inappropriate and unethical archaeological behavior, what sort of stereotypes about archaeology and archaeologists these movies transmit, and how film might be a medium for a better presentation of archaeology and prehistory. If this course was taken as a topics course in ANT 290, it cannot be repeated for credit.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Spring

Credits: 3

ANT 245 - Sex and Gender in Cross-Cultural Perspective

An exploration into the commonality and diversity of sex and gender roles in cross-cultural perspective and an examination of cultural and bio-social explanations for why such diversity exists. Foci include contemporary approaches to sex and gender, changing views about men's and women's roles in human evolution, the conditions under which gender roles vary in contemporary societies and the issues surrounding gender equality, power and politics.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives and Ethics"] Course Typically Offered:

Alternate Years

Credits: 3

ANT 247 - Animals across Cultures

How do diverse cultures conceptualize and treat non-human animals? How are animals understood and acted upon? Our readings are drawn from anthropology, anthrozoology, the biological sciences, neuroscience, comparative psychology, sociology, history, and science journalism. Cross-cultural and transhistorical comparisons invite us to re-conceptualize how we relate to animals under

conditions of human exceptionalism, while providing a deeper sense of agency and urgency in how we reimagine stewardship of our shared and imperiled planet.

Core Curriculum/Core Requirements: ["Ethics and Cultural Diversity or International Perspectives"] Course Typically Offered:

Variable

Credits: 3

ANT 249 - Religion and Violence

Explores the anthropology of contemporary political violence. The ethnographic study of terrorism, guerilla warfare, state terror and human rights will be complemented by examination of the ethical and methodological concerns that arise in this special area of investigation.

Core Curriculum/Core Requirements: ["Ethics' , 'Social Contexts and Institutions and Cultural Diversity and International Perspectives"] Course Typically Offered:

Variable

Credits: 3

ANT 250 - Conservation Anthropology: The Socio-Cultural Dimension of Environmental Issues

Conservation is fundamentally a socio-cultural problem. Examines the different types of human/nature relationships that emerge across various cultural, environmental, socio-economic, and political contexts. Through a comparative approach this course is designed to illustrate how culture is an important variable when creating viable conservation strategies. Themes covered in class include protected areas, indigenous and traditional knowledge, resource management, market-based conservation, environmental economics, and political ecology. Case studies: United States, Africa, Australia, Latin America, and Papua New Guinea.

Core Curriculum/Core Requirements: ["Population and the Environment and Cultural Diversity and International Perspectives"] Course Typically Offered:

Fall

Credits: 3

ANT 252 - Civilization in South Asia

An exploration into the nature of civilization in South Asia, focusing on India. The central religious tradition of Hinduism and the caste order are investigated, with complementary perspectives provided by non-Hindu traditions. The impact of colonialism and development of national identities are also considered. Anthropological views are distinguished from and supplemented by other disciplinary perspectives.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives and Social Contexts and Institutions"] Credits: 3

ANT 256 - Ethnic Conflict

An exploration of ethnic conflict and revival today including a survey of anthropological theories of ethnicity, focusing on ethnic revival in the modern world. European and other ethnic groups of the industrialized West provide the major cases to be considered.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions and Cultural Diversity and International Perspectives"] Course Typically Offered:

Variable

Credits: 3

ANT 260 - Forensic Anthropology

Provides an introduction to the application of the theory and methods of physical anthropology to medicolegal investigations and problems. The field consists of four basic topics: 1) human skeletal anatomy, 2) developing a biological profile, 3) the science of decomposition, and 4) forensic anthropology in the court system.

Core Curriculum/Core Requirements: ["Applications of Scientific Knowledge"] Course Typically Offered:

Alternate Years

Credits: 3

ANT 270 - Environmental Justice Movements in the United States

Examines how poor and racialized communities have responded to the incidence, causes, and effects of environmental racism and

injustice. Special attention will be given to how critiques offered by these communities challenge the knowledge and procedural forms of justice embedded in environmental policy and democracy in the United States. Case studies will be drawn from readings on African-American, European-Americans, Chicano and Latino Americans, and Native Americans.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions and Cultural Diversity and International Perspectives"] Course Typically Offered:

Variable

Credits: 3

ANT 285 - Introduction to Historic Preservation

This course introduces students to the theory, history, legal framework, and cultural contexts of historic preservation. It focuses primarily on historic preservation in the United States with reference to historic preservation topics worldwide. From UMaine's Lord Hall to Stonehenge, students will explore historic places through an anthropological lens in order to understand why and how humans preserve heritage-based places. The course is designed to give students a basic knowledge of U.S. historic preservation laws, policies, and practices. It also encourages students to think critically about social behavior surrounding place-based heritage.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall

Credits: 3

ANT 290 - Special Topics in Anthropology

Intermediate treatment of specialized problems in anthropology with emphasis on analysis in frontier areas of anthropological research. Topics vary. May be repeated for credit if topics differ.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Variable

Credits: 1-3

ANT 295 - American Indians and Climate Change

Introduces students to the Indian cultures of the United States and U.S. territories in the South Pacific, paying particular attention to the issue of climate change and how it is impacting indigenous peoples in these regions; also examines climate effects on natural resource conditions as it relates to Indian cultures and the roles indigenous groups play in policy responses to climate change.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Variable

Credits: 3

ANT 311 - Geography of Climate Change

Introduces students to theories of environmental sustainability transitions and resource use in the context of climate change.

Core Curriculum/Core Requirements: [""] Prerequisites:

Any ANT or GEO course or permission.

Course Typically Offered:

Spring

Credits: 3

ANT 313 - Political Ecology

The field of political ecology examines and attempts to explain the political dimensions of human-environment relations. This course introduces the field, its history, methods, and perspectives, and applies its principles and perspectives to understanding, managing and resolving real-world, environment-related problems. Students conduct a research project on an issue pertinent to Downeast Maine such as wild salmon restoration, climate change adaptation or land use management. They analyze the topic, applying perspectives and analytical methods of political ecology, and develop recommendations that take into account a range of environmental and social dimensions.

Prerequisites:

ANT 102 or permission of instructor.

Course Typically Offered:

Variable

Credits: 3

ANT 317 - Fundamentals of Archaeology

Techniques of excavation and analysis; theoretical basis of methods and fundamental principles; application to specific case studies; the use of geological, biological, chemical and other tools in archaeological research. A one-day compulsory weekend field trip to local archaeological sites.

Prerequisites:

ANT 101 or ANT 170 or ANT 207 or permission. Required for Anthropology majors.

Course Typically Offered:

Spring

Credits: 3

ANT 330 - The U.S. Folk Experience

Examines how disenfranchised groups respond through their traditional expressive folklore to the incidences, causes and effect of racism and injustice found in the United States, as well as maintaining and conveying their values, and sense of identity at simultaneous levels (individual, communal, regional) to each other and the larger society. Groups read and examined are Afro-American, Hispanic, Asian American, Native American, and Euro-American.

Course Typically Offered:

Not Regularly Offered

Credits: 3

ANT 350 - Mediterranean Ancient Landscapes Modern World

Humans are active agents in the physical world and play a pivotal role in its transformation. Consequently, contemporary societies inherit landscapes that are the product of an integrated, long-term relationship between humans and their environment through time. This is of particular interest in the Mediterranean world not only because cultural complexity, urbanization, and the origins of nation-states and empires unfolded over the course of millennia, but also because of the rich historical, archaeological, and paleoenvironmental records that help to characterize this process. This course introduces the ways in which archaeology and other historical sciences can inform on contemporary issues of resource management, conservation and cultural heritage in the Mediterranean in the context of the global change.

Core Curriculum/Core Requirements: [""] Prerequisites:

One ANT course or one GEO course or Permission

Course Typically Offered:

Alternate Years

Credits: 3

ANT 372 - North American Prehistory

The history of North American native peoples from the first evidence to the arrival of the Europeans. Emphasis on major culture areas and issues such as glacial and postglacial adaptation, development of agriculture, and the emergence of sedentism.

Core Curriculum/Core Requirements: [""] Prerequisites:

ANT 101 or ANT 207 or ANT 317 or Permission

Course Typically Offered:

Alternate Years

Credits: 3

ANT 390 - Topics: Travel Study in Anthropology/Geography

Experiential learning in Anthropology/Geography through travel study. Topics and geographical regions of study will vary from statewide, to national, to international interests.

Prerequisites:

Instructor Permission

Course Typically Offered:

Fall, Spring, Summer

Credits: 1-6

ANT 400 - Basic Theory in Cultural Anthropology

A seminar in which the most important theories shaping modern cultural and social anthropology will be presented through the analysis of key monographs. Emphasis placed on developing critical thinking and library research skills. Required of all Anthropology majors.

Prerequisites:
Permission, and ANT 102 and ANT major standing.

Course Typically Offered:
Fall

Credits: 3

ANT 410 - Human Dimensions of Climate Change

Surveys advanced topics on the human dimensions of climate change, including anthropogenic drivers and consequences of climate change, mitigation, and adaptation strategies.

Core Curriculum/Core Requirements: [" Capstone"] Prerequisites:
ANT 102 and ANT 225 or permission.

Course Typically Offered:
Spring

Credits: 3

ANT 411 - Culture, Illness and Healing

While all human beings endure forms of illness and suffering throughout life, how individuals understand and approach this experience varies widely across cultures, religions, national contexts, and medical paradigms. Through case-studies based in the U.S. and globally, this combined upper-level/grad seminar grapples with concepts of physical, mental and spiritual illness and suffering and investigates the diverse methods, religious cosmologies, and medical paradigms various communities invoke to assuage distress.

Core Curriculum/Core Requirements: [""] Prerequisites:
This course cannot be taken for credit after passing ANT 490 with the topic of Culture, Illness and Healing

Course Typically Offered:
Fall

Credits: 3

ANT 426 - Native American Folklore

An overview of folklore and folklife covering various genres of traditional expressive culture.

Course Typically Offered:
Fall

Credits: 3

ANT 428 - Museum Anthropology

This course examines the transforming role of the ethnographic museum. It explores ethnographic collections as institutions where structural inequalities are perpetuated, but also as emergent domains of restitution, decolonization, and community engagement.

Prerequisites:
Previous lower-level coursework in anthropology strongly recommended

Course Typically Offered:
Fall

Credits: 3

ANT 430 - Who Owns Native Cultures?

The answer to the simple question of who owns Native American / American Indian / indigenous cultures and cultural productions is surprisingly complex and engages the history of anthropology and the nature of anthropological knowledge itself. Course examines the evolving relationships between anthropologists, historians, and other researchers with indigenous peoples (in particular American Indians) and what kinds of ethical and legal relationships have evolved over time to address this question. Also looks at the ways in which contemporary cultural resource management by indigenous peoples serves as a key articulation of indigenous nationhood and sovereignty. Special attention is given to recent scholarship by indigenous researchers that decolonizes standard academic practices and roots the ownership of Native cultures and research in Native communities.

Prerequisites:
ANT 102 or NAS 101 or permission

Course Typically Offered:
Alternate Years

Credits: 3

ANT 431 - Folklore, the Environment and Public Policy

Examines the interaction of humans with the environment from the perspective of folklore, and reviews its impact on public policy at the local, state, federal and international level.

Course Typically Offered:

Not Regularly Offered

Credits: 3

ANT 448 - Ethnography Through Film

A critical analysis of film from an anthropological perspective. Students will be introduced to the history of the use of ethnographic film in anthropology, and they will consider how professional anthropologists living at different times have used motion pictures to capture aspects of human cultural behavior. Students will also examine how ethnographic films, documentaries, and popular motion pictures (past and present) have been used to represent people in a variety of cultures. We will ask how professional anthropologists may differ from other types of filmmakers in their treatment of the same cultural groups and/or subjects.

Core Curriculum/Core Requirements: [""] Prerequisites:

ANT 102 or permission.

Course Typically Offered:

Variable

Credits: 3

ANT 451 - Native American Cultures and Identities

In this seminar, we will examine Native American cultures and identities (past and present), with special attention to reading works by Native authors and examining topics such as the effects of colonialism on Native Americans, representations of Native Americans in popular culture, new biological technologies like DNA testing that shape understandings of Native identities, the role of traditional cultures in Native communities, tribal sovereignty and economic development in the twenty-first century, and indigenous environmental perspectives.

Prerequisites:

ANT 102 or NAS 101 or permission.

Course Typically Offered:

Variable

Credits: 3

ANT 464 - Ecological Anthropology

Comparative study of human populations in ecosystems. Topics include the adaptive nature of culture, implications of the ecological approach for anthropological theory, sociocultural evolution and change, and contemporary problems. Case studies from simple and complex societies. ANT 464 and 564 cannot both be taken for degree credit.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

ANT 102 or ANT 250 or Permission

Course Typically Offered:

Fall

Credits: 3

ANT 466 - Economic Anthropology

Comparative study of production, consumption and exchange in selected Western and non-Western societies. Emphasis on factors influencing economic decisions in a variety of social and cultural settings. ANT 466 and ANT 566 cannot both be taken for degree credit.

Core Curriculum/Core Requirements: [" Writing Intensive"] Prerequisites:

ANT 102 or ANT 300 or permission.

Course Typically Offered:

Variable

Credits: 3

ANT 476 - Archaeology and Heritage in the Maya World

Examines the origins and evolution of Maya civilization in what is today Belize, Guatemala, Mexico, Honduras, and El Salvador, beginning with early development of Maya culture in the first two millennia BCE through Spanish colonization in the sixteenth century CE. Complex topics related to contemporary Maya people, language, heritage, and the archaeological record are introduced throughout the course.

Core Curriculum/Core Requirements: [""] Prerequisites:
ANT 101 or ANT 170 or ANT 207 or Permission

Course Typically Offered:
Alternate Years

Credits: 3

ANT 477 - Field Research in Archaeology

Introduction to archaeological field techniques through excavation of an archaeological site. Intensive training in site survey, excavations techniques, recording, analysis and preliminary interpretation of archaeological materials. Generally conducted on prehistoric and historic sites in Maine. Admission by application only.

Course note: may be repeated 9 completions with a total of 54 credits

Prerequisites:
Permission.

Course Typically Offered:
Summer

Credits: 2-6

ANT 478 - Zooarchaeology

A laboratory course covering techniques for analysis and interpretation of osteological remains from archaeological sites. Rec 2, Lab 2.

Prerequisites:
ANT 317 or permission.

Course Typically Offered:
Not Regularly Offered

Credits: 4

ANT 479 - Laboratory Techniques in Prehistoric Archaeology

Hands-on experience in lab techniques using real archaeological materials. Includes analysis, classification and synthesis of the data. Lec 1, Lab 2.

Course Typically Offered:
Alternate Years

Credits: 3

ANT 490 - Topics in Anthropology

Advanced treatment of specialized problems in anthropology with emphasis on analysis in frontier areas of anthropological research. Topics vary. May be repeated for credit if topics differ.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Variable

Credits: 3

ANT 493 - Anthropology Senior Seminar & Capstone Research Project

This senior research seminar is designed to give students an opportunity to draw on their academic experience and explore a particular anthropological topic or debate of their choice. Throughout the course of the semester, students will conduct research and work toward the completion of a research project. This project will allow students to gain valuable hands-on experience designing, researching, writing, and presenting your work while building relationships with faculty and peers. The course will allow students to engage in anthropological inquires and debates while honing skills in communication, argumentation, and problem solving that will be useful beyond the classroom. Weekly discussions, journal entries, a final project (submitted in stages), and a presentation will be used to assess student progress.

Core Curriculum/Core Requirements: ["Capstone and Writing Intensive"] Prerequisites:

Junior or Senior standing in the Anthropology or International Affairs (CCG concentration) or Human Dimensions of Climate Change majors.

Course Typically Offered:
Spring

Credits: 3

ANT 494 - Method and Theory in Archaeology

The history of, and current debates in, archaeological methods and theory, with a focus on Americanist archaeology.

Core Curriculum/Core Requirements: [""] Prerequisites:
ANT 300 or ANT 317 or permission

Course Typically Offered:
Alternate Years

Credits: 3

ANT 497 - Department Projects

A special project course. Specific content, scheduling and credit hours proposed by student in consultation with instructor.

Course note: May be repeated 3 completions with a total of 3 credits.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Fall, Spring, Summer

Credits: Ar

Art

ART 100 - Drawing I

The fundamentals of drawing through creative exercises exploring the principles of line, value, texture, space, and form. Examines various media and their relationship to expression and composition. Lab 6.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:
Fall & Spring

Credits: 3

ART 104 - Successful Strategies for Visual Arts Majors

A course for First Year and Transfer Students majoring in Studio Art, Art Education, or History of Art, ART 104 will introduce students to effective strategies for success is the Visual Arts. Students will learn how to develop proficiencies in creativity, strong work practices, essential artistic and writing skills, and effective critical thinking.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Fall

Credits: 1

ART 106 - Art Fundamentals

Students learn the elements and principles of 2 and 3-dimensional design through hands-on practice in this introductory course. Studio sessions include drawing, painting, printmaking, mixed media, assemblage and construction. Class discussions include topics in Western and non-Western art, critical assessment of work, aesthetics, art media and materials usage. This course partially satisfies the University Core requirements in fine art studio and is a prerequisite to all other studio offerings.

Course Typically Offered:
Fall and Spring

Credits: 3

ART 110 - 2-D Design

Fundamentals of basic design through studio experience. Covers analysis of design, composition and basic perceptual and aesthetic aspects of color. Uses a series of problems that explore the areas listed above. Lab 6.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:

Fall & Spring

Credits: 3

ART 119 - Photography

A studio course designed to acquaint the student with the process of visual exploration using a camera. The student learns the basics of camera use and computer post processing while exploring a range of applications including documentary and fine art photography. The history of the medium and a look at various photographers will build vocabulary that can be applied to independent work.

Prerequisites:

ART 106, or permission of the instructor

Course Typically Offered:

Fall and Spring

Credits: 3

ART 120 - 3-D Design

An introduction to the fundamentals of three dimensional design including volume, mass, line, plane, space and time. Uses a series of problems that explore the areas listed above. Lab 6.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:

Fall & Spring

Credits: 3

ART 180 - Photography I

A studio art course that explores the fundamentals of black-and-white photography. Students develop an understanding of the 35mm film camera; lighting, composition, and content; film processing and printing in the darkroom; and how photography is a medium of fine art practice and personal expression. Lab 6.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Prerequisites:

Art majors must have permission of advisor.

Course Typically Offered:

Fall & Spring

Credits: 3

ART 182 - Photography and Digital Imaging

A studio art course that explores the fundamentals of digital photography. Students learn the technology of digital imaging, with an emphasis on cameras and software as mediums of expression.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:

Fall, Spring, Summer

Credits: 3

ART 200 - Drawing II

A continuation of the fundamentals of drawing in black and white media and the introduction of a variety of color media with continued emphasis on their relationship to expression and composition. Lab 6.

Core Curriculum/Core Requirements: [""] Prerequisites:

ART 100.

Course Typically Offered:

Fall & Spring

Credits: 3

ART 210 - Introduction to Drawing

The introductory course in studio drawing. Students are taught the basic concepts and techniques of drawing in studio sessions using still life, land/seascape, and the model. Emphasis is on gaining facility in rendering and visualizing from life.

Prerequisites:

ART 106 or permission of the instructor

Course Typically Offered:

Variable

Credits: 3

ART 211 - Painting Fundamentals

The introductory course in painting. Students learn the fundamental processes of opaque and/or transparent painting media through intensive studio practice, lecture and demonstration.

Core Curriculum/Core Requirements: ["Aesthetic Perspectives/Studio"] Prerequisites:

ART 106, or permission of the instructor

Credits: 3

ART 212 - Illustration

This studio course will study the making of images for printed media, including books and advertising print formats. Topics include page design, image and typographic integration and visual interpretation of text. Specific studio media include painted and drawn images for reproduction, digital image making, traditional printmaking media processes of relief, intaglio and silk screen and pulp painting. The course will also include a critical analysis of contemporary and historical illustrations.

Prerequisites:

ART 106 or permission of the instructor

Course Typically Offered:

Every Spring

Credits: 3

ART 213 - Introduction to Graphic Design

The study of design elements as employed in a two-dimensional system, whether print or electronic. Students will explore how information is read through the arrangement of various elements, including shapes, color, symbols and typography. They will create their own designs using available software and contribute to online discussions.

Prerequisites:

ART 106 or permission of the instructor

Course Typically Offered:

Spring

Credits: 3

ART 216 - Book Arts I

This studio course will concentrate on the study of the book as a medium for the expression of the written word. Topics covered in this course include the cultural and historical development of the book artifact, its materials and methods of production, the aesthetic integration of typography, text, page, paper and image; printing and methods of book production, and binding structures. Letterpress printing will be introduced. Books will be edited in small numbers as prototypes of learning the techniques of production.

Prerequisites:

ART 106, or permission of the instructor

Credits: 3

ART 217 - Papermaking I

This studio course will explore making paper by hand as a component for the making of edition of paper and images critical for the making of books. In addition to the exploration of the cooking, beating, and sheet forming of fiber into paper, students will learn about the history of papermaking, the materials used in the history of writing and printing, and the aesthetics of material usage as it pertains to interpreting a specific written text or visual image. The course will also involve a critical analysis of works of art and books using handmade paper and a comparative study of paper made from assorted fibers, historical and modern.

Prerequisites:

ART 106, or permission of the instructor

Credits: 3

ART 218 - Introduction to Printmaking

An introduction to the materials and techniques of fine art print production. Woodcut, linocut, etching, engraving and lithography

are some of the processes explored. Class sessions consist of studio work, demonstration, lecture, and group and individual critiques.

Prerequisites:

ART 106, or permission of the instructor

Credits: 3

ART 220 - Sculpture I

A series of projects that investigate the techniques and process approach in sculpture. Includes welding, carving, casting, forming and other forms of fabrication. General use of hand and power equipment.

Core Curriculum/Core Requirements: [""] Prerequisites:

ART 110, ART 120, ART 200.

Course Typically Offered:

Fall & Spring

Credits: 3

ART 222 - Socially-Engaged Art

Students will be introduced to socially-engaged art, a practice that blurs the line between art and life, emphasizing participation, collaboration, dialogue and action. Throughout the course, participants will utilize field visits, artists' dialogues, class discussion and interventions to gain a better understanding of artists, specifically as members of a community, who intervene in and create structures of participation.

Prerequisites:

ENG 101 or permission of instructor.

Course Typically Offered:

Variable

Credits: 3

ART 225 - Ceramics I

An introduction to the tools, processes and aesthetics of ceramics. Provides students with hands-on experience and understandings of the characteristics and demands of the medium of ceramics using basic hand building and/or throwing methods for the expression of ideas and feeling. Students will learn basic hand building and/or throwing techniques to design, make and decorate vessels and other ceramic objects.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:

Fall & Spring

Credits: 3

ART 230 - Painting I

Painting in oil or acrylic paint. Fundamentals of color mixing, paint application, composition and expressive content. Lab 6.

Core Curriculum/Core Requirements: [""] Prerequisites:

ART 110, ART 120, ART 200.

Course Typically Offered:

Fall & Spring

Credits: 3

ART 235 - Museum and Gallery Management I

This course will explore the issues of managing a museum or gallery, the curatorial guidelines for collection acquisition and conservation, and concepts of exhibit preparation, design, and installation. The course content is applicable to art, craft, history, science, musical or digital exhibitions and collections. The UMM Art Gallery, Gallery for the Book, and the University Archive and Permanent Collection Room will serve as the lab for this course.

Prerequisites:

ART 106, or permission of the instructor

Course Typically Offered:

Variable

Credits: 3

ART 240 - Printmaking I

The fundamentals of printmaking covering monoprinting and intaglio. Emphasis on technical, aesthetic, conceptual and expressive development. Lab 6.

Core Curriculum/Core Requirements: [""] Prerequisites:

ART 110, ART 120, ART 200.

Course Typically Offered:

Fall & Spring

Credits: 3

ART 250 - Graphic Design I

Explores the principles of applied design as used in the production of brochures, catalogues, magazines, newspapers, etc. Exercises in type, layout and issues of technology will be covered. Lab 6.

Core Curriculum/Core Requirements: [""] Prerequisites:

ART 110 or permission.

Course Typically Offered:

Fall & Spring

Credits: 3

ART 255 - Studies in the Graphic Novel

An emergent form, the graphic novel has recently come into its own for readers, publishers, artists, and writers. In a series of workshops and seminar sessions, this course takes up the study of some recent acclaimed graphic novels, with close attention paid to the specific techniques of word and image that elevate these works to prominence in their genre. The lessons in craft produced by this close analysis will then inform the creation of stand-alone segments of original graphic novels produced by students in the course. Students have the option to receive special emphasis in their final grade on their visual art and/or their creative writing. If this course was taken as a topics course in ENG 302, it cannot be repeated for credit.

Prerequisites:

ART 106 and ENG 205 or permission

Course Typically Offered:

Variable

Credits: 3

ART 270 - Digital Art I

An introduction to two-dimensional digital art. Includes professional 2D and related software, input/output options and image creation and editing. Emphasizes using the tools for the production of fine art.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Prerequisites:

ART 110 or permission.

Course Typically Offered:

Fall and Spring

Credits: 3

ART 298 - Special Topics in Art

Special lecture, studio, travel and workshop experiences in the visual arts. Recent topics offerings include Book Arts, Landscape Watercolor, Digital Design, and Life as Art: UMM student trip to Italy. In the BAIFA program, these courses may be used as visual art electives and repeated for credit.

Prerequisites:

ART 106, or permission of the instructor

Course Typically Offered:

Variable

Credits: 1-3

ART 310 - Intermediate Drawing

The basic concepts and techniques of drawing are reintroduced through studio sessions. Students draw with a variety of media

from life and from conceptual/creative models. Emphasis in this more advanced class is on the development of facility, style and self-expression. May be repeated for credit.

Prerequisites:

ART 210 or permission of instructor.

Credits: 3

ART 311 - Studio Painting

Designed for students who are experienced painters. Through intensive studio practice, students develop their facility with selected opaque and/or transparent media. Emphasis is on the development of an individual vision. May be repeated for credit.

Prerequisites:

ART 211 or permission of instructor.

Credits: 3

ART 313 - Photography II

Advanced development of students' photographic skills and understanding. The course explores a variety of equipment, materials and techniques. Students develop an awareness of many variables important to advanced work in photography. Simultaneously, they develop a new awareness of the image and of themselves as image makers.

Prerequisites:

Prerequisite: ART 119 or permission of instructor.

Credits: 3

ART 316 - Book Arts II

This studio course will continue the study of Book Arts I using the book as a medium for the expression of the written word. The aesthetic integration of typography, text, page, paper and image through letterpress printing and other advanced printing and binding techniques will be explored. A copyrighted book project will be editioned beyond the prototype stage and marketed. May be repeated for credit.

Prerequisites:

ART 216 or permission

Course Typically Offered:

Fall and Spring

Credits: 3

ART 317 - Papermaking II

This studio course will continue the study of Papermaking I, advancing the techniques of cooking, beating, sheet forming, watermarking, pulp painting techniques and making components for book editions. Students will study selected topics in the history of papermaking and the materials used in the history of writing and printing. Students will also critically assess contemporary and historical works as they relate to their own particular portfolio project. Prerequisite: ART 217, or permission of instructor.

Prerequisites:

ART 217, or permission of instructor.

Course Typically Offered:

Variable

Credits: 3

ART 318 - Advanced Printmaking

Printmaking II is an advancement of technique, skill, and conceptual maturity learned in Printmaking I. Students will learn the technical processes of relief printmaking including woodcut, linocut, polymer plate printing, and metal type-high letters and forms; the intaglio process of etching, dry point and solar plate printing processes; and silk screen printing using various stencil media. In addition, as an expansive medium, printmaking includes other techniques in the making of multiples such as hand papermaking, watermark and pulp painting techniques, digital printing, and multiple object making. Students are also expected to develop aesthetic and conceptual practices as they explore the media, allowing their curiosity to experiment with techniques to problem solve their visual work.

Prerequisites:

ART 218

Credits: 3

ART 320 - Sculpture II

A thematic and process approach to exploring concepts allowing students to pursue selected individual projects. Introduction to additional materials and techniques.

Core Curriculum/Core Requirements: [""] Prerequisites:

ART 220

Course Typically Offered:

Fall & Spring

Credits: 3

ART 321 - Life Drawing

An introduction to rendering the human figure. Students learn how to draw the human figure in action and repose through intensive studio practice. The structure and function of the human skeleton and musculature is taught through lecture, demonstration and discussion. May be repeated for credit.

Prerequisites:

ART 106, Sophomore standing or permission of instructor

Course Typically Offered:

Variable

Credits: 3

ART 322 - Book Design and Publishing

An intermediate course where students learn the principles of book design and apply these to the production of a critical edition for the UMM Press. Students leave the course with hands-on experience in publishing involving cover layout, interior design, printing and binding. This course encompasses traditional as well as emerging forms of book production. Working collaboratively, students will work to produce a single critical edition for the Library of Early Maine Literature, an imprint of the UMM Press. Students successfully completing this course will have their names listed in the publication credits for the published edition.

Prerequisites:

ART 216 or permission of instructor

Credits: 3

ART 330 - Painting II

Further development of painting concepts with emphasis on the characteristics of materials. Individual investigations of technical and expressive issues. Lab 6.

Core Curriculum/Core Requirements: [""] Prerequisites:

ART 230.

Course Typically Offered:

Fall & Spring

Credits: 3

ART 335 - Museum and Gallery Management II

This course will explore advanced issues of managing a museum or gallery, the curatorial guidelines for collection acquisition and conservation, and concepts of exhibit preparation, design, and installation. The UMM Art Gallery, Gallery for the Book, and the University Archive and Permanent Collection Room will serve as the lab for this course. This course is a continuation for Museum Management I with students taking leadership roles in curating works for an exhibit, show installation, and care of works in the UMM permanent collection.

Prerequisites:

ART 235

Course Typically Offered:

Variable

Credits: 3

ART 340 - Printmaking II

Continued explorations in printmaking with emphasis on color and multi-plate color printing. Lithography will be covered. Intaglio, monoprinting, relief and other printmaking media will be studied on a rotating basis. Lab 6.

Core Curriculum/Core Requirements: [""] Prerequisites:

ART 240.

Course Typically Offered:

Fall & Spring

Credits: 3

ART 350 - Graphic Design II

Continued study of graphic design. Lab 6.

Core Curriculum/Core Requirements: [""] Prerequisites:

ART 250 or permission.

Course Typically Offered:

Variable

Credits: 3

ART 351 - Drawing III

Advanced concepts and techniques of drawing are introduced through studio sessions. Students draw with a variety of media from life and from conceptual/creative models. Emphasis in this more advanced class is on the development of facility, style and self-expression

Prerequisites:

ART 310

Course Typically Offered:

Variable

Credits: 3

ART 360 - Topics in Studio Art

Selected topics surveying particular media, thematic content or contemporary issues. Specific topics will vary from semester to semester. Course may satisfy level II requirements in painting, printmaking or sculpture.

Course note: May be repeated for credit for 9 completions with a total of 27 credits if topics differ.

Core Curriculum/Core Requirements: [""] Prerequisites:

permission of instructor.

Course Typically Offered:

Fall, Spring, Summer

Credits: 3

ART 370 - Digital Art II

A focus on the creation of two-dimensional and three-dimensional time-based digital art, including both narrative and abstract forms. Teaches the necessary technological learning within the context of artistic creation, professional practices, cultural framing, and critical theory.

Prerequisites:

ART 270 or permission.

Course Typically Offered:

Fall & Spring

Credits: 3

ART 397 - Independent Study in Studio Art

Advanced independent study and research in studio art or related areas. Projects must be designed by the student and approved by the designated instructor.

May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior or Senior Standing and permission

Course Typically Offered:

Fall, Spring, Summer

Credits: Ar

ART 398 - Directed Study in Studio Art

Advanced study and research in studio art or related areas directed by a faculty member.

May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior or Senior Standing and permission

Course Typically Offered:

Fall & Spring

Credits: Ar

ART 403 - Advance Graphic Novel Workshop

A constructive space for writers and artists to create a narrative involving sequential art. Students will submit work on a regular basis for class critiquing, and they will critique the work of others in the class. By the end of the workshop, students will have produced a significant portion of an original graphic novel or standalone piece that incorporates feedback to maximize emotional and aesthetic impact. While the workshop will include readings in craft and theory, the main emphasis rests on the creation and evaluation of original narratives constructed out of panels of word and image. Students can opt for a grade emphasis on creative writing, visual art, or both.

Prerequisites:

ART 255/ENG 255

Course Typically Offered:

Spring

Credits: 3

ART 405 - Museum and Gallery Management Capstone

This capstone course is structured to bring together a variety of experiences from the Museum Management certificate program courses and give the student, under specific direction from faculty, an experiential learning activity or research final project. This may include organizing and presenting an exhibition in the UMM Art Gallery or at another venue, research and development of contemporary issues confronting museums and galleries, such as censorship, repatriation of work, security issues with collections, and interactive education opportunities for the public, to name a few.

Corequisites:

ART 335

Course Typically Offered:

Variable

Credits: 3

ART 416 - Book Arts III

Book Arts III is an advancement of technique, skill, and conceptual maturity learned in Book Arts II. This studio course will concentrate on the study of the book as a medium for expression. Topics covered in this course will include: the cultural and historical development of the book artifact; the art and craft of writing surfaces; the aesthetic integration of typography; text, page, paper and image; printing methods of book production; binding structures; and the future of the book in the electronic age.

Prerequisites:

ART 316

Course Typically Offered:

Variable

Credits: 3

ART 417 - Papermaking III

Papermaking III is an advancement of technique, skill, and conceptual maturity learned in Papermaking II. In addition to the exploration of the cooking, beating, and sheet forming of fiber into paper, students will explore the use of paper as an artist's medium. This course will also involve a critical analysis of works of art and books using handmade paper and a comparative study of paper made from assorted fibers, historical and modern.

Prerequisites:

ART 317

Course Typically Offered:

Variable

Credits: 3

ART 420 - Sculpture III

Individual and group collaborative projects working with site specific sculpture or installations. Emphasis on process including scale models and other considerations for final presentation for jurying. Prepares artists, engineers, architects in universal commission procedures. Field trips to research existing projects may be included in this course. Repeatable for credit when the student takes it with different media with 9 total completions and 27 total credits allowed.

Core Curriculum/Core Requirements: [""] Prerequisites:

ART 320 or permission.

Course Typically Offered:

Fall & Spring

Credits: 3

ART 430 - Painting III

Guided study in painting stressing individual growth through special projects. Emphasis on conceptual as well as technical development. May be repeated for credit with a total of 9 completions and 27 credits.

Core Curriculum/Core Requirements: [""] Prerequisites:

ART 330.

Course Typically Offered:

Fall & Spring

Credits: 3

ART 440 - Printmaking III

Continued study of printmaking through a variety and choice of printmaking media. Emphasis on conceptual as well as technical development. May be repeated for credit with a total of 9 completions and 27 credits.

Core Curriculum/Core Requirements: [""] Prerequisites:

ART 340.

Course Typically Offered:

Fall & Spring

Credits: 3

ART 460 - Topics in Studio Art

Advanced study of selected topics surveying particular media, thematic content or contemporary issues. Specific topics will vary from semester to semester.

Course note: May be repeated for credit if topics differ with a total of 9 completions and 27 credits

Core Curriculum/Core Requirements: [""] Prerequisites:

Senior standing or permission of instructor.

Course Typically Offered:

Fall, Spring, Summer

Credits: 3

ART 490 - Advanced Art Projects

Designed to allow students to explore intensively their own areas of specialization in both subject and technique. While the course emphasizes individual work, collaborative approaches are also put into practice. May be repeated for credit.

Prerequisites:

ART 106, ART 210, and two upper-level art courses; or permission of instructor.

Course Typically Offered:

Variable

Credits: 3

ART 491 - Book Arts Certificate Capstone Project

This directed study capstone course is structured to bring together a variety of experiences from the Book Arts Certificate program and give form to them in the making of a final project. This may include presenting experimental and/or conventional approaches to book making through the exhibit of individual works or by publishing a book edition. A critical essay of historical and contemporary work, as well as a structure of the project's conceptual progression, will frame the thesis of this project.

Prerequisites:

ART 216, ART 217, ART 298 and two courses from ENG 242, ART 212, ART 210, ART 119, ART 213

Course Typically Offered:

Spring

Credits: 3

ART 496 - Field Experience in Art

Students engaged in professional activities related to their area of study may apply for supervision and credit for the project.
Student must have Jr or Sr Standing.
May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

Department Consent

Course Typically Offered:

Fall & Spring

Credits: Ar

ART 497 - Independent Study in Studio Art

Advanced independent study and research in studio art or related areas. Projects must be designed by the student and approved by the designated instructor.
Course Note: May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior or Senior Standing and permission

Course Typically Offered:

Fall, Spring, Summer

Credits: Ar

ART 498 - Directed Study in Studio Art

Advanced study and research in studio art or related areas directed by a faculty member.
Course Note: May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior or Senior Standing and permission

Course Typically Offered:

Fall & Spring

Credits: Ar

ART 499 - Studio Art Senior Capstone

A capstone course for studio art majors which requires the synthesis of all previous course work and focuses on the development of essential professional practices in the visual arts.

Core Curriculum/Core Requirements: ["Capstone Experience and Writing Intensive Requirements"] Prerequisites:

Junior or senior standing.

Course Typically Offered:

Fall

Credits: 3

Art Education

AED 371 - Methods and Materials in Art Education

Introduction to instructional methods and strategies in art education. Exploration, development and evaluation of approaches to

teaching, teaching and learning styles, educational materials, media and technologies. Art education majors or art certification students only. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

EHD 202 & EHD 203; 21 credits in Studio Art; 12 credits in Art History; 15 credits of General Education requirements.

Corequisites:

AED 373.

Course Typically Offered:

Fall

Credits: 3

AED 372 - Foundations of Art Education

Includes historical, philosophical, political, psychological and sociological foundations of art education; theories of child art; and critical examination of current research, trends and issues in art education. Art education majors or art certification students only. Lec 3.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

Sophomore standing or higher; AED Major; ART 100, ART 110, ART 120, ART 200, ARH 155 and ARH 156

Course Typically Offered:

Spring

Credits: 3

AED 373 - Introduction to Curriculum

Introduction to art curricula strategies and development. Includes instructional planning, lesson writing and organization, and practicum experience. Lec 2, Lab 1.

Core Curriculum/Core Requirements: [""] Prerequisites:

AED Majors or Certification Students

Corequisites:

AED 371

Course Typically Offered:

Fall

Credits: 3

AED 473 - Advanced Curriculum in Art Education

An examination of current theory, research and practice pertaining to curriculum development in art education. Including an exploration of traditional and innovative approaches to curriculum development in art education, problems and issues relevant to art curricula design and implementation, critical examination of existing curricula, and practice in developing and evaluating art curricula. Art education majors, art certification students or by instructor's permission only. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

AED 371, AED 372 and AED 373 or permission.

Course Typically Offered:

Spring

Credits: 3

AED 474 - SL: Topics in Art Education

Seminar in advanced research and practice in art education and related areas. Specific topic to be announced. This course has been designated as a UMaine Service-Learning course.

Course note: May be repeated 9 completions for a total of 27 credits if topics differ.

Core Curriculum/Core Requirements: [""] Prerequisites:

AED 371 and AED 373, or permission

Course Typically Offered:

Spring

Credits: 3

AED 496 - Field Experience in Art Education

Students involved in pre-professional activities with art education in schools or community agencies may apply for supervision and credit for the project.

May be repeated for credits.

Core Curriculum/Core Requirements: [""] Prerequisites:

AED 371, AED 372, AED 373 and permission.

Course Typically Offered:

Fall & Spring

Credits: 1

AED 497 - Independent Study in Art Education

Advanced projects, readings, or seminars in art education. Topic and form of study to be determined by student in consultation with faculty member.

Course may be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

AED 371, AED 372, AED 373 or equivalents and permission.

Course Typically Offered:

Fall & Spring

Credits: 1

AED 498 - Directed Study in Art Education

Advanced projects, readings, or seminars in art education. Topic and form of study to be determined by student in consultation with faculty member.

Course Note: Course may be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

AED 371, AED 372, AED 373 or equivalents and permission.

Course Typically Offered:

Fall & Spring

Credits: Ar

Art History

ARH 100 - Art and Human Experience

An exploration of the relationships between art and human experience as they exist within historical, cross-cultural and contemporary contexts. Focus is on specific areas of human experience as they intersect with the creation, understanding and use of visual artifacts.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives and Artistic and Creative Expression"] Prerequisites:

Non-art majors only.

Course Typically Offered:

Fall & Spring

Credits: 3

ARH 111 - Art History I

A global survey of the visual arts from prehistory until 1400 C.E. This course includes lectures and discussions of the art and life of people across many cultures around the world and across a wide spectrum of history.

Core Curriculum/Core Requirements: ["Western Cultural Tradition"] Prerequisites:

ENG 101 or permission

Credits: 3

ARH 112 - Art History II

A global survey of the visual arts since 1400 C.E. This course includes lectures and discussions of the art and life of people across many cultures around the world and across a wide spectrum of history.

Prerequisites:
ENG 101 or permission

Credits: 3

ARH 155 - Art and Visual Culture in the Ancient and Medieval Worlds

Introductory survey of painting, sculpture, architecture, and forms of visual and material culture in their various contexts from the Paleolithic and Ancient Worlds to the end of the Middle Ages.

Core Curriculum/Core Requirements: ["Western Cultural Tradition', 'Cultural Diversity and International Perspectives and Artistic and Creative Expression"] Course Typically Offered:
Fall & Spring

Credits: 3

ARH 156 - Art and Visual Culture in the Modern Era

Introductory survey of painting, sculpture, architecture, and other forms of visual and material culture in their various contexts from the Renaissance to the present.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Artistic and Creative Expression"] Course Typically Offered:
Fall & Spring

Credits: 3

ARH 251 - Classical Art and Architecture

Survey of the art and archtecture of Greece and Rome in their historical context since the beginnings of Aegean civilization to the Christianization of the Roman Empire.

Core Curriculum/Core Requirements: ["Western Cultural Tradition' , 'Cultural Diversity and International Perspectives and Artistic and Creative Expression"] Prerequisites:
ARH 155 or permission.

Course Typically Offered:
Variable

Credits: 3

ARH 252 - Mediterranean Medieval Art and Architecture

An in-depth survey of the art and architecture of the Mediterranean world, including Southern Europe, the Mid-East and northern Africa, from the first decades through the fourteenth century, examines how diverse Christian and Islamic cultures built upon the strong legacy of the Classical world. The unique artistic visions of each region spawned cross-cultural developments, facilitated by the relative ease of movement that the Mediterranean permitted.

Core Curriculum/Core Requirements: ["Western Cultural Tradition', 'Artistic and Creative Expression and Cultural Diversity and International Perspectives"] Prerequisites:
ARH 155 or permission.

Course Typically Offered:
Variable

Credits: 3

ARH 253 - Northern European Medieval Art and Architecture

Surveys the art and architecture of the major civilizations of Northern Europe that developed there from the fourth century through the fifteenth, including the Carolingian, Ottonian, Romanesque and Gothic eras, focusing upon the diversity of particular cultural identities and their interrelationships among one another and the Mediterranean cultures with which they interacted. Offered in 3-year rotation.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Cultural Diversity and International Perspectives"] Prerequisites:
ARH 155 or permission.

Course Typically Offered:

Variable

Credits: 3

ARH 255 - Italian Renaissance Art

Survey of the major works of painting, sculpture and architecture of the Italian Renaissance in their historical context from the 13th century to the early 16th century.

Core Curriculum/Core Requirements: ["Western Cultural Tradition', 'Cultural Diversity and International Perspectives and Artistic and Creative Expression"] Prerequisites:

ARH 156 or permission.

Course Typically Offered:

Variable

Credits: 3

ARH 257 - Northern Renaissance Art

Survey of the art of the Netherlands, France, Spain, and Germany in its historical context from Late Gothic of the 14th century to Mannerism of the 16th century.

Core Curriculum/Core Requirements: ["Western Cultural Tradition', 'Cultural Diversity and International Perspectives and Artistic and Creative Expression"] Prerequisites:

ARH 156 or permission.

Course Typically Offered:

Variable

Credits: 3

ARH 258 - Baroque Art and Architecture

Surveys the art and architecture of the Baroque era in Southern and Northern Europe, along with their settlements in the Americas, focus on the major shifts in the European world outlook. The course investigates how the art of the period reflects the rise of strong national identities, radically shifting political powers, growing colonialism around the globe, religious reformation and increased interests in empirical knowledge and scientific inquiry.

Core Curriculum/Core Requirements: ["Western Cultural Tradition', 'Cultural Diversity and International Perspectives and Artistic and Creative Expression"] Prerequisites:

ARH 156 or permission.

Course Typically Offered:

Variable

Credits: 3

ARH 261 - Nineteenth-Century European Art

This topical survey of European visual arts from 1700 to 1900 looks to the broader political, social and cultural contexts of the era. This class considers movements in art from Romanticism to Symbolism and Post-Impressionism.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and the Artistic and Creative Expression"] Prerequisites:

ARH 156.

Course Typically Offered:

Variable

Credits: 3

ARH 262 - Early Modern Art: From Fauvism to Surrealism

In a thematic consideration of art and its related concepts from 1900 to 1945, this course places particular emphasis on the notions of modernity and the diversity of artistic forms that the period spawned. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

ARH 156 or permission.

Course Typically Offered:

Variable

Credits: 3

ARH 263 - Late Modern Art: From Abstract Expressionism Through New Forms

This thematic course considers art forms and conceptual developments from the mid-Twentieth century through the middle of the 1970's. It places particular emphasis on the expanding nature of the work of art and the changing role, place and function of the artist during the period. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

ARH 156 or permission.

Course Typically Offered:

Variable

Credits: 3

ARH 264 - Themes and Issues in Contemporary Art

Surveys the major topical themes in Western and non-western art from ca. 1980 to the present (including identity and body politics, globalization, the environment, millennialism, and violence and terror). The course also examines the theoretical discourses and "issues" - raised by artists, art historians, critics, philosophers, and politicians - that attend visual representation during this period. Among those "issues" are postmodern discourse, the politics of display, the art market, and notions of originality and ownership. Various media are examined, including painting, printmaking, photography, video, film, and digital forms.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression and Western Cultural Tradition"] Prerequisites:

ARH 156 or permission.

Course Typically Offered:

Variable

Credits: 3

ARH 265 - American Art

Survey of painting, sculpture, architecture, and other forms of visual and material culture in the United States from 1776-1945.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Artistic and Creative Expression"] Prerequisites:

ARH 156

Course Typically Offered:

Variable

Credits: 3

ARH 270 - Topical Survey in History of Art

Surveys the historical artifacts and monuments of culture not covered by the regular rotation of Department offerings, such as those by African, Asian or Pre-Columbian peoples. Students may repeat this course for credit to study different cultures.

Course note: May be repeated for 9 completions with a total of 27 credits

Core Curriculum/Core Requirements: ["Social Contexts and Institutions', 'Cultural Diversity and International Perspectives and Artistic and Creative Expression"] Course Typically Offered:

Variable

Credits: 3

ARH 369 - Film and Video Theory Seminar

Topics in film and video theory, with attention to their critical language, philosophical underpinnings, and social contexts, worked through in terms of select examples. Students define their own research projects, work with them over the course of the semester, present them within the forum of the seminar, and develop them as major papers. Topics vary each semester. May be repeated for credit.

Course note: May be repeated for credit up to 9 completions with a total of 27 credits, if topics differ.

Core Curriculum/Core Requirements: ["Writing Intensive"] Course Typically Offered:

Variable

Credits: 3

ARH 397 - Independent Study in Art History

Advanced independent study or research and writing projects in the history of art and related areas.

Course note: May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:
Junior or senior standing and permission.

Course Typically Offered:
Fall & Spring

Credits: Ar

ARH 398 - Directed Study in Art History

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Advanced independent study or research and writing projects in the history of art and related areas.

Course note: May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:
Junior or senior standing and permission.

Course Typically Offered:
Fall & Spring

Credits: Ar

ARH 451 - Art Theory and Criticism

Examination and discussion of aesthetic theory and its relationship to the visual arts; study of a wide range of ideas in the development of aesthetic thought with primary emphasis on contemporary theory; application of theoretical systems in the critical analysis of a work of art.

Core Curriculum/Core Requirements: [" Writing Intensive"] Prerequisites:
Any 200 level ARH course or permission

Course Typically Offered:
Variable

Credits: 3

ARH 452 - Critical Methods in History of Art

This seminar immerses students within the historiography of History of Art, making them familiar with the philosophical underpinnings, historical context, rhetorical tones, critical vocabularies and intended goals of each investigative strategy. The exploration of the various methodological approaches that the field has supported includes: Connoisseurship, Iconography, Reception Theory, Marxism, Feminism, Deconstruction, Visual Linguistics and perhaps other emerging schemes.

Core Curriculum/Core Requirements: [" Writing Intensive"] Prerequisites:
Any 200 level ARH course or permission

Course Typically Offered:
Variable

Credits: 3

ARH 460 - Topics in Art History

Identifies and develops a particular topic within the field of History of Art not covered by traditional notions of period, geographic identity, or style. Specific topics will vary from semester to semester.
Course Note: May be repeated 9 completions with a total of 27 credits if the topics differ.

Core Curriculum/Core Requirements: ["Writing Intensive Requirement."] Prerequisites:
Any 200 level ARH course and permission.

Course Typically Offered:
Variable

Credits: 3

ARH 461 - Nineteenth-Century Art Research Seminar

Focus on topics selected by instructor in the area of nineteenth-century art and visual culture. Sample topics include the

Enlightenment, Neoclassicism and Romanticism; Manet, Modernity, and Modern Art; and Impressionism and Postimpressionism. Students develop projects related to the topic and workshop their research and writing with peers in the seminar. May be repeated for credit.

Course note: May be repeated for credit 2 completions with a total of 6 credits if topics differ.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
ARH 261 or ARH 262 or ARH 263 or ARH 264 or ARH 265 or permission

Course Typically Offered:
Variable

Credits: 3

ARH 492 - Baroque Research Seminar

Addresses focused topics within the field of Baroque History of Art such as the development of genre painting, the rise of viewer engagement, visions of the New World, etc. Students define their own research projects, work with them over the course of the semester, present them within the forum of the seminar and develop them as major papers.

Course note: May be repeated up to 9 completions with a total of 27 credits if the topics differ.

Core Curriculum/Core Requirements: [" Writing Intensive"] Prerequisites:
ARH 251, or ARH 252, or ARH 253, or ARH 255, or ARH 256, or ARH 258, or Permission

Course Typically Offered:
Variable

Credits: 3

ARH 493 - Medieval Research Seminar

Focus on special topics selected by the instructor in the field of Medieval History of Art. Students will define and research their own individual projects, present them within the forum of the seminar, with the aim of delivering them at a professional conference and bring them to fruition as publishable papers.
Course note: May be repeated up to 9 completions with a total of 27 credits if the topics differ.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
ARH 251, or ARH 252, or ARH 253, or ARH 255, or ARH 256, or ARH 258, or Permission

Course Typically Offered:
Variable

Credits: 3

ARH 494 - Renaissance Research Seminar

Focus on special topics selected by the instructor in the field of Renaissance History of Art. Students will define and research their own individual projects, present them within the forum of the seminar, with the aim of delivering them at a professional conference and bring them to fruition as publishable papers.
Course note: May be repeated up to 9 completions with a total of 27 credits if the topics differ.

Core Curriculum/Core Requirements: [" Writing Intensive"] Prerequisites:
ARH 251, or ARH 252, or ARH 253, or ARH 255, or ARH 256, or ARH 258, or Permission

Course Typically Offered:
Variable

Credits: 3

ARH 495 - Modern/Post-Modern Seminar

An advanced examination of major theoretical tendencies in modern and contemporary visual art, this seminar stresses connections with the other arts and various conceptual frames, such as Marxism, existentialism, structuralism and post-structuralism. Entails intensive reading, research and writing on selected topics that vary semester to semester.

Course note: May be repeated up to 9 completions with a total of 27 credits if the topics differ.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
ARH 261 or ARH 262 or ARH 263 or ARH 264 or ARH 265

Course Typically Offered:

Variable

Credits: 3

ARH 496 - Field Experience in Art History

Students engaged in professional activities related to their area of study may apply for supervision and credit for the project. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior or senior standing and permission.

Course Typically Offered:

Fall, Spring, Summer

Credits: Ar

ARH 497 - Independent Study in Art History

Advanced independent study or research and writing projects in the history of art and related areas.

Course note: May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior or senior standing and permission.

Course Typically Offered:

Fall, Spring, Summer

Credits: Ar

ARH 498 - Directed Study in Art History

Advanced directed study or research and writing projects in the history of art and related areas.

Course note: May be repeated for Credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior or senior standing and permission.

Course Typically Offered:

Fall & Spring

Credits: Ar

ARH 499 - Capstone Experience in History of Art

As a guided practicum, this course will have senior majors draw from the full breadth of their undergraduate experiences in the History of Art. Requires students to research a focused project developed from primary source materials, in an investigation that will result in a professional presentation, namely a publishable paper, a public lecture, a museum show or an equivalent.

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:

Permission.

Course Typically Offered:

Fall & Spring

Credits: 3

Astronomy

AST 109 - Introduction to Astronomy

A descriptive survey of astronomy including contemporary views of the universe. Topics include the solar system, stars, galaxies, black holes, quasars, and cosmology. May be taken without AST 110.

Core Curriculum/Core Requirements: ["Applications of Scientific Knowledge when taken without AST 110."] Course Typically Offered:

Fall, Spring, Summer

Credits: 3

AST 110 - Introduction to Astronomy Laboratory

Laboratory and observational exercises to accompany AST 109. Lab 2.

Core Curriculum/Core Requirements: ["Together with AST 109, 'this course satisfies the General

Education Lab in the Basic or Applied Sciences Requirement."] Corequisites:
AST 109

Course Typically Offered:
Fall, Spring, Summer

Credits: 1

AST 221 - Planetary Systems

A more detailed introduction to astronomy and astrophysics than AST 109 covering solar system astronomy including celestial mechanics, astronomical coordinate systems, Kepler's laws, and the sun.

Core Curriculum/Core Requirements: [""] Prerequisites:
MAT 127, a grade of C- or better in either PHY 112 or PHY 122 or permission.

Course Typically Offered:
Spring, Even Years

Credits: 3

AST 227 - Stars and Galaxies

An introduction to one or more of: stars, galaxies, quasars, and/or cosmology. Not given every year. This course is independent of AST 221 which is not a prerequisite.

Core Curriculum/Core Requirements: [""] Prerequisites:
MAT 127, a grade of C- or better in either PHY 112 or PHY 122 or permission.

Course Typically Offered:
Sprin,g Even Years

Credits: 3

AST 451 - Astrophysics

Application of the principles of physics to selected topics in the study of cosmogony, stellar evolution and dynamics, interstellar processes, the formation and evolution of galaxies, and cosmology.

Core Curriculum/Core Requirements: [""] Prerequisites:
MAT 259, a grade of C- or better in PHY 236, PHY 451 and PHY 455 or permission

Course Typically Offered:
Spring, Odd Years

Credits: 1-3

AST 497 - Topics in Astrophysics

Selected topics in areas not already covered by regular course offerings in the Department.

Course note: May be repeated for credits if the topics differ with a total of 9 completions and 27 credits.

Core Curriculum/Core Requirements: [""] Prerequisites:
permission of instructor.

Course Typically Offered:
Fall, Spring, Summer

Credits: 1-3

Bachelor of College Studies

BCS 460 - Senior Project/Capstone Experience

This course is the capstone experience for a student in the BCS program. It can take the form of a portfolio, a research project or some other equivalent experience. It is intended to be the method through which the student clearly demonstrates the linkage between their objectives and the academic work in their self-designed concentration. It is expected to be a culminating, integrative experience. The student presents their work to the appropriate campus audience.

Core Curriculum/Core Requirements: ["Capstone and Writing Intensive"] Course Typically Offered:
By Arrangement

Credits: 3

Biochemistry, Microbiology and Molecular Biology

BMB 150 - Phage Genome Discovery I

This inquiry-driven research course provides a hands-on laboratory experience in which students isolate a novel bacteriophage from the environment and characterized the bacteriophage through experimentation. Topics covered include phage biology and bacteriology, gene structure and expression, DNA isolation, restriction digest analysis, agarose gel electrophoresis, and electron microscopy. In this writing intensive course, students will learn effective scientific writing skills through instruction and writing activities and will write a final manuscript to report their research findings. Students also carry out activities and reflective writing assignments that simultaneously teach students both scientific content as well as personal, interpersonal, and critical-thinking skills essential to the practice of science. (HON 150 and BMB 150 are identical courses.)

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
Permission

Course Typically Offered:
Fall

Credits: 4

BMB 155 - Genome Discovery II: From DNA to Genes

Provides laboratory experience working on DNA sequence from a bacteriophage isolated during the previous semester. Topics include bioinformatics, genome annotation, open reading frame and RNA identification, BLAST analysis, phylogenetics and submission to a genomic database. In addition students will gain skills in designing and running computational experiments, reading the scientific literature, writing scientific papers, and making oral presentations.
(HON 155 and BMB 155 are identical courses)

Core Curriculum/Core Requirements: [""] Prerequisites:
BMB 150 or HON 150

Course Typically Offered:
Spring

Credits: 3

BMB 207 - Fundamentals of Chemistry

Reviews the essentials of inorganic chemistry including measurements, elements, compounds and bond formation, chemical reactions and quantities, gasses, solutions and acid-base chemistry as they relate to biological chemistry. BMB 207 does not serve as a prerequisite for CHY 122, and is not recommended for pre-medical, pre-dental, pre-veterinary, or pre-optometry programs of study.

Core Curriculum/Core Requirements: ["Together with BMB 209, 'this course satisfies the General Education Lab in the Basic or Applied Sciences Requirement. Satisfies the General Education Applications of Scientific Knowledge Requirement when taken without BMB 209."] Prerequisites:
One year of high school chemistry.

Course Typically Offered:
Fall

Credits: 3

BMB 208 - Elementary Physiological Chemistry

Structures and properties of biological molecules, including carbohydrates, lipids, proteins, nucleic acids, vitamins and hormones, composition and function of body fluids, study of digestion and metabolism. BMB 208 does not serve as a prerequisite for CHY 251, and is not recommended for pre-medical, pre-dental, pre-veterinary, or pre-optometry programs of study.

Core Curriculum/Core Requirements: ["Satisfies the General Education Applications of Scientific Knowledge requirement when taken without BMB 210. When taken with BMB 210, this course satisfies the General Education Lab in the Basic or Applied Sciences requirement."] Prerequisites:
BMB 207 or CHY 121.

Course Typically Offered:
Variable

Credits: 3

BMB 209 - Fundamentals of Chemistry Laboratory

Laboratory techniques in the essentials of inorganic chemistry and reactions of organic compounds presented in BMB 207. Lab 2.

Core Curriculum/Core Requirements: ["Together with BMB 207, 'this course satisfies the General Education Lab in the Basic or Applied Sciences Requirement."] Prerequisites:

BMB 207 or concurrently.

Course Typically Offered:

Fall

Credits: 1

BMB 210 - Elementary Physiological Chemistry Laboratory

Laboratory in the structure and properties of biological molecules presented in BMB 208. Lab 2.

Core Curriculum/Core Requirements: ["Together with BMB 208, 'this course satisfies the General Education Lab in the Basic or Applied Sciences Requirement."] Prerequisites:

BMB 208 or concurrently. BMB 209 or equivalent.

Course Typically Offered:

Spring

Credits: 1

BMB 221 - Organic Chemistry

Basic theories of organic chemistry, including reactions, mechanisms and nomenclature. Emphasis on those aspects of organic chemistry which relate to biological chemistry.

BMB 221 does not serve as a prerequisite for CHY 252 and is not recommended for pre-medical, pre-dental, pre-veterinary, or pre-optometry programs of study.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in BMB 207 or CHY 121

Course Typically Offered:

Fall

Credits: 3

BMB 222 - Laboratory in Organic Chemistry

Laboratory exercises illustrating the principles presented in BMB 221. Lab 2.

Core Curriculum/Core Requirements: [""] Prerequisites:

BMB 221 or concurrent

Course Typically Offered:

Fall

Credits: 1

BMB 223 - Microbiology

A survey of the biology of microorganisms, in particular the prokaryotes. Topics include a taxonomic survey of the microbes, regulation of cellular activities, and inheritance. Investigations into the interactions between microorganisms and humans and the role of microorganisms in the environment will round out student perspectives of these minute life forms. Laboratory investigations of each topic will emphasize safe lab practice, problem solving, analysis of data, and communication of results. Lecture 3 hours, laboratory 2 hours.

Prerequisites:

BIO 117 or BIO 100 or permission of instructor

Course Typically Offered:

Every Spring

Credits: 4

BMB 240 - Microbiology for the Professional Nurse

This course covers the basics of microbiology needed for the baccalaureate nursing students. The course emphasizes the role of microorganisms in human health and illness.

Core Curriculum/Core Requirements: [""] Prerequisites:

Nursing Majors, C or better in BIO 100, and C or better in either BMB 207 and BMB 209 or in CHY 121 and CHY 123.

Course Typically Offered:

Spring

Credits: 3

BMB 241 - Microbiology for the Professional Nurse Laboratory

This is the laboratory component for BMB 240. This lab introduces Nursing students to the basic techniques of microbiology including staining, culturing and identification of microorganism. This material covered in this lab matches the content of BMB 240, Microbiology for the Professional Nurse.

Core Curriculum/Core Requirements: [""] Prerequisites:

BMB 240

Course Typically Offered:

Spring

Credits: 2

BMB 280 - Introduction to Molecular and Cellular Biology

An in-depth introduction to macromolecules, cell structure, metabolic processes, gene expression and molecular replication common to all organisms. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

BIO 100 or HON 150 or BMB 150

Course Typically Offered:

Spring

Credits: 3

BMB 300 - General Microbiology

A basic biology course dealing with general principles as illustrated by microorganisms, in bacteria and viruses. Covers cell structure, cell metabolism, genetics, geochemical activities, and host-parasite relations. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

1 year of biology that includes BIO 100 or BMB 150 or HON 150 and either BIO 200, BMB 155 or HON 155, BIO 208 or BMB 280 and 1 year of chemistry that includes BMB 207, 208, 209 and 210 or CHY 121, 122, 123 and 124.

Course Typically Offered:

Fall and Summer

Credits: 3

BMB 305 - General Microbiology Laboratory

A laboratory study of the properties of bacteria and related microorganisms including techniques and identification. Suggested for students majoring in sciences. Lab 4.

Core Curriculum/Core Requirements: [""] Prerequisites:

BMB 300 or concurrently.

Course Typically Offered:

Fall & Summer

Credits: 2

BMB 322 - Biochemistry

A study of the properties of proteins and enzymes, nucleic acids, carbohydrates, and lipids, metabolism and energy production, replication and protein synthesis. BMB 322 and BMB 360 cannot both be taken for credit. If CHY 322 was taken at UMM, credit cannot be earned for this course.

Core Curriculum/Core Requirements: [""] Prerequisites:

BMB 221 or CHY 251. If CHY 322 was taken at UMM, credit cannot be earned for this course.

Course Typically Offered:

Spring

Credits: 3

BMB 323 - Biochemistry Laboratory

Laboratory exercises illustrating the principles presented in BMB 322 or BMB 360. If CHY 322 was taken at UMM, credit cannot be earned for this course.

Core Curriculum/Core Requirements: [""] Prerequisites:

If CHY 322 was taken at UMM, credit cannot be earned for this course.

Course Typically Offered:

Spring

Credits: 2

BMB 360 - Biochemistry for Molecular and Biomedical Sciences

The first major goal of BMB 360 is for students to gain an understanding of the fundamental concepts of biochemistry: properties of the key biomolecules (proteins, enzymes, nucleic acids, carbohydrates, lipids, and their building blocks) and concepts of metabolism and energy production. The second major goal of the course is for students to strengthen their quantitative and analytical problem-solving skills; students will solve many biochemical problems in this class. BMB 360 is geared toward the educational background and future needs of students majoring in Biochemistry, Microbiology, or Molecular and Cellular Biology. BMB 360 and BMB 322 cannot both be taken for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

CHY 251 and Biochemistry or Microbiology or Molecular and Cellular Biology Major

Course Typically Offered:

Spring

Credits: 3

BMB 380 - Professional Development in Molecular & Biomedical Sciences

Introduction to professional development and scientific communication in the fields of microbiology, biochemistry and molecular biology.

Prerequisites:

Junior Standing and Major in Biochemistry, Molecular & Biomedical Sciences, or Microbiology

Course Typically Offered:

Spring

Credits: 1

BMB 400 - Molecular Genetics

The structure of DNA and of genes, and the mechanisms of gene regulation, particularly as they pertain to cell growth and differentiation. Includes a discussion of the experimental techniques used in the genetic manipulation of organisms. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

BMB 280 and BMB 322 or BMB 360.

Course Typically Offered:

Fall

Credits: 3

BMB 402 - Introduction to Bioinformatics

A multidisciplinary study of fundamental biological questions through the organization, integration and analysis of increasingly large and complex datasets. Topics include primary data repositories, data integration and curation, sequence analysis methods, functional annotation, high-throughput sequence analysis workflows, statistical analysis of gene expression data, clustering methods and modeling biological networks. BMB 402 and BMB 502 cannot both be taken for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

BMB 280 or Permission.

Course Typically Offered:

Spring

Credits: 3

BMB 405 - Medical Laboratory Methods of Infectious Disease

Examines the medically important parasites causing human infection, associated epidemiology and current laboratory methods

employed for diagnosis. The major groups of pathogenic fungi are also discussed, including laboratory procedures for detection and identification. Applications of immunochemical and molecular methods used to diagnose or monitor a variety of infectious disease processes is emphasized. Lec 2, Lab 2.

Core Curriculum/Core Requirements: [""] Prerequisites:

BMB 300/BMB 305 and BMB 420/BMB 421 suggested. Medical Laboratory Science majors only or permission.

Course Typically Offered:

Spring

Credits: 3

BMB 406 - Introduction to Medical Laboratory Methods

An introduction to basic theory and laboratory practice in clinical hematology and urinalysis, including an introduction to the theory and function of relevant laboratory instruments. Required for Medical Laboratory Science majors.

Prerequisites:

Major of Medical Laboratory Sciences and BMB 322 or BMB 360 and BMB 323

Credits: 4

BMB 409 - Applied Microbiology

Examines applications of microbiology including the principles for control of plant, animal, and human diseases and vectors, bacteriology of probiotics in disease prevention, host-microbe interactions during human and animal vaccine development, microbial roles in bioremediation and composting, and industrial uses of fermentation. Specific focus will be on biological and biochemical characteristics of microorganisms involved in these processes.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in BMB 300

Course Typically Offered:

Spring, Alternating

Credits: 3

BMB 415 - Microbiology of Historical Plagues

This course examines the microbiological aspects of the most devastating plagues throughout the history. Emphasis is placed on the life cycles of pathogens, methods of transmission, and the socioeconomic factors that facilitated major disease outbreaks.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in BMB 420

Course Typically Offered:

Spring

Credits: 1

BMB 420 - Infectious Disease

Examines medically important bacteria, viruses, fungi, and parasites causing human infection. Introduces major classes of pathogens and host immunity to microbes. Covers pathogenesis, virulence factors, clinical symptoms, transmission, epidemiology, diagnosis, prevention and treatment for individual microbes.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in BMB 300 and BMB 305

Course Typically Offered:

Spring

Credits: 3

BMB 421 - Infectious Disease Laboratory

Introduction to procedures used in the clinical diagnostic laboratory to identify the causative agent of human infectious diseases.

Core Curriculum/Core Requirements: [""] Prerequisites:

BMB 420 or concurrently.

Course Typically Offered:

Spring

Credits: 1

BMB 422 - Clinical Hematology

A comprehensive study of the principles, methodology and pathological states in hematology. Lectures and laboratory practice.

Course note: May be repeated two completions with a total of 7 credits.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Every Year

Credits: 7

BMB 423 - Clinical Microbiology

A comprehensive study of the principles and techniques of diagnostic microbiology and parasitology. Lectures and laboratory practice.

Course note: May be repeated for credit with two completions and a total of 7 credits.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Every Year

Credits: 7

BMB 424 - Clinical Immunohematology

Fundamental techniques of blood grouping and cross-matching proceeding to advanced studies of human blood groups, theory and practice in special problems, and advanced techniques. Lectures and laboratory practice. (EMMC)

Course note: May be repeated for credit with 2 completions and 7 total credits.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Every Year

Credits: 7

BMB 425 - Clinical Chemistry

Basic techniques of clinical chemistry proceeding to advanced theories and methodology. Includes theory and technique of immunochemistry. Lectures and laboratory practice. (EMMC)

Course note: May be repeated for credit with 2 completions and a total of 7 credits.

Core Curriculum/Core Requirements: [""] Prerequisites:

BIO 421.

Course Typically Offered:

Every Year

Credits: 7

BMB 426 - Clinical Microscopy and Special Topics

Lectures and laboratory practice in the microscopic examination of urine and body fluids. Lectures and practice in laboratory management and education theory and methods. Includes a research project on some aspect of clinical laboratory science. (EMMC.)

Course Note: Students will be enrolled in this course for 2 credits for both fall and spring terms for a total of 4 credits for the academic year.

Core Curriculum/Core Requirements: ["Writing Intensive and Capstone"] Prerequisites:

BIO 421

Course Typically Offered:

Every Year

Credits: 4

BMB 440 - Introductory Immunology

An introduction to the organization and function of the immune system including the basic properties of humoral and cell-mediated immune responses, the reactions or antigens and antibodies and the lymphocytes involved.

Core Curriculum/Core Requirements: [""] Prerequisites:

BMB 300 and either BMB 221 or CHY 251

Course Typically Offered:
Spring, Even Years

Credits: 3

BMB 455 - Virology

Introduction to the study of viruses, emphasizing their nature, methods of cultivation, mode of transmission, genetics and mechanisms of pathogenicity. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:
BMB 300.

Course Typically Offered:
Spring, Odd Years

Credits: 3

BMB 460 - Advanced Biochemistry

BMB 460 provides an in depth exploration of selected topics of biochemistry. Course content varies somewhat from year to year but often includes mechanisms of enzyme regulation, control of metabolic pathways, chemical activation of molecules, the mechanisms of signal transduction, and protein structure-function relationships, including their modification, cellular trafficking, and degradation. Investigating some topics through current primary literature provides additional opportunities to improve analytical and integrative thinking skills, and problem solving.

Core Curriculum/Core Requirements: ["Writing Intensive Requirement"] Prerequisites:
BMB 360 and CHY 252 or permission

Course Typically Offered:
Fall

Credits: 3

BMB 464 - Analytical and Preparative Biochemical Laboratory Methods

Students will experience laboratory techniques for the manipulation and analysis of biochemical materials including biological activity assays, concentration determinations, ligand binding analysis, enzyme kinetics and macromolecular fractionation through a discovery based investigation. The lecture component will focus on principles of techniques, literature investigation, protocol development and data analysis/problem solving. Lec 2, plus Lab 4

Core Curriculum/Core Requirements: [""] Prerequisites:
BMB 322 or BMB 360.

Course Typically Offered:
Spring

Credits: 4

BMB 467 - Physical Biochemistry

Designed for students who have a strong background in the properties and function of biomolecules including proteins, nucleic acids, lipids, and carbohydrates. Focus will be on the physical, chemical, and thermodynamic principles that define macromolecular interactions in cells and solution. Topics include thermodynamics of macromolecular systems, bioenergetics, binding, solution behavior, macromolecular interactions, introduction to quantum mechanics, transport, separation techniques, spectroscopy, phase transitions, and steady state and rapid reaction kinetic principles and modern biophysical laboratory techniques.

Core Curriculum/Core Requirements: [""] Prerequisites:
PHY 122 or 112 or concurrently; and BMB 322 or BMB 360; and MAT 127

Course Typically Offered:
Fall

Credits: 3

BMB 475 - Virus-Host Cell Interactions Discovery Laboratory

This inquiry-based laboratory course gives students an in-depth understanding of virus-host cell interactions through the application of essential techniques and concepts in cell culture, virology, and immunology. Students will develop a scientific toolkit that includes: cell culture, virus infectivity assays, fluorescence microscopy, and other assays such as western blot, flow cytometry, RT-PCR, and sequence analysis. In this authentic laboratory-training environment, students will develop novel hypotheses, write a

research proposal outlining their experimental strategy, perform experiments to test their hypotheses and analyze their data, and present their work in lab meetings and written progress reports throughout the semester.

Prerequisites:
BMB305, BMB360, and permission

Course Typically Offered:
Variable

Credits: 3

BMB 480 - Seminar in Molecular and Biomedical Sciences

Preparation and presentation of papers dealing with current research and development in the field of microbiology, biochemistry and molecular biology.

Prerequisites:
Majoring in BCH, MCB, or MLB; Junior or Senior Standing

Course Typically Offered:
Fall and Spring

Credits: 1

BMB 490 - Molecular Genetics Lab

A laboratory chiefly in the genetics, cell and molecular biology, and biochemistry of Caenorhabditis elegans. Laboratory sessions may include C. elegans maintenance and culture, microscopy, developmental observation, genetic crosses, fluorescent microscopy, PCR and western blot, and use of disease models.

Prerequisites:
BMB 400

Course Typically Offered:
Fall

Credits: 3

BMB 491 - Biochemistry, Microbiology and Molecular Biology Research

Research in Biochemistry, Microbiology and Molecular Biology. May be repeated for credit.

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:
senior standing or graduate standing.

Course Typically Offered:
Fall, Spring, Summer

Credits: Ar

BMB 497 - Independent Study

A laboratory and conference for students desiring to pursue some particular line of investigation. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:
permission.

Course Typically Offered:
Fall & Spring

Credits: Ar

Biology

BIO 100 - Basic Biology

An introduction to the following fundamental topics in biology: the structure and function of cells, the molecular basis and mechanisms of genetic inheritance, concepts in evolution, mechanisms of metabolism, and ecology. Open to students in all colleges, though students who need it to satisfy program requirements will have priority. Credit cannot be earned for both BIO 100 and BIO 117.

Students in online lecture sections have an onsite laboratory and an onsite recitation. Lec 3, Lab 2

Core Curriculum/Core Requirements: ["Lab in the Basic or Applied Sciences Requirement."]

Course Typically Offered:

Fall, Spring

Credits: 4

BIO 101 - Explorations in Biology

This course is designed for beginning Biology majors (but is appropriate for all students), and attempts to introduce students to some of the content areas within the discipline of Biology through investigations focused on a particular Maine organism. This course will also serve as a "First-Year Experience." Students will work closely with faculty on a research project, learning concepts and protocols in biology and at the same time developing academic skills that will contribute to their continued success at UMM.

Course Typically Offered:

Every Fall

Credits: 1-2

BIO 111 - Human Anatomy & Physiology I

This course studies the workings of the human body. The primary objective is to gain an understanding of how the healthy human body works. Class discussion and investigations focus on the form and function of individual body systems and their integration into the living organism. Comparisons will be made between the healthy body and disease states. The first semester in a two-semester sequence will cover the general structure of the human body, cells, tissues, the integument, skeletal, muscular, nervous and endocrine systems. Lecture 3 hours, laboratory 2 hours.

Course Typically Offered:

Fall

Credits: 4

BIO 114 - Careers in Fisheries & Wildlife Biology

Successful entry into a career in fisheries or wildlife management usually requires early experience and mentoring by professionals in the discipline. The course will be a lecture and discussion series, presented by guest lecturers from state, federal, tribal and private organizations that manage fishery or wildlife resources. These sessions will emphasize the professional development of the presenters, the work routine and opportunities to get first-hand experience.

Course Typically Offered:

Every Fall

Credits: 2

BIO 117 - This is Life!

This introductory course in general biology for both majors and non-majors is organized around the characteristics of life. Topics covered include cellularity, homeostasis, growth, development, reproduction, genetics, response to stimuli, ecology and evolution. The inquiry-based laboratory provides opportunities for students to participate in hands-on investigations into these topics. Credit cannot be earned for both BIO 100 and BIO 117.

Core Curriculum/Core Requirements: ["Scientific Inquiry"] Course Typically Offered:

Every Fall and Spring

Credits: 4

BIO 118 - Animal Life

This introductory course focuses on organisms traditionally discussed in zoology courses including protists, invertebrate and vertebrate animals. The course will cover the evolutionary relationships among these lineages of organisms, the adaptations exhibited by members of each group to their modes of living, the reproductive strategies employed by members of each group and the role of each group in the ecosystems of which they are a part. The laboratory exercises will present a mix of inquiry-based and descriptive investigations centered around animal form and function. Lecture 3 hours, laboratory 2 hours. The course will meet for one half of the semester.

Prerequisites:

BIO 117 with a C- or higher or BIO 100 with a C- or higher

Course Typically Offered:

Every Fall and Spring

Credits: 2

BIO 119 - Plant Life

This introductory course focuses on organisms traditionally discussed in botany courses, including vascular and non-vascular plants, lichens and fungi. The course will cover the evolutionary relationships among these lineages of organisms, the adaptations exhibited by members of each group to their modes of living, the reproductive strategies employed by members of each group and the role of each group in the ecosystems of which they are a part. The laboratory exercises will present a mix of inquiry-based and descriptive investigations centered around plant form and function. Lecture 3 hours, laboratory 2 hours. The course will meet for one half of the semester.

Prerequisites:

Grade of C- or higher in BIO 117 or in BIO 100

Course Typically Offered:

Every Spring

Credits: 2

BIO 122 - Biology: The Living Science

Intended for non-majors, this course examines the processes and principles of science across disciplines. Focused examples are presented from topics such as ecology, evolution, and cellular biology. The role of science in the resolution of ethical issues regarding the impact of the human population on the environment will be emphasized. This course cannot be applied to Biology, Botany, Zoology, or Medical Laboratory Science major requirements.
Students who have previously passed BIO 100 or a transferred equivalent course cannot enroll in BIO 122, nor enroll in BIO 100 and BIO 122 concurrently.

Core Curriculum/Core Requirements: ["Population and Environmental Sciences. Also together with BIO 123, this course satisfies the General Education Lab in the Basic or Applied Sciences Requirement. If taken without BIO 123, this course satisfies the General Education Applications of Scientific Knowledge Requirement."] Course Typically Offered:

Spring

Credits: 3

BIO 123 - Biology: The Living Science Laboratory

A laboratory course, intended for non-majors, focused on examination of the processes and principles of science across disciplines. Exercises are presented from topics such as ecology, evolution and cellular biology. This course cannot be applied to Biology, Botany, Zoology or Medical Laboratory Science major requirements. Lab 2.

Core Curriculum/Core Requirements: ["Together with BIO 122' , 'this course satisfies the General Education Lab in the Basic or Applied Science Requirement."] Prerequisites:

BIO 122 or concurrently.

Course Typically Offered:

Spring

Credits: 1

BIO 199 - Special Topics in Biology

A course whose subject matter may come from any of a variety of topics in Biology. This course may be repeated for credit with different topics or at different levels. A lab may be included as part of the course.

Course Typically Offered:

Variable

Credits: 1-4

BIO 200 - Biology of Organisms

Introduces functions (physiology) and structures (anatomy, morphology) of animals and plants stressing basic physiological processes and adaptations to the environment. Equal attention is given to plants and animals. Lec 3, Lab 3.

Core Curriculum/Core Requirements: ["Lab in the Basic or Applied Sciences Requirement."]

Prerequisites:

A grade of C- or better in BIO 100 or permission

Course Typically Offered:

Spring

Credits: 4

BIO 205 - Field Natural History of Maine

The plant and animal life and physical features of aquatic, wetland, and terrestrial ecosystems in Maine, observed during five weekday afternoon field trips and two full single-day trips on separate weekends during the first half of the semester. Each student carries out an independent field natural history project culminating in a research paper during a five-week project period (no classes) in the second half of the semester. The course concludes with a half-day field trip on winter natural history. Lec 2, Field 4.

Core Curriculum/Core Requirements: ["Lab in the Basic or Applied Sciences Requirement."]

Prerequisites:

C- or better in BIO 100 or SFR 100 or PSE 100

Course Typically Offered:

Fall

Credits: 4

BIO 208 - Anatomy and Physiology

An intermediate lecture and laboratory course on the structure of the human body and how it works.

Core Curriculum/Core Requirements: ["Lab in the Basic or Applied Sciences Requirement."]

Prerequisites:

A grade of C- or better in BIO 100 or BMB 280

Course Typically Offered:

Fall, Spring, Summer

Credits: 4

BIO 210 - Field and Laboratory Techniques in Biology

This course may be used to learn a variety of field and laboratory techniques. Students develop topics in consultation with the faculty member who will direct the course. Examples of topics are sampling and identification of plankton, conducting amphibian and avian surveys, laboratory techniques in genetics and immunology, horticultural methods, vegetation sampling and analysis.

Course Typically Offered:

Every Fall and Spring

Credits: 1-2

BIO 211 - Human Anatomy & Physiology II

This course studies the workings of the human body. The primary objective is to gain an understanding of how the healthy human body works. Class discussion and investigations focus on the form and function of individual body systems and their integration into the living organism. Comparisons will be made between the healthy body and disease states. This second semester in a two-semester sequence will cover the homeostatic systems of the body: cardiovascular, respiratory, digestive and excretory systems. Study of reproduction, pregnancy and the immune systems will complete the understanding of the workings of the human body. Control of these systems by the nervous and endocrine systems will be emphasized. Lecture 3 hours, laboratory 2 hours.

Prerequisites:

BIO 111 or permission of instructor

Course Typically Offered:

Every Spring

Credits: 4

BIO 212 - Ornithology

The remarkable adaptations of birds to flight traced through the study of their biology, behavior, and ecology. Comparisons of systematic groups demonstrate the interrelationships of anatomy with ecological roles and behavior. These and other topics are elucidated through dissection and examination of specimens. Frequent field trips to practice identification of birds by visual patterns, behavior and song, culminate in a predawn bird census. Lecture 2 hours, laboratory 4 hours.

Prerequisites:

BIO 117 and BIO 118, or BIO 100 and BIO 200 or permission of instructor.

Course Typically Offered:
Spring - Alternate Years

Credits: 4

BIO 215 - Applied Statistics for Biologists

Designed for students who intend to use statistics and statistical software later in their education and professional lives. This course offers an extensive and in-depth introduction to the concepts and methods of statistics in the three parts: data analysis, data production, and statistical inference. The course also includes a limited introduction to probability. Students learn about the role of variability in hypothesis testing using both parametric and non-parametric tests. The course is taught in the computer classroom with each student having individual access to statistical software. The software, used for all applications discussed in class, is an important part of the course for demonstration, student tutorials, and discussing homework.

Core Curriculum/Core Requirements: ["Quantitative Literacy"] Prerequisites:
MAT 103 or MAT 111 or demonstrated proficiency in pre-college mathematics (>= 500 on SAT MATH exam, >= 530 on SAT MSS exam, >= 21 on ACT Math exam or >= 61 on the Aleks Math Placement Exam).

Course Typically Offered:
Fall

Credits: 4

BIO 216 - Introduction to Mammalogy

Provides an introduction to the ecological and evolutionary contexts that led to the radiation of mammals, and a strong grounding in the physiological/reproductive strategies that differentiate mammals from other tetrapods. Students are exposed to the common techniques used in studying mammals, including an introduction into DNA technology. The major orders of mammals is reviewed and important recent shifts in the classification are discussed. When appropriate, Maine mammals are used to illustrate concepts. Students further this emphasis through the preparation of museum-quality specimens or a research paper. Lecture 3 hours, laboratory 2 hours.

Prerequisites:
BIO 117 and BIO 118 or BIO 100 and BIO 200, or permission of instructor.

Course Typically Offered:
Spring - Alternate Years

Credits: 4

BIO 219 - General Ecology

Ecological principles for the science major including environmental factors, population ecology, community ecology and ecosystem analysis. Course will include field trips during class hours. CHY 122 or BMB 208 recommended.

Core Curriculum/Core Requirements: [""] Prerequisites:
BIO 200 or SMS 201

Course Typically Offered:
Spring

Credits: 3

BIO 226 - Introduction to Insect Identification

Insects are the most diverse group of organisms on earth. This course provides students with an introduction to insect diversity and how to identify common orders and families found in the northeast. Some basic natural history regarding insects will also be discussed. Outdoor labs and an insect collection will be required.

Course Typically Offered:
Fall

Credits: 1

BIO 229 - Plant Systematics

An introduction to the identification, classification and evolution of vascular and non-vascular plants and lichens. Topics considered include the history of taxonomy, plant life cycles, taxonomically important anatomical and morphological features of plants, classification systems, characteristics of selected plant families and methods of phylogenetic inference. Lecture and field work place approximately equal emphasis on knowledge of the local flora and recognition of important plant families. Laboratory work includes methods of specimen preparation, identification and mounting and organization maintenance of an herbarium and methods of phylogenetic inference. Lecture 2 hours, laboratory 4 hours.

Prerequisites:
BIO 117 and BIO 119 or BIO 100 and BIO 200, or permission of instructor.

Course Typically Offered:
Fall-Alternate Years (Old years)

Credits: 4

BIO 234 - Animal Physiology

This course will focus on a comparison of the physiological strategies animals use to overcome the challenges they face. There are three broad topics: energetics (partitioning of energy between reproduction, growth and movement), maintenance of homeostasis (temperature regulation, water balance, gas exchange, excretion and acquisition of nutrients) and cellular communication and integration of systems.

Prerequisites:
BIO 118 or BIO 200, or permission of instructor.

Course Typically Offered:
Fall - Alternate Years

Credits: 4

BIO 239 - Biostatistics

The use of statistical methods for research in the life and environmental sciences. Topics include descriptive and inferential statistics, and hypothesis testing. Special emphasis placed on biological, ecological, and healthcare sciences¿ applications of statistical techniques, an understanding of when they are appropriate to use, and how to communicate the information they produce.

Core Curriculum/Core Requirements: ["Quantitative Literacy"] Prerequisites:
Math placement test score of at least 61 or score of C or higher in MAT 111

Course Typically Offered:
Fall

Credits: 3

BIO 240 - Introduction to Bioethics

This course introduces students to the structure and formulation of logical arguments. Students then apply those skills in the analysis of arguments from the realm of bioethics in two ways. Analysis of bioethical arguments from the primary literature comprises one set of course assignments while composition of a research paper on a bioethical topic of the student's choosing comprises the remainder of the course assignments.

Core Curriculum/Core Requirements: ["Ethics"] Prerequisites:
ENG 101

Course Typically Offered:
Every Spring

Credits: 3

BIO 245 - Ecology

An introduction to the major ecological concepts of energy flow, community and population structure, nutrient cycling, competition, and predation demonstrated through the study of selected ecosystems. The influence of geological processes in New England on soil formation and community structure is studied in lectures and field trips. Students are introduced to sampling techniques, experimental design, and statistical analysis of data through field trips to local aquatic, marine, and terrestrial ecosystems.

Core Curriculum/Core Requirements: ["Service Learning Experience"] Prerequisites:
BIO 117, BIO 118, BIO 119 and MAT 111M (may be taken concurrently), or permission of instructor.

Course Typically Offered:
Every Fall

Credits: 4

BIO 250 - Concepts and Applications of Genetics

Introductory course that integrates classical Mendelian genetics with the chromosomal, biochemical and molecular bases of inheritance. It also includes concepts of population biology within the context of genetics and current applications of modern genetic technology in everyday life. Intended for students who may not need to take advanced level classes in molecular

biosciences.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- BIO 200, or SMS 201, or BMB/HON 155

Course Typically Offered:

Fall

Credits: 3

BIO 265 - Fundamentals of Evolution

The origin and development of evolutionary theory and the mechanisms which bring about the genetic differentiation of groups of organisms. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

BIO 100.

Course Typically Offered:

Spring

Credits: 3

BIO 299 - Special Topics in Biology

A course whose subject matter may come from any of a variety of topics in Biology. This course may be repeated for credit with different topics or at different levels. A lab may be included as part of the course.

Course Typically Offered:

Variable

Credits: 1-4

BIO 302 - Critical Reading and Verbal Reasoning

Excellent critical reading skills are essential for scientists, social scientists, lawyers, medical personnel, and other professionals. This course will focus on building skills in discerning major themes of written materials, summarizing main points, identifying the intent of writing, and making conclusions. The course will develop students' critical reading and verbal reasoning skills - the ability to analyze, evaluate, and complete arguments as they occur in ordinary language drawn from a wide variety of sources, from science, ethics, philosophy, anthropology, literature, health, psychology, social sciences, and humanities.

Core Curriculum/Core Requirements: [""] Prerequisites:

ENG 101 and Sophomore standing

Course Typically Offered:

Fall

Credits: 3

BIO 305 - Research Seminar

This course is designed to allow students to assimilate the multiple aspects of independent research in a group setting. There are six primary components of the course: 1) review of primary literature pertinent to the project, 2) presentations by invited experts in the field, 3) discussion of stakeholder perspectives and options for effective communication of data, 4) training and education on new technologies and techniques, 5) student presentations (data presentation and summar will be required) and 6) open discussion and trouble-shooting of individual research projects. The specific research topics addressed will change as the focus of the various research projects changes. This course can be taken multiple times.

Corequisites:

Participation in a research project, such as Senior Thesis in Biological Research (BIO 404, BIO 405, BIO 406), an Independent Study research project, or permission of instructor.

Course Typically Offered:

Variable

Credits: 1

BIO 307 - Interdisciplinary Neuroscience

An interdisciplinary overview of the biology of nervous systems, including cellular and molecular biology, physiology, histology, neuroanatomy, modern neuroscience techniques, neurological conditions, and a strong emphasis on transferable scientific skills such as critical thinking, writing, working with data, and reading research literature.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in BIO 200 or SMS 201 or BMB/HON 155; or BIO 100 and PSY 100 and Neuroscience minor; or permission

Course Typically Offered:

Fall

Credits: 3

BIO 309 - Sustainability and Conservation Travel Study

The sustainable management of ecosystems is essential for the long-term preservation of biological and cultural natural resources. Today, tropical and subtropical countries are experiencing a variety of unique environmental challenges, all compounded by the effects of global climate change, including loss of biological diversity, invasive species, food insecurity and freshwater scarcity, soaring energy production and storage costs, and accumulation of waste. The scientific solutions to these intractable problems lie in interdisciplinary research efforts. This travel study course examines real-world sustainability and conservation challenges and solutions in an ecosystem under stress due to global climate change. BIO 219 or WLE 200 or SMS 300 are recommended prerequisites.

If this course was taken as a topics course in BIO 387, it cannot be repeated for credit.

Core Curriculum/Core Requirements: ["Population and Environment"] Prerequisites:

Instructor permission required.

Course Typically Offered:

Fall (with travel in winter term)

Credits: 3

BIO 310 - Plant Biology

Examines the structure (morphology, anatomy), function (physiology), reproduction, ecology, and systematic significance of the major groups of plants. Emphasis will be given to the flowering plants and the ecology of the various plant groups. Lec 3, Lab 3. Course will include field trips during class hours.

Core Curriculum/Core Requirements: ["Lab in the Basic or Applied Sciences Requirement."]

Prerequisites:

BIO 200 or PSE 100 or SFR 100 or equivalent.

Course Typically Offered:

Spring

Credits: 4

BIO 311 - Animal Ecophysiology

Animal ecophysiology is the study of how animal forms and function are shaped by the environment. This course explores the physiological processes of animals with emphasis on energy metabolism, integrative organismal systems, and homeostatis. Animal ecophysiology is the study of how animal form and function are shaped by the environment. This course explores the physiological processes of animals with emphasis on energy metabolism, integrative organismal systems, and homeostasis. The class is designed to build on the basic knowledge of animal physiology that you learned in BIO200 and provide you with a broader understanding of physiological mechanisms and adaptations of animals to their environment. BIO311 and SMS311 cannot both be taken for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

BIO 200 or BIO 208 or SMS 201

Course Typically Offered:

Fall, Odd years

Credits: 3

BIO 312 - Animal Ecophysiology Lab

Animal ecophysiology is the study of how animal form and function are shaped by the environment. This course explores the physiological processes of animals with emphasis on energy metabolism, integrative organismal systems, and homeostasis. The class is designed to build on the basic knowledge of animal physiology in BIO/SMS 311 and provide you with a broader understanding of physiological mechanisms and adaptations of animals to their environment. BIO 312 and SMS 312 cannot both be taken for credit.

Prerequisites:

BIO 200 or BIO 208 or SMS 201

Corequisites:

BIO 311 or SMS 311

Course Typically Offered:

Fall

Credits: 1

BIO 313 - Ichthyology

The biology, ecology, and systematics of fresh and saltwater fish are studied through lectures, laboratories, and discussion of primary literature. Students develop skills in aging, identification, fisheries management, and aquaculture during laboratory and field trips.

Prerequisites:

BIO 117 and BIO 118 or BIO 100 and BIO 200 or permission of instructor.

Course Typically Offered:

Every Spring

Credits: 4

BIO 315 - Experimental Design & Analysis for Biologists

This course will introduce students to the most common and widely used experimental designs to generate biological data for both continuous and categorical variables. The emphasis will be on how to: 1) design resource-appropriate sampling programs; 2) avoid mistakes that make analyzing data difficult; and, 3) properly analyze data. Statistical methods such as analysis of variance, linear and non-linear regression, analysis of covariance, analysis of frequencies, and an introduction to multivariate analysis will be presented.

Prerequisites:

BIO 215

Course Typically Offered:

Spring

Credits: 4

BIO 326 - General Entomology

Fundamental principles of insect life and the relation of insects to plants, animals, and humans. Laboratory includes a study of structure, and systematics. An insect collection is required. Lec 3, Lab 3. Course will include field trips during class hours.

Core Curriculum/Core Requirements: ["Lab in the Basic or Applied Sciences Requirement."]

Prerequisites:

BIO 100 or PSE 100 or SFR 100

Course Typically Offered:

Fall

Credits: 4

BIO 327 - Introductory Applied Entomology

An introduction to entomology with emphasis on regulating populations of pest insects and the fundamentals of insect biology which influence insect populations. Laboratory emphasizes identification and sight recognition of insects of importance to ornamental plants and field crops. Course will include field trips during class hours.

Core Curriculum/Core Requirements: ["Lab in the Basic or Applied Sciences Requirement."]

Prerequisites:

BIO 100 or PSE 100 or SFR 100

Course Typically Offered:

Fall

Credits: 4

BIO 328 - Invertebrate Zoology

This course is a survey of the great diversity of free-living and parasitic organisms without backbones. While terrestrial and aquatic groups are studied, marine organisms and their planktonic stages are emphasized. The anatomy, systematics, and biology of invertebrates are studied through lectures, collections, dissections, microscopy, and videotape. Lecture 2 hours, laboratory 4 hours.

Prerequisites:
BIO 117 and BIO 118 or BIO 100 and BIO 200 and sophomore standing or higher, or permission of instructor.

Course Typically Offered:
Every Spring

Credits: 4

BIO 329 - Vertebrate Biology

An introduction to the classes of vertebrates, their characteristics, evolution, reproduction and locomotion. Emphasis on adaptive aspects of structure and life histories. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:
A grade of C- or better in BIO 200 or in SMS 201.

Course Typically Offered:
Fall

Credits: 3

BIO 331 - Vertebrate Biology Laboratory

A study of taxonomy of regional vertebrate fauna including structure and function of representatives of vertebrate classes and taxonomy of local vertebrates. Lab 2.

Core Curriculum/Core Requirements: [""] Prerequisites:
BIO 329 or concurrently.

Course Typically Offered:
Fall

Credits: 1

BIO 333 - Plant Ecology

This course provides a general introduction to plant population and community ecology. Among the topics considered are the development and dynamics of plant community structure; plant population demography; species interactions; effects of disturbance on population and community structure and dynamics.

Prerequisites:
BIO 245, or permission of instructor.

Course Typically Offered:
Fall - Alternate Years (Offered fall semesters of even-numbered years.)

Credits: 4

BIO 334 - Eukaryotic Cell Biology

A study of the properties of eukaryotic cells. As the smallest unit of life, the cell defines both the potential capabilities and inherent limitations of all forms of life. This course explores the structure, physiology, and biochemistry of cells, with the primary goal of developing an appreciation for the connections between the workings of individual cells and the activity of the whole organism.

Prerequisites:
BIO 117 or BIO100 and CHY 122, CHY 124, and MAT 111 or permission of instructor.

Course Typically Offered:
Spring - Alternate Years

Credits: 4

BIO 335 - Human Anatomy

An intermediate course that introduces the study of human anatomy through examination of the structure of the human body and other vertebrates. It emphasizes the relationship between structure and function and encourages the development of skills in dissection and interpretation of anatomical specimens. Intended for students interested in further studies in medicine or pathology.

Core Curriculum/Core Requirements: [""] Prerequisites:
BIO 200 or SMS 201

Course Typically Offered:
Spring

Credits: 4

BIO 336 - Developmental Biology

Cellular and molecular investigation of how the fertilized egg transforms into an adult individual including study of growth, cell signaling, differentiation, regeneration, and how these topics impact embryonic development and human health.

Core Curriculum/Core Requirements: [""] Prerequisites:

BIO 250 previously or concurrently.

Course Typically Offered:

Fall

Credits: 4

BIO 340 - Evolution

A study of the scientific theories and evidence related to the process of evolution. Topics covered include the mechanisms of evolution, molecular evolution, speciation, and the history of life. Lecture 3 hours.

Prerequisites:

BIO 352 or permission of instructor. (CHY 251, CHY 253 and BIO 215 recommended.)

Course Typically Offered:

Spring - Alternate Years

Credits: 3

BIO 342 - Plants in Our World

Botany and the role plants play in current and historical human society and ecology. Topics in agriculture and forestry including genetic engineering, biodiversity, and plant-based drugs. Course will include field trips during class hours.

Core Curriculum/Core Requirements: ["Population and the Environment Requirement."]

Prerequisites:

BIO 200 or permission.

Course Typically Offered:

Fall, Even Years

Credits: 3

BIO 351 - Animal Development

A course combining the classical study of embryology with an emphasis on the genetic and biochemical control of development. Animal embryos are studied in the context of cell differentiation and formation of body pattern. Influences of the environment on developmental processes will also be investigated.

Prerequisites:

BIO 334 and BIO 352, or permission of instructor.

Course Typically Offered:

Spring - Alternate Years

Credits: 3

BIO 352 - Genetics

An in-depth investigation into the mechanisms of heredity. The course builds strong foundations in Mendelian and molecular genetics. Topics covered include probability, pedigree analysis, the molecular biology of the gene, gene expression, mechanisms of mutation, and population genetics. The laboratory portion of the course includes common organismal and molecular techniques used in whole organism genetic analysis and molecular biology. Lecture 3 hours, laboratory 3 hours.

Prerequisites:

BIO 117 or BIO100 and CHY 122, CHY 124, and MAT 111 or permission of instructor

Course Typically Offered:

Every Fall

Credits: 4

BIO 353 - Invertebrate Zoology

The morphology, ecology, life histories and phylogenetic relationships of non-vertebrate animals, excluding insects and parasites. NOTE: Because of overlap, BIO 353 and SMS 480 cannot both be taken for degree credit. Lec 3, Lab 3. Course will include field trips during class hours.

Core Curriculum/Core Requirements: [""] Prerequisites:
BIO 200 or SMS 201

Course Typically Offered:
Spring

Credits: 4

BIO 354 - Animal Behavior

Examines broad array of non-human behavior and the underlying physiological and ecological factors that shape its expression.

Core Curriculum/Core Requirements: [""] Prerequisites:
C- or better in BIO 200 or in SMS 201.

Course Typically Offered:
Spring

Credits: 3

BIO 356 - Conservation Biology

A course examining the principles and practices of measuring, maintaining, and enhancing biological diversity. The course focuses on applications of ecology, population biology, and genetics to the conservation of species and ecosystems. Laboratories may include computer simulations and field work. Lecture 3 hours, laboratory 2 hours.

Prerequisites:
BIO 245 Junior or Senior Standing or permission of instructor

Course Typically Offered:
Spring - Alternate Years

Credits: 4

BIO 377 - Medical Physiology

Physiological processes in humans with emphasis on the integration of organ systems. A pre-professional course for pre-medical, pre-dental, pre-graduate school, and exercise physiology students.

Core Curriculum/Core Requirements: [""] Prerequisites:
BIO 200 or BIO 208 or SMS 201, and either CHY 121 or BMB 207

Course Typically Offered:
Every Fall, Spring, Summer

Credits: 3

BIO 378 - Medical Physiology Laboratory

Experimental analysis of physiological processes. Some animal surgery is involved. Lab 4.

Core Curriculum/Core Requirements: [""] Prerequisites:
BIO 311 or BIO 377 concurrently or previously and either CHY 121 or BMB 207

Course Typically Offered:
Fall

Credits: 2

BIO 387 - Undergraduate Research in Biology

Open to sophomores, juniors and seniors who have special interest and qualifications in some branch of applied biological research. (May be repeated for credit until a total of 6 credits have been earned; 3 credits may be used towards the 24 total credits required in the biological science areas.)

Core Curriculum/Core Requirements: [""] Prerequisites:
Minimum sophomore standing and departmental consent.

Course Typically Offered:
Fall, Spring, Summer

Credits: 1-6

BIO 388 - Research Capstone in Biology

Open to seniors who have special interest and qualifications in some branch of biological research. (May be repeated for credit until a total of 3 credits has been earned.)

Core Curriculum/Core Requirements: ["A total of 3 credits are required to satisfy the General Education Writing Intensive and Capstone Experience Requirements."] Prerequisites:
Senior standing and permission of department.

Course Typically Offered:
Fall, Spring, Summer

Credits: 1-3

BIO 391 - Undergraduate Independent Study in Biology

Open to students who are interested in independent exploration of biological concepts. May be repeated for credit until a total of 6 credits has been earned, 3 credits may be used towards the 24 total credits required in the biological science areas.

Core Curriculum/Core Requirements: [""] Prerequisites:
Departmental Consent.

Course Typically Offered:
Fall, Spring, Summer

Credits: 1-6

BIO 392 - Independent Study Capstone in Biology

Independent Study. (May be repeated for credit until a total of 3 credits have been earned.)

Core Curriculum/Core Requirements: ["Writing Intensive and Capstone Experience Requirements (a total of 3 credits are required)."] Prerequisites:
Permission of department.

Course Typically Offered:
Fall, Spring, Summer

Credits: 1-3

BIO 396 - Field Experience in Biology

An approved work experience which contributes to the academic major and for which academic credit is given. Students may work part time or full time for a semester and have the opportunity to gain practical experience in a job related to their professional career goals.

May be repeated for credit.
(Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Prerequisites:
Junior standing and permission of instructor.

Course Typically Offered:
Fall & Spring

Credits: 0 - 6

BIO 399 - Special Topics in Biology

A course whose subject matter may come from any of a variety of topics in Biology. This course may be repeated for credit with different topics or at different levels. A lab may be included as part of the course.

Course Typically Offered:
Variable

Credits: 1 - 4

BIO 400 - Biological Sciences Writing Intensive

Designed to supplement existing courses in Biology. Additional writing will be required in conjunction with regular course work providing students with intensive writing in their major discipline. May be repeated for credit up to a total of 4 credit hours.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
Permission; must be taken concurrently with one Biology course.

Course Typically Offered:

Fall & Spring

Credits: 1-2

BIO 402 - Capstone Experience in Biological Sciences

A senior-year experience for Biology, Botany and Zoology majors that emphasizes important biological concepts by synthesizing and augmenting prior learning. Utilizes class discussions, group participation, readings, formal student classroom presentations and a senior paper. . Lec 3.

Core Curriculum/Core Requirements: ["Writing Intensive and Capstone"] Prerequisites:

Senior standing in Biology, Botany or Zoology.

Course Typically Offered:

Spring

Credits: 3

BIO 410 - Senior Seminar in Biology

Biology majors with a GPA less than 3.0 must take BIO 410 rather than one of the Senior Thesis sequences. This is a one-semester seminar course in which students can expect to have regular reading assignments and class discussions. The topic or topics are chosen in advance by the instructor. Students have an opportunity to investigate areas within the topic(s) of particular interest to them. Papers, oral reports, and/or exams are required at the discretion of the instructor.

Core Curriculum/Core Requirements: ["Capstone and Writing Intensive"] Prerequisites:

Senior Standing or permission of instructor

Course Typically Offered:

Every Spring

Credits: 3

BIO 411 - Insect Ecology

The course covers fundamental concepts in ecology as they apply to insects on population, community, and ecosystem levels. Students will learn about intricate interactions between insects and their environment and about insect contribution to maintaining diversity of life on Earth. BIO 411 and BIO 511 cannot both be taken for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

BIO 326

Course Typically Offered:

Spring, odd years

Credits: 3

BIO 412 - Senior Thesis in Biology

Course is designed for students wishing to prepare an in-depth literature review of an aspect of Biology of particular interest. Students typically begin the sequence during the second semester of the junior year of study. Students first enroll in BIO 401, and in consultation with a thesis advisor, select a topic and prepare a bibliography and an outline of the paper. A grade of "pass" or "fail" is awarded.
Course may be repeated 3 time for a total of 3 credits.

Prerequisites:

Department Consent

Course Typically Offered:

Fall and Spring

Credits: 1

BIO 413 - Senior Thesis in Biology

In the second semester of the sequence, students enroll in BIO 402. During this semester, the bibliography is updated, and a preliminary draft of the paper is submitted to the thesis advisor. A grade of "pass" or "fail" is awarded.

Course may be repeated a total of two times with a total of 2 credits earned.

Prerequisites:

Department Consent

Course Typically Offered:

Fall and Spring

Credits: 1

BIO 414 - Senior Thesis III in Biology

In the third semester of the sequence, students enroll in BIO 403. A final draft of the paper is submitted to the Division of Environmental and Biological Science faculty. Students make an oral presentation of the topic and make any corrections to the paper required by the division faculty. A grade of "pass" or "fail" is awarded.
Class Note: 3.0 GPA within the major and overall, and approval by a thesis advisor.

Prerequisites:

Department Consent

Course Typically Offered:

Fall and Spring

Credits: 1

BIO 415 - Senior Thesis in Biological Research

An opportunity for students to engage in independent research on a biological problem of interest to them. Such work involves field or laboratory experimentation, computer modeling, or a combination of methodologies. A student typically begins in the second half of the junior year of study. The student first enrolls in BIO 415. In consultation with a thesis advisor the student selects a research project, prepares a bibliography and preliminary literature review, and submits a research proposal. SSC 320 Research Methods and Design may be substituted for this first semester. A grade of "pass" or "fail" is awarded.

Core Curriculum/Core Requirements: ["Satisfies Capstone Experience and Writing Intensive in Major when taken with BIO 405 and BIO 406"] Prerequisites:

BIO 215, a 3.0 GPA within the major and overall, and Departmental Consent required.

Course Typically Offered:

Every Fall and Spring

Credits: 2

BIO 416 - Senior Thesis in Biological Research

In the second semester of the sequence, the student enrolls in BIO 416. During this semester, the student completes the experimental portion of thesis work and prepares a draft paper. A grade of "pass" or "fail" is awarded.

Core Curriculum/Core Requirements: ["Satisfies Capstone Experience and Writing Intensive in Major when taken with BIO 404 and BIO 406"] Prerequisites:

BIO 215, a 3.0 GPA within the major and overall, and Departmental Consent required.

Course Typically Offered:

Every Fall and Spring

Credits: 2

BIO 417 - Senior Thesis in Biological Research

In the third semester of the sequence, the student enrolls in BIO 417. The student must submit a final draft of the paper to the Division of Environmental and Biological Science faculty. The student gives an oral presentation of the topic and makes any final corrections to the paper required by the division faculty. A grade of "pass" or "fail" is awarded.

Core Curriculum/Core Requirements: ["Satisfies Capstone Experience and Writing Intensive in Major when taken with BIO 404 and BIO 405"] Prerequisites:

BIO 215, a 3.0 GPA within the major and overall, and Departmental Consent required.

Course Typically Offered:

Every Fall and Spring

Credits: 2

BIO 429 - Plant-Insect Interaction

Herbivorous insects and their host plants represent a prime example of coevolution - the populations of interacting species acting as selective agents of adaptation for one another. This course will discuss the many ways in which insects exploit woody and herbaceous plants, and how these interactions can benefit or adversely affect plant growth, survival, and competition. In addition, the course reviews the mechanisms involved with plant-insect interactions, including those related to chemical defenses, behaviors, adaptations, and management. BIO 429 and BIO 529 cannot both be taken for credit.

Prerequisites:
BIO 200 or BIO 326 or PSE 100 or SFR 100 or permission of instructor

Course Typically Offered:
Spring, alternating years

Credits: 3

BIO 430 - Ecology and Systematics of Aquatic Insects

Taxonomy, life history and ecology of aquatic insects. Emphasis on role of insects in the structure and function of aquatic ecosystems in both natural and managed settings. Field trips during class hours, research project and collection required. Lec 2, Lab 4.

Core Curriculum/Core Requirements: [""] Prerequisites:
BIO 200 or BIO227 or BIO 326 or SMS 201 or permission

Course Typically Offered:
Fall, Odd Years

Credits: 4

BIO 431 - Emerging Infectious Diseases

Recent decades have seen a sharp increase in infectious diseases new to humans (e.g., COVID-19, SARS, HIV/AIDS, Zika virus), accompanied by a resurgence of older diseases (e.g., tuberculosis, malaria) as new threats. At the same time, the "golden age" of belief that the war against infectious disease has been won by antibiotics is rapidly fading as pathogens evolve resistance to drug therapies. Emerging and re-emerging infectious diseases (EIDs) greatly concern the scientific, medical, and public health communities and the public, are inextricably linked to global politics and socio-economic conditions, and arouse controversy, fear, and blame. The goal of this course is to understand EIDs and realistically evaluate the threat to human well-being posed by infectious disease in modern society.

Core Curriculum/Core Requirements: ["Writing Intensive and Capstone"] Prerequisites:
Junior Standing and BIO 200 or BIO 208

Course Typically Offered:
Spring, even years

Credits: 3

BIO 432 - Biology of the Fungi

Ecology, physiology and classification of the major groups of fungi and their impact on human affairs. Laboratory and fieldwork will emphasize current techniques used to study fungi. (Because of overlap, BIO 432 and BIO 532 cannot both be taken for degree credit.) Course will include field trips during class hours and on weekends.

Core Curriculum/Core Requirements: ["Lab in the Basic or Applied Sciences"] Prerequisites:
BIO 100 and BIO 200 and sophomore or higher standing; or permission.

Course Typically Offered:
Fall, Odd Years

Credits: 4

BIO 433 - Mammalogy

Considers the characteristics, functional anatomy, behavior and ecology of mammals. Lectures, laboratory study and field trips. Lec 3, Lab 3.

Core Curriculum/Core Requirements: [""] Prerequisites:
BIO 329 or permission.

Course Typically Offered:
Spring

Credits: 4

BIO 434 - Avian Biology and Ecology

Advanced discussion of the characteristics, functional morphology, behavior, evolution, biogeography, and ecology of birds. Lectures and an independent project. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:
STS 232 or WLE 220, and BIO 200 or SMS 201, and BIO 219 or WLE 200 or SMS 300, or permission

Course Typically Offered:
Spring, Odd Years

Credits: 3

BIO 437 - Avian Biology and Ecology Laboratory

This field and laboratory course emphasizes field skills critical for the investigation of wild birds. Its primary focus is on species identification and phylogenetic relationships, but students will also explore avian anatomy (and how it relates to identification and phylogeny) and will design and execute a simple study to answer an ecological question using real data gathered by the class (and past classes). Includes one required all day field trip on a weekend.

Core Curriculum/Core Requirements: [""] Prerequisites:
BIO 434 or concurrently

Course Typically Offered:
Spring, Odd Years

Credits: 1

BIO 438 - Morphogenesis in Development and Disease

Analysis of interacting systems in normal development and metastatic cancer and neuromuscular diseases. Study of regulation of morphogenesis and differentiation at the organ, tissue and cellular levels, with emphasis on experimental approaches towards problems in development, cancer biology, and neuromuscular diseases.

Core Curriculum/Core Requirements: ["Capstone Experience and Writing Intensive"]

Prerequisites:
BIO 200 or SMS 201 and Junior or Senior Standing

Course Typically Offered:
Fall, even years

Credits: 3

BIO 439 - Integrated Pest Management

An introduction to entomology with emphasis on regulating populations of pest insects and the fundamentals of insect biology that influence insect populations of importance to ornamental plants, protected cultured, and field crops. BIO 439 and 539 cannot both be taken for credit.

Core Curriculum/Core Requirements: ["Writing Intensive and Capstone"] Prerequisites:
BIO 200 or Junior standing in ENH or SAG, or instructor permission

Course Typically Offered:
Fall

Credits: 3

BIO 443 - Forest Entomology

Insects play a key role in forest health, sustainability, and succession. This course will provide an overview of the biology, ecology, identification, and impacts of major groups of forest insects, with a focus on those associated with Northeastern trees. The general principles of entomology, tree physiology, pest management, and biological invasions will also be introduced. BIO 443 and BIO 553 cannot both be taken for degree credit.

Prerequisites:
BIO 200 or PSE 100 or SFR 100 or permission of instructor

Course Typically Offered:
Spring

Credits: 3

BIO 450 - Histology

Microscopic anatomy of animal tissues. Lec 2, Lab 4. Course will include field trips during class hours.

Core Curriculum/Core Requirements: ["Capstone Experience and Writing Intensive"]

Prerequisites:
Junior standing and BIO 200 or BIO 208 or SMS 201 or permission

Course Typically Offered:

Spring

Credits: 4

BIO 452 - Plant Physiology

Physiological processes in plants, with emphasis on water relations, mineral nutrition and physiological ecology. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

BIO 200 or PSE 100 or SFR 100, and either CHY 121 or BMB 207

Course Typically Offered:

Fall

Credits: 3

BIO 453 - Plant Physiology Laboratory

Research design and laboratory study of the physiological function of plants. Lab 2

Core Curriculum/Core Requirements: [""] Prerequisites:

BIO 452 or concurrently or permission of the instructor.

Course Typically Offered:

Fall

Credits: 1

BIO 455 - Biological Invasions

Analysis of mechanisms behind species establishment in new areas, their impact on native ecology, theoretical bases of invasion-related phenomena, and economic and sociopolitical costs inflicted by exotic species.
NOTE: BIO 455 and BIO 555 cannot both be taken for degree credit

Core Curriculum/Core Requirements: ["Population and the Environment"] Prerequisites:

BIO 219 or WLE 200 or SMS 300 or SMS 352 or SFR 407 or permission of instructor.

Course Typically Offered:

Spring, even years

Credits: 3

BIO 463 - River Ecology

An introduction to the ecology of rivers with emphasis on the role of physical and biological factors in controlling ecosystem processes and how these processes are influenced by human activities. Field trips and research projects required.

Core Curriculum/Core Requirements: ["Capstone Experience and Writing Intensive"]

Prerequisites:

BIO 219 or SMS 300 or WLE 200 or permission.

Course Typically Offered:

Fall, Even Years

Credits: 4

BIO 464 - Taxonomy of Vascular Plants

The primary emphasis is identification of major families and genera of flowering plants. Topics relating to the origin of plant diversity - phylogeny, evolution, pollination, hybridization, biogeography, and the flora of Maine - are also considered. Lec 2, Rec 1, Lab 2. Course will include field trips during class hours.

Core Curriculum/Core Requirements: ["Lab in the Basic or Applied Sciences"] Prerequisites:

BIO 200 or SFR 100 or PSE 100.

Course Typically Offered:

Fall

Credits: 4

BIO 468 - Lake Ecology

The ecology of inland waters, with emphasis on the physical, chemical and biological characteristic of lakes.

Core Curriculum/Core Requirements: [""] Prerequisites:

BIO 200 and CHY 122/124 or BMB 208/210; BIO 219 or SMS 300 or WLE 200 recommended.

Course Typically Offered:

Fall, Odd Years

Credits: 3

BIO 474 - Neurobiology

Focuses on the organization and function of the nervous systems in various animals. Specifically addresses how single nerve cells function; how groups of neurons interact; how systems of neurons provide brain function and behavior. Sensory and motor system interplay will be emphasized. Note: Because of overlap, BIO 474 and BIO 574 cannot be taken for degree credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in BIO 200 or in SMS 201, CHY 121 or BMB 207, and 3 credits of Physics; or enrollment in the Neuroscience minor and BIO 307

Course Typically Offered:

Fall and Spring and Summer

Credits: 3

BIO 476 - Paleoecology

Explores the relationships between fossil organisms and their environments over recent geologic timescales, and how long-term perspectives can inform modern ecology and conservation. This course involves a combination of lectures, primary literature discussion, and a hands-on collaborative research project. Students will learn transferable laboratory and data analysis skills, as well as how to improve their writing for both scientific and public audiences.

Core Curriculum/Core Requirements: ["Writing Intensive and Capstone"] Prerequisites:

BIO 219 or BIO 468 or SFR 407 or SMS 300 or SMS 352 or WLE 200.

Course Typically Offered:

Spring, Even Years

Credits: 4

BIO 480 - Cell Biology

Covers in-depth cellular, sub-cellular and molecular characteristics of eukaryotic cells. Includes the transport of intracellular organelles and proteins, cellular degradation pathways, and the cell-division cycle. Also includes development of skills to effectively and critically read up-to-date research articles in cell biology, and to write and present conference-level abstracts and posters.
Note: Because of overlap, BIO 480 and BIO 580 cannot both be taken for degree credit.
Satisfies the General Education Capstone Experience and Writing Intensive Requirements if taken together with BIO 483.

Core Curriculum/Core Requirements: ["Capstone Experience and Writing Intensive Requirements if taken together with BIO 483."] Prerequisites:

BIO 200 or BIO 208 or SMS 201 or BMB 155/HON 155, and either CHY 251 or BMB 221; Junior standing is highly recommended

Course Typically Offered:

Spring

Credits: 3

BIO 483 - Cell Biology Laboratory

A laboratory course consisting of exercises employing techniques commonly utilized in cell biological research, with an emphasis on mammalian cell culture, cellular energetics, and skills essential for a career involving cell biology lab work.
Note: Because of overlap, BIO 483 and BIO 583 cannot both be taken for degree credit.

Core Curriculum/Core Requirements: ["Satisfies the General Education Capstone Experience and Writing Intensive Requirements if taken together with BIO 480."] Prerequisites:

BIO 480 or concurrently.

Course Typically Offered:

Spring

Credits: 2

BIO 499 - Special Topics in Biology

A course whose subject matter may come from any of a variety of topics in Biology. This course may be repeated for credit with different topics or at different levels. A lab may be included as part of the course.

Course Typically Offered:

Variable

Credits: 1 - 4

Biomedical Engineering

BEN 111 - Introduction to Biomedical Engineering I

An introduction to the profession of biomedical engineering through a series of speakers, activities, projects, and presentations. The development of teamwork, professional practices, and presentation skills are emphasized.

Prerequisites:

First year students only.

Course Typically Offered:

Fall

Credits: 2

BEN 112 - Introduction to Biomedical Engineering II

Commercial and public domain computer software for data acquisition, analysis, and graphical representation, as well as database searching, will be introduced. The application of these tools is explore through group activities and hands-on design projects relevant to the biomedical engineering profession.

Core Curriculum/Core Requirements: [""] Prerequisites:

MAT 126 or permission.

Course Typically Offered:

Spring

Credits: 2

BEN 201 - Fundamentals of Biomedical Engineering

Introduction to basic engineering concepts as they apply to biological systems; molecular and biochemical kinetics; thermodynamic principles, and their applications to material and energy balances in closed and open biological systems (biochemical cycles, cells, systems); integration of basic mathematical, chemical and physical concepts into biomedical engineering practice; introduction to the biomedical and biotechnology industries.

Core Curriculum/Core Requirements: [""] Prerequisites:

CHY 121, CHY 122, MAT 126 and MAT 127 or permission

Course Typically Offered:

Fall

Credits: 4

BEN 202 - Transport Phenomena in Biomedical Systems

Introduction into transport phenomena related to biological and engineered systems. Topics to be covered include fluid dynamics, mass transfer, heat transfer, dimensional analysis, transport in complex systems, conservation laws and macroscopic balances. These engineering tools will be applied to biological and engineered systems such as blood flow and transport across cell membranes, filtration, and separation.

Core Curriculum/Core Requirements: [""] Prerequisites:

A C- or better in BEN 201 and MAT 228 or permission.

Course Typically Offered:

Spring

Credits: 4

BEN 361 - Biomedical Engineering Laboratory I

Principles of biomedical engineering are applied in the laboratory setting, using analogs of biomedical systems and appropriate instrumentation. An emphasis is placed on formal written and oral reports.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

A grade of C- or better in BEN 202, PHY 122, MAT 258 or permission.

Course Typically Offered:

Fall

Credits: 3

BEN 363 - Biomedical Engineering Laboratory II

Application of engineering design principles to the development of biomedical products and instrumentation. An emphasis is placed on formal written and oral reports.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
Grade of C- or better in BEN 361, BEN 401, BEN 403, ECE 209 and STS 332 or permission.

Course Typically Offered:
Spring

Credits: 3

BEN 396 - Research Experience in Biomedical Engineering

An approved research experience under the direct supervision of at least one faculty member. Specific activities can include a combination of literature study, applied theory and modeling, and hands on laboratory practice.

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission

Course Typically Offered:
Fall, Spring, Summer

Credits: 3

BEN 401 - Dynamic Biomedical Systems

Analysis of performance characteristics of biological systems in terms of material and energy balances, kinetics, and transport processes. Approaches toward design of artificial assist devices and delivery of therapeutics based upon the relevant performance characteristics and pharmacokinetics.

Core Curriculum/Core Requirements: [""] Prerequisites:
Grade of C- in BEN 201 and BEN 202, PHY 122, MAT 258, BIO 208 or permission.

Course Typically Offered:
Fall

Credits: 3

BEN 402 - Biomaterials and the Cellular Interface

The course is focused on the application of biomedical engineering principles to the design, testing, and use of biomaterials. The critical properties of materials such as those used for fabrication of biocompatible implanted devices, surgical materials and diagnostic tests will be examined. The course will address the contribution of cell-surface interactions, tissue compatibility, physical stability, and other parameters to the identification of design constraints.

Core Curriculum/Core Requirements: [""] Prerequisites:
A C- or better in BEN 201 and BEN 202 and BMB 280, CHY 251 or permission.

Course Typically Offered:
Spring

Credits: 3

BEN 403 - Instrumentation in Biomedical Engineering

A range of widely used clinical, diagnostic and therapeutic instrumentation is presented. Students are made aware of emerging tools and methods. Theory, application, design, hardware and software components and limitations of a number of laboratory and clinical instruments are presented. Students develop the skills necessary to design and automate their own instruments and methods using relevant software. Key principles are further elucidated and, where appropriate, demonstrated during a weekly recitation.

Core Curriculum/Core Requirements: [""] Prerequisites:
A grade of C- or better in BEN 201 and BEN 202, STS 332, ECE 209 or permission

Course Typically Offered:
Fall

Credits: 3

BEN 451 - Biological and Medical Image Analysis I

Introduction to computational analysis of imaging data from biological and medical contexts. Math and physic-based algorithmic development and programming centered on scripting languages such as ImageJ/Fiji and R.Development of a term project.

Core Curriculum/Core Requirements: [""] Prerequisites:
MAT 228 and 258 (or MAT 262 and MAT 259) or permission of the instructor

Course Typically Offered:
Fall

Credits: 3

BEN 452 - Biological and Medical Image Analysis II

Advanced computational analysis of imaging data from biological and medical contexts. Math and physics-based algorithmic development and programming centered on scripting languages such as ImageJ/Fiji and R. Development of a term project. In consultation with the instructor, each student will work on the computational analysis/modeling of one or more biomedical image datasets.

Core Curriculum/Core Requirements: [""] Prerequisites:
BEN 451 or permission of instructor

Course Typically Offered:
Spring

Credits: 3

BEN 477 - Elements of Biomedical Engineering Design

Introduction to the economic and regulatory aspects of biomedical engineering product design. Covers elements of needs research and marketing. Protection of intellectual property is also addressed, along with medical device testing, regulation, and finance.

Core Curriculum/Core Requirements: ["Together with 'BEN 493' , '& BEN 479' , 'this course satisfies the General Education Ethics requirement."] Prerequisites:
Junior or Senior standing in BIE or permission. Open to non-BIE Engineering majors taking BIE minor with senior standing

Course Typically Offered:
Fall

Credits: 3

BEN 478 - Biomedical Engineering Design I

Application of engineering principles and design strategies to the solution of problems relevant to the biomedical community including: products, processes, devices, or techniques. Emphasis on oral and written communications and working in small design groups.

Core Curriculum/Core Requirements: ["BEN 478 and BEN 479 must both be taken to satisfy the Capstone Experience."] Prerequisites:
Grade of C- or better in BEN 363 and BEN 403, or permission.

Corequisites:
BEN 477

Course Typically Offered:
Fall

Credits: 2

BEN 479 - Biomedical Engineering Design II

Application of professional practices and engineering principles to the solution of complex, open-ended, design challenges. This can involve the design, prototyping, and optimization of products, processes, devices, or techniques relevant to the biomedical community. Emphasis on oral and written communications and working in small design groups.

Core Curriculum/Core Requirements: ["BEN 478 and BEN 479 must both be taken to satisfy the Capstone. Together with BEN 493 , & BEN 477, this course satisfies the Ethics requirement."] Prerequisites:
BEN 477 and BEN 478

Course Typically Offered:
Spring.

Credits: 3

BEN 492 - Special Biomedical Engineering Design Projects

A supervised design experience where students select and design components and systems for specified engineering projects. Requires the student to demonstrate his or her ability to understand and apply scientific principles and engineering knowledge to the solution of real life problems.

Core Curriculum/Core Requirements: [""] Prerequisites:

Permission

Course Typically Offered:

Fall & Spring & Summer

Credits: 1-3

BEN 493 - Biomedical Engineering Seminar

Discussion of recent developments in the Biomedical Engineering field, in addition to related fields.

Course note: May be repeated for credit up to two completions with a total of 1 credit.

Core Curriculum/Core Requirements: ["Together with 'BEN 477' , '& BEN 479' , 'this course satisfies the General Education Ethics requirement."] Prerequisites:

Senior standing in Biomedical Engineering curriculum, or permission

Course Typically Offered:

Fall & Spring

Credits: 0-1

BEN 494 - Bioengineering Practice

A cooperative work experience in an industrial, non-profit, government, medical or academic environment in Bioengineering. May be repeated for credit to a maximum of 8 credit hours. (Offered by arrangement.)
(Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall, Spring, Summer

Credits: Ar

BEN 497 - Independent Study

Individual, independent study of a specialized or standard course offered out of sequence, under supervision of an instructor. Specific course requirements vary.

Course note: May be repeated for credit with 3 total completions and 9 credits maximum.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall, Spring, Summer

Credits: 3-4

BEN 498 - Special Topics in Biomedical Engineering

Course work in selected subjects relevant to the field of biomedical engineering, or related areas of science and technology not covered in other regular course offerings.
This course can be repeated for credit as long as it is a different topic and two sections on different topics can be taken concurrently.

Core Curriculum/Core Requirements: [""] Prerequisites:

Permission required.

Course Typically Offered:

Fall, Spring, Summer

Credits: 1-3

BEN 499 - Undergraduate Thesis

Original investigation of a biomedical engineering problem. A committee of at least three faculty members will supervise the thesis and its defense. The topic must be chosen and approved by the committee prior to the senior year. (Offered by arrangement).

Course note: Course may be repeated for credit with a total of 6 completions and a maximum of 6 credits.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Fall, Spring, Summer

Credits: 1-6

Business Administration

BUA 105 - Excel Fundamentals for Business Analytics

The course introduces students to work with data sets in excel worksheets, formulas, templates, charts, and common excel functions needed in any business context. Student cannot earn credit for both COS 213 and BUA 105.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Fall and Spring

Credits: 1

BUA 110 - Foundations Personal Finance

This course is an introduction to topics in personal finance, including interest rates, consumer banking, consumer credit, personal budgeting, personal loans, time value of money basics, and related concepts. Cannot be repeated for credit if previously taken as FIN 290 topic Personal Finance-Basics.

Prerequisites:
Business major or minor

Course Typically Offered:
Fall and Spring

Credits: 1

BUA 210 - Investing for your Future

This course is a continuation of topics in personal finance with an emphasis on increasing complexity. Topics include insurance, short-term investments, the basics of stocks and bonds, the concept of risk and return, pooled investments, and retirement accounts. Other topics, such as taxes and real estate, may be discussed as time allows. This course cannot be repeated for credit if previously taken as FIN 290 Topic Personal Finance-Advanced

Prerequisites:
Business major or minor, C- or better in BUA 110

Course Typically Offered:
Fall and Spring

Credits: 1

BUA 211 - Protecting Your Financial Life

This course is a continuation of topics in personal finance with an emphasis on increasing complexity. Topics include insurance, home ownership, income taxes, and income diversification. Other topics may be discussed as time allows.

Core Curriculum/Core Requirements: [""] Prerequisites:
Any Maine Business School major or minor and a C- or better in BUA 110

Course Typically Offered:
Fall and Spring

Credits: 1

BUA 257 - Introduction to the Bloomberg Terminal

This course will train students in the use of the Bloomberg terminal software via hands-on application and analysis. Students need not be finance majors. However, given that Bloomberg is a financial tool, students should have some familiarity with, and interest in, finance when taking this course. Some of all of the following topics will be explored at an introductory level via the terminal software: stocks, bonds, charting, fund analysis, economics, supply chain analysis, and Excel integration. Students will also use the software to analyze broader business issues in marketing and management. If this course was taken as a topics course in MGT 290, it cannot be repeated for credit. Also, if this course was taken as FIN 257, it cannot be repeated for credit.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Fall and Spring

Credits: 1

BUA 290 - Special Topics in Professional Skills

Introduces students to aspects of the Management discipline. Special topics may include areas relevant to any aspect of management at an introductory level. This course may be repeated for credits

Core Curriculum/Core Requirements: [""] Prerequisites:

Business Major or Minor

Course Typically Offered:

Variable

Credits: 1-3

BUA 305 - Excel Expert for Business Analytics

This course is aimed at those who have a foundation in Excel and want to reach the next level of expertise. The expert level course teaches sophisticated formulas, advanced charting, simple macros, pivot tables, and more about the back-stage area of Excel including security and protecting spreadsheets. Students are given the opportunity to take the Microsoft Office Specialist (MOS) Excel Expert certification exam at the end of the course.
If this course was taken as a topics course in BIS 490, it cannot be repeated for credit.

Prerequisites:

C- or higher in BUA 105 or passed the Microsoft Office Specialist: Excel Associates Certification exam.

Course Typically Offered:

Fall and Spring

Credits: 1

BUA 396 - Business Administration Internship

The Business Administration Internship course is the non-major specific internship class offered within the Maine Business School. Students participating in an internship will apply what they have learned in the Maine Business School to an organizational setting and advance their own professional development.

Course note: May be repeated for credit with 2 completions and a total of 6 credits.

Core Curriculum/Core Requirements: [""] Prerequisites:

Sophomore Standing

Course Typically Offered:

Fall, Spring, Summer

Credits: 0-6

BUA 496 - International Field Study

This course provides students with an opportunity to learn about a foreign culture, to visit with foreign government and/or business officials, and to learn about business practices worldwide via a hands-on immersion experience.

This course may be repeated for credit for a total of 9 credits with 3 completions.

Course Typically Offered:

Spring, Summer

Credits: 3

Business Information Systems

BIS 235 - Digital Business Transformation

Technologies and information systems represent a crucial part of any organization in today's economy, businesses require continual digital transformation to become or remain competitive. The focus of this course is to provide students with the knowledge and tools in essential technologies including databases, computer networks, cloud computing, enterprise software, e-business systems, cyber security, and emerging technologies.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall & Spring

Credits: 3

BIS 267 - Database Management and Security

Introduction to technical and managerial issues associated with databases. Topics include structured query language (SQL) and database usage in decision making. Focuses on database security to mitigate against major database security issues. Students

will learn how to incorporate security models into the database life cycle and use database security for allowing or disallowing user actions on the database and the objects within it.

Core Curriculum/Core Requirements: [""] Prerequisites:

Sophomore Standing and a Grade of C- or higher in BIS 235.

Course Typically Offered:

Fall & Spring

Credits: 3

BIS 290 - Introduction to Topics in Business Information Systems

Introduces students to aspects of the Business Information Systems discipline. Special topics may include areas relevant to any aspect of business information systems at an introductory level. This course may be repeated for credits.

Prerequisites:

Business Major or Minor

Course Typically Offered:

Variable

Credits: 1-3

BIS 345 - Business Analytics

Overview of the process of business analysis. Data analytics have moved out of the academic world of statisticians to the practical world of technology. A variety of user-friendly technologies bring powerful analytical capabilities to end users. Three major areas that comprise analytics are reporting, visualization and prediction. This course uses the latest in technology to show the practice of data analytics in the real world. You will experience practical applications of analytics through guided exercises and case studies.

Core Curriculum/Core Requirements: [""] Prerequisites:

BUA 105, BIS 235 and STS 215 or STS 232

Course Typically Offered:

Spring

Credits: 3

BIS 363 - Information Security Management

Introduces the design, management and information security of information systems in networked environments. Topics include telecommunications, network architecture, and a focus on information security governance, risk management, information security program development and management, and information security incident management.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better BIS 235

Course Typically Offered:

Spring

Credits: 3

BIS 364 - Business Process Configuration

Discusses advanced topics in business processing including concepts related to Enterprise System (ERP) principles, concepts, and techniques. Grounded in an SAP (Systems, Applications & Products in Data Processing) architecture, this course counts toward the SAP Certificate of Completion. Topics in the class include understanding system requirements and how business processes and business rules translate into system configuration. Using SAP, students will learn the fundamentals of configuring an enterprise system from requirement gathering, through design, configuration, and testing.

Core Curriculum/Core Requirements: [""] Prerequisites:

BIS 267 as a Pre-requisite or a Co-requisite, and Junior Standing

Course Typically Offered:

Fall

Credits: 3

BIS 468 - Information Systems Strategy and Security Management

Digital technologies have emerged as critical organizational resources to compete in dynamic markets. When embracing digital business transformation, leaders must rethink how to operate and secure their organization, and how best to compete in the

marketplace. Notably, business and IT leaders need to manage information systems by integrating major software systems like customer relationship management, supply chain management, big data, analytics, artificial intelligence, cloud technologies, and the 'Internet of all things', across functional areas of the organization, as well as various digital platform ecosystems. The pervasiveness and openness of these systems poses security challenges that must also be managed. This course provides students with fundamentals about the management and security of the IT function in this context, strategies to help improve the value of IT for the organization, and the secure and ethical use of information and data from information systems. The course represents the culmination and integration of prior knowledge gained in the business and BIS curriculum.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

Junior standing, a grade of C- or better in BIS 267 and BIS 364 or permission.

Course Typically Offered:

Spring

Credits: 3

BIS 490 - Special Topics in Business Information Systems

Study of various aspects of functional areas of business information systems. Topics vary depending on faculty and student interests. May be repeated for credit with 3 completions and a total of 9 credits if the topics differ.

Core Curriculum/Core Requirements: [""] Prerequisites:

BIS 235 and junior standing

Course Typically Offered:

Variable

Credits: 1-3

Canadian Studies

CAN 101 - Introduction to Canadian Studies

Acquaints students with varied aspects of the Canadian experience: society, culture, history, native peoples, environment, education, technology, economy and diplomacy. Participating faculty include Canadian-American Center staff, visiting scholars from Canada and the United States, and faculty members from UM Colleges. Course includes an optional field trip to Canada.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Cultural Diversity and International Perspectives"] Course Typically Offered:

Fall and Summer

Credits: 3

CAN 190 - Topics in Canadian Studies

A study of selected Canadian Studies topics. May be taken for a total of 9 completions and 27 total credits if topics differ.

Prerequisites:

None

Corequisites:

None

Course Typically Offered:

Alternating

Credits: 3

CAN 499 - Internship-Canadian Studies

Provides students from Canadian Studies, International Affairs, French - or any major - the opportunity to integrate academic and professional experience through an internship with an external employer, that relates to the student's course of studies and Northeastern Americas.

Core Curriculum/Core Requirements: [""] Prerequisites:

Sophomore, Junior, or Senior standing with a 2.50 GPA or higher

Course Typically Offered:

Fall, Spring, Summer

Credits: 1-3

Chemical Engineering

CHE 111 - Introduction to Chemical Engineering I

An introduction to the professions of chemical engineering through a series of speakers, tours, presentations and projects. The development of teaming and oral presentation skills are emphasized.

Prerequisites:

First-year students only.

Course Typically Offered:

Fall

Credits: 1

CHE 112 - Introduction to Chemical Engineering II

Introduction to the application of computers to solving chemical engineering problems. Commercial and public domain computer software for equation solving and spread sheeting will be covered. The application of these programs to chemical engineering problem solving will be introduced through a series of analysis and design projects.

Core Curriculum/Core Requirements: [""] Prerequisites:

MAT 126 or permission

Course Typically Offered:

Spring

Credits: 3

CHE 200 - Fundamentals of Process Engineering

Introduction to chemical engineering calculations. Application of material and energy balances to single and multi-unit processes with and without chemical reactions.

Core Curriculum/Core Requirements: [""] Prerequisites:

CHY 122, MAT 126 and PHY 121 or permission.

Course Typically Offered:

Fall

Credits: 4

CHE 350 - Statistical Process Control and Analysis

The basics of statistics and statistical process control and systems optimization will be investigated.

Core Curriculum/Core Requirements: [""] Prerequisites:

MAT 127 or permission of instructor.

Course Typically Offered:

Spring

Credits: 3

CHE 352 - Process Control

Process dynamics described by ordinary differential equations and by linearized approximations. Covers solution of system equations by the use of LaPlace transforms, concepts of feedback control, process dynamics and closed loop system analysis. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

MAT 258 or MAT 259 or permission.

Course Typically Offered:

Fall & Summer

Credits: 3

CHE 360 - Elements of Chemical Engineering I

Introduction to rate operations, stage operations, and the principles of molecular and turbulent transport of mass, momentum, and energy including application of these principles to chemical engineering unit operations. Lec 4.

Core Curriculum/Core Requirements: [""] Prerequisites:

C- or better in CHE 200 or permission.

Course Typically Offered:

Fall & Summer

Credits: 4

CHE 361 - Chemical Engineering Laboratory I

Applies the principles of chemical engineering unit operations and process control in the laboratory, using pilot scale equipment. An emphasis is placed on formal written and oral reports.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

CHE 352 and CHE 360 or permission.

Course Typically Offered:

Spring, Summer

Credits: 3

CHE 362 - Elements of Chemical Engineering II

A continuation of CHE 360. Unit operations with emphasis on equilibrium stage operations involving interphase mass transfer - absorption, distillation, extraction leaching plus selected other topics such as drying, absorption and filtration. Lec 4.

Core Curriculum/Core Requirements: [""] Prerequisites:

CHE 360 or permission.

Course Typically Offered:

Spring, Summer

Credits: 4

CHE 363 - Chemical Engineering Laboratory II

Applies the principles of chemical engineering unit operations in the laboratory using pilot scale equipment.

Core Curriculum/Core Requirements: [""] Prerequisites:

CHE 361, CHE 362, and CHE 368

Course Typically Offered:

Fall

Credits: 3

CHE 368 - Kinetics and Reactor Design

The analysis and design of chemical reactors, and the student of chemical reaction kinetics. The fundamental principles of chemical kinetics and of heat and mass transfer are applied to the design of various types of chemical reactors.

Core Curriculum/Core Requirements: [""] Prerequisites:

CHE 200 and CHE 386 and MAT 258 or permission

Course Typically Offered:

Spring, Summer

Credits: 4

CHE 385 - Chemical Engineering Thermodynamics I

Applications of the first and second laws of thermodynamics to the analysis of systems of interest to chemical engineers. Topics include state equations for both ideal and real gases, heat and energy relationships in chemical reactions, elementary phase equilibria, and simple heat and power cycles. Lec 3. (Spring.)

Core Curriculum/Core Requirements: [""] Prerequisites:

MAT 228 and a C- or better in CHE 200 or permission

Course Typically Offered:

Spring

Credits: 3

CHE 386 - Chemical Engineering Thermodynamics II

A continuation of CHE 385. Emphasis on homogeneous mixtures, multi-component vapor-liquid equilibria, chemical reaction equilibria and the thermodynamic analysis of chemical processes. Lec 3. (Fall and Summer.)

Core Curriculum/Core Requirements: [""] Prerequisites:

CHE 385 or permission.

Course Typically Offered:

Fall & Summer

Credits: 3

CHE 410 - Advanced Materials

Covers the basic structure, processing and properties of metals, polymers and ceramics and stresses the application of chemical engineering principles to the problems of materials fabrication with emphasis on emerging technologies such as chemical vapor deposition (CVD). Lec 3. (Fall.)

Core Curriculum/Core Requirements: [""] Prerequisites:

CHY 122, MAT 126 and PHY 122 or permission.

Course Typically Offered:

Fall

Credits: 3

CHE 420 - Colloid Technology

Designed to familiarize students with the fundamentals of colloid and surface chemistry from various types of colloids and colloidal phenomena, commonly encountered in chemical process industry and classical and modern measurement techniques to applications of colloids and surface chemistry. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

CHE 385 or CHY 471 and MAT 127 or permission.

Course Typically Offered:

Variable

Credits: 3

CHE 430 - Introduction to Polymer Science and Technology

Concept of macromolecules and synthesis of polymers from monomers. Step-growth and addition polymerization. Polymer structure, molecular size and shape and characterization techniques. Polymer solutions and phase equilibria. Solid state properties. Polymer morphology and transitional phenomena. Crystalline and amorphous states. Glassy, rubbery and viscous behavior. Rheological aspects. Viscoelasticity. Survey of commodity thermoplastics, engineering polymers and uses. Polymer additives and blends. Basic processing techniques. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

CHY 122 and CHY 251 or permission.

Course Typically Offered:

Spring

Credits: 3

CHE 475 - Process Safety

Covers the important fundamental concepts of chemical process safety.

Prerequisites:

CHE 360, CHE 362, CHE 368

Course Typically Offered:

Fall

Credits: 2

CHE 477 - Elements of Chemical Engineering Design

Introduction to chemical engineering economics and process design. Considers principles of design, capital cost and operating cost estimating techniques as well as principles of engineering economics involving time value of money, taxes, depreciation, profitability metrics, alternative investment comparisons and process optimization.

Core Curriculum/Core Requirements: ["Together with 'CHE 493' , '& CHE 479' , 'this course satisfies the General Education Ethics requirement."] Prerequisites:

CHE 360 and CHE 362

Course Typically Offered:

Fall

Credits: 3

CHE 478 - Analysis, Simulation and Synthesis of Chemical Processes

Covers three areas: process analysis, steady state process simulation and process synthesis. Analysis of process flowsheets to understand material flows, unit operation function and interactions between units. Simulation and design of unit operations and complete chemical processes using process simulation software. Synthesis of chemical processes including chemical reactor and separation system configuration based on heuristic methods. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

CHE 360, CHE 362, CHE 368 and CHE 386 or permission.

Corequisites:

CHE 477.

Course Typically Offered:

Fall

Credits: 3

CHE 479 - Chemical Engineering Design Projects

Application of engineering principles to the solution of complex, open-ended, design problems involving feasibility, analysis, design and optimization of chemical or biological systems, processes, instrumentation and techniques. Emphasis on oral and written communications and working in small design groups.

Core Curriculum/Core Requirements: [" Capstone Experience. Together with 'CHE 493' , '& CHE 477' , 'this course satisfies the General Education Ethics requirement."] Prerequisites:

CHE 477 and CHE 478

Course Typically Offered:

Spring

Credits: 3

CHE 493 - Chemical Engineering Seminar

Discussion of recent developments in the chemical engineering field, in addition to related fields.

May be repeated for credit up to 2 completions with a total of 1 credit.

Core Curriculum/Core Requirements: ["Together with 'CHE 477' , '& CHE 479' , 'this course satisfies the General Education Ethics requirement."] Prerequisites:

Senior standing in Chemical Engineering, or permission.

Course Typically Offered:

Fall & Spring & Summer

Credits: 0-1

CHE 494 - Chemical Engineering Practice

A cooperative work experience in a commercial operation of the chemical process industry. May be repeated for credit to a maximum of 8 credit hours. (Offered by arrangement.)
(Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall, Spring, Summer

Credits: Ar

CHE 497 - Independent Study

Individual, independent study of a specialized topic under supervision of an advisor and at least one other faculty member. A formal report is required upon completion of the study. Maximum of 3 accumulated credit hours.

Core Curriculum/Core Requirements: [""] Prerequisites:

CHE 477 and CHE 478 or permission.

Course Typically Offered:

Fall & Spring

Credits: Ar

CHE 498 - Special Topics in Chemical Engineering

Class work in selected subjects in the field of chemical engineering, or related areas of science and technology, not covered in other courses. May be repeated for credit for a total of 9 completions and 27 total credits

Core Curriculum/Core Requirements: [""] Prerequisites:
permission.

Course Typically Offered:
Fall & Spring & Summer

Credits: 1-3

Chemistry

CHY 104 - The Chemistry of Food and Cooking

A non-mathematical approach to basic chemistry and chemical principles using food and cooking as the common theme. During the course of the semester, we will use different food and cooking topics to explore a variety of themes in chemistry. Emphasis will be placed on understanding why and how something works in a laboratory and the application to the "real world", in this case, the kitchen. The lab will complement the course by providing hands-on experience with topics covered in lecture and by emphasizing the scientific method through examination of food and cooking. Lec 3, Lab 1
Class Note: This course does not count towards the Chemistry major/minor.

Core Curriculum/Core Requirements: ["Basic or Applied Lab Science"] Course Typically Offered:
Spring, Alternating years

Credits: 4

CHY 105 - Majoring in Chemistry

Introduces students to the faculty, students, facilities and resources central to their major in chemistry. Topics covered include requirements and advising for the major, library resources, research laboratories and projects, and the special expertise of the faculty.
(Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Prerequisites:
First-year students only.

Course Typically Offered:
Fall

Credits: 1

CHY 121 - General Chemistry I

First semester of a two-semester sequence covering fundamental principles in chemical science presented in quantitative terms. Topics include matter, chemical reactions, stoichiometry, thermochemistry, quantum theory, atomic structure, electronic configurations, periodic properties of elements, bonding theories, and molecular geometries. This course and CHY 123 (taken concurrently) provide the basis for further study of chemistry. If CHY 101 was taken at UMM, credit cannot be earned for this course.

Core Curriculum/Core Requirements: ["General Education Requirement: Together with CHY 123, this course satisfies the General Education Lab in the Basic or Applied Sciences Requirement."]
Prerequisites:
A minimum score of 61 on the math placement exam or a grade of C or better in MAT 111 or MAT 122 or MAT 116 or MAT 126.

Corequisites:
CHY 123

Course Typically Offered:
Fall, Spring, Summer

Credits: 3

CHY 122 - General Chemistry II

Second semester of a two-semester sequence covering fundamental principles in chemical science presented in quantitative terms. Topics include gases, intermolecular forces, properties of solutions and solids, kinetics, equilibrium, acid-base chemistry, aqueous ionic equilibria, thermodynamics, and electrochemistry. This course and CHY 124 (taken concurrently) provide the foundation for all further studies in chemistry. If CHY 102 was taken at UMM, credit cannot be earned for this course.

Core Curriculum/Core Requirements: ["Together with CHY 124' , 'this course satisfies the General Education Lab in the Basic or Applied Sciences Requirement."] Prerequisites:
A grade of C- or better in CHY 121 and CHY 123. If CHY 102 was taken at UMM, credit cannot be earned for this course.

Corequisites:
CHY 124

Course Typically Offered:
Spring, Summer

Credits: 3

CHY 123 - General Chemistry Laboratory I

Introduction to experimental techniques and the process of scientific inquiry in chemistry. Emphasis is placed on making connections between macroscopic experimental observations and chemistry occurring at the atomic scale. Laboratory investigations are designed to help strengthen chemical understanding of concepts such as conservation of mass, limiting reactants, heats of reaction, greenhouse gases, chemical redox reactions, chromatography, and spectroscopy. CHY 123 is taken concurrently with CHY 121. If CHY 101 was taken at UMM, credit cannot be earned for this course.

Core Curriculum/Core Requirements: ["Together with CHY 121 , this course satisfies the General Education Lab in the Basic or Applied Sciences Requirement."] Corequisites:
CHY 121

Course Typically Offered:
Fall, Spring, Summer

Credits: 1

CHY 124 - General Chemistry Laboratory II

A continuation of CHY 123. Emphasis is placed on making connections between macroscopic experimental observations and chemistry occurring at the atomic scale. Laboratory investigations are designed to help strengthen chemical understanding of concepts such as properties of gases, phases of water, freezing point depression, chemical kinetics, acids and bases, chemical equilibria, buffers, dissolved oxygen, and spectroscopy. CHY 124 is taken concurrently with CHY 122. If CHY 102 was taken at UMM, credit cannot be earned for this course.

Core Curriculum/Core Requirements: ["Together with CHY 122' , 'this course satisfies the General Education Lab in the Basic or Applied Sciences Requirement."] Prerequisites:
A grade of C- or better in both CHY 121 and CHY 123. If CHY 102 was taken at UMM, credit cannot be earned for this course.

Corequisites:
CHY 122.

Course Typically Offered:
Spring, Summer

Credits: 1

CHY 131 - Chemistry for Civil, Electrical and Mechanical Engineers

A one-semester course in general chemistry designed for civil, mechanical, and electrical engineering majors. Topics in solution chemistry, aqueous equilibria, kinetics, modern materials, and electrochemistry are emphasized. Enrollment is restricted to civil, electrical and mechanical engineering majors. This course does not serve as a prerequisite for other chemistry courses.

Core Curriculum/Core Requirements: [""] Prerequisites:
A minimum score of 76 on the math placement exam or a grade of C or better in MAT 122 or MAT 126.

Corequisites:
CHY 133

Course Typically Offered:
Spring

Credits: 3

CHY 133 - Chemistry for Civil, Electrical and Mechanical Engineers Laboratory

A one-semester laboratory course in general chemistry designed for civil, mechanical, and electrical engineering majors. Topics in

solution chemistry, aqueous equilibria, kinetics materials, and electrochemistry are emphasized. Enrollment is restricted to civil, electrical and mechanical engineering majors. This course does not serve as a prerequisite for other chemistry courses.

Core Curriculum/Core Requirements: [""] Prerequisites:

Civil, Electrical, and Mechanical Engineering majors.

Corequisites:

CHY 131

Course Typically Offered:

Spring

Credits: 1

CHY 226 - Undergraduate Research in Chemistry

The objective of this course is for the student to conduct an original research project under the supervision of a faculty member. The student will work in consultation with a research advisor to develop and undertake a research project in chemistry. A final written report is required. This course may be taken multiple times for credit.

Prerequisites:

CHY 122 and CHY 124 and instructor permission

Course Typically Offered:

Fall & Spring

Credits: 1-2

CHY 234 - Environmental Chemistry

A course to acquaint students with the chemical aspects of environmental concerns including energy production and use, air and water pollution, pesticides and toxic wastes. The earth and its natural cycles are examined as are changes brought about by human technologies. Methods of monitoring chemical aspects of environmental change including analysis of air and water samples are presented, as are means of ameliorating environmental damage. The integrated laboratory provides 'hands-on' experience with these techniques as well as field trips to areas of concern. Lecture 3 hours, laboratory 4 hours.

Prerequisites:

CHY 122 & CHY 124 or permission of the instructor

Course Typically Offered:

Spring - Alternate Years

Credits: 4

CHY 251 - Organic Chemistry I

Properties and reactivity of organic compounds with emphasis placed on functional groups, bonding, stereochemistry, reaction pathways, and curved-arrow mechanisms. The topics in this class will complement the organic chemistry covered in other courses including biology, chemical synthesis, engineering, and microbiology. If CHY 221 was taken at UMM, credit cannot be earned for this course

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in both CHY 122 and CHY 124. If CHY 221 was taken at UMM, credit cannot be earned for this course

Course Typically Offered:

Fall & Summer

Credits: 3

CHY 252 - Organic Chemistry II

Reactivity of organic compounds and applications to synthesis. Spectroscopy is discussed in relation to compound characterization and structure elucidation. The topics in this class will complement the organic chemistry covered in other courses including biology, chemical synthesis, engineering, and microbiology. Emphasis will be placed on understanding why and how a chemical reaction takes place and the application to the "real-world." If CHY 222 was taken at UMM, credit cannot be earned for this course.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in CHY 251 and CHY 253. If CHY 222 was taken at UMM, credit cannot be earned for this course.

Course Typically Offered:

Spring, Summer

Credits: 3

CHY 253 - Organic Chemistry Laboratory I

A laboratory course designed to complement the topics covered in CHY 251 by giving hands on experience with the concepts presented in class. Emphasis will be placed on introductory laboratory techniques, data analysis, and laboratory safety. If CHY 221 was taken at UMM, credit for this course cannot be earned.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in CHY 251 or concurrently. If CHY 221 was taken at UMM, credit for this course cannot be earned.

Course Typically Offered:

Fall & Summer

Credits: 2

CHY 254 - Organic Chemistry Laboratory II

A laboratory course designed to complement the topics covered in CHY 251 and CHY 252 by giving hands on experience with the concepts presented in class. Emphasis will be placed on reaction setup, data analysis (including spectroscopic methods), and laboratory safety. If CHY 222 was taken at UMM, credit cannot be earned for this course

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in CHY 251 and CHY 253. If CHY 222 was taken at UMM, credit cannot be earned for this course

Corequisites:

CHY 252

Course Typically Offered:

Spring, Summer

Credits: 2

CHY 261 - Introduction to Inorganic Chemistry

The primary purpose of this course is to explore a significant portion of the sub-discipline of inorganic chemistry, with an emphasis on the transition elements. The arrangement of elements in the periodic table will guide understanding of trends in structure and reactivity. Applications of inorganic chemistry to medicine, materials and catalysis will be discussed.

Core Curriculum/Core Requirements: [""] Prerequisites:

C- or better in CHY 122.

Course Typically Offered:

Spring

Credits: 3

CHY 298 - Introduction to Chemistry Research and the Chemistry Profession

Topics covered will include introduction to chemical literature databases; data analysis tools; careers in chemistry; laboratory safety; and information about choosing a research project. For students in BS degree programs that require a semester of research (CHY 498) this course is expected to result in the initiation of a research project. Students in the BA degree program have the option to focus more on exploring career opportunities for chemists.

Core Curriculum/Core Requirements: [""] Prerequisites:

Sophomore Standing

Course Typically Offered:

Spring

Credits: 1

CHY 326 - Undergraduate Research in Chemistry

The objective of this course is for the student to conduct an original research project under the supervision of a faculty member. The student will work in consultation with a research advisor to develop and undertake a research project in chemistry. A final written report is required. This course may be taken multiple times for credit.

Prerequisites:

CHY 122 and CHY 124 and aproval by a research advisor

Course Typically Offered:

Every Fall & Spring

Credits: 1-2

CHY 342 - Principles of Quantitative Analysis and Solution Equilibria

Topics covered include gravimetric and titrimetric methods of analysis and acid-base, complex formation, precipitation and oxidation-reduction equilibria. Spectrophotometric, potentiometric and chromatographic methods of analysis will be introduced. Laboratory determinations will provide examples of the above. Lec 3, Lab 4.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in both CHY 122 and CHY 124.

Course Typically Offered:

Fall

Credits: 5

CHY 393 - Undergraduate Seminar in Chemistry

Discussion of developments in chemistry and the chemical profession. Introduction to chemical literature and research methods. Oral presentations and written papers required.

Course note: May be repeated for credit for a total of 9 completions and 27 total credits.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

Chemistry major; A grade of C- or better in CHY 122 and CHY 298.

Course Typically Offered:

Fall

Credits: 3

CHY 394 - Field Experience/Cooperative Education

Supervised employment with relevance to the study of chemistry in the public or private sector. A proposed program of study, mutually agreed upon by the student, faculty adviser, and "Co-Op" sponsor may be carried out in the summertime or during the academic year. A written report is required.
(Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior or Senior standing with a good academic record; permission.

Course Typically Offered:

Fall, Spring, Summer

Credits: 1-9

CHY 423 - Introductory Polymer Chemistry

Fundamentals of polymer types, synthesis kinetics and mechanisms, characterization techniques, and molecular structure.

Core Curriculum/Core Requirements: [""] Prerequisites:

a grade of C- or better in CHY 252 and MAT 127 or permission

Course Typically Offered:

Variable

Credits: 3

CHY 425 - Physical Chemistry of Polymers

Exploration and description of the underlying molecular scale structure, physical behavior, thermodynamics, flow properties, and chemical interactions of polymers and chain macromolecules with each other, matter, and light.
Course Note: CHY 425 and CHY 525 cannot both be taken for degree credit.

Prerequisites:

A grade of C- or better in CHY 471 or CHE 385 and MEE 230, or equivalent; or permission

Course Typically Offered:

Spring

Credits: 3

CHY 431 - Structure and Mechanism in Biological Chemistry

Examination of biosynthetic pathways, structure and function of enzymes (including metalloenzymes) and other important biomolecules, methods of structure determination and synthetic pathway elucidation and mechanisms of enzyme-catalyzed reactions.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in CHY 252

Course Typically Offered:

Spring

Credits: 3

CHY 461 - Advanced Inorganic Chemistry I

Advanced theoretical and descriptive inorganic chemistry emphasizing covalent bonding and molecular orbital theory, transition metal complexes and coordination chemistry, symmetry and group theory, and applications to bioinorganic and materials chemistry.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in CHY 261 or permission.

Course Typically Offered:

Alternate

Credits: 3

CHY 462 - Organometallic Chemistry

Principles and applications of organotransition metal chemistry. Topics include coordination chemistry, group theory, organometallic reaction mechanisms, electrochemistry, photochemistry, bioinorganic chemistry, catalysis and applications to organic synthesis. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

C- or better in CHY 252 and CHY 261.

Course Typically Offered:

Alternate Years

Credits: 3

CHY 471 - Physical Chemistry I

Applications of classical thermodynamics to the study of chemical systems. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

C- or better in CHY 122; MAT 127 and PHY 112 or PHY 122 or equivalent

Course Typically Offered:

Fall

Credits: 3

CHY 472 - Physical Chemistry II

Covers electrochemistry, kinetic theory of gases, transport processes and reaction kinetics and an introduction to statistical thermodynamics. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in CHY 122; MAT 228 and PHY 112 or PHY 122.

Course Typically Offered:

Spring

Credits: 3

CHY 475 - Physical Chemistry III

An introduction to quantum mechanics, spectroscopy and chemical bonding. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

PHY 122, MAT 228 and MAT 258 or equivalent.

Course Typically Offered:

Spring

Credits: 3

CHY 477 - Nanoscience

An introduction to nanoscience that details the basic principles and recent developments of nanoscale science and technology. Students will learn both the fundamental concepts of nanoscale science and its application to the development of new materials, processes technology and devices. Scientific explanations for the basis of nanoscale derived properties will be illustrated by

specific research examples. Topics will include: nanoscale materials, micro/nano fabrication, nano instrumentation, atomic manipulations and nanorobotics. CHY 477 and ECE 457 are identical courses.

Core Curriculum/Core Requirements: [""] Prerequisites:
CHY 122 or CHY 131 and PHY 122 and MAT 127

Course Typically Offered:
Variable

Credits: 3

CHY 483 - Introductory Wood Chemistry

Emphasis on the chemical and physical properties of cellulose, hemicelluloses, lignin and extractives. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:
A grade of C- or better in CHY 252 or permission.

Course Typically Offered:
Spring

Credits: 3

CHY 490 - Topics in Chemistry

Advanced treatment of specialized topics in chemistry. Topics vary.

Course note: May be repeated for credit for a total of 9 completions and 27 total credits if topics differ.

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission.

Course Typically Offered:
Variable

Credits: 3

CHY 491 - Advanced Integrated Laboratory I

An advanced laboratory environment integrating inorganic, instrumental and physical chemistry concepts. Synthetic techniques, instrumental methods, reaction kinetics, thermodynamics and spectroscopy will be included. As a writing intensive course, an emphasis is placed on developing skill in writing formal laboratory reports. Lab 6.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
A grade of C or better in CHY 342, CHY 261, CHY 254, and CHY 471 or concurrently.

Course Typically Offered:
Spring

Credits: 3

CHY 492 - Advanced Integrated Laboratory II

This course is the second semester of an advanced laboratory course that integrates inorganic, instrumental, and physical chemistry concepts. The purpose of the course is to build on and extend the laboratory and technical writing skills acquired in CHY 491, with an emphasis on more independent lab work. Students work collaboratively in teams and with faculty instructors to design and carry out an experimental plan that may be developed as a theme for CHY 491. Results will be presented using a combination of oral and written formats.

Core Curriculum/Core Requirements: ["Together with CHY 498' , 'this course satisfies the General Education Capstone Experience Requirement for the BS degree. Together with an upper level chemistry elective CHY 4XX' , 'this course satisfies the General Education Capstone Experience Requirement for the BA degree."] Prerequisites:
A grade of C or better in CHY 491. Chemistry majors only or permission.

Course Typically Offered:
Fall

Credits: 3

CHY 498 - Undergraduate Research

Students will conduct a research project under the supervision of faculty member. A total of three credit hours are required for the

BS degree in Chemistry. It is recommended that students register for one credit in each of three different semesters to fulfill this requirement.

May be repeated for credit for a total of 3 completions and 3 credits.

Core Curriculum/Core Requirements: ["Together with CHY 499' , 'this course satisfies the General Education Capstone Experience requirement for the BS degree (ACS certified). Together with CHY 492' , 'this course satisfies the General Education Capstone Experience Requirement for the BS degree."] Prerequisites:

CHY 298

Course Typically Offered:

Fall, Spring, Summer

Credits: 1-3

CHY 499 - Undergraduate Thesis

Written report of an original investigation carried out in the library and laboratory.

May be repeated for credit for a total of 9 completions and 27 total credits.

Core Curriculum/Core Requirements: ["Together with CHY 498' , 'this course satisfies the General Education Capstone Experience Requirement for the BS degree (ACS certified)."] Prerequisites:

CHY 498 and Senior Standing.

Course Typically Offered:

Fall, Spring, Summer

Credits: 3

Child Development and Family Relations

CHF 103 - Parenting Children & Adolescents

Supporting parents in the discovery of their child's development from pre-natal nudges to adolescent explosions, Parenting Children & Adolescents will give parents tools to be knowledgeable about appropriate actions and reactions in all stages of their children's lives. This course will use strengths-based approaches to helping parents expand on what they are already doing well in helping them achieve their goals for supporting and interacting with their children. This course is part of the Family Futures Downeast Certificate program.

Prerequisites:

Participation in the Family Futures Downeast Parenting & Family Well-Being Certificate program.

Course Typically Offered:

By Arrangement

Credits: 3

CHF 200 - Family Interaction

Interpersonal dynamics of dating, courtship, mate selection, and the development of family life. Changing patterns of personal interactions within the family life cycle and a pluralistic society.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Course Typically Offered:

Fall & Spring & Summer

Credits: 3

CHF 201 - Introduction to Child Development

Influences on human development from conception through middle childhood. Theoretical perspectives, empirical evaluation and practical implications.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Course Typically Offered:

Fall, Spring, Summer

Credits: 3

CHF 203 - Practicum in Early Childhood Programs

Introductory practicum combining child development and education theory with supervised weekly participation in the Child

Development Learning Center. Focuses on the child under six years of age. Lab 2.

Core Curriculum/Core Requirements: [""] Prerequisites:
CHF 201 and Permission of Instructor.

Course Typically Offered:
Fall & Spring

Credits: 3

CHF 303 - Infant/Toddler Care and Development

Examines issues related to quality care and early education for children ages 0-3. Emphasis on family diversity and inclusion integrated in course material. Includes six hours of lab observation.

Core Curriculum/Core Requirements: [""] Prerequisites:
CHF 201

Course Typically Offered:
Fall & Spring

Credits: 3

CHF 304 - Practicum in Early Childhood Education K-3

Students will apply principles of child development to the education of children in grades K-3. Emphasis is placed on identifying scientifically-based practices and techniques associated with exemplary early childhood education programs. Skills in child observation, developing and modifying a range of approaches to instruction, child guidance, and family involvement in schools will be addresses in a participatory class and supervised field placement.

Core Curriculum/Core Requirements: [""] Prerequisites:
CHF 201, CHF 203 and permission.

Course Typically Offered:
Fall & Spring

Credits: 3

CHF 311 - Creativity and the Young Child

Exploration of theoretical and research evidence pertaining to the nature of creativity and the conditions requisite for its expression. Includes developmental stages, strategies, materials and workshops in specific areas including children's art, music, creative movement, story telling, play and creative dramatics.

Core Curriculum/Core Requirements: [""] Prerequisites:
CHF 201.

Course Typically Offered:
Variable

Credits: 3

CHF 316 - Literacy and the Youngest Learner

Review of specific subject areas in the field. This subject area focuses on literacy development from birth to age 5, with particular emphasis on child care and school settings as sites for literacy-learning. Previously offered as CHF 404 Literacy and the Youngest Learner.

Core Curriculum/Core Requirements: [""] Prerequisites:
CHF 203 or permission

Course Typically Offered:
Variable

Credits: 3

CHF 321 - Curriculum and Methods for Teaching Young Children Science

Applies developmental theory to the construction of curriculum and methods in early childhood education. Students explore a range of curriculum models, approaches and strategies as they learn to apply theory to meeting children's learning needs individually and in groups. Topics including role of teachers in promoting learning, assessment, documenting learning, inclusion and family

involvement are stressed. Science serves as the content anchor for discussing curriculum and methods issues.

Core Curriculum/Core Requirements: [""] Prerequisites:
CHF 201, CHF 203, EHD 204

Course Typically Offered:
Fall

Credits: 3

CHF 322 - Curriculum and Methods for Teaching Social Studies

Students will develop integrated curriculum focusing on social studies for young children. Issues of inclusion, assessment, and family involvement are integrated into class content to promote social competence in young children.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
CHF 201, CHF 203, EHD 204

Course Typically Offered:
Fall

Credits: 3

CHF 329 - Curriculum and Methods for Teaching Young Children Math

Presents activities and instruction to support candidates' lesson planning and assessment in math for teaching young children.

Core Curriculum/Core Requirements: [""] Prerequisites:
CHF 201, CHF 203, EHD 204

Course Typically Offered:
Spring

Credits: 3

CHF 331 - Cognitive Development

Introduction to the developmental processes involved in the acquisition, organization and processing of information, with an emphasis on the period between infancy and adolescence. Discussion of current theories and research on cognitive, memory and language development and their applications and implications for teaching and parenting.

Core Curriculum/Core Requirements: [""] Prerequisites:
CHF 201, PSY 100.

Course Typically Offered:
Spring

Credits: 3

CHF 351 - Human Sexuality

Discusses sexuality and its social implications against a background of constantly changing sexual mores, sex role development, alternative conceptualizations of sexuality, and implications for future trends in human interaction.

Core Curriculum/Core Requirements: ["Ethics and Social Contexts and Institutions"] Course Typically Offered:
Summer

Credits: 3

CHF 381 - Family Resource Management

Analysis of the managerial process and its relationship to decision making. Emphasis on the use of resources including time, energy, and money to attain family goals.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Variable

Credits: 3

CHF 404 - Selected Topics in Child Development and Family Life

Review of specific subject areas in the field. Subject areas vary by semester. May be repeated for credit if topics differ with 9 completions and a total of 27 credits.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Fall & Spring

Credits: 3

CHF 406 - Introduction to Research Methods in Child Development and Family Relations

An overview of research methods applicable to the study of children and families. An in-class research project is completed. (This course is identical to HUD 556.)

Core Curriculum/Core Requirements: [""] Prerequisites:

CHF 200 and CHF 201, or Human Development Graduate students.

Course Typically Offered:

Variable

Credits: 3

CHF 409 - Special Problems in Child Development and Family Life

As available. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

permission.

Course Typically Offered:

Fall, Spring, Summer

Credits: Ar

CHF 417 - Introduction to Leadership in Early Childhood Education

Focuses on topics and issues relevant to becoming a leader in an early childhood organization, best practice in business, developing skills in supervising and working with a variety of staff, understanding and advocating for children and families, and collaborating with other agency personnel.

Core Curriculum/Core Requirements: [""] Prerequisites:

CHF 201 and CHF 203.

Course Typically Offered:

Variable

Credits: 3

CHF 421 - Student Teaching in Early Childhood

Supervised student teaching in pre-kindergarten and K-3 settings. May be repeated for credit.

(Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Prerequisites:

Child Development and Family Relations major with senior standing and Teacher Candidacy.

Course Typically Offered:

 Spring & Fall

Credits: 12

CHF 422 - Field Placement in Early Childhood Education

Individual study in selected early childhood settings such as Pre-K classrooms or home visiting programs. Includes developmental assessments, planning and implementation of education programs. May be repeated for credit for a total of 2 completions and 6 total credits.

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior, Senior or Graduate Standing and permission of instructor

Course Typically Offered:

Fall & Spring

Credits: 3-6

CHF 423 - Professional Seminar in Child Development and Family Relations

An integrated examination of career-related roles, ethics, and responsibilities in research and service to individuals and families. May be repeated for credit with a total of 9 completions and 27 total credits.

Core Curriculum/Core Requirements: ["Writing Intensive and Capstone Experience Requirements."] Prerequisites:

Child Development and Family Relations major; senior standing.

Course Typically Offered:
Fall & Spring

Credits: 3

CHF 424 - Professional Seminar for Early Childhood Specialists

Examination of issues such as ethics, advocacy, collaborating with families and other professionals and professional development. May be repeated for credit with a total of 9 completions and 27 total credits.

Core Curriculum/Core Requirements: ["Capstone Experience"] Corequisites:
CHF 421

Course Typically Offered:
Fall and Spring

Credits: 3

CHF 431 - Parenting

Parent behavior and the dynamics of parenthood are studied. Emphasis on interpersonal, familial, and societal roles of parents, and factors influencing role behaviors and expectations.

Core Curriculum/Core Requirements: [""] Prerequisites:
CHF 200, CHF 201.

Course Typically Offered:
Variable

Credits: 3

CHF 433 - Adolescence

Growth and development during the adolescent years. Conceptual models and recent research are discussed.

Core Curriculum/Core Requirements: [""] Prerequisites:
CHF 201 or PSY 100 and sophomore standing.

Course Typically Offered:
Fall & Summer

Credits: 3

CHF 434 - Adult Development and Aging

Developmental processes and transitions from the early to later years of adulthood. Social, physical, cognitive, and familial aspects of adult growth and aging are examined.

Core Curriculum/Core Requirements: [""] Prerequisites:
CHF 201 or permission.

Course Typically Offered:
Spring

Credits: 3

CHF 441 - Family Life Education Methods

Provides students with an overview of the knowledge, skills, methods, current materials and resources to plan, implement and evaluate family life education programs for diverse learners including K-12 students, parents, community members, educators and other professionals. Students will practice developing and presenting educational programs.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Variable

Credits: 3

CHF 442 - Helping Skills

Examines the nature of helping relationships including descriptions, characteristics, stages and ethics of effective helpers and helping relationships. Considerable attention will be focused on learning the nonverbal and verbal responses used in helping interactions. To assist in the development of these helping skills, students can expect to be engaged in extensive practice sessions with classmates.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Spring

Credits: 3

CHF 445 - Conflict and Violence in Intimate Relationships

Conflict and disagreement between people are inevitable and need not escalate to physical violence. Instead, much can be resolved by negotiation and compromise; escalation is not automatic. Abusive behavior is not about disagreement but about the abuse of relative power over another person. This course examines different aspects of conflict and violence in intimate relationships and families. The goal is to better understand how couples and families deal with conflict; how abuse influences family relationships, and how third parties come into play. A background in the social sciences field is helpful. The course is offered online via BrightSpace. If this course was taken previously as CHF 404 topic Conflict and Violence, it cannot be repeated for credit.

Course Typically Offered:

Fall

Credits: 3

CHF 450 - Early Childhood Special Education - Inclusion in the Early Childhood Classroom

The emphasis of this course is on early intervention for young children with disabilities in group settings. The course will focus on history and rationale, legal foundations, theoretical perspectives service delivery models, family-professional partnerships, assessment practices, and curriculum development.

Core Curriculum/Core Requirements: [""] Prerequisites:

CHF 201 and CHF 203.

Course Typically Offered:

Fall & Spring

Credits: 3

CHF 451 - Family Relationships

The study of traditional and non-traditional family units as a system of interactions between individuals.

Core Curriculum/Core Requirements: [""] Prerequisites:

CHF 200.

Course Typically Offered:

Fall

Credits: 3

CHF 452 - Violence in the Family

Major forms of family violence, including child abuse and neglect, sexual abuse, and spouse abuse, are examined to provide students with an understanding of the development of dysfunctional forms of family interaction, descriptive knowledge on the prevalence of violent relationships at the national and local level, the necessary skills for identifying victims of abuse and the services available to them, and a preliminary understanding of the challenge of designing intervention strategies.

Core Curriculum/Core Requirements: ["Ethics"] Prerequisites:

Junior or senior standing, CHF 200 or SOC 318 or permission.

Course Typically Offered:

Spring

Credits: 3

CHF 488 - Family Legal Issues

Issues of legal interest to consumers. Social and economic effects on families will be emphasized.

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior standing.

Course Typically Offered:

Fall

Credits: 3

CHF 496 - Field Experience in Human Development and Family Studies

An approved program of work experience that involves the application of theory and research in applied settings. Requires a written proposal outlining the proposed experience, its relation to the student's program of study, plan for faculty supervision and a final written report. No more than 6 credits may be used toward the CHF major and not more than 12 credits may be used toward the

graduation requirements. (Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission of instructor.

Course Typically Offered:
Fall, Spring, Summer

Credits: 1-6

Civil and Environmental Engineering

CIE 100 - Introduction to Civil and Environmental Engineering

Introduces first-year and transfer students in Civil Engineering to the multifaceted field of Civil and Environmental Engineering. Each week a different faculty member will conduct the class. Challenging problems will be introduced and team work will be practiced. Lec 1. (Fall.)
(Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Fall

Credits: 1

CIE 101 - Civil Engineering Graphics

Graphic principles, concepts and techniques involving civil engineering applications. Exercises will be done in 2D/3D using CADD software. 1.0 ED/2.0 ES. Lec 2, Lab 2. (Spring.)

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Spring

Credits: 3

CIE 110 - Materials

The structure, properties, and testing of engineering materials and their use in constructed facilities. Analytical tools used to quantify material properties are covered along with appropriate statistical tools for quantifying uncertainty. Basic microstructure-property relationships are established, as are the fundamental mechanisms for strength and toughness. The production and properties of concrete, steel, wood and polymer composites are covered along with relative advantages and disadvantages of each as a construction material. The bases for material selection are established using both technical and non-technical consideration. (0.0 ED/3.0 ES)

Core Curriculum/Core Requirements: [""] Prerequisites:
MAT 122(may be taken concurrently), MAT 126, or MAT 116

Course Typically Offered:
Fall

Credits: 3

CIE 111 - Materials Laboratory

Evaluation of material performance under applied loads for engineering applications. Physical properties of concrete, metals, plastics and wood. Exercises include study of the variability of materials, construction of probability density functions from test data and computation of the probability of failure. (1.0 ED/0.0 ES.) Lab 2 (Fall.)

Core Curriculum/Core Requirements: [""] Corequisites:
CIE 110

Course Typically Offered:
Fall

Credits: 1

CIE 115 - Computers in Civil Engineering

Introduces the student to computers and computations by solving examples relevant to civil engineering. The algorithmic aspects of programming as well as the development of simple graphical user interfaces are taught. Approximately one half of the course time is allocated to programming with the remainder involving problems and applications. Specific examples typically include problems from structures, geotechnical, transportation and environmental engineering. Emphasis is placed on examples introducing statistical methods. Also introduces the use of spreadsheets, word processing and a mathematics program. (0.0 ED/3.0 ES.) Lec 2,

Lab 3

Core Curriculum/Core Requirements: [""] Prerequisites:

MAT 126, Civil Engineering majors only.

Course Typically Offered:

Spring

Credits: 3

CIE 210 - Sustainability in Engineering

Introduction to sustainability and sustainable development concepts; role of engineers in sustainable development; ethical dimension of sustainable development-engineers, technology and ethics; measuring sustainability; green and sustainable materials; engineers as problem solvers and curators of the planet. No specialized background in engineering, sciences or social sciences is required.

Core Curriculum/Core Requirements: ["Population and Environment and Ethics"] Course Typically Offered:

Variable

Credits: 3

CIE 225 - Transportation Engineering

An introduction to the broad field of transportation with emphasis on the motor vehicle mode. Principles of roadway and urban transportation planning, economic analysis methods, and route design elements are discussed and related to the planning and design of highway transportation routes.

Core Curriculum/Core Requirements: [""] Prerequisites:

MAT 126 and Civil Engineering majors or permission.

Course Typically Offered:

Spring

Credits: 3

CIE 331 - Fundamentals of Environmental Engineering

Introduction to environmental engineering including water quality, water and wastewater treatment plant design, solid and hazardous wastes, landfill design, radioactive waste control and air pollution abatement (1.0 ED/2.0 ES.) Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

Grade of C or better in CHY 131, CHY 133, and MAT 127.

Course Typically Offered:

Fall

Credits: 3

CIE 340 - Introduction to Structural Analysis

The cyclic process of analysis and design. Structure idealization and modeling. Design methodologies and loads considerations. The analysis of determinate trusses, beams and frames. Introduction to indeterminate structures. (1.0 ED/3.0 ES.) Lec 3, Lab 3

Core Curriculum/Core Requirements: [""] Prerequisites:

C or better in MEE 150 and in MEE 251.

Course Typically Offered:

Fall

Credits: 4

CIE 350 - Hydraulics

An elementary course presenting fundamental principles of fluid flow and their applications to engineering problems. Includes study of hydrostatics, liquid measuring devices and channel and pipe flow. (0.0 ED/3.0 ES.) Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

Grade of C or better in MEE 150

Corequisites:

Prerequisite or Corequisite: MAT 258 or MAT 259. MAT 258 or MAT 259 may be taken concurrent.

Course Typically Offered:

Fall

Credits: 3

CIE 351 - Hydraulics Laboratory

Application of hydraulic principles in laboratory experiments. Includes experiments on buoyancy and flotation, forces on submerged planes, venturi meter calibration, pipe friction, losses, weirs and others. (0.0 ED/1.0 ES.) Lab 2

Core Curriculum/Core Requirements: [""] Prerequisites:

CIE 350 or concurrently.

Course Typically Offered:

Fall

Credits: 1

CIE 365 - Soil Mechanics

An introduction to fundamental physical properties, engineering behavior and performance of soils and rocks. (0.0 ED/3.0 ES.) Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

MEE 251 or concurrently.

Course Typically Offered:

Spring

Credits: 3

CIE 366 - Soil Mechanics Laboratory

Covers geotechnical laboratory testing including classification, density, permeability, shear strength, and consolidation tests. Project reports are also submitted to ECP 366. (0.0 ED/1.0 ES.) Lab 2.

Core Curriculum/Core Requirements: [""] Corequisites:

CIE 365 and ECP 366.

Course Typically Offered:

Spring

Credits: 1

CIE 394 - Civil Engineering Practice

Cooperative work experience in civil and environmental engineering. Up to three credits may count toward the degree. (Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Prerequisites:

Sophomore standing.

Course Typically Offered:

Summer

Credits: 1-3

CIE 411 - SL: Engineering Project Design

Student design teams develop the conceptual design of an active civil engineering project. Topics include: consulting firm practice, the design process, evaluation of alternatives, regulatory constraints and the permit process, legal, ethical and social aspects of professional engineering practice, cost and scheduling estimations. Oral presentations and written technical reports are required. Open only to civil engineering students during their last spring semester. (3.0 ED/0.0 ES.) Lec 2, Lab 3.

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:

CIE 413.

Course Typically Offered:

Spring

Credits: 3

CIE 412 - Engineering Decisions

Application of various analysis methods to engineering design decisions. Evaluation of economic, financial, legal, and ethical factors affecting engineering design. Introduction to ethics theory, general concepts, and principles pertaining to engineering ethics and handling ethical situations in practice. Topics include: engineering ethics with case studies, engineering economy, consideration of risk and uncertainty, and evaluation of ambiguous and intangible factors in engineering design. This is a writing

intensive course.

Core Curriculum/Core Requirements: ["Ethics and Writing Intensive"] Prerequisites:
Senior standing

Corequisites:
CIE 413

Course Typically Offered:
Fall

Credits: 3

CIE 413 - SL: Project Management

Students study the role of civil engineers in the implementation process of engineering projects from project conceptualization through design, construction, commissioning, start-up and operations. Students practice using project management themes by creating a proposal for providing a schematic design feasibility study for a community partner. Topics include: project life-cycle, project management tools, quality and risk management, required deliverables of design, scheduling of resources and personnel, and work breakdown structure.

Core Curriculum/Core Requirements: [""] Prerequisites:
ENG 320 and Senior standing and 6 credits of CIE engineering electives or Permission. The 6 credits of CIE engineering electives may be taken concurrently.

Course Typically Offered:
Fall

Credits: 2

CIE 424 - Urban Transportation Planning

Basic concepts and practices in the field of transportation planning, including the process and policy surrounding urban transportation planning, characteristics of urban travel, air quality - noise, energy - land use, the elements of decision making, data management and diagnosis, demand and supply analysis, project evaluation and implementation. A transportation demand management study constitutes a major part of the course. (2.0 ED/1.0 ES) Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:
Grade of C or better in CIE 225.

Course Typically Offered:
Variable

Credits: 3

CIE 425 - Transportation Safety

Fundamental theory on transportation safety processes and evaluation methodology. Topics: vehicle/road/driver interaction, countermeasure effectiveness, enforcement, education and engineering measures. (1.0 ED/2.0 ES). Lec 3. (Fall.)

Core Curriculum/Core Requirements: [""] Prerequisites:
Grade of C or better in CIE 225.

Course Typically Offered:
Variable

Credits: 3

CIE 426 - Advanced Roadway Design

Principles of highway location, design of vertical and horizontal alignment, design and construction of surface treatments, pavement structures and roadway drainage systems. Student project preparing necessary plan-profile and cross section drawings required to construct a 3,000 foot section of roadway, which is evaluated with respect to road-user travel time, comfort and safety; impact on surrounding environment including aesthetical aspects; and construction cost. (3.0 ED/0.0 ES.) Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:
Grade of C or better in CIE 225.

Course Typically Offered:
Variable

Credits: 3

CIE 428 - Pavement Analysis and Design

Fundamentals of pavement analysis, design and maintenance will be presented in this course. Specific course topics include pavement types; stress, strain, and deflection analysis of rigid and flexible pavements; traffic loading and volume calculation; drainage design, overlay design; materials (hot mix asphalt (HMA) and portland cement concrete (PCC)) characterization; rigid and flexible pavement design methods (AASHTO and others); pavement performance and management systems; and life-cycle analysis. If this course was taken under as a topics course in CIE 498 it cannot be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

CIE 110, MEE 251 and a grade of C or better in CIE 225

Course Typically Offered:

Spring

Credits: 3

CIE 430 - Water Treatment

Introduction to environmental chemistry as related to water treatment technology, and analysis and design of water treatment systems. (3.0 ED/1.0 ES) Lec 3, Lab 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

Grade of C or better in CIE 331 and in CIE 350.

Course Typically Offered:

Fall

Credits: 4

CIE 431 - Pollutant Fate and Transport

Introduction to environmental transformation processes which controls the fate and transport of contaminants in the environment and in engineered systems. Topics include reaction energetics and kinetics, reactor engineering concepts, interphase mass transfer and phase partitioning. (3.0 ED/1.0 ES). Lec 3, Lab 3

Core Curriculum/Core Requirements: [""] Prerequisites:

Grade of C or better in CIE 331 and in MAT 258.

Course Typically Offered:

Variable

Credits: 4

CIE 434 - Wastewater Process Design

Theory and design of wastewater treatment facilities. Design projects cover processes such as sedimentation, biological treatment, aeration and disinfection. (3.0 ED/1.0 ES). Lec 3, Lab 1.

Core Curriculum/Core Requirements: [""] Prerequisites:

Grade of C or better in CIE 331.

Course Typically Offered:

Spring

Credits: 4

CIE 436 - Applications of Organic Chemistry Principles to Environmental Engineering

Course provides a theoretical understanding of fundamental organic chemistry principles in the context of environmental engineering. These environmental principles include thermodynamic and kinetics of processes that change the fate and transport of organic pollutants in the environment. The special emphasis of this course is on physicochemical properties (e.g., vaporization, solvation, adsorption) to predict phase transfers among environmental compartments (e.g., air, water, sediments, biota) and compound transformation (e.g., chemical, photochemical, and biochemical transformation rates).
Course Note: CIE 436 and CIE 536 cannot both be taken for degree credit.

Prerequisites:

Grade of C or better in CHY 131/133 and CIE 331 or permission from the instructor for the undergraduate path.

Course Typically Offered:

Variable

Credits: 3

CIE 439 - Solid Waste and Air Pollution

This course covers the basic theory and design of solid waste handling systems and air pollution generation, effects and control.

Topics include solid waste characteristics and generation, collection, recycling, composting, incineration and landfilling; air pollutants, meteorology and dispersion modeling, and emission control. (0.0 ED/3.0 ES)

Core Curriculum/Core Requirements: [""] Prerequisites:

Grade of C or better in CIE 331.

Course Typically Offered:

Variable

Credits: 3

CIE 440 - Structural Analysis I

Classical and matrix methods in the analysis of linear redundant systems. The basic concepts of equilibrium, stress-strain relations, and compatibility are emphasized. Manual and introductory computer aided solution techniques are utilized. (0.0 ED/4.0 ES.) Lec 3, Lab 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

C or better in CIE 340.

Course Typically Offered:

Spring

Credits: 4

CIE 442 - Structural Design I

Gravity loading and vertical load path for steel and concrete structures. LRFD design methodology and load combinations. Design of simple flexural and axial members in steel and reinforced concrete. (4.0ED/0.0 ES.) Lec 3, Lab 3

Core Curriculum/Core Requirements: [""] Prerequisites:

C or better in CIE 340.

Course Typically Offered:

Spring

Credits: 4

CIE 443 - Structural Design II

Lateral loading and lateral load path for steel and concrete structures. Design of steel tension members, steel connections, concrete beam-columns, and advanced flexural members (4.0 ED/0.0 ES) Lec 3, Lab 3

Core Curriculum/Core Requirements: [""] Prerequisites:

C or better in CIE 442.

Course Typically Offered:

Fall

Credits: 4

CIE 450 - Open Channel Hydraulics

Covers uniform and nonuniform flow in open channels, gradually and rapidly varying flow, computational methods for flow profiles, open channel flow structures. (1.0 ED/2.0 ES.) Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

Grade of C or better in CIE 350.

Course Typically Offered:

Variable

Credits: 3

CIE 455 - Hydrology

Application of statistical analysis of rainfall and runoff processes for the development of design parameters of water resources projects, including uncertainty of these parameters. Includes collection and presentation of rainfall and runoff data, methods for developing hydrographs and flood control, development of design hydrographs for urbanizing watersheds. (1.0 ED/2.0 ES.) Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

Grade of C or better in CIE 350.

Course Typically Offered:

Fall

Credits: 3

CIE 456 - Groundwater Hydrology and Hydraulics

Fundamentals of the hydrodynamics of flow through porous media, and the development of methodology for solving the many open-ended problems of groundwater flow, supply and pollution. Concepts of groundwater modeling design. Aspects of field variability and uncertainty. (1.0 ED/2.0 ES.) Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

C or better in CIE 350 and in MAT 258.

Course Typically Offered:

Spring

Credits: 3

CIE 460 - Geotechnical Engineering

The application of geotechnical engineering to practical engineering design and construction problems including consideration of economic and safety constraints. (3.0 ED/0.0 ES.) Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

Grade of C or better in CIE 365.

Course Typically Offered:

Fall

Credits: 3

CIE 480 - Wind Energy Engineering

This course presents the theory and design of modern wind turbines. Theoretical aspects of the course cover the fundamentals of assessing the aerodynamic loads and efficiency of a wind turbine. Design procedures for wind turbines are outlined with an emphasis on maximizing performance, assuring structural integrity and minimizing the cost of energy. Current trends in offshore wind are also covered as well as the social and environmental issues of a burgeoning wind energy industry.

Core Curriculum/Core Requirements: [""] Prerequisites:

MAT 258 and C or better in MEE 251.

Corequisites:

CIE 350 or MEE 360.

Course Typically Offered:

Summer

Credits: 3

CIE 498 - Selected Studies in Civil Engineering

Topics in civil engineering not regularly covered in other courses. Specific topics vary. May, with permission of the department, be repeated for credit for a total of 9 completions and 27 credits as long as topics differ.

Core Curriculum/Core Requirements: [""] Prerequisites:

Permission.

Course Typically Offered:

Fall, Spring, Summer

Credits: 1-3

Classics

CLA 101 - Greek Literature in English Translation

A survey of Greek literature. No knowledge of Greek is necessary.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives' , 'Western Cultural Tradition and Writing Intensive"] Course Typically Offered:

Fall

Credits: 3

CLA 102 - Latin Literature in English Translation

A survey of Latin literature. No knowledge of Latin is necessary.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives' , 'Western Cultural Tradition and Writing Intensive"] Course Typically Offered:
Spring

Credits: 3

CLA 202 - Mythology of the Ancient Near East, North Africa and Greece

Surveys the mythologies of the ancient Mediterranean Basin, including Hebrew Mythology. Through lectures, reading and video the major deities and heroes of each culture will be presented within their cultural context, including the stories associated with them.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Spring, Even Years

Credits: 3

CLA 400 - Hero: Myth and Meaning

The idea of the hero has been important in culture and art since the earliest epic. What is heroism? What defines the hero? How does a person become a hero and what do you do afterward? These are all questions that the great epic stories from the past and the world of the media today seek to address and answer. This course looks at ancient epics dealing with the hero and brings hero tales through time to today. We look at myth, legend and lived experience, with special attention to the world of the heroes as articulated through their representation in literature, art, music and film.

Core Curriculum/Core Requirements: [""] Prerequisites:
Sophomore Standing

Course Typically Offered:
Fall Even Years

Credits: 3

Communication & Journalism

CMJ 100 - Introduction to Media Studies

Introduces the structure and operation of mass media and the social, political and economic implications of their activities.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Course Typically Offered:
Fall & Spring & Summer

Credits: 3

CMJ 102 - Communication for Resilience and Connection

How do we navigate conflict, stay true to ourselves, honor difference, and create a sense of belonging all at the same time? How do we work effectively on diverse teams? How do we present ideas with impact and cultural relevance? These are the central big questions you will have a chance to explore in this class through the lenses of interpersonal communication theories and case studies. This class is not about "the one right answer" to these questions; rather it is about developing your competencies to find an appropriate answer for yourself in a given context, as well as growing your confidence to follow through. Participation in research to a maximum of 3 hours is expected.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Course Typically Offered:
Fall & Spring

Credits: 3

CMJ 103 - Public Speaking

The nature and problems of public speech communication, with practical experience in representative speaking situations. Participation in research to a maximum of 3 hours is expected.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Course Typically Offered:
Variable

Credits: 3

CMJ 106 - Storytelling

An introduction to storytelling as a communication practice in daily life. Emphasis is on gaining greater sensitivity and expressiveness as a communicator. Participation in research to a maximum of 3 hours is expected.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:

Variable

Credits: 3

CMJ 107 - Communication and the Environment

This course provides an overview of the field of Environmental Communication. Students survey a range of disciplinary approaches including environmental journalism and media, science communication and participation, and public participation and decision making in environmental conflicts.

Core Curriculum/Core Requirements: ["Population and Environment and the Social Context and Institutions"] Course Typically Offered:

Variable

Credits: 3

CMJ 111 - Introduction to Journalism

Introduces the profession and practice of journalism professional: responsibility and commitment to truthful, accurate, and fact-based reporting that serves the public interest. Students will be introduced to a general history of journalism in America while learning basic news values, journalistic ethics, reporting fundamentals, story types, and journalistic style.

Core Curriculum/Core Requirements: ["Social Context and Institutions"] Course Typically Offered:

Fall

Credits: 3

CMJ 136 - Journalism Writing and Editing

Intensive introduction to news writing and editing, with emphasis on accuracy, style, as well as grammar, spelling and usage. Students must earn a C- or better in CMJ 136 to continue taking professional courses in the Journalism Major.

Core Curriculum/Core Requirements: ["Writing Intensive"] Course Typically Offered:

Fall, Spring, Summer

Credits: 3

CMJ 150 - Studying Communication and Journalism in College

Introduces new Communication, Media Studies and Journalism majors to the professions and opportunities in those fields, including departmental faculty and resources as well as community engagement, research, and internship opportunities. In addition to discipline specific information, the course will introduce students to departmental, college, and university resources that will help them succeed in their education.

Core Curriculum/Core Requirements: [""] Prerequisites:

First year or Sophomore standing; Communication, Media Studies or Journalism Majors or instructor permission

Course Typically Offered:

Fall

Credits: 1

CMJ 201 - Rhetorical Theory

Introduction to historical and philosophical approaches to the study of communication. The course examines communication from the classical, modern and contemporary perspectives, with specific attention to the rhetorical theorists and theories that have been dominant in the history of communication.

Core Curriculum/Core Requirements: ["Western Cultural Tradition"] Course Typically Offered:

Spring

Credits: 3

CMJ 202 - Communication Theory

Introduction to social science approaches in communication studies. The course examines communication theories and models, the function of language and symbolic behavior in society and culture, and the nature of interaction and interpretation. Not open to first-year students.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Course Typically Offered:

FALL

Credits: 3

CMJ 203 - Media Theories and Research Methods

Introduction to media theories and research in the social and human sciences.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Spring

Credits: 3

CMJ 211 - Journalism and Media History

Surveys the structures of journalistic media and the social history of journalism's roles, technologies and processes, with emphasis on interactions with political, economic and cultural institutions and the social implications of media activities.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Social Contexts and Institutions"] Course Typically Offered:
Spring

Credits: 3

CMJ 221 - Introduction to Critical Interpretation

This course presents an introduction to analyzing communication from a rhetorical perspective. We focus on four methods of rhetorical criticism and consider how each method influences interpretations of discourse.

Course Typically Offered:
Variable

Credits: 3

CMJ 222 - Introduction to Communication Research and Inquiry

Explores the kinds of questions communication scholars ask, different ways to inquire into such questions, and the practical applications of communication research. Considers key topics and approaches to communication research via published research from CMJ faculty members. Builds competencies to interpret existing studies and pursue original research as essential for analyzing and creating impactful messages, understanding what moves people and communities to action, crafting strong collaborative and supportive families, friendships, teams, and workplaces, among a myriad of other applications.

Course Typically Offered:
Variable

Credits: 3

CMJ 237 - Journalism Across Platforms

Develops journalistic skills across traditional and emerging media platforms, including print, broadcasting, and online formats and technologies. Includes media lab instruction and assignments.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Spring & Fall

Credits: 4

CMJ 245 - Film Criticism and Theory

Students will develop skills in the analysis of form and content so that they will achieve proficiency in the use of film studies vocabulary. Participants will learn to think critically about the media industry and to evaluate film as an art form, individual psychological experience, technology, social text, and commodity. (CMJ 245 and NMD 245 are identical courses.)

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Spring

Credits: 3

CMJ 257 - Business and Professional Communication

Advanced study and practice in specialized audience analysis, strategies and tactics, conference procedures, interviewing techniques, and delivery of professional presentations.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Spring

Credits: 3

CMJ 261 - Photographic Reporting and Storytelling

Introduces journalistic and photographic skills needed for visual and written competency that can be applied to print and online image production and editing. Teaches both technical and professional standards of producing quality news and feature photographs in the context of photojournalism history and ethical issues.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Prerequisites:
None.

Course Typically Offered:
FALL

Credits: 3

CMJ 275 - Survey of Sport Communication

Survey of Sport Communication examines the communicative dynamic of athletics through a multidisciplinary approach. The course offers students - both those interested and initiated in Sport and athletic competition, and those for whom this subject is new - diverse methods of analysis for considering a case study of a specific communicative dynamic.
Topics covered in both readings and course discussion include (but are not limited to): race and sport communication, gender and sport communication, class and sport communication, sports writing as a journalistic practice, sport communication and mass mediated spectacle, and the communication of athletic achievement through personal memoir and interview.

Course Typically Offered:
Spring

Credits: 3

CMJ 303 - Persuasion and Social Influence

Study of the theory and principles involved in the process of influencing the beliefs, attitudes and values of others. Focus on social science and humanistic explanations of what makes messages persuasive in interpersonal and public contexts.

Core Curriculum/Core Requirements: [""] Prerequisites:
Minimum of 6 credits of CMJ

Course Typically Offered:
Spring

Credits: 3

CMJ 314 - International Media

Survey of media systems around the world and the role of mass media in political, social, economic and cultural development.

Course Typically Offered:
FALL

Credits: 3

CMJ 320 - SL: Health Communication

Theories and topics include multicultural health, doctor-patient communication, medical ethics, death & dying, support groups, and humor and positive communication in relationships. Students will learn about a variety of health communication topics and apply those topics to their own lives and their communities.

Prerequisites:
Minimum of 6 credits of CMJ

Course Typically Offered:
Variable

Credits: 3

CMJ 324 - Interpersonal Communication in Everyday Life

The advanced study of interpersonal communication as it functions across a range of human relationship, such as family, friends, professions and organizations. Examines perspectives, theories, and research on communication in everyday life.

Core Curriculum/Core Requirements: [""] Prerequisites:
6 hours of CMJ courses.

Course Typically Offered:
Spring

Credits: 3

CMJ 327 - Social Movements

Considers how social movements are projects of public persuasion and how diverse forms of communication shape movements and influence social change.

Prerequisites:
Minimum of 6 credits of CMJ

Course Typically Offered:
Variable

Credits: 3

CMJ 330 - Copy Editing

A course in copy editing designed to develop editorial judgment and skills for preparing news for publication. Covers headline and prose writing, image editing, and basic page design.

Core Curriculum/Core Requirements: [""] Prerequisites:
A grade of C- or better in CMJ 136 or permission

Course Typically Offered:
Not Regularly Offered

Credits: 3

CMJ 332 - Public Affairs Reporting and Research

Develops journalistic reporting, information gathering and research techniques for students to cover public issues in government, education, health, business and other areas of social concern for publication or presentation in multimedia forms.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
C- or better in CMJ 136

Course Typically Offered:
Not Regularly Offered

Credits: 3

CMJ 345 - SL: Small Group Communication

This is a service-learning course that introduces students to the theory and applications of small group communication. Students will obtain practical experience working in groups with a community partner to help meet a community need and learn about the complexity of the issue.

Core Curriculum/Core Requirements: [""] Prerequisites:
Minimum of 6 credits of CMJ

Course Typically Offered:
Spring

Credits: 3

CMJ 347 - Argument and Critical Thinking

An introduction to the principles of decision-making through critical thinking applied to reasoned advocacy. Practical application of these principles through classroom experience.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
Minimum of 6 credits of CMJ

Course Typically Offered:
Spring

Credits: 3

CMJ 351 - Audio and Video Production

Conception, design and development of non-linear audio and video production for print, broadcast, non-broadcast and online uses. Explores the fundamental principles of digital audio and video production as well as the creative uses of cameras, sound, digital non-linear editing, and graphics in news features and mini-documentaries.

Prerequisites:
A C- in CMJ 136 and either CMJ 237 or CMJ 261.

Course Typically Offered:
Fall

Credits: 4

CMJ 365 - SL: Narrative, Performance, and Social Change

The course offers a study of narratives and their performances as particular communication approaches to reflecting, engaging with, and transforming culture, identities, and communities. Considers forms and functions of narrative and performing narratives in variety of communication contexts.

Core Curriculum/Core Requirements: [""] Prerequisites:

6 credits of CMJ courses.

Course Typically Offered:

Variable

Credits: 3

CMJ 367 - Public Relations

The study of those activities which help to create public understanding and acceptance of an organization's policies and programs.

Core Curriculum/Core Requirements: [""] Prerequisites:

6 hours of CMJ courses.

Course Typically Offered:

Fall & Spring

Credits: 3

CMJ 370 - Visual Communication

An introduction to modes of analysis of visual communication (which may include photography, the web, painting, film, television, sculpture, theater, advertising, etc.), with reference to social institutions and cultural norms that affect the interpretation of visual media.

Core Curriculum/Core Requirements: [""] Prerequisites:

6 hours of CMJ courses.

Course Typically Offered:

FALL

Credits: 3

CMJ 375 - Journalism and Media Law

Study of legal and ethical topics including libel, privacy, contempt, copyright, obscenity, censorship, and pre-trial publicity. The course explores the impact of journalism law on politics, economics and society.

Course Typically Offered:

Spring

Credits: 3

CMJ 376 - Modes of Media Criticism

Cooperative examination of modes of mass media criticism. Critical analysis of methods and techniques employed by scholars, journalists, and critics to evaluate contemporary trends and practices in the mass media industries.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall

Credits: 3

CMJ 380 - Advertising, Media and Society

Examines advertising's impact on U.S. society; especially on women, children, minorities, families and popular culture.

Course Typically Offered:

Fall

Credits: 3

CMJ 391 - Topics in Journalism

Topics not regularly covered in other Journalism courses. Content varies to suit current needs. May be repeated for credit, if topics differ, for a total of 2 completions and 6 total credits

Core Curriculum/Core Requirements: [""] Prerequisites:

C- or better in CMJ 136 or permission.

Course Typically Offered:

Variable.

Credits: 3

CMJ 393 - Topics in Communication

Topics not regularly covered in other Communication courses. Content varies to suit current needs. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

3 credits of completed CMJ coursework.

Course Typically Offered:

Variable

Credits: 3

CMJ 395 - Student Media Practicum

Provides practical experience relevant to the journalism major on one of the UMaine campus student media outlets and integrates the student's media work experience with the skills and theories learned in the classroom. A maximum of 3 credits permitted.

Core Curriculum/Core Requirements: [""] Prerequisites:

C- or better in CMJ 136 and Permission of Department Chair

Course Typically Offered:

Fall & Spring

Credits: 1-3

CMJ 398 - Topics in Media Studies

Topics not regularly covered in other Media Studies courses. Content varies to suit current needs. May be repeated for credit if topics differ for a total of 9 completions and 27 total credits.

Core Curriculum/Core Requirements: [""] Prerequisites:

3 credits of completed CMJ coursework

Course Typically Offered:

Variable

Credits: 3

CMJ 401 - Speech, Space, Event: Critical Applications

Introduction to the subject of criticism from a rhetorical perspective. Examines methods of critical reading, criticism of different forms of communication, including speeches, social spaces, and events, and how communication is made meaningful and why. Focuses on learning and applying different evaluative criteria -- including credibility, effects, and ethics -- to the study of communication.

Core Curriculum/Core Requirements: ["Writing Intensiveand Capstone"] Prerequisites:

Minimum 6 credits of CMJ and CMJ 201

Course Typically Offered:

Fall

Credits: 3

CMJ 402 - Communication Research

An introduction to social science inquiry into the nature, forms and functions of human communication. Focuses on conceptualizing communication research problems and selecting appropriate methodologies and analyses for examining communication data.

Prerequisites:

Minimum 6 credits of CMJ and CMJ 222

Course Typically Offered:

Spring

Credits: 3

CMJ 407 - SL - Advanced Topics in Communication and Service Learning

This course uses a service learning approach to learn about contemporary topics in communication studies, including those related to communication and environmental justice, community-based and health advocacy, natural resource management, digital media and urban planning, and related topics. Students build from the communication theory and method from previous CMJ courses to apply these concepts and techniques to an engaged writing project that responds to a community-identified need or problem. Students also practice effective communication to build relationships with partners, communicate in professional settings, and

present their writing and research to multiple audiences.

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:

Minimum 6 credits of CMJ and CMJ 107 or CMJ 221 or CMJ 222

Course Typically Offered:

Fall

Credits: 3

CMJ 417 - Communication and Science, Health, Environment, and Risk (ComSHER)

This course focuses on the mutual influences of communication and specific contexts including science, health, environment, and/or risk. The contextual focus for any given semester will depend on current events and who is teaching the course. This course approaches communication as a practical, constitutive, and ecological process and we pay attention to how specific communication processes shape information sharing, coordinated actions within contexts, and the formation and negotiation of power.

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:

CMJ 201 or CMJ 202 and minimum of 6 credits of CMJ

Course Typically Offered:

Variable

Credits: 3

CMJ 418 - Public Communication of Science and Technology

Explores the structure, meanings, and implications of science communication with public audiences. Introduces current research in the field, and examines the diverse contexts in which communication about science occurs, from the news media, to museums, to movies. Considers the motivations of and constraints on people involved in producing information about science for nonprofessional audiences.

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:

CMJ 201 or CMJ 202 and minimum of 6 credits of CMJ

Course Typically Offered:

Variable

Credits: 3

CMJ 425 - SL: Health Campaigns

This is an online service-learning course that introduces students to the theory, design and implementation of health campaigns. Students will obtain practical, real-world experience working in groups with a community partner on a health campaign, helping to meet a community health need.

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior or senior standing.

Course Typically Offered:

Variable

Credits: 3

CMJ 434 - Editorial and Opinion Writing

Develops skills of persuasive and argumentative writing, with emphasis on disciplined logic, knowledge of subject and alternate points of view.

Prerequisites:

C- or better in CMJ 136

Course Typically Offered:

Spring

Credits: 3

CMJ 435 - Feature Writing

Develops style and proficiency in writing non-fiction newspaper and magazine articles.

Core Curriculum/Core Requirements: [""] Prerequisites:

C- or better in CMJ 136

Course Typically Offered:

Spring

Credits: 3

CMJ 450 - Digital Rhetoric

This course explores how digital technologies shape our communication practices: How we communicate through and about the digital. Applying a rhetorical perspective, the course focuses on how digital technology mediates the ways we obtain and process information, form groups, and participate in democracy.

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:

Minimum 6 credits of CMJ and CMJ 221 or CMJ 222

Course Typically Offered:

Spring

Credits: 3

CMJ 481 - Digital Journalism

Students will conduct intensive digital reporting and production projects on some issue of demonstrated social relevance. Structured opportunities are provided for reflection on the impact of student reporting on the wider community.

Core Curriculum/Core Requirements: [""] Prerequisites:

C- or better in CMJ 237

Course Typically Offered:

Spring

Credits: 4

CMJ 483 - Capstone Seminar in Media Studies

A seminar that draws upon and integrates formal components of students' undergraduate experience. Emphasis on the work of media professionals and on applications of media research and analysis in various contexts.

Core Curriculum/Core Requirements: ["Writing Intensive and Capstone"] Prerequisites:

Junior or Senior Media Studies Majors.

Course Typically Offered:

Spring

Credits: 3

CMJ 484 - Investigative Journalism

Develops professional and analytical skills in investigative journalistic reporting and writing for publication in various media formats, with an emphasis on open records and meetings, research for documentation, ethical responsibilities of investigative reporters, and in-depth presentation of individual projects.

Core Curriculum/Core Requirements: [""] Prerequisites:

C- or better in CMJ 136

Course Typically Offered:

Not regularly offered.

Credits: 3

CMJ 489 - Seminar in Media Ethics and Issues

An advanced level course requiring extensive reading, discussion and research on the mass media and ethics, politics, economics and society.

Core Curriculum/Core Requirements: [" Capstone"] Prerequisites:

C- or better in CMJ 136 or permission, Junior or Senior Journalism Majors

Course Typically Offered:

Spring

Credits: 3

CMJ 492 - Directed Independent Study

For the advanced student desiring to study a particular problem under the guidance of a member of the staff. May be repeated up to 6 credits.

Core Curriculum/Core Requirements: [""] Prerequisites:

Permission of Department Chair.

Course Typically Offered:

Fall & Spring

Credits: 1-3

CMJ 493 - Advanced Topics in Communication

This is an advanced topics course in communication. The topic will address contemporary issues in communication and society and vary depending on the semester and instructor. Students will build from the communication theory and methods introduced in previous CMJ courses and apply these concepts and techniques to communication topics like leadership, organizational change, sustainability, gender and communication, health disparities and equity, and more. Students will also practice effective communication in professional settings. May be repeated for a total number of 3 completions and 9 total credits.

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:

Minimum 6 credits of CMJ and CMJ 221 or CMJ 222

Course Typically Offered:

Variable.

Credits: 3

CMJ 495 - Internship

Approved work experience for departmental majors in the application of communication to practical, theoretical or research problems in any public service agency, business, or other setting approved by the department. Requirements include an initial written application showing the projected experience and its relevance to communication, conferences with faculty supervisor, periodic logs or summaries, plus a final written report. May be repeated up to 6 hours.

Core Curriculum/Core Requirements: [""] Prerequisites:

Permission of Department Chair.

Course Typically Offered:

Fall, Spring, Summer

Credits: 1-3

Communication Sciences and Disorders

CSD 100 - Majoring in Communication Sciences and Disorders

Intended to help first-year students, with an interest in majoring in Communication Sciences and Disorders, adjust to being a college student at the University of Maine during the first semester. In a small and informal class setting, students will learn about university resources and develop skills designed to achieve success. Students will learn more about their intended major, be introduced to department faculty, and the professions of speech-language pathology and audiology.

Core Curriculum/Core Requirements: [""] Prerequisites:

First Year standing in Communication Sciences and Disorders.

Course Typically Offered:

Fall

Credits: 1

CSD 130 - Introduction to Communication Sciences and Disorders

A survey of disorders of speech, language, hearing and swallowing with particular attention to the lived experiences of people with communication impairment as representative of human biological/neurological, linguistic and cultural diversity. Emphasis on exploring the nature of communication impairments and differences across communities (e.g., individuals with autism, Deaf or hard of hearing) and the lifespan.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"] Course Typically Offered:

Fall & Spring

Credits: 3

CSD 201 - Introduction to Clinical Audiology

An introduction to principles of acoustics as a basis for understanding hearing assessment. Development of ability to read and interpret audiograms as well as the results from a hearing evaluation. Includes pure tone and speech audiometry, acoustic immittance and reflex testing.

Core Curriculum/Core Requirements: [""] Prerequisites:
CSD 130

Course Typically Offered:
Fall

Credits: 3

CSD 280 - Language Development

Study of the development of language and literacy from birth to adulthood. Emphasis on foundations of linguistics relative to emerging language in children.

Core Curriculum/Core Requirements: [""] Prerequisites:
CSD 130

Course Typically Offered:
Fall

Credits: 3

CSD 283 - Anatomy and Physiology of the Speech Mechanism

Study of the structures, muscular system, nervous system and underlying mechanisms required for breathing, phonation, articulation and language. Emphasis on normal neurophysiological function with attention to organic pathologies affecting speech and language.

Core Curriculum/Core Requirements: [""] Prerequisites:
CSD 130

Course Typically Offered:
Fall

Credits: 3

CSD 300 - Clinical Observation in Communication Sciences and Disorders

Introduction to principles of clinical observation in Communication Sciences and Disorders emphasizing the development of identification, description, and inferencing skills through supervised observations. Required of all majors.

Core Curriculum/Core Requirements: [""] Prerequisites:
Communication Sciences and Disorders Major, CSD 201, CSD 280

Course Typically Offered:
Spring

Credits: 3

CSD 382 - Phonological Development and Phonetics

Introduction to articulatory phonetics, speech sounds of American English, and typical phonological development. Emphasis on acquisition, understanding and use of phonetic transcription. Includes a weekly 50-minute transcription session.

Core Curriculum/Core Requirements: [""] Prerequisites:
CSD 280

Course Typically Offered:
Fall

Credits: 4

CSD 480 - Language Science

Study of the components of language at the word, sentence, and discourse levels to enable students to apply language analysis techniques used in the field of speech-language pathology to examine oral and written language.

Prerequisites:
CSD 280

Course Typically Offered:
Spring

Credits: 3

CSD 482 - Neuroscience for Communication Disorders

This course introduces students to the study of neuroanatomy and physiology underlying speech and language. The course

focuses on the anatomy and physiology of the nervous systems in normal individuals, and on structures and functions of motor and sensory systems. The relationship between knowledge of the neuroanatomy and physiology as it relates to diagnosis and treatment of various neurogenic disorders will be emphasize.

Core Curriculum/Core Requirements: [""] Prerequisites:
CSD 283

Course Typically Offered:
Spring

Credits: 3

CSD 484 - Introduction to Speech Science

Introduces research findings on the importance of acoustical, physiological, and perceptual factors in speech production and perception. Methodology and instrumentation employed in such research are surveyed.

Core Curriculum/Core Requirements: [""] Prerequisites:
PHY 105 or equivalent and CSD 283 or permission

Course Typically Offered:
Spring

Credits: 3

CSD 487 - Disorders of Speech and Language

A study of the description, evaluation and therapeutic intervention of speech and language disorders in pediatric and adult populations.

Core Curriculum/Core Requirements: [""] Prerequisites:
CSD 280 and Junior standing

Course Typically Offered:
Spring

Credits: 3

CSD 490 - Senior Capstone: The Research Process

Explores the research process in communication sciences and disorders emphasizing principles of research, scientific and professional writing, and the foundations of professionalism and ethical decision making.

Core Curriculum/Core Requirements: ["Writing Intensive and Capstone"] Prerequisites:
Limited to Communication Sciences and Disorders Majors with Senior Standing and at least 9 hours of 300 and/or 400 level CSD coursework.

Course Typically Offered:
Fall

Credits: 3

CSD 497 - Special Topics in Communication Sciences and Disorders

For the advanced student desiring to study a particular topic under the guidance of a member of the CSD faculty. May be repeated for credit if topics differ for a total of 9 completions and 27 total credits.

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission.

Course Typically Offered:
Fall & Spring

Credits: 1-3

CSD 498 - Directed Study in Communication Sciences and Disorders

Directed study or research with a member of the CSD faculty. May be repeated for credit for a total of 9 completions and 27 total credits.

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission.

Course Typically Offered:
Variable

Credits: 1-3

Community Studies

CMY 101 - Introduction to Community Studies

Community is both a fundamental concept and a unit of study in the social sciences. Through an examination of communities past and present the course surveys developments that have shaped the nature and workings of community and it reviews the theories and methodologies that social scientists have developed for community research. The course will be concerned primarily with communities of place with emphasis on the northeastern United Stated, although the concepts and methods discussed could be applied to other forms of community (communities of interest, virtual communities and others). In addition to lectures, media presentations and other in-class activities, students will participate in an applied community-based project. Course assignments may include reading and writing tasks and a hands-on project that will focus on the construction of a local community profile.

Course Typically Offered:

Fall - onsite; Spring - online

Credits: 3

CMY 110 - Downeast Documentary

This course provides the basics of video production, incorporating both lecture and laboratory experience. Students will learn about shot composition, sound, lighting, and editing, all from a digital video format. Students will produce and edit several projects from a variety of media formats, depending on the interests of the student.

Course Typically Offered:

Every Fall

Credits: 3

CMY 300 - Crossing Borders

Crossing Borders is an international learning and teaching module which allows students to discover ways of bringing down barriers and boundaries in a global classroom environment. The participants will cross borders in many ways, because they will cooperate with peers from other countries on joint tasks, communicate in a multinational community and compare ways to empower and include marginalized populations in different countries.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Prospective"]

Prerequisites:

Junior Standing or permission

Course Typically Offered:

Every Fall

Credits: 3

Computer Science

COS 100 - Success in Computer Science

Orientation to college, particularly for those majoring in computer science. Introduction to the campus, resources available to students, and to the UMaine academic community. Introduction to the School of Computing and Information Science (SCIS), including the people, physical and computational facilities, and available resources for success. Introduction to computer science as a major, field, and a future career. Introduction to majoring in computer science, including techniques and strategies for success, both in general and in the major. Introduction to the College of Liberal Arts (CLAS), its characteristics, values, people, and academic community.

Core Curriculum/Core Requirements: [""] Prerequisites:

First year students with declared COS major.

Course Typically Offered:

Fall

Credits: 1

COS 103 - Introduction to Spreadsheets

Topics include design and use of spreadsheets to solve problems using formulas, charts and data functions. Credit does not count towards the COS major. This course assumes practical skills with the Windows operating system.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall, Spring, Summer

Credits: 1

COS 121 - Coding for Everyone

This course introduces computer programming within a specific application domain, with the domain topic changing semester to semester. Possible applications might include Mobile App development, Data Science, Social Media, Geographic Data, Design, or Life Science. The development process for computer programs will be explored with the goal of creating concrete programs to solve real problems. The course will also cover fundamental computer programming concepts, such as variables, functions, loops, conditionals, input/output, and data types. No prior programming experience is expected.

Core Curriculum/Core Requirements: ["Quantitative Literacy"] Prerequisites:

None

Course Typically Offered:

Fall and Spring

Credits: 3

COS 125 - Introduction to Problem Solving Using Computer Programming

An introduction to computer science through problem solving and computer programming. Topics include variable and operators, control logic, functions, strings, loops, input/output, and recursion. Programming concepts covered by this course include modularity, abstraction, top-down design, specifications, documentation, debugging, and testing. No prior programming experience is expected. Required for majors.

Core Curriculum/Core Requirements: ["Quantitative Literacy"] Prerequisites:

A grade of C or better in MAT 111 or higher, or no grade record in MAT 111 and a 61 or higher on the ALEKS Math Placement Exam.

Course Typically Offered:

Fall and Spring

Credits: 4

COS 135 - Applied C Programming

Studies the C programming language, introduces concepts in computer hardware and operating systems to support discussion of how a computer program is represented from the machine layer to the application layer.

Core Curriculum/Core Requirements: [""] Prerequisites:

Grade of C- or higher in COS 140 and either COS 121 or COS 125

Course Typically Offered:

Spring & Fall

Credits: 3

COS 140 - Foundations of Computer Science

A rigorous, non-programming introduction to the field of computer science. Several core areas of computer science are introduced, including digital logic, computer organization and architecture, operating systems, programming languages, and computer networks. For each, particular solutions to fundamental problems in the area are studied in depth to expose the student to what the field is actually about how computer scientists think. No programming is taught or required in the course.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall & Spring

Credits: 3

COS 198 - Topics in Computer Science

Introductory topics in computer science not regularly covered in other courses. Content varies to suit current needs. May be repeated for credit if topics differ for a total of 9 completions and 27 total credits.

Core Curriculum/Core Requirements: [""] Prerequisites:

Permission.

Course Typically Offered:

Not Regularly Offered

Credits: 1-3

COS 200 - CS as a Profession

This course introduces students to professional development for computer science students. We will cover the writing of resumes

and applying for professional summer internships. We will also cover what a career in CS might be beyond just programming computers. We will visit a CS research lab and discuss emerging technologies such as machine learning and what it will mean to a CS graduate. Finally, we will spend some time reviewing the BS-CS and BA-CS undergraduate curriculum and help students to plan their enrollment meetings with their academic advisors.

Prerequisites:
COS 140 or permission

Course Typically Offered:
Fall

Credits: 1

COS 220 - Introduction to C++ Programming

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Topics include programming techniques with a brief introduction to hardware concepts as they apply to software development. Students are assigned programs emphasizing numerical algorithms for implementation in the C++ language. Assumes knowledge of the Windows operating system, basic word processing, and file and folder management. Some prior experience in programming logic, macros, or scripting is recommended.

Core Curriculum/Core Requirements: ["Quantitative Literacy"] Course Typically Offered:
Spring

Credits: 3

COS 225 - Object-Oriented Design, Programming and Data Structures

Introduces the student to the fundamental principles of object-oriented design and programming using a high-level object-oriented language. Focuses on the specification, design, and implementation of classes and the interactions between classes, inheritance, abstract classes, and polymorphism. Introduces fundamental data structures including stacks, queues, lists, and binary trees.

Core Curriculum/Core Requirements: [""] Prerequisites:
Grade of C or higher in COS 125

Course Typically Offered:
Fall and Spring

Credits: 3

COS 226 - Introduction to Data Structures and Algorithms

Introduction to the fundamental principles of data structures, including their use, specification, and implementation, as well as fundamental principles of algorithms related to data structures. Data structures covered include lists, trees, graphs, and hash tables. Also covers fundamentals of algorithm analysis and a basic introduction to NP-completeness.

Core Curriculum/Core Requirements: [""] Prerequisites:
C or higher in COS 225.

Course Typically Offered:
Fall and Spring

Credits: 3

COS 235 - Computer Architecture

Examines the architecture and organization of the computer including digital logic, the CPU, busses, internal and external memory, computer number representation and computer instructions. Particular attention is paid to assembly and C languages as a mechanism for better understanding the architecture.

Core Curriculum/Core Requirements: [""] Prerequisites:
Grade of C- or higher in COS 135

Course Typically Offered:
Spring & Fall

Credits: 3

COS 250 - Discrete Structures

Introduction to discrete structures used in various areas of computer science. Topics include logic, sets, relations, functions, cardinality, enumeration, and computability.

Core Curriculum/Core Requirements: [""] Prerequisites:

Grade C or in MAT 116 or MAT 126, and grade of C- in either COS 125 or ECE 177

Course Typically Offered:

Fall

Credits: 4

COS 298 - Topics in Computer Science

Introductory topics in computer science not regularly covered in other courses. Content varies to suit current needs. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

Permission.

Course Typically Offered:

Variable

Credits: 1-3

COS 301 - Programming Languages

Introduction to the fundamental concepts of formal languages, as well as the evolution and characteristics of major programming languages. Topics include finite-state automata, regular expressions, parsing, syntax and semantics, scope and binding, data types, and abstract data types.

Core Curriculum/Core Requirements: [""] Prerequisites:

Grade of C- or higher in COS 226 and COS 250

Course Typically Offered:

Fall & Spring

Credits: 3

COS 312 - Video Game Programming

A high-level approach to game programming uses one of the game engines commonly employed by game-development companies. These include several built-in tools, such as character controllers, cameras, lights, shaders, a powerful physics engine, terrain editors, tree generators, and more. Many of these are scripts are written in a common computer programming language. While many of the exercises focus on programming, a student who is a beginning programmer can create significant game content using only the pre-packaged assets.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in COS 225 or NMD 211

Course Typically Offered:

FALL

Credits: 3

COS 320 - Client-Side Web Development Languages

This course explores development and integration of client-side development languages for web project creation. Projects integrate programming concepts within web scripting and tag based/mark-up languages to create responsive and interactive web sites. Project management and creation will include manipulating the DOM via industry standard client-side development languages, with a focus on programming aspects of font-end development languages. Course topics current HTML, CSS, scripting languages, pre-processed CSS, JSON, libraries, frameworks, resource management, and flexible design.

Prerequisites:

COS125 and COS225, or NMD105 and NMD 211, or Instructor Approval

Course Typically Offered:

Variable

Credits: 3

COS 331 - Operating Systems

Study of the structure of current computer operating systems. Topics include I/O management, memory management, multiprogramming, linking loaders, real and virtual systems, batch and time sharing.

Core Curriculum/Core Requirements: [""] Prerequisites:

Grade of C- or higher COS 226 and COS 235 or permission.

Course Typically Offered:
Fall & Spring

Credits: 3

COS 397 - Computer Science Capstone 1

The first of a two-course sequence, designed to guide students in proposing the Capstone project in either an independent study, group project, or field experience format. The focus is on the early stages of project work, including finding a suitable topic and project advisor, investigating related work, and writing a thorough project proposal. The relevant skills are covered and practiced by studying a collection of classic and topical papers.

Core Curriculum/Core Requirements: ["Upon completion of the two course sequence (COS 397 & COS 497)' , 'satisfies the General Education Capstone Experience Requirements."] Prerequisites:
Grade of C- or higher in COS 420 and senior standing

Course Typically Offered:
Fall

Credits: 3

COS 398 - Topics in Computer Science

Topics not regularly covered in other courses. Content varies to suit current needs. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission

Course Typically Offered:
Variable

Credits: 1-3

COS 412 - Advanced Game Programming

Building on tools acquired in COS 312, this course's only prerequisite, students explore an advanced topic of their own choosing as they build their full final game. Possible topics include advanced Artificial Intelligence scripting, pathfinding, networked games, 3D character rigging and animation, use of virtual reality goggles, and much more. With weekly in class presentations, students document their progress and communicate their new tools to the rest of the class. The final game is presented to the class, where other students will test each game.

Core Curriculum/Core Requirements: [""] Prerequisites:
Grade of C- or higher in COS 312

Course Typically Offered:
Spring

Credits: 3

COS 415 - Computer Simulation and Modeling, from Development to Display

The process of designing and using a computer model is examined in detail. The development of the model equations, numerical techniques for solving them, and basic graphical techniques for displaying the results of the calculations will be presented.

Core Curriculum/Core Requirements: [""] Prerequisites:
Familiarity with a programming language or permission

Course Typically Offered:
Variable

Credits: 3

COS 417 - Spatial Interaction Design

The objective of this course is to provide a hands-on experience of interaction design research practice focusing on interactive prototype construction. The principles and technologies of interaction design will be learned through adding expressive interactions to objects and spaces around us (spatial interactions). Interaction Design (IxD) discovers people's needs, understands the context of use, frames product opportunities, and proposes useful, usable, and desirable (usually digital) products. Interaction designers often work with narrative to explore and refine desired behaviors and user experience.

Core Curriculum/Core Requirements: [""] Prerequisites:
Grade of C- or higher in COS 226 or permission

Course Typically Offered:
Variable

Credits: 3

COS 420 - Introduction to Software Engineering

A broad view of software engineering which introduces a variety of software engineering techniques which can be applied to practical software projects. Topics include process models, human factors, software specification; software design, programming techniques and tools, and validation.

Core Curriculum/Core Requirements: [""] Prerequisites:
Grade of C- or higher in COS 225

Course Typically Offered:
Spring & Fall

Credits: 3

COS 430 - Introduction to Cybersecurity

An overview of Cybersecurity as information security, policies, guidelines, and legal issues; the nature of network and computer attacks, system vulnerabilities and defense; implementation issues in Unix/Linux. Projects include system setup, attack, and defense.

Core Curriculum/Core Requirements: [""] Prerequisites:
Grade of C- or higher in COS 235 and COS 331.

Course Typically Offered:
Spring & Fall

Credits: 3

COS 435 - Information Privacy Engineering

Overview of the current privacy (and security) regulations across the world and the associated privacy (and security) challenges, methodologies and algorithms for applications ranging from Cyber-Physical Systems, the Internet of Things, Android/iOS applications, and machine learning models.

Core Curriculum/Core Requirements: [""] Prerequisites:
Grade of C- or higher in COS 420

Course Typically Offered:
Variable

Credits: 3

COS 440 - Computer Networks I

Covers data and computer communications using ISO model. Discussion of physical media, communication protocols, and network architectures including wide area and local area networks. Includes examples of networks currently in use.

Core Curriculum/Core Requirements: [""] Prerequisites:
Grade of C- or higher in COS 331 or permission.

Course Typically Offered:
Variable

Credits: 3

COS 442 - Cloud Computing

The National Institute of Stands and Technology (NIST) defines cloud computing as "a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction." This course will study the technologies underpinning the rapid expansion of this computing paradigm, the problem-solving capabilities enabled by the cloud, and provide the student with hands-on experience in utilizing cloud services for scientific research. It will focus on the virtualization of computational resources, cloud storage models, distributed computing in the cloud, and important applications areas such as big data analytics.

Core Curriculum/Core Requirements: [""] Prerequisites:
A grade of C- or higher in COS 331 or equivalent

Course Typically Offered:

Variable

Credits: 3

COS 451 - Automata, Computability, and Languages

Fundamentals of formal languages and the mathematical theory of computation; finite-state automata, nondeterminism, regular expressions, and Kleene's Theorem; context-free grammars, pushdown automata, the correspondence theorem and the pumping lemma; computability, Turing machines, and the halting problem.

Core Curriculum/Core Requirements: [""] Prerequisites:

Grade of C- or higher COS 301

Course Typically Offered:

Fall, Even Years

Credits: 3

COS 454 - Data Structures and Algorithms

Covers advanced data structures and the algorithms associated with them as well as advanced methods of algorithm analysis, including time and space complexity classes and NP-completeness.

Core Curriculum/Core Requirements: [""] Prerequisites:

Grade of C- or higher in COS 226 and COS 250

Course Typically Offered:

Fall, Odd Years

Credits: 3

COS 460 - Interactive Computer Graphics

Topics include graphic I/0 devices: plotter, CRT, and light pen; vector generation; transformation of two/and three-dimensional objects; clipping and windowing; hidden line removal; interrupt handling; interactive techniques; data structures for graphics; and various display algorithms.

Core Curriculum/Core Requirements: [""] Prerequisites:

COS 226 or equivalent and MAT 126 and junior standing or permission.

Course Typically Offered:

Variable

Credits: 3

COS 465 - Data Visualization

Introduction to the goals, techniques, implementation, and evaluation of visual representations for large quantities of data. Students work with a team to produce a novel visualization solution for a client with application domain data and goals. COS 465 and COS 565 cannot both be taken for credit. COS 465 and COS 565 cannot both be taken for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

Grade of C- or higher in COS 226 or permission

Course Typically Offered:

Spring

Credits: 3

COS 470 - Introduction to Artificial Intelligence

Introduces the student to the field of artificial intelligence, including fundamental areas and concepts such as heuristic search, knowledge representation, automated reasoning and planning, deep learning, intelligent agents, and multiagent systems. Experience in AI programming is provided by homework assignments and a semester project.

Core Curriculum/Core Requirements: [""] Prerequisites:

Grade of C- or higher in COS 226

Course Typically Offered:

Variable

Credits: 3

COS 473 - Computer Vision

Computer Vision is an accessible sub-field of computer science that is rising in importance and accelerating on the strengths of machine learning methods that have become the 21st century model for artificial intelligence. In this course, we will explore the

uses of tools and techniques to understand our world through computing using images as our data. The first half of the course will introduce machine learning and convolutional neural networks for object recognition and classification, photogrammetry and reconstruction, and multimodal and hyperspectral imaging. As the course progresses, we will delve into the topics of image acquisition, mathematical analysis, the Fourier transform and frequency space, statistical pattern recognition, and other foundations of the field.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C or better in COS 226 or permission of the instructor

Course Typically Offered:

Variable

Credits: 3

COS 475 - Machine Learning

Machine Learning is the study of how to build computer systems that learn from experience. It is a subfield of Artificial Intelligence and requires a good background knowledge in linear algebra (LA) and probability. The course will explain how to build systems that learn and adapt using examples from real-world applications. Main topics covered in this course include supervised learning such as classification and regression, lasso, feature selection, neural networks, random forest, support vector machines, unsupervised learning like PCA, clustering, and GMM, deep convolutional neural network, generative adversarial networks, reinforcement learning, etc. COS 475 and COS 575 cannot both be taken for credit.

Prerequisites:

COS 226 and MAT 262 (or MAT 258) and STS 235 (or STS 332 or STS 435)

Course Typically Offered:

Spring

Credits: 3

COS 478 - Introduction to Private Machine Learning (AI)

Overview of the role of AI and Machine Learning in improving understanding privacy concepts as well as learning how to develop privacy-preserving and fair data-intensive applications. Topics include Information privacy Fundamentals, differential privacy and its variants; algorithmic tools for differential privacy; applications of differential privacy; and differential privacy in industry.

Core Curriculum/Core Requirements: [""] Prerequisites:

COS 225 and STS 235 or STS 332

Course Typically Offered:

Variable

Credits: 3

COS 480 - Database Management Systems

Covers database management systems from the perspective of database designers and database application programmers. Topics include Entity-Relationship modeling, relational databases, transactions and isolation, and Web-database applications. Includes both individual programming assignments and semester-long group projects culminating in demonstrations of substantial database application.

Core Curriculum/Core Requirements: [""] Prerequisites:

Grade of C- or higher in COS 301 or permission.

Course Typically Offered:

Variable

Credits: 3

COS 482 - Introduction to Data Science

Data are everywhere - in every walk of life, people leave digital traces, which are stored and analyzed at both individual and population levels, by businesses for improving products and services, by governments for policy-making and national security, and by scientists for advancing the frontiers of human knowledge. This course serves as an introduction to various aspects of working with data, including data acquisition, cleaning, integration, querying, processing, analysis, and visualization, and data of different types - from structured databases to unstructured images/text. In particular, the course covers both fundamental concepts and computational tools for working with data, and applies them to real datasets and real-world problems.

Course Note: COS 582 and COS 482 can not both be taken for degree credit.

Core Curriculum/Core Requirements: [""] Prerequisites:
COS 226 and ability to code in Python; or instructor permission

Course Typically Offered:
Variable

Credits: 3

COS 490 - Computers, Ethics and Society

Consideration of human and social consequences of technological development and application of computers, ethical questions of computer use, professional ethics.

Core Curriculum/Core Requirements: ["Ethics and Writing Intensive Requirements."] Prerequisites:
Grade of C- or higher in COS 226 and Junior Standing or permission

Course Typically Offered:
Fall & Spring

Credits: 3

COS 495 - Field Experience

A pre-planned work experience of no less than ten and preferably more weeks in a commercial environment, with faculty supervision. Normally a paid work experience. A presentation open to interested faculty, staff and students might be required at the completion of the project. May be repeated for a maximum of 3 credit hours. (Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:
Normally a student must complete COS 301, COS 420, COS 431 and preferably COS 350, with at least a grade of "C" and permission.

Course Typically Offered:
Not Regularly Offered

Credits: 1-3

COS 497 - Computer Science Capstone 2

The second of a two-course sequence, designed to guide students in completing the Capstone project in either an independent study, group project, or field experience format. The focus is on the later stages of project work, including completing the programming tasks, evaluating the implemented systems, documenting all work in a project report, demonstrating the work in action, and making a public oral presentation. The relevant skills are covered and practiced by studying a collection of classic and topical papers.

Core Curriculum/Core Requirements: ["Upon completion of the two course sequence (COS 397 & COS 497)' , 'satisfies the Capstone Experience Requirements. "] Prerequisites:
COS Majors with Senior standing and a grade of C- or better in COS 397 and permission

Course Typically Offered:
Spring

Credits: 3

COS 498 - Topics in Computer Science

Topics not regularly covered in other courses. Content varies to suit current needs. May be repeated for credit, if topics differ, for a total of 9 completions and 27 total credits.

Core Curriculum/Core Requirements: [""] Prerequisites:
Department Consent

Course Typically Offered:
Variable

Credits: 1-3

COS 499 - Senior Project

An undergraduate research project in computer science under the direction of an approved advisor. An individual or small group will work on the conception, design and implementation of a significant computer science project. A presentation, open to interested faculty, staff and students may be required at the completion of the project.

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:
Permission.

Course Typically Offered:
Fall, Spring, Summer

Credits: 3

Computer Studies

CIS 150 - Introduction to Data Science

Data science is the newest trend in the modem world and a signal of a shift in science as we are immersed in the computing age. Data science teaches us how to think from the lens of data and apply the scientific method through data. This survey course is designed to give students a sweeping perspective of the elements of data science and how that field impacts the modem world and will continue to impact the future.

Course Typically Offered:
Fall

Credits: 3

CIS 218 - Introduction to SQL

This course is intended to introduce and develop usage of SQL, the gold-standard for database query languages. The course will start with the basic foundation of relational databases as a springboard for learning the ins and outs of querying with SQL. Students will learn to execute and design simple queries, joins, set theory, and be exposed to other dialects of SQL that extend its utility.

Prerequisites:
CIS 150 or CIS 255

Credits: 3

CIS 255 - Database Design

This course is an introduction to relational database design and structured query language. The student will learn the principles of database design to include database modeling, normalization through 3rd Normal Form and then will learn basic ANSI Standard Structured Query language to interface with a database. Application interface to the database will be demonstrated.

Prerequisites:
CIS 150

Course Typically Offered:
Fall

Credits: 3

CIS 352 - Data Visualization

The use of visualization techniques to aid understanding, analysis of complex data, and to information important decisions is increasingly employed by many disciplines. This course will cover how to best represent different sets of data through: understanding human perception, careful analysis of data types, creation of visual representation techniques, and evaluation of information in its visualized format for cognitive understanding and implied meaning. Students will engage in visualization creation using different data sets, implementation protocols and techniques to create basic presentations to more complex data visualizations. ·Topics covered include: basic issues in representation, encoding data, presentation challenges and different interaction frameworks.

Prerequisites:
CIS 150 or permission

Course Typically Offered:
Every Fall

Credits: 3

CIS 353 - Principles of Human Computer Interaction and User Design

Human computer interaction is the study of how a user interacts with a computer, leading to important aspects of functional design. In this course, we focus on issues of sensory perception from the audio, visual, and tactile channels as well as the interaction of these concepts with the world of computing. This course is required of all students in the software development and web development concentrations.

Prerequisites:

Any 200 level programming course or permission of instructor.

Credits: 3

CIS 355 - Introduction to Sensors

Sensors are one of the foundational drivers of the proliferation of big data in the modern world. Sensors help us to monitor our environment, augment our existing bodily sensors, and set the stage for interpretation of data through informatics. Students will be introduced to theories of measurement, types of sensing devices, the basics of physics and chemistry, and the notion of uncertainty. Students will complete hands-on projects utilizing an Arduino sensor platform.

Prerequisites:

Any PHY or CHY course or Permission

Course Typically Offered:

Summer only

Credits: 3

CIS 449 - Introduction to Programming and Data Analysis

This course is intended to introduce students to R, an open-source and evolving programming language for applied scientific pursuits, most notably data science, bioinformatics, spatial informatics, and business analytics. This course will cover the basics of using R, elementary data structures within R, accessing and writing functions, scripts, and libraries, and also beginner aspects of data visualization, geospatial analysis, interfacing with SQL, twitter analysis, network analysis, and package writing.

Prerequisites:

CIS 255 or CIS 352 or permission

Credits: 3

CIS 461 - Spatio-Temporal Information Science

Space and time are fundamental concepts of how humans process information and seek to understand data. This course offers the theoretical issues and applied practices that can impact our computational understanding of space and time. Topics covered include databases, spaces, modeling, representation, algorithms, data structures, architectures, interfaces, reasoning, and uncertainty in both space and time.

Credits: 3

Construction Engineering Technology

CET 100 - Introduction to Construction Engineering Technology

An introductory study of the construction process and civil engineering technology. Topics include CET program, project life cycle, estimating, scheduling, design, contracting and ethics and construction overview. Field trips. LAB 3. Students who take CET 100 after CIE 100 will only receive credit and grade for CET 100.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall

Credits: 1

CET 101 - Plane Surveying

A beginning course studying surveying instruments and their use in the measurement of angles, distances and elevations. Also includes mathematics, computational methods, adjustments and measurement analysis used in plane surveying. Students who take CET 101 after SVT 102 will only receive credit and grade for CET 101.

Core Curriculum/Core Requirements: [""] Prerequisites:

SET and College of Engineering Students or Permission.

Corequisites:

MAT 122

Course Typically Offered:

Spring

Credits: 3

CET 202 - Construction Layout

Study of techniques and tools used to layout construction projects. Includes project control, site staking, road staking, building layout, volume calculations, and as-builts. Labs will utilize auto levels, laser levels, total stations, and GNSS rovers.

Core Curriculum/Core Requirements: [""] Prerequisites:

CET 101

Course Typically Offered:

Fall

Credits: 3

CET 221 - Construction Methods

A study in construction operations. Topics include: earthwork equipment and operations; excavations and foundations; and reinforced concrete, masonry, and structural steel construction. Course includes a lab covering digital material quantity takeoff and significant group project components.

Core Curriculum/Core Requirements: [""] Prerequisites:

CET 228 (may be taken concurrently)

Course Typically Offered:

Spring

Credits: 4

CET 224 - Construction Safety

This course covers employee safety from a construction management perspective, including excavation, trenching, fall protection, scaffolding, training, responsibility for safety, accident investigation, and pertinent regulations (OSHA and State Department of Labor). It will also examine safety aspects of worker's compensation, liability, employee behavior, and time management.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall and Spring

Credits: 3

CET 228 - Introduction to Construction Estimating and Planning

This course covers construction plan reading, including organization, standard views and drawing conventions. Methods and practices of material quantity takeoffs and development of work breakdown structures will be explored and practiced.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall and Spring

Credits: 3

CET 325 - Construction Estimating

This course covers estimating construction quantities and prices for earthwork and building construction. This project-led, group-work based class will culminate in bid portfolios and bid openings for both an earthwork and building construction project.

Core Curriculum/Core Requirements: [""] Prerequisites:

CET 221 & CET 228

Course Typically Offered:

Fall

Credits: 3

CET 326 - Soil Mechanics and Foundations

Introduction to the physical properties of soil important to the construction industry. Includes classification systems, drainage, frost action, slope stability and shallow foundations. Lec 3. Students who take CET 326 after CIE 365 will only receive credit and grade for CET 326

Core Curriculum/Core Requirements: [""] Prerequisites:

CIE 110 and CIE 111. Prerequisite or Corequisite: CET 327.

Course Typically Offered:

Fall

Credits: 3

CET 327 - Soil Mechanics and Foundations Laboratory

Covers standard soils tests that are important to the construction industry. Lab 2. Students who take CET 327 after CIE 366 will only receive credit and grade for CET 327.

Core Curriculum/Core Requirements: [""] Prerequisites:

CIE 110 and CIE 111. Prerequisite or Corequisite: CET 326.

Course Typically Offered:
Fall

Credits: 1

CET 332 - Public Policy and Civil Infrastructure

This course covers topics in civil infrastructure such as transportation, stormwater, wastewater, erosion, and other infrastructure topics, and their intersections with public policy. This course will examine how public policy, funding, permitting, and other factors impact civil infrastructure.

Core Curriculum/Core Requirements: [""] Prerequisites:
Junior standing, CET major or minor, or permission

Course Typically Offered:
Spring

Credits: 3

CET 356 - Construction Project Administration

This course covers contractual execution practices, including formal correspondence, specifications, general conditions, change orders, negotiations, submittals, warranty, safety and management plans, and contemporary topics in construction administration.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
ENG 317 and Junior Standing or Permission.

Course Typically Offered:
Spring

Credits: 3

CET 360 - Preconstruction Services

This course covers construction services between estimating and the start of construction. Topics will include bid preparation, bonding, subcontractor procurement and approvals, preconstruction planning, preconstruction documents, and executing construction contracts. This course culminates in capstone requirements for the fall capstone experience course, CET 458. There is a lab associated with this course which includes significant group project components.

Core Curriculum/Core Requirements: [""] Prerequisites:
CET221, CET325, and CET Major

Course Typically Offered:
Spring

Credits: 4

CET 394 - Construction Engineering Technology Practice

The academic preparation in the spring semester will consist of project management and leadership development. This aspect will consist of two credit hours. The summer aspect will be an additional one credit hour for students to experience the actual professional construction administration environment. The experience will give students practical application of project management as it relates to workforce and professional peer interaction.

Core Curriculum/Core Requirements: [""] Prerequisites:
Junior or senior standing in Construction Engineering Technology or permission.

Course Typically Offered:
Spring

Credits: 2

CET 395 - Construction Engineering Technology Practice Lab

This course is cooperative work experience at full-time employment for at least a continuous 10 week period.

Prerequisites:
CET 394

Course Typically Offered:
Summer

Credits: 1

CET 412 - Sustainable Building Design and Construction

Using the United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) framework as an outline, this course covers green building practices for design and construction. Green building practices are healthier for people, better for the environment, and economically profitable.

Core Curriculum/Core Requirements: ["Population & Environment"] Prerequisites:

Junior Standing.

Course Typically Offered:

Fall & Spring

Credits: 3

CET 413 - Statics and Strength of Materials

The study of the equilibrium of structural systems and the stresses and strains that occur in structural members. Provides the knowledge of structural analysis required as a prerequisite to CET 414.

Core Curriculum/Core Requirements: [""] Prerequisites:

PHY 107 or PHY 121 and MAT 116 or MAT 126

Course Typically Offered:

Spring

Credits: 4

CET 414 - Structural Design

Design of structural members in steel, wood and reinforced concrete. Covers building code requirements for dead, live and snow loads.

Core Curriculum/Core Requirements: [""] Prerequisites:

CET 228 and CET 413

Course Typically Offered:

Fall

Credits: 4

CET 425 - Virtual Design and Construction

This course is an introduction to virtual design and construction (VDC) management processes and technology, which are modern approaches and tools for building project delivery and three-dimensional visualization. Building Information Modeling (BIM) applications and associated software are explored.

Core Curriculum/Core Requirements: [""] Prerequisites:

CET 356 or instructor permission.

Course Typically Offered:

Spring

Credits: 3

CET 426 - Heavy Construction QA

Quality Assurance is an integral part of any construction project and is a partnership between the Contractor and the Owner. Controlling the quality of work and materials, testing the materials with qualified personnel and laboratories, and resolving disputes between the Contractor and Owner as well as documentation of these activities are a significant portion of project work. This course will cover Quality Assurance, hot mix asphalt pavement, specialty topics in concrete, and contentious communication and ethics in construction.

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior Standing

Course Typically Offered:

Spring

Credits: 3

CET 427 - 3D Modeling for Heavy Civil Construction

This course is an introduction to 3D data used in heavy civil construction. In this course, we will be learning about the models used in heavy equipment for machine automation and guidance. We will use software to build these models and see what it takes to manage this data for a project.

Prerequisites:

CET 202 or permission

Course Typically Offered:

Fall

Credits: 3

CET 455 - Construction Engineering Fundamentals

The course introduces topics in the Civil Discipline Fundamentals of Engineering (FE) examination that are not otherwise covered in the Construction Management Technology (CMT) program. Civil Discipline FE Exam topics that are covered in the CMT program are reviewed. The course consists of lecture with problem solving similar to the format used on the FE exam. Significant portions of the course may be delivered online.

Core Curriculum/Core Requirements: [""] Prerequisites:

Senior standing in Construction Engineering Technology or permission.

Course Typically Offered:

Spring

Credits: 3

CET 458 - SL: Management of Construction

This is the capstone course for the Construction Engineering Technology (CET) program, providing the opportunity for students to apply and practice many aspects learned in previous courses, including development and professionally executed construction of community service projects. In addition, contemporary construction practices are discussed.
Lecture 2 Lab 2

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:

CET 202, CET 224, CET 360 and CTE Major or permission

Course Typically Offered:

Fall & Summer

Credits: 3

CET 462 - Construction Planning and Scheduling

A study of design and analysis of construction planning and scheduling for construction projects. Manual and computer assisted procedures are used, as well as, industry software to solve construction scheduling problems, such as resource constraints and limitations. Project control systems are also studied. Lec 2, Lab 2.

Prerequisites:

CET 360 or CET minor

Course Typically Offered:

Fall

Credits: 3

CET 498 - Selected Topics in Construction Engineering Technology

Topics in Engineering Technology not regularly covered in other courses. Content varies to suit individual needs. May be repeated for credit if topics differ.

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior or Senior Standing; permission of instructor.

Course Typically Offered:

Fall & Spring

Credits: Ar

Cooperative Education

COE 201 - Cooperative Education I

The purpose of the Cooperative Education/Internship program is to provide practical experiences for students that complement their academic studies and introduce them to the world of work with its corresponding professional activities. These work-based learning experiences promote the application of theoretical knowledge and research skills acquired in the classroom to a productive and supervised experiential work site outside the formal classroom environment. Cooperative education and internships assist students in the career development process by enabling them to examine their abilities, values, and interests while applying them to an actual career experience.One distinction between cooperative education and an internship is that co-op assignments are,

more often than not, paid work experiences. Internships usually are non-paid, volunteer assignments and are often combined with additional readings and research. The granting of academic credit for an approved work experience is determined by the student's faculty sponsor and the university coordinator after an examination of the following criteria: nature of the work to be performed, the proposed learning objectives, the number of weeks involved, and the anticipated hours per week. (Note: Students must generally work 70 hours for each credit earned, but these hours must be relevant to the stated learning objectives.) Students must apply to the coordinator for cooperative education/internship before registering for the class. It is strongly recommended that planning and application for all cooperative education and internship experiences begin during the semester prior to participation. Many fields of study require as a condition of graduation the completion of one or more training programs or courses in an outside clinical or professional setting, such as a hospital, clinic, professional office, or public classroom. These outside institutions, offices, and schools that provide the environmental opportunities to students sometimes impose additional requirements as conditions of participation in their programs. Such requirements might include evidence of a recent medical examination; evidence of health, auto or other insurance; a written agreement to personally accept and abide by the rules and regulations of that institution; the execution of an indemnity agreement or release relative to personal liability or liability to others; and similar requirements pertinent to the particular study program. The University assumes assent and compliance to such requirements, rules, and regulations by each student upon his or her enrollment in those courses involving outside study. Basic, entry-level work-learning experience in an institution and/or business that relates to the student's career interests or academic field.

Prerequisites:

Open to students who have completed a minimum of 18 credit hours or permission of the instructor

Course Typically Offered:

Every Fall and Spring

Credits: 1 -12

COE 301 - Cooperative Education for ORL Majors

This course is meant to provide a professional experience for students in the Outdoor Recreation and Leadership (ORL) program. These work-based learning experiences promote the application of theoretical knowledge and research skills acquired in the classroom to a productive and supervised experiential work site outside the formal classroom environment. This may be a volunteer or paid position, but must entail a minimum of 10 weeks and 400 hours. Students must meet with their faculty advisor and/or the Cooperative Education (Co-op) Coordinator to develop specific learning objectives and identify management and leadership opportunities and/or special projects to be completed. These objectives must be approved by both the Co-op Coordinator and the student's employer/supervisor prior to registration. Upon completion of the field experience, students will submit a portfolio, including a final paper, and do a formal presentation about their learning experience.

Prerequisites:

Department consent

Course Typically Offered:

Every year

Credits: 3-6

COE 305 - Internship in Science

A professional experience for the student who has identified a specific career objective and is interested in gaining significant and extensive experience in that science-related field. A formal approval process is followed in which students meet with the faculty advisor with expertise in the area of interest and specify individual learning outcomes for the experience. This approval process precedes registration. A student will be required to complete 40 hours of supervised work for each credit earned. A summative report addressing how the student met the learning outcomes is expected at the end of the experience.

Course Typically Offered:

By Arrangement

Credits: 3 - 9

COE 313 - Community Experience: Internship & Seminar

This course is meant to provide a professional experience for the student who has identified a specific career objective or graduate school objective and is interested in gaining significant experience in that field. This may be a volunteer or a paid position and may be combined with additional readings and literature research related to either the position itself or the student's specific career objective. A formal approval process is followed in which students meet with the faculty advisor with expertise in the area of interest and specify individual learning objectives for the community experience. The approval process precedes registration. After approval, students will attend a mandatory orientation workshop/meeting prior to the community experience and upon completion will attend a mandatory summative workshop/meeting. This course includes a Service-Learning and Community Engaged (SL/CE)

component.

Prerequisites:
Sophomore standing.

Course Typically Offered:
Every Fall and Summer

Credits: 3

COE 403 - Internship and Professional Seminar

This course provides a professional experience in visual arts and/or creative writing that can help students identify career or graduate school objectives. Professional experience may consist of either a volunteer or paid position working with a business or nonprofit organization or else a position of artist working with the UMM Gallery Director to curate a show. A minimum of 90 hours of internship work is required along with four seminar sessions in which students reflect on their experience and the critical issues relevant to the fields of visual arts and creative writing.

Core Curriculum/Core Requirements: ["Capstone and Service Learning in Major"] Prerequisites:
Junior-level standing in the Creative Arts Program

Course Typically Offered:
Spring

Credits: 3

Criminal Justice

CRJ 114 - Survey of Criminal Justice

This course is designed to provide an overview of the justice process and the criminal justice system in general. Concepts of crime, deviance and justice will be discussed. Individual rights in a democratic society will be explored, as will the legal definitions of various crimes. The law enforcement, judicial, juvenile justice and corrections subsystems will also be explored, and a number of reform proposals presented.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Course Typically Offered:
Fall & Spring

Credits: 3

CRJ 201 - Ethics in Criminal Justice

This course examines current issues of ethics in criminal justice. The major focus is to develop a general understanding of ethics, decision-making, actions and thought processes within the criminal justice system. This course will include law enforcement scenarios and allow students to make their own decisions and justify them while staying within the boundaries of the law and professional codes of ethics.

Core Curriculum/Core Requirements: ["Ethics"] Course Typically Offered:
Variable

Credits: 3

CRJ 214 - Introduction to Criminology

This course examines the causes, extent, and nature of crime in American society. Emphasis given to the measurement of crime, the social patterning of criminal behavior, theories of criminal behavior, and the dynamics of types of crime.

Core Curriculum/Core Requirements: [""] Prerequisites:
CRJ 114 or SOC 101

Course Typically Offered:
Fall & Spring

Credits: 3

CRJ 219 - Police and Society

This course will provide students an overview of the history and evolution of the American police system. Topics will include the development and organization of law enforcement agencies, the role of police in society, core police functions, patterns of police-citizen relations, legal issues, and innovations in policing tactics. Students will learn how changes and trends in society affect police operations and will critically examine issues related to law enforcement.

Core Curriculum/Core Requirements: [""] Prerequisites:
CRJ 114

Course Typically Offered:
Variable

Credits: 3

CRJ 220 - Corrections

This course will introduce students to the goals, purpose, and history of the corrections system within the United States. Students will learn how the American correctional system became a hallmark for the punishment and management of offenders with one of the highest incarceration rates in the world. Students will also examine current issues that professionals in the field of corrections encounter, such as the management of inmates with mental health needs. Examples of topics covered in this class include the establishment of community corrections, the societal impact of mass imprisonment, and the management of inmates with special needs.

Core Curriculum/Core Requirements: [""] Prerequisites:
CRJ 114

Course Typically Offered:
Variable

Credits: 3

CRJ 224 - Criminal Courts

This course examines the structure and function of criminal courts, emphasizing procedural rules and their application in the U.S. justice system. Topics include due process, evidentiary standards, the roles of key courtroom actors, pretrial and trial procedures, and post-conviction processes.

Prerequisites:
CRJ 114

Course Typically Offered:
Variable

Credits: 3

CRJ 240 - Topics in Criminal Justice

A second-level study of topics such as "Mass Incarceration," "Technology and Cyber Crime," and "Juvenile Justice." May be repeated for credit if the topics differ. May be repeated for credit if the topics differ for total of 9 completions and 27 total credits.

Core Curriculum/Core Requirements: [""] Prerequisites:
CRJ 114 or permission

Course Typically Offered:
Variable

Credits: 1-3

CRJ 244 - Topics in Criminology

A second-level study of topics such as "Drugs and Crime," and "Media and Crime." May be repeated for a total of 6 credits if the topics differ.

Prerequisites:
CRJ 114

Course Typically Offered:
Variable

Credits: 3

CRJ 255 - Conservation Law Internship

This course is tied to a placement with an organization related to the field of Conservation Law so students can gain significant and extensive, field experience. A formal approval process is followed in which students meet with the faculty advisor to specify learning outcomes for the experience. This approval process precedes registration. A student will be required to complete 40 hours of supervised work as well as attend 6 seminars during the semester. A summative report addressing how the student met the learning outcomes is expected at the end of the experience.

Prerequisites:
CRJ 114 or Permission of Instructor

Course Typically Offered:

Fall

Credits: 3

CRJ 290 - Research Foundations in Criminal Justice

This is a course about doing criminological research. It provides a foundation for advanced research methods courses, capstone research in criminal justice, and engagement with criminal justice research in professional settings. We will focus on key steps in the research process, including identifying puzzles about the social world, selecting research methods to investigate these puzzles in a careful and systematic way, and dialoguing about research discoveries with criminologists and other publics. Additionally, we will read and analyze examples of real-life criminological research to become familiar with conventions of criminological writing and to develop critical understanding of the logic of the research process. SOC 209 and CRJ 290 cannot both be taken for credit.

Core Curriculum/Core Requirements: ["Writing Intensive "] Prerequisites:

CRJ 114 or SOC 101 or permission.

Course Typically Offered:

Fall

Credits: 3

CRJ 291 - Qualitative Methods in Criminal Justice

This course provides an in-depth exploration of qualitative research methods used in criminal justice. Students will learn how to design and conduct qualitative studies, collect and analyze non-numerical data, and critically evaluate research findings. Topics include interviewing techniques, participant observation, case studies, ethnography, content analysis, and ethical considerations in qualitative research. Emphasis is placed on applying qualitative methods to real-world criminal justice issues, such as policing, corrections, victimology, and community responses to crime.

Cannot recieve credit for both CRJ 291 and SOC 291

Prerequisites:

CRJ 290 or SOC 290

Course Typically Offered:

Variable

Credits: 3

CRJ 301 - Gender and Crime

This course will focus on the four major roles of women in the criminal justice system-women as criminal justice professionals/practitioners. Each of these roles will be examined against the backdrop of the socialization of gender within our culture.

Core Curriculum/Core Requirements: [""] Prerequisites:

CJR 114, CRJ 214 and SOC 101

Course Typically Offered:

Variable

Credits: 3

CRJ 302 - Race and Crime

This course examines race, crime, and criminal justice in the United States. Topics will include racial/ethnic differences in criminal behavior, in victimization, and in criminal justice involvement. A major focus of the course will concern the issue of possible racial bias in the operation of the criminal justice system and the criminal justice system's disparate impact on people of color.

Core Curriculum/Core Requirements: [""] Prerequisites:

SOC 101 and CRJ 114 and CRJ 214

Course Typically Offered:

Variable

Credits: 3

CRJ 308 - Problems of Violence and Terrorism

This course examines terrorism-related violence, activities, and organizations in the United States and abroad. Students will learn about the historical context for understanding domestic and homegrown violent extremism, emerging trends in violent extremism and terrorism, recruitment and radicalization, and the institutional and behavioral responses to terrorism. By the end of this course, students will understand how terrorism and violent extremist organizations are the result of unique historical and cultural forces,

and how they are more dynamic and complex than previously understood.
SOC 308 and CRJ 308 cannot both be taken for credit.

Core Curriculum/Core Requirements: [" "] Prerequisites:
SOC 101 or CRJ 114; Junior or Senior standing; or with permission

Credits: 3

CRJ 314 - Law and Society

Presents a sociological perspective on law and the legal system in the United States and other societies. Topics include problems in defining law, sociological theories of the origins and consequences of law, international differences in modes of dispute resolution, the relation between law and social change, studies of the legal profession and legal discretion in the criminal justice system. Credit cannot be earned for both CRJ 314 and SOC 314.

Prerequisites:
CRJ 114 or SOC 101 or permission.

Course Typically Offered:
Variable

Credits: 3

CRJ 323 - Social Movements, Protest and Policing

This course examines policing and activism in the United States. Specifically, the course will consider police-protestor interactions in historically important social movements and will investigate contemporary issues, such as police militarization, digital activism and surveillance, and movements for police accountability. Attention will be placed on the complex relationship between civil liberties and public order in democratic society.

Credit cannot be earned for both CRJ 323 and SOC 323

Prerequisites:
Six credits of SOC and/or CRJ courses or instructor permission.

Course Typically Offered:
Variable

Credits: 3

CRJ 324 - Domestic Violence

This class focuses on the extent, nature, causes, and consequences of domestic violence in the United States. Specifically, the course focuses on intimate partner violence, child abuse, child-to-parent abuse, elder abuse, and related topics. This course revolves around three themes: 1) gaining knowledge and insight about domestic violence, 2) understanding the social context of domestic violence, 3) evaluating criminal justice responses to domestic violence.
SOC 324 and CRJ 324 cannot both be taken for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:
SOC 101 or CRJ 114; Junior or Senior standing; or with permission

Course Typically Offered:
Variable

Credits: 3

CRJ 325 - Victimology

This course explores the study of victims within the criminal justice system, focusing on the impact of crime on individuals and society. Topics include the historical development of victimology, the victim's role in the justice system, victimization theories, and responses to victims through policy and practice.

Prerequisites:
CRJ 114 or SOC 101; Junior or Senior standing in the CRJ Major; or with permission

Course Typically Offered:
Variable

Credits: 3

CRJ 328 - White-Collar Crime

This course examines white-collar crime within the context of the criminal justice system, focusing on its impact on victims, society,

and institutions. Topics include the historical evolution of white-collar crime, key theories, offender profiles, victimization patterns, and societal responses through law, policy, and enforcement.

Prerequisites:
CRJ 114 or SOC 101; Junior or Senior standing; or with permission

Course Typically Offered:
Variable

Credits: 3

CRJ 340 - Intermediate Topics in Criminal Justice

An intermediate-level study of topics such as "Criminal Justice Ethics," "Contemporary Issues in Criminal Justice," and "Comparative Criminal Justice." May be repeated for credit if the topics differ. May be repeated for credit if the topics differ for a total of 9 completions and 27 total credits.

Core Curriculum/Core Requirements: [""] Prerequisites:
6 credit hours of CRJ courses or permission

Course Typically Offered:
Variable

Credits: 1-3

CRJ 344 - Intermediate Topics in Criminology

An intermediate-level study of topics such as "Media & Crime," "Serial Killers," or "Green Criminology. " May be repeated for credit if the topics differ.

Prerequisites:
CRJ 114 and additional 6 hours of CRJ credits

Course Typically Offered:
Variable

Credits: 3

CRJ 493 - Thesis

This course provides students the opportunity to conduct original research on a criminal justice topic of their choice, culminating in a written thesis. The course emphasizes independent research, critical thinking, and academic writing skills necessary for a comprehensive and scholarly analysis of a criminal justice issue.

Prerequisites:
Department Consent & Students must have Senior standing in the Criminal Justice program; Successful completion of CRJ 290 (Research Methods) or equivalent, and a second Advanced Methods course.

Course Typically Offered:
Variable

Credits: 3

CRJ 495 - Internship for Criminal Justice

This course provides students with practical, hands-on experience in a professional criminal justice setting. The internship is designed to integrate academic knowledge with real-world application, allowing students to gain insight into the daily operations, challenges, and responsibilities within various criminal justice agencies. Maybe be repeated for a total of 9 credits.

Prerequisites:
Students should have senior standing, have taken SOC 290 or CRJ 290 and have a 3.0 GPA

Course Typically Offered:
Variable

Credits: 3

CRJ 499 - Senior Capstone

Selected theoretical and empirical topics in criminal justice. Serves as the capstone course for criminal justice majors and will assume a knowledge of and will build upon, the material presented in the other required courses in the major. The intent of the course is to help students integrate their criminal justice knowledge and to apply it in dealing with fundamental questions of social

life and criminological theory.

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:
Criminal justice major with senior standing and CRJ 290, or with permission

Course Typically Offered:
Spring

Credits: 3

Dance

DAN 101 - Beginner Modern Dance I

Fundamental concepts and practice of modern dance technique: body alignment, stretch/strengthening, movement vocabulary, body coordination, musicality and spatial awareness. For the general student at the beginning dance level. May be repeated for credit for a total of 9 completions with 18 total credits.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:
Fall & Spring

Credits: 2

DAN 102 - Beginner Ballet I

An introduction to classical ballet dance training. Traditional exercises at the barre and on center floor emphasize body placement, flow of energy, and the creation of expressive movement in space. For the performing artist or general student. May be repeated for credit for a total of 9 completions and 18 total credits

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:
Fall & Spring

Credits: 2

DAN 103 - Beginner Jazz I

Fundamentals of jazz dance technique with emphasis on body alignment, coordination and movement vocabulary. Preparation for expressive movement in relation to modern jazz music. May be repeated for credit for a total of 9 completions and 18 total credits.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:
Fall & Spring

Credits: 2

DAN 105 - Beginner Tap

Teaches the fundamentals of Rhythm tap and Broadway Styles technique with emphasis on body alignment, flexibility, strength, rhythm, coordination and movement vocabulary. Expressive movement is encouraged. May be repeated for credit for a total of 9 completions and 18 total credits.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:
Fall & Spring

Credits: 2

DAN 112 - Production/Rehearsal

Dance production and performance with emphasis on repertory, costuming, lighting in relation to choreography, staging, publicity and rehearsal. May be repeated with permission for a total of 9 completions and 9 total credits..
(Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Prerequisites:
Audition or permission.

Course Typically Offered:
Spring

Credits: 1

DAN 121 - Beginner Modern Dance II

Builds upon the fundamental concepts and practice of modern dance technique focusing on body alignment, stretch, strengthening, movement vocabulary, coordination, musicality and spatial awareness. Further emphasis on longer dance phrases and musicality. May be repeated for credit for a total of 9 completions and 18 total credits.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Prerequisites:

DAN 101 or permission.

Course Typically Offered:

Fall & Spring

Credits: 2

DAN 122 - Beginner Ballet II

Builds upon the fundamentals of classical ballet technique with emphasis on alignment, flexibility, strength, coordination and movement vocabulary. Expressive movement, the execution of ballet 'line', and performance of longer dance phrases will be encouraged. May be repeated for credit for a total of 9 completion and 18 total credits.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Prerequisites:

DAN 102 or permission.

Course Typically Offered:

Fall & Spring

Credits: 2

DAN 123 - Beginner Jazz II

Builds upon the fundamentals of lyrical jazz technique and contemporary jazz styles with emphasis on alignment, coordination, and movement vocabulary. Expressive movement in relation to modern jazz music and performance of longer dance phrases will be encouraged. May be repeated for credit for a total of 9 completions and 18 total credits.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Prerequisites:

DAN 103 or permission.

Course Typically Offered:

Spring

Credits: 2

DAN 130 - Ballroom and World Dance Forms

From swing to salsa and waltz to tango, basic social and Latin dance, with emphasis on alignment, coordination, and movement vocabulary. Additional exposure to Afro-Caribbean roots of today's dance forms. May be repeated for credit for a total of 9 completions and 18 total credits.

Core Curriculum/Core Requirements: ["Satisfies the General Education Artistic and Creative Expression Requirement."] Course Typically Offered:

Variable

Credits: 2

DAN 201 - Intermediate Modern Dance

Continuation of DAN 121. Emphasis on solving more complex movement problems. Provides an enhanced movement vocabulary and further principles of body alignment, stretch/strengthening and musicality and expressiveness. May be repeated for credit for a total of 9 completions and 27 total credits.

Core Curriculum/Core Requirements: [""] Prerequisites:

DAN 121 or permission.

Course Typically Offered:

Fall & Spring

Credits: 2-3

DAN 202 - Intermediate Ballet

A detailed study of ballet form for the student with some previous training. Students master the execution of exercises and steps with speed, clarity and grace in order to achieve a fuller kinesthetic awareness. Can be used as a base for professional training or general artistic enrichment. May be repeated for credit for a total of 9 completions and 27 total credits.

Core Curriculum/Core Requirements: [""] Prerequisites:

DAN 122 or permission.

Course Typically Offered:
Fall & Spring

Credits: 2-3

DAN 205 - Intermediate Tap

Expands upon the fundamentals of Rhythm Tap and Broadway Styles technique. Complex rhythmic patterns, breaks, and longer combinations are encouraged. May be repeated for credit for a total of 3 completions and 6 credits.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Prerequisites:
DAN 105 or permission.

Course Typically Offered:
Spring

Credits: 2

DAN 206 - Beginner Hip Hop

This course aims to offer the student a greater understanding of Hip Hop Dance and its integrity as an art form. Students will gain a physical and cognitive understanding of body coordination, rhythm, and musicality. Students will also be introduced to the historical context of Hip Hop, which includes the development of its culture and music along with the dance. This course may be repeated two times for a total of 4 credits.

Core Curriculum/Core Requirements: [""] Prerequisites:
None

Course Typically Offered:
Fall

Credits: 2

DAN 250 - Dance Composition I

Study of the principles and elements of choreography. Provides guided practice in the construction of movement phrases, and studies for solo and group dances. Includes an informal studio presentation of student pieces.

Course may be repeated up to 3 times for a maximum of 9 credits.

Core Curriculum/Core Requirements: [""] Prerequisites:
Prior dance experience or permission.

Course Typically Offered:
Fall

Credits: 3

DAN 297 - Introductory Topics in Dance

Provides an opportunity for introductory level exploration within a particular dance form, tradition or innovation not covered within the existing course offerings. Specific topics will vary semester to semester. May be repeated for credit for a total of 9 completions and 18 total credits.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Prerequisites:
Permission.

Course Typically Offered:
Fall & Spring

Credits: 2

Disability Studies

DIS 300 - Disability: Interaction of Human Diversity and Global Environment

Designed to introduce the student to disability as an element of human diversity that has a significant reciprocal relationship with the environment. We begin by discussing prevalence and incidence of disability across the globe, examine the historical changes in concepts of disability over time, and then study disability as a human phenomenon which both emerges from and influences biological, economic, physical, social, political, spiritual, cultural, technological and virtual environments.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives and

Population and the Environment"] Course Typically Offered:
Fall, Spring, Summer

Credits: 3

DIS 400 - Disability as Diversity I

Examines disability history, theory and current thinking in the field of disability studies. Through interdisciplinary interchange and experiential learning, students will explore the lived experience of people with disabilities and their families across the lifespan, examine and debate ethical dilemmas related to disability, and analyze implicit disability related values reflected in diverse academic and professional fields. Students will apply their learning to their own disciplines.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives and Ethics"] Course Typically Offered:
Fall

Credits: 3

DIS 450 - Disability: Population-Environment Diversity

Consistent with contemporary literature and research in the interdisciplinary field of disability studies, students will examine and analyze disability as an interactive disjuncture between the environment, the human body and population groups. Students will analyze how environments shape and are shaped by disability populations and will focus on realigning bodies, populations and environments to advance full participation, reduce personal and environmental harm reductions, and preserve just and safe environments. Included will be natural, virtual, service, economic, social, policy, and community environments across the globe.

Core Curriculum/Core Requirements: ["Population and the Environment"] Course Typically Offered:
Spring

Credits: 3

DIS 480 - Independent Project in Disability Studies

Individual work on a topic or problem selected by the student. Primarily for students in the Interdisciplinary Concentration in Disability Studies.

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission.

Course Typically Offered:
Fall, Spring, Summer

Credits: 1-6

DIS 490 - Selected Topics in Interdisciplinary Disability Studies

Faculty and students identify and work on selected topics and/or problems related to the area of disability. Focuses on related literature, research, services/supports and materials.

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission required.

Course Typically Offered:
Variable

Credits: 1-6

Earth and Climate Sciences

ERS 101 - Introduction to Earth Science

A study of earth materials and processes, including their impact on humans. Topics include plate tectonics, mineralogy, formation of igneous, metamorphic and sedimentary rocks, geologic time, weathering and soil formation, evolution of mountain belts, earthquakes, climate change, water cycle, and surface processes. This course may include field trips outside of class time. Laboratory work includes the study of rocks, minerals, topographic maps, and aerial photographs.

Core Curriculum/Core Requirements: ["Lab in the Basic or Applied Sciences"] Course Typically Offered:
Fall, Spring

Credits: 4

ERS 102 - Environmental Geology

Environmental Geology explores the interaction of humans with the Earth's systems. The course begins with discussions of earth materials and human population dynamics. The science underlying geologic hazards (earthquakes, floods, landslides, etc.) is described and the interaction between geologic hazards and humans is explored. Human impacts on earth systems are identified and evaluated with a focus on pollution and climate change. Sources of energy used by humans and the associated environmental consequences of different energy sources are discussed. May include a one day field trip.

Core Curriculum/Core Requirements: ["Laboratory in the Basic or Applied Sciences and Population and the Environment"] Course Typically Offered:

Fall & Spring

Credits: 4

ERS 103 - Dynamic Earth

Explores how Earth's dynamic processes interact with humans by evaluating: the interplay between Earth's interior, hydrosphere, biosphere and atmosphere; the effects and underlying causes of natural hazards such as earthquakes, volcanic eruptions, tidal waves and global warming; Earth's economic and energy resources how they form and how long they will last; and the global environment and how best to interact with it. Lec 3.

Core Curriculum/Core Requirements: ["Applications of Scientific Knowledge and Population and the Environment"] Course Typically Offered:

Fall, Spring, Summer

Credits: 3

ERS 107 - Energy, Environment, & Climate

Explores the Earth Science concepts that underlie energy, energy sources, the environmental impacts of energy use, and the role of energy in climate. We will consider the ways in which society interacts with and extracts energy from the Earth System, the energy balance of Earth, the climate and environmental implications of energy use, and gain an understanding of renewable and non-renewable energy sources.

Core Curriculum/Core Requirements: ["Applications of Scientific Knowledge and Quantitative Literacy"] Course Typically Offered:

Fall, Spring, and Summer

Credits: 3

ERS 108 - Beaches and Coasts

An introduction to coastal landforms, including beaches, salt marshes, tidal flats and sea cliffs, their origins, global distribution, and associated nearshore processes. Human impacts to the coastal zone, including coastal erosion, land loss and management, and human responses to sea-level change are considered. Course may have field trips during class time and a one day field trip. (This course is identical to SMS 108.)

Core Curriculum/Core Requirements: ["Applications of Scientific Knowledge and Population and the Environment"] Course Typically Offered:

Spring

Credits: 3

ERS 116 - Earth and Climate Science Research Learning Experience

This Research Learning Experience (RLE) course will visit iconic locations in Maine to explore a range of Earth observations and work as part of a team to generate new knowledge. Learn how Maine's landscape provides vivid examples of the forces that shape our planet and influence society, and use state-of-the-art technology on water, land, and from the air to see how Earth and climate scientists measure and understand the Earth system.

Prerequisites:

Incoming (first-year and transfer) Earth and Climate Science majors

Corequisites:

ELH 117

Course Typically Offered:

Fall

Credits: 1

ERS 121 - Humans and Global Change

Explores how Earth's climate system works and how past environmental changes affected humans on time scales ranging from interannual to hundreds of thousands of years. Topics will range from the development of agriculture at the beginning of the current interglaciation to how humans are now changing global climate through the addition of greenhouses gases to the atmosphere.

Core Curriculum/Core Requirements: ["Population and the Environment"] Course Typically Offered:

Fall

Credits: 3

ERS 152 - Earth's Changing Climate

Earth harbors a climate that is unique in the solar system, with its ability to sustain liquid water and support life. The geologic record bears witness to spectacular climate changes in the past, the most recent of which heralded the emergence of a complex, globally interconnected human society. Today humans are influencing the climate system in potentially unprecedented ways. The purpose of this course is to understand and evaluate the scientific basis of Earth's climate and past, present, and future change within the climate system, and to provide scientific context for a warming world.

Core Curriculum/Core Requirements: ["Quantitative Literacy and Application of Scientific Knowledge"] Course Typically Offered:

Fall

Credits: 3

ERS 200 - Earth Systems

A survey of dynamic topics in earth sciences, emphasizing active participation in on-going faculty research in topics such as: global climate change, changing sea levels, geochemical cycles, plate tectonics and mountain building, and the geological evolution of the northern Appalachians. Multiple field trips; at least one a weekend. Lec 3, Lab 3.

Core Curriculum/Core Requirements: ["Writing Intensive and Lab in the Basic or Applied Sciences"] Prerequisites:

Any 100-level UMaine Earth Sciences course.

Course Typically Offered:

Fall

Credits: 4

ERS 201 - Global Environmental Change

Examines the physical and chemical interactions among the primary systems operating at the Earth's surface (atmosphere, hydrosphere, cryosphere, biosphere, and lithosphere) on various timescales throughout geologic history. We will consider internal and external forces that have shaped environmental evolution, including the role of humans in recent geochemical and climatic change. During lecture and laboratory sessions, our goals are to develop critical thinking skills and a scientific approach to the complex array of feedbacks operating at the Earth's surface, as well as an appreciation for how past environmental change informs current societal issues. Course will include field trips during class hours and may include weekends.

Core Curriculum/Core Requirements: ["Lab in the Basic or Applied Sciences and Population and the Environment"] Prerequisites:

Any 100-level ERS course.

Course Typically Offered:

Spring

Credits: 4

ERS 231 - GIS in Earth Science

Introductory course to geographic information systems (GIS) applied to earth sciences. Basic geographic concepts of earth datums, coordinate systems, projections, and map production will be introduced. This course will use several computer software systems to organize, visualize, classify, and analyze earth science data to create final products useful for interpretation and decision-making.

Course Typically Offered:

Fall

Credits: 3

ERS 240 - The Atmosphere

The nature of planetary atmospheres, physical processes in the atmosphere, clouds and precipitation, global climate, seasons, natural and anthropogenic climate change, forecasting of storms. Lec 3, Lab 2.

Core Curriculum/Core Requirements: ["Laboratory in the Basic or Applied Sciences"] Course Typically Offered:

Spring, Odd Years

Credits: 4

ERS 301 - Earth and Climate Science Geomatics

This course will provide an introduction to the collection, display, manipulation and management of geospatial information. The focus will be on modern tools, techniques and methodologies commonly used by earth and environmental scientists. The course will be divided into surveying and mapping (including GPS), satellite remote sensing, and geographical information systems (GIS). Lec. 2.5 hr, Lab 3hr.

Core Curriculum/Core Requirements: [""] Prerequisites:

Any ERS 100 level course or SMS 108 and MAT 111 or a score of 30 or higher on the Math Placement Exam or permission of instructors.

Course Typically Offered:

Fall

Credits: 4

ERS 310 - Fields Methods in Earth Sciences

A majority of Earth, environmental, and climate sciences disciplines rely on robust field data collection skills. ERS 310 introduces students to the essential elements of field data collection, documentation and interpretation. The course aims to expand and reinforce practical field data skills that students acquire in introductory level classes and prepare them for advanced education and research in geosphere related disciplines using traditional and modern methods, instrumentation and techniques. Off-campus day trips will explore diverse coastal, glacial, sedimentary, igneous and metamorphic geological settings. Students will work in teams to collect and interpret information, share and discuss their findings, and produce a final comprehensive field report. There is a fee associated with this course for travel expenses.

Core Curriculum/Core Requirements: [""] Prerequisites:

ERS 200 or ERS 201 or permission

Course Typically Offered:

Summer

Credits: 3

ERS 315 - Principles of Sedimentology and Stratigraphy

Basic concepts and techniques of stratigraphy and sedimentation. Field trips to local environments and outcrops. Laboratories emphasize practical analytical techniques of sedimentology, petrography of sedimentary rocks in hand specimens and thin section, and modern stratigraphic approaches. Lec 3, Lab 3.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

Any 100 level ERS course.

Course Typically Offered:

Spring Even Years

Credits: 4

ERS 316 - Structural Geology

Explores the principles of structural geology, with emphasis on the geometry, kinematics and dynamics of Earth deformation. Includes several field trips with the aim of integrating field observations and theory. Lec 2, Lab 3. Course may have field trips during class times with the aim of integrating field observations and theory.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

ERS 200.

Course Typically Offered:

Fall, Odd Years

Credits: 4

ERS 317 - Introduction to Geophysics

Introduction to geophysical studies and global geodynamics. Seismological, gravity, magnetic, electrical and geothermal studies of the Earth's lithosphere and cryosphere are emphasized in integrated class, field and laboratory exercises. Course problem solving requires spread sheeting and numerical modeling applications using available personal computers.

Core Curriculum/Core Requirements: [""] Prerequisites:

MAT 116 or MAT 126 & PHY 111 or 121 and any 100 level ERS course.

Course Typically Offered:

Spring, Even Years

Credits: 4

ERS 319 - Geohazards and Humans

Geohazards and Humans will introduce the scientific principles necessary to understand the underlying causes of the most devastating natural disasters on Earth. Students will learn how to apply modern geological concepts and theories to identify drivers of major geological hazards and reduce their impacts. It is designed for students who major in the geosciences but will also benefit students majoring in environmental science, engineering, public policy and business. A primary goal is to translate a working knowledge of the science of natural hazards into strong critical-thinking and problem-solving skills to prepare students to work with geohazards in their future careers. To meet this goal, the course objectives are to demonstrate the use of geological methods and techniques to study geological hazards, and introduce tools that help to mitigate the impact of these events on humans. Students will learn about established and emerging approaches for reducing the impact of volcanic eruptions, earthquakes, tsunamis, landslides, extra-terrestrial impacts, shifts in climate and anthropogenic pollutants on humans and the global economy.

Core Curriculum/Core Requirements: ["Science Applications and Population and Environment"]

Prerequisites:

Any 100-level Earth Science course or by permission

Course Typically Offered:

Spring

Credits: 3

ERS 320 - Research Seminar in Earth and Climate Sciences

Research seminar course of students with junior or senior standing. Students will attend research presentations by School of Earth and Climate Sciences faculty or graduate students and write short reviews of these presentations with the goals of increasing student understanding and awareness of the role of research in earth and climate sciences and strengthening students' writing skills.

Core Curriculum/Core Requirements: [""] Prerequisites:

ERS 200 and ERS 201 and Junior or Senior Standing

Course Typically Offered:

Fall

Credits: 1

ERS 321 - Problems in Earth and Climate Sciences

Students conduct an original investigation and report findings. May not normally be used as a required geology elective. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

Permission of instructor.

Course Typically Offered:

Variable

Credits: 1-4

ERS 323 - Extreme Weather

Extreme weather is analyzed in terms of its physical basis as well as historical, economic and human consequences. Emphasis is placed on the interplay between technological advances, the evolution of meteorology as a science, and the impacts of extreme weather (winter storms, severe thunderstorms, tornados, tropical storms, El Nino, floods, droughts, heatwaves, cold waves). Recommended: ERS 121 or ERS 240

Core Curriculum/Core Requirements: ["Quantitative Literacy and Population and Environment"]

Course Typically Offered:
Spring, Even Years

Credits: 3

ERS 330 - Earth Materials

Examination of fundamental aspects of the materials that record Earth history and the processes that shape the planet. Through a combination of lectures, laboratory sessions, and other active-learning exercises, we explore how minerals form, their structure and composition, and their physical and chemical properties. Through discussions and presentations, we explore minerals in the context of the rocks in which they are found, with the aim of gaining a greater understanding of physical and chemical makeup of the Earth. Throughout the course, we relate mineralogy to geologic processes and other fields of Earth Science. Course may include weekend field trips.

Core Curriculum/Core Requirements: [""] Prerequisites:
ERS 200 or ERS 201; CHY 121 and MAT 126 recommended.

Course Typically Offered:
Spring, Even Years

Credits: 4

ERS 340 - Economic Geology

This course examines the geological characteristics of metallic and industrial mineral deposits, the geological environments and processes responsible for their genesis, the methods used in their discovery and extraction, and the challenges of environmentally responsible reclamation of extraction sites.

Core Curriculum/Core Requirements: [""] Prerequisites:
ERS 330 or permission.

Course Typically Offered:
Spring, Odd Years

Credits: 3

ERS 350 - Fresh-Water Flow

Focuses on characterizing fresh-water hydrologic systems (Lakes, Rivers, ground water, etc.) and the fluxes of water between these reservoirs. Rates of precipitation, evaporation, channelized flow, overland flow, and infiltration are calculated and used to assess watershed hydrology. Course may include weekend field trips.

Core Curriculum/Core Requirements: [""] Prerequisites:
MAT 122 or a passing score on UM Math Placement Exam #3.

Course Typically Offered:
Spring

Credits: 3

ERS 361 - The Principles of Geomorphology

Focuses on the shapes, dimensions, and dynamics of landforms on Earth. The material covered will provide an introductory understanding of process mechanics and their relation to the genesis and alteration of landforms in varied settings and over a range of scales. Topics covered will include general background on the discipline of geomorphology, internal and climate forces associated with earth surface systems, chemical and physical weathering, drainage basins, fluvial systems, wind generated landforms, glacial processes, karst landscapes, and coastal environments. The course approach will provide attention to landform ontologies, measurement techniques, and analytical frameworks necessary to quantify earth surface measurement and observations. Two one-day weekend field trips may be scheduled during the semester.

Core Curriculum/Core Requirements: [""] Prerequisites:
ERS 200 and ERS 201

Course Typically Offered:
Fall, Odd Years

Credits: 3

ERS 401 - Paleoceanography

The ocean plays a central role in regulating climate and supporting life on our planet, and it has not always operated as it does today. Throughout Earth history, the ocean has undergone dramatic changes in circulation, temperature, chemical composition,

and more. In this course, students will explore our ocean's dynamic past, which provides insight into its present and future behavior. We will discuss key research techniques, major discoveries, and emerging frontiers in the field of paleoceanography (the study of the global ocean's circulation, chemistry, biology, and geology through geologic time). Students will read and discuss key research articles each week that complement lecture material. They will also work with both modern and paleo datasets to enhance their skills and deepen their understanding of how scientists infer past ocean conditions from geologic archives. ERS 401 and ERS 501 cannot both be taken for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

Any 100 level ERS course.

Course Typically Offered:

Spring, Odd Years

Credits: 3

ERS 410 - Sea-to-Sky Experience

Many critical processes in the Earth and climate sciences occur at interfaces among the atmosphere, cryosphere, hydrosphere, biosphere, oceans, solid earth, and society. Using an interdisciplinary systems-based approach, as well as the ability to make direct observations, are essential to understanding these processes. ERS 410 will visit a region where a wide range of environments - everything from open ocean ("sea") to glaciers ("sky") - can be experienced. During this travel study course, we will focus on a range of professional and practical skills, including global impact/local relevance research, proposal development, science planning and logistics, risk assessment and mitigation, safety, group dynamics and collaboration, field-based and remote observations, cultural knowledge, and science communication.

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:

ERS 200 and ERS 201 and instructor permission

Course Typically Offered:

Fall, Spring, Summer

Credits: 3

ERS 412 - Geochemistry

Introduction to the field of geochemistry with a focus on Earth surface processes. This course will investigate the chemistry of many Earth materials, including rocks, soils, surface and ground waters, the atmosphere, and oceans. Course may include weekend field trips.

Core Curriculum/Core Requirements: [""] Prerequisites:

CHY 121 & 123, and any 100 level ERS course.

Course Typically Offered:

Spring, Odd Years

Credits: 4

ERS 420 - Computer Scripting for Data Analysis

This course focuses on the application of a computer scripting language (Python or similar language) to interpret and analyze earth and environmental science data and processes. Students will learn to use an interpreted computer language to perform calculations, evaluate data sets, create complex graphs and simulate simple systems.

Core Curriculum/Core Requirements: [""] Prerequisites:

MAT 116 or MAT 122

Course Typically Offered:

Variable

Credits: 3

ERS 425 - How to Build a Habitable Planet

This course will take a journey through the remarkable geologic and climatic events that led to the emergence of life, an oxygen-rich atmosphere, explosions and collapses of biodiversity, waxing and waning of continental ice sheets, and ultimately a planet on which Homo Sapiens could thrive and develop civilizations unlike anything Earth has ever witnessed. We will explore the great and as-yet unsolved mysteries of Earth's evolution with an eye toward placing our existence into the context of what it takes to build, and sustain, a habitable world. We will consider internal and external forces that have shaped environmental evolution over the planet's history, including the role of humans in geochemical and climatic change. We will consider the geochemical proxies and isotopic geochronometers that have improved our understanding of past environments and climates. Our goals are to develop

critical thinking and writing skills and a scientific approach to the complex array of feedbacks that govern the evolution of Earth's surface and climate, as well as an appreciation for how past Earth System change can inform current human and societal issues. ERS 425 and ERS 525 cannot both be taken for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

ERS 200 and ERS 201, or instructor permission

Course Typically Offered:

Fall

Credits: 3

ERS 433 - Igneous and Metamorphic Petrology

Using field relationships, rock textures, and chemical systems, we take a qualitative and quantitative system-based approach to exploring rock-forming processes within Earth's crust and mantle. In keeping with the fact that modern understanding of igneous and metamorphic processes requires use of microscopes and microanalysis, students will use petrographic and electron microscopes to make observation and gather data related to mineral chemistry and textures in preparation for later analysis. This course also develops aspects of scientific methodology, including classification schemes and data collection, management, and analysis. Several weekend field trips are required.

Core Curriculum/Core Requirements: [""] Prerequisites:

ERS 330.

Course Typically Offered:

Fall, Even Years

Credits: 4

ERS 441 - Glaciers and Our Landscape

Explores the nature of the ice ages, including the work of glaciers and how they shape the earth's surface. Emphasis is on understanding the processes that resulted in the landscape and sediments we see today. Course may have field trips during class times. (ERS 441 and 541 are identical courses and cannot both be taken for degree credit.)

Core Curriculum/Core Requirements: ["Population and the Environment and Writing Intensive"]

Prerequisites:

Any 100 level ERS course or Graduate Standing

Course Typically Offered:

Fall

Credits: 3

ERS 444 - Introduction to Glaciology

Glaciers and ice sheets cover a significant portion of the planet and have major impacts on surrounding Earth systems and human communities. Glaciers act as a consistent source of freshwater, they sculpt the Earth's near surface geology, and they can influence tectonics, weather, climate, ocean and surrounding ecosystems. This course will study the life cycle of glaciers and ice sheets, the physics which influence their structure, size, movement, and their interaction with surrounding environments. This course will also explore tools and methods used to study glaciers and ice sheets through practical exercises and experiments. Methods we will explore include classic field glaciological techniques, geochemistry, geophysics, remote sensing, and numerical modeling. Note: ERS 444 and ERS 544 cannot both be taken for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

ERS 200 or ERS 201 and MAT 116 or MAT 126 or permission of the instructor

Course Typically Offered:

Spring, Odd Years

Credits: 4

ERS 451 - Tectonics

Exploration of the plate tectonic mechanisms that control and modify the first-order features of Earth's surface. We consider how the movements of the uppermost 100-200 km of our planet creates the topographic features and patterns in the continents and oceans. One weekend field trip.

Core Curriculum/Core Requirements: [""] Prerequisites:

Any 200-level ERS course or permission.

Course Typically Offered:
Spring, Odd Years

Credits: 3

ERS 460 - Marine Geology

Topics include theories of the origin of the earth as a planet and the development of continents and ocean basins, morphology and structure of the sea floor, interpretation of geological and geophysical evidence relevant to the origin and evolution of major tectonic features of oceans. Students may not receive credit for both ERS 460 and ERS 560.

Core Curriculum/Core Requirements: [""] Prerequisites:
Any 100 level ERS course.

Course Typically Offered:
Spring, Even

Credits: 3.0

ERS 461 - Fluvial Processes in Geomorphology

This course will focus on the forms, dimensions and dynamics of streams and rivers. The material covered will provide an overview of the physical characteristics of stream and river channels in varied settings, approaches used for physical assessments of channel conditions, and quantitative methods to evaluate hydraulic conditions that influence stream and river channel appearance and dynamics. The course will include applications of concepts in fluvial geomorphology in the planning, design and monitoring of stream corridor restoration and management projects. Two one-day weekend field trips may be scheduled during the semester.

Core Curriculum/Core Requirements: [""] Prerequisites:
ERS 350 or ERS 588 or instructor permission

Course Typically Offered:
Not regularly offered.

Credits: 3

ERS 480 - Introduction to Hydrogeology

The role of groundwater in geologic and water supply processes including: the hydrologic cycle, groundwater interaction with surface water, groundwater flow and transport equations, aquifer characterization, chemistry of groundwater, and groundwater as a geologic agent. ERS 480 and ERS 580 cannot both be taken for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:
Any 100 level ERS course and MAT 116 or MAT 126.

Course Typically Offered:
Fall, Odd Years

Credits: 3

ERS 498 - Thesis-based Capstone

Original research in geological sciences that fulfills capstone requirement. The research problem must be identified prior to the start of the senior year and may be of an experimental, empirical or theoretical approach. A committee of three or more faculty will supervise the thesis and its defense. Course may be repeated 3 times with a total of 6 credits allowed.

Core Curriculum/Core Requirements: [""] Prerequisites:
Senior standing.

Course Typically Offered:
Fall, Spring, Summer

Credits: 1-6

ERS 499 - Field Experience in Earth and Climate Sciences

Students will attend a four- to six-week earth or climate science field camp or engage in equivalent field-based research activities. The experience (a) draws together the various threads of the School's undergraduate program, (b) typifies the work of professionals within Earth and Climate Sciences, (c) develops problem-solving skills while working within a natural system, and (d) develops spatial cognition and reasoning.

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:
Senior standing and permission

Course Typically Offered:

Fall, Spring and Summer

Credits: 1-6

Earth, Life, and Health Sciences

ELH 117 - First-Year Success Seminar

A course designed to support students as they adjust to life and responsibilities in college and to help students develop skills to achieve success. Provides an introduction to the major and degree requirements, department faculty and staff, career opportunities and other resources for success in the major. Includes orientation to University resources for students. Intended for first-year students but may include transfer students. Course may include field trips during class hours and/or weekends. (Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall

Credits: 1

ELH 118 - ELHS/UMaine Orientation

Orientation to the College of Earth, Life and Health Sciences and the University of Maine. The course will also cover topics to help students succeed academically and engage with the campus community. May also be taken concurrently with NFA 117.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall and Spring

Credits: 0-1

Ecology and Environmental Sciences

EES 100 - Human Population and the Global Environment

Introduces the concepts and principles necessary to evaluate contemporary global issues of population growth, natural resource conservation and environmental protection. Surveys the historical development of environmental awareness in the United States. Develops skills to interpret critically the diverse types of information available about environmental issues.

Core Curriculum/Core Requirements: ["Population and the Environment"] Course Typically Offered:

Spring

Credits: 3

EES 115 - Natural Environments

The course is an environmental liberal arts course designed to introduce students to the natural world around them and the scientific inquiry process. The topic of the course will usually cover chemical, physical and biological processes centered on the Downeast natural environment.

Prerequisites:

MAT 103M or MAT 111M or demonstrated proficiency in pre-college mathematics (>= 500 on SAT MATH exam, >= 530 on SAT MSS exam, >= 21 on ACT Math exam or >= 61 on the Aleks Math Placement Exam).

Course Typically Offered:

Variable

Credits: 4

EES 117 - Introduction to Ecology and Environmental Sciences

This course offers an introduction to college and provides an interdisciplinary perspective on ecological and environmental issues. The course will examine ecological systems, the interrelationships between human activities and the environment, and the social, political, economic, and technological factors that affect the use of natural resources. Material is presented via lectures, field trips during class hours and special readings.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall

Credits: 2

EES 140 - Soil Science

Considers the chemical, physical and biological properties of soil, as well as the origin, management and interrelationships of soils to plant growth. Rec 3.

Core Curriculum/Core Requirements: ["Together with 141 this course satisfies the Gen Ed Lab in Basic or Applied Sciences"] Prerequisites:
BMB 207 or CHY 121 is recommended.

Course Typically Offered:
Spring

Credits: 3

EES 141 - Soil Science Laboratory

A series of practical laboratory exercises providing hands-on experience with soil measurements and information use. Course will include field trips during class hours.

Core Curriculum/Core Requirements: ["Together with EES 140' , 'this course Satisfies the General Education Lab in the Basic or Applied Sciences Requirement."] Prerequisites:
BMB 207 or CHY 121 is recommended.

Corequisites:
EES 140

Course Typically Offered:
Spring

Credits: 1

EES 217 - Field Research Experience in Ecology and Environmental Sciences

This course is an intensive field experience for EES majors. EES undergraduates will stay at a remote site (e.g., Schoodic Education and Research Center at Acadia National Park) for an intensive multi-day program that will immerse them in the rich science and cultural history that makes Maine a living laboratory for environmental issues. Students will be challenged to identify and assess emerging issues in environmental science and natural resources management. Students will be introduced to relevant problems or issues facing stakeholders in the field of ecology and environmental sciences, and will work in teams to research, synthesize, and present what they've learned. The field setting is rich with opportunities for outdoor experience, interactions with scientists in residence, and varied local, regional, and national stakeholders with whom they will collaborate. This course is a required field experience for EES majors.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Fall and Summer

Credits: 0-2

EES 324 - Environmental Protection Law and Policy

A survey of the law and policy of environmental protection in the United States with emphasis on Federal statutes and common law approaches to environmental protection. Material covered will include the basic statutes, the administrative law, the case law of air quality, water quality, hazardous substances and the National Environmental Policy Act. Students will develop an understanding of how the legal process works in the context of specific environmental case studies and will be encouraged through class dialogues and exercises to develop their analytic skills.

Core Curriculum/Core Requirements: ["Population and the Environment"] Prerequisites:
Sophomore standing.

Course Typically Offered:
Fall

Credits: 3

EES 351 - Energy, Wealth, and Power: a Biophysical Systems view of Nature and Society

Within the biophysical economics paradigm, energy is the unseen arbiter that drives ecological and economic processes. Biophysical systems of nature and human society are organized according to seemingly universal laws that govern the concentration, conversion, and degradation of energy over space and time. These laws explain historic patterns in ecological and societal evolution and provide a framework for responding to planetary crises of climate change, peak energy, and unpayable ecological debt. Students will apply biophysical systems principles of energy return on investment (EROI), energy hierarchy, transformity, embodied energy (eMergy), and maximum eMpower to better understand the past and better prepare for the future in a rapidly-degrading ecosphere. Students will read historic and current literature, participate in (and sometimes lead) interactive class discussions, and complete individual- or group-projects.

Core Curriculum/Core Requirements: ["Population and the Environment"] Prerequisites:
Junior standing or instructors permission.

Course Typically Offered:
Spring

Credits: 3

EES 390 - Junior Seminar

Exposes students to emerging issues in Ecology and Environmental Sciences through weekly attendance of existing seminars across a variety of academic units at UMaine. Focuses on the meaning of interdisciplinary work and how discipline-diverse approaches aid in solving complex environmental problems. Develops skills for career development, such as professional and public presentations, job search skills, and career planning. Provides experiences with a variety of academic cultures and professionals.

Core Curriculum/Core Requirements: [""] Prerequisites:
Junior Standing in Ecology and Environmental Sciences

Credits: 3

EES 396 - Field Experience in Ecology and Environmental Sciences

Approved work experience for which academic credits is given. Students may work part time or full time for a semester in an approved program of work experience which contributes to the academic major. Students have the opportunity to gain practical experience in a job related to their professional career goals.
(Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Prerequisites:
Junior standing and permission.

Course Typically Offered:
Summer

Credits: 1 - 16

EES 397 - Topics in Ecology and Environmental Sciences Conservation and Management

The conservation and management of natural resources entail dynamic social, economic, and scientific problems. Students investigate a natural resource topic of current national or international concern.

Course may be repeated for credit, if topics differ, for a total of 9 completions and 9 total credits.

Core Curriculum/Core Requirements: [""] Prerequisites:
Ecology and Environmental Sciences major or permission of instructor.

Course Typically Offered:
Fall, Even Years

Credits: 1-3

EES 398 - Special Seminar In Ecology and Environmental Science

The conservation and management of natural resources entail dynamic social, economic, and scientific problems. Students investigate a natural resource topic of current national or international concern. Course may be repeated for credit, if topics differ, for a total of 9 completions and 27 credits. Pass/fail.

Core Curriculum/Core Requirements: [""] Prerequisites:
Department consent required.

Course Typically Offered:
Variable

Credits: 1-3

EES 475 - Field Studies in Ecology

An intensive ecology travel study course of one to several weeks to an area of ecological interest (e.g., the Amazon basin or Serengeti plains) scheduled during winter or spring break, May term, or summer. Field and living conditions may be rigorous and/or primitive and include overnight and weekend travel. There is a fee associated with this course for travel expenses. The course MAY meet weekly prior to and following the travel component. Course may be repeated for credit for a total of 3 completions and 9 total credits.

Core Curriculum/Core Requirements: [""] Prerequisites:
BIO 319 or WLE 200 or SMS 300 or permission

Course Typically Offered:
Spring

Credits: 1-3

EES 489 - Critical Issues in Ecology and Environmental Sciences

Current and historically important issues in natural resource management and conservation are evaluated by teams of students and faculty. Interdisciplinary approaches to problem analysis are stressed, with special attention to the ways scientific information and management options affect policy. Students use quantitative tools, undertake critical reading and synthetic writing, and further develop science literacy skills.

Core Curriculum/Core Requirements: ["Capstone and Writing Intensive"] Prerequisites:
Ecology and Environmental Sciences major or minor with senior standing.

Course Typically Offered:
Fall

Credits: 4

EES 497 - Independent Studies in Ecology and Environmental Sciences

Analysis and investigation of current problems in ecology and environmental sciences in consultation with a faculty member in the program. Course may be repeated for a total of 9 completions and 27 total credits.

Core Curriculum/Core Requirements: [""] Prerequisites:
Ecology and Environmental Sciences major.

Course Typically Offered:
Fall, Spring, Summer

Credits: 1-4

Economics

ECO 105 - Environmental Policy

Examines the relation between the natural environment and the economy, the economic sources of environmental degradation and economic analysis of alternative approaches to environmental regulation and management.

Core Curriculum/Core Requirements: ["Population and the Environment"] Course Typically Offered:
Variable

Credits: 3

ECO 112 - Economics of Social Issues and Ethical Dilemmas

This courses applies economic principles to important contemporary social issues. A wide range of subjects is explored, ranging from clearly economic subjects such as unemployment and globalization to painful social problems such as crime and poverty to seemingly noneconomic concerns such as organ transplants and illegal drug use. The theme unifying the topics is the ethical dilemmas that lie beneath the surface. Thus, widely held beliefs are challenged and critically examined in this course. Investigation of contemporary social problems using the lens of economics should deepen students' awareness and understanding of significant current events and their underlying ethical tradeoffs. This course also introduces and develops an appreciation of the fundamental principles and analytical framework of economics. The goal of the course is to broaden and deepen the students' understanding of both social issues and economics.

Core Curriculum/Core Requirements: ["Ethics"] Course Typically Offered:
Fall, Alternating

Credits: 3

ECO 117 - Issues and Opportunities in Economics

Consists of weekly meetings of first year students. Topics covered include overview of the fields of Economics, school and university program requirements, and current economic issues. Pass/Fail grade only.

Core Curriculum/Core Requirements: [""] Prerequisites:
Economics/Financial Economics Major

Course Typically Offered:
Fall

Credits: 1

ECO 120 - Principles of Microeconomics

Principles of microeconomics and their application to economic issues and problems. Analysis of the economic decision-making of individuals and firms; markets and pricing; monopoly power; income distribution; the role of government intervention in markets.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Course Typically Offered:
Fall, Spring, Summer

Credits: 3

ECO 121 - Principles of Macroeconomics

Principles of macroeconomics and their application to modern economic issues and problems. Analysis of national income and employment; fluctuations in national income; monetary and fiscal policy; control of inflation, unemployment, and growth; and international aspects of macroeconomic performance.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Course Typically Offered:
Fall, Spring, Summer

Credits: 3

ECO 154 - Small Business Economics and Management

Application of economic concepts to real world business and economic decisions using graphs, spreadsheets and analytical techniques. Students will learn introductory small business management concepts, how to estimate the cost of producing goods and services, and how to develop business feasibility studies. Students will develop a hands-on project that integrates Excel to create a purposeful model.

Core Curriculum/Core Requirements: ["Social Context and Institutions"] Course Typically Offered:
Spring, Summer, Fall

Credits: 3

ECO 160 - Freakonomics

The primary lesson of economics is that incentives matter: economic agents alter their behavior in predictable ways when faced with changing costs and benefits. Over the past 30 years, the power of economics as a predictive social science has been demonstrated time and time again as scholars have shown that seemingly uneconomic decisions can be modeled from an economic perspective. In this course, we will use academic readings and popular books such as Freakonomics to indicate the breadth and scope of questions that can be analyzed from an economic perspective.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Social Context & Institutions"] Course Typically Offered:
Spring

Credits: 3

ECO 180 - Citizens, Energy & Sustainability

This course is intended to provide students with a broad understanding of energy issues by focusing upon current energy use and mandates, energy production (with a focus on alternative energy options), as well as introduces the political, human and environmental implications of energy use and production. We will discuss how citizens play a vital role in determining the direction that energy policy will take. In the course of our lifetime each of us will be asked to vote on an energy related circumstance, this course intends to give you a place to start in understanding the complexities of energy.

Core Curriculum/Core Requirements: ["Population and the Environment and Social Contexts and Institutions"] Course Typically Offered:
Spring

Credits: 3

ECO 190 - World Food Supply, Population and the Environment

Reviews current global resources focusing primarily upon food production and population, and environmental problems relating to food production and distribution. World trade and world trade policy are considered with primary emphasis on food. Other topics include world trade liberalization, genetically modified foods and comparative agricultural systems.

Core Curriculum/Core Requirements: ["Population and the Environment and Social Contexts and

Institutions"] Course Typically Offered:
Fall, Spring and Summer

Credits: 3

ECO 220 - Intermediate Microeconomic Theory

A study of how individual choice allocates goods and resources in market economies.

Core Curriculum/Core Requirements: [""] Prerequisites:
C- or better in ECO 120 and ECO 121

Course Typically Offered:
Fall & Spring

Credits: 3

ECO 221 - Intermediate Macroeconomics

Analysis of the basic forces that cause fluctuations in economic activity and their effects on employment, investment, and business firms. Stabilization proposals examined and evaluated.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Prerequisites:
Grade of C- or better in ECO 120 and ECO 121

Course Typically Offered:
Fall & Spring

Credits: 3

ECO 240 - Maine Economy

An in-depth analysis of the Maine economy, including its history, socio-economic trends, influential institutions, economic performance, aging demographics and the labor force, environmental impact, food security, international trade, and the distribution of income. Maine's economic strengths and opportunities along with its weaknesses and threats will also be explored. Lastly, a comprehensive review of past and current State level economic growth and development strategies will be presented and analyzed for their achievements and shortcomings.

Core Curriculum/Core Requirements: ["Western Cultural Tradition"] Prerequisites:
Grade of C- or better in ECO 120 and ECO 121, or permission

Course Typically Offered:
Fall, Odd Years

Credits: 3

ECO 266 - Principles of Economic Data Analysis

Covers a variety of empirical methods that are often used to examine economic data. Emphasis is on using the appropriate data analysis tool to solve a problem or answer an economics-related question. Focuses on statistical inference, as well as descriptive and regression-based analysis. Includes several computer-based assignments.

Core Curriculum/Core Requirements: [""] Prerequisites:
A grade of C- or better in STS 215, STS 232, STS 332, STS 434 or PSY 241

Course Typically Offered:
Fall and Spring

Credits: 3

ECO 285 - Economics of Sports

Economic and business related issues facing sports franchises and leagues are examined using concepts from industrial organization, labor economics and public finance.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Prerequisites:
C- or better in ECO 120

Course Typically Offered:
Variable

Credits: 3

ECO 340 - The Canadian Economy: Issues and Policies

Survey of the structure and functioning of the Canadian economic system, its problems and the policies used to solve them.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"]

Prerequisites:

Grade of C- or better in ECO 120 and ECO 121 or permission

Course Typically Offered:

Fall

Credits: 3

ECO 353 - Money and Banking

Examines the American banking and financial system including monetary theory and policy.

Core Curriculum/Core Requirements: [""] Prerequisites:

Grade of C- or better in ECO 120 and ECO 121 or permission

Course Typically Offered:

Spring

Credits: 3

ECO 363 - Game Theory

This course provides an introduction to game theory and its application in economics. Students will study a series of games that capture various aspects of strategic interaction - including well-known games such as Prisoner's Dilemmas, Arms Races, Auctions, and Voting Mechanisms. Each game will be motivated by a common problem faced by decision-makers in the real world. Students will play versions of each game for themselves and analyze outcomes from similar games in the real world. Students will then use the tools of economics and game theory to study how behavior is influenced by the nature of the game itself, such as available information, beliefs about other players, and the interrelatedness of outcomes.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in the following: ECO 120 and one of the following: MAT 115, MAT 116, MAT 122, MAT 126 or MAT 136

Course Typically Offered:

Spring

Credits: 3

ECO 370 - Topics in Economics

Includes readings, research and discussions. Topics vary depending on faculty and student interests. May be repeated for credit, if topics differ, for a total of 9 completions and 27 total credits.

Core Curriculum/Core Requirements: [""] Prerequisites:

Grade of C- or better in ECO 120 and ECO 121 or permission

Course Typically Offered:

Fall & Spring

Credits: 1-3

ECO 377 - Environmental Economics and Policy

This course takes an economics-based approach to the study of environmental issues, including how economists' value environmental resources and address market failures Contemporary environmental economics problems and policies are presented.

Core Curriculum/Core Requirements: [" Population and the Environment"] Prerequisites:

A grade of C- or better in ECO 120

Course Typically Offered:

Fall

Credits: 3

ECO 381 - SL: Sustainability Science, Policy, and Action

Sustainability concerns not just environmental balance but also social, economic, cultural and ethical factors - that is, nearly everything. Sustainability science is the research field that attempts not only to study this unwieldy group of subjects, but also to motivate positive change toward more sustainable societies. This course explores the scientific foundation of the global environmental sustainability crisis, the economic, social and ethical ramifications of that crisis, and surveys the prospects and challenges in the quest to define, measure and achieve sustainable societies. We also step beyond the academic classroom to accomplish sustainability research and service in the larger community with a semester-long integrated service learning project.

This course has been designated as a UMaine service-learning course.

Core Curriculum/Core Requirements: ["Population and the Environment and Ethics"]

Prerequisites:

Sophomore standing.

Course Typically Offered:

Variable

Credits: 3

ECO 385 - Econometrics

Introduction to the models and methods used to estimate relationships and test hypotheses pertaining to economic variables. Among the topics covered in the course are: Single and multiple regression analysis; functional forms; omitted-variable analysis; multicollinearity; heteroskedasticity; and simultaneous equations models. Practical application of regression techniques, including the use of coding and statistical software, occupies second half of the course.

Core Curriculum/Core Requirements: ["Quantitative Literacy"] Prerequisites:

A grade of C- or better in ECO 220 and ECO 266

Course Typically Offered:

Spring

Credits: 3

ECO 391 - Introduction to Growth and Development

Development Economics examines one of the most important economic, political, and moral challenges of our time. Namely, the demand for economic growth and development in low-income countries, and the prospects for their transformation into modern, globalized, and high-income economies.

Core Curriculum/Core Requirements: ["Western Cultural Tradition"] Prerequisites:

Grade of C- or better in ECO 120 and ECO 121 or permission

Course Typically Offered:

Spring

Credits: 3

ECO 395 - Field Experience

Upon obtaining an internship, students may seek approval for their economics-related work experience to count for credit towards their degree. Students must obtain approval from the department prior to being enrolled. Up to 12 total ECO 395 credits are allowed to count towards any School of Economics degree. May be repeated for credit for a total of 12 completions and 12 total credits.

Core Curriculum/Core Requirements: [""] Prerequisites:

Permission required to take course. Must have an internship proposal submitted to the internship/undergraduate coordinator.

Course Typically Offered:

Fall, Spring, Summer

Credits: 1-6

ECO 403 - Experimental Economics

Experimental research continues to demonstrate that the economic decisions of individuals and groups deviate, sometimes dramatically, from those predicted by standard economic theory's rational actor model. Experimental economics seeks to explain the economic decision-making of consumers and citizen, as psychologically complex, cognitively limited, emotional, social decision-makers. This course explores the foundations, methods and outcomes of experimental economics. Topics covered include experimental economics ethics, basics of experimental design in economics, opportunities, challenges and limitation of experimental methods, analysis of experimental data and key contributions to the economic literature. ECO 403 and ECO 503 cannot both be taken for credit.

Prerequisites:

A grade of C- or better in ECO 220

Course Typically Offered:

Fall, alternating

Credits: 3

ECO 404 - Behavioral Economics

Research continues to demonstrate that the economic decisions of individuals and groups deviate, sometimes dramatically, from those predicated by standard economic theorys rational actor model. Behavioral economics seeks to explain the economic decision-making of consumers and citizens, as psychologically complex, cognitively limited, emotional, social decision-makers. This course explores the foundations of behavioral economics and how this rapidly changing subfield informs the larger field of economics. Topics include bounded rationality, prospect theory, reference dependence, social preferences, anchoring, framing, and priming, moral balancing, and applications of behavioral economics to public policy.
ECO 404 and 504 cannot both be taken for credit.

Core Curriculum/Core Requirements: ["Social Context and Institutions."] Prerequisites:

A grade of C- or better in ECO 220

Course Typically Offered:

Fall

Credits: 3

ECO 405 - SL: Sustainable Energy Economics & Policy

This course examines tradeoffs associated with the technical, economic, environmental, and social implications of energy supply, distribution, and use in the context of transitioning toward a sustainable energy future. Students examine a variety of renewable and non-renewable energy options for electricity, heating and transportation. Students assess quantitative and qualitative indicators of sustainability related to greenhouse gas (GHG) emissions and climate change, air and water quality, human health and safety, energy security, wildlife and the environment, technological efficiency and availability. They examine the effect of policies (e.g., carbon prices, emissions targets, efficiency requirements, renewable portfolio standards, feed-in tariffs) on these indicators and tradeoffs. The course provides brief introductions to environmental life cycle assessment (LCA), social benefit cost analysis (SBCA) and multi-criteria decision analysis (MCDA), as they apply to energy issues. Students apply course concepts to a service-learning project in which they work with people from surrounding communities on local sustainable energy solutions. Field trips may be required. Students may not receive credit for both ECO 405 and ECO 505.

Core Curriculum/Core Requirements: ["Population and Environment "] Prerequisites:

A grade of C- or better in ECO 220, or a B- or better in ECO 180 or have a Minor in Energy Economics & Policy or Renewable Energy Engineering or Renewable Energy Science & Technology

Course Typically Offered:

Variable

Credits: 3

ECO 416 - Evolutionary Economics

Evolutionary Economics is a rigorous exploration of the dynamics of human economies and their social underpinnings, giving students the ability to use economic logic far beyond its usual confines. Students will learn how (and how not) to apply the Darwinian model of adaptive evolution (variation, selection and transmission) to market evolution, as well as human culture, behavior, and institutional change. The course also integrates new literature on the evolution of cooperation and multilevel selection to provide a solid mechanistic model of the dynamics of institutions, economies and societies. The course covers historical and current evolutionary approaches to economics and students will learn how an evolutionary approach connects to the other social sciences. We study emergence of social and economics adaptations of individuals, governments, corporations and other organizations. Students build evolutionary accounts of economic systems, characterize evolutionary forces acting in economic systems, suggest interventions to improve outcomes. Students complete a major project on an evolving economic system of their choosing. Students will be introduced to the analytical tools of evolutionary game theory and agent-based modeling.
ECO 416 and 516 cannot both be taken for credit

Core Curriculum/Core Requirements: ["Writing Intensive and Social Contexts and Institutions"]

Prerequisites:

Sophomore standing

Course Typically Offered:

Alternate years

Credits: 3

ECO 426 - Regional Economics: Policy and Practice

This course is about U.S. regional economic development, with an emphasis on policy and practice (i.e., the types of strategies

used by regions to promote economic development). Topics include business climate and taxes; industry clusters; human capital; the importance of small businesses; technology-based approaches to economic development; amenities; and aspects of new growth (e.g., residential development, people moving into a region). ECO 426 and 526 cannot both be taken for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in ECO 220 or ECO 221 or permission

Course Typically Offered:

Alternate years

Credits: 3

ECO 427 - Regional Economics: Modeling

Analysis and measurement of changes in state and local economies. Emphasis on analytical tools, such as input-output modeling. ECO 427 and 527 cannot both be taken for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in ECO 220 and ECO 221 and MAT 126 or permission

Course Typically Offered:

Alternating Years

Credits: 3

ECO 433 - Labor Economics

This course examines various types of labor-market data; such as earnings, unemployment, and labor-force participation. It explores theories of labor demand, labor supply, and human capital. This course examines some of the important factors that make labor markets unique; such as matching, implicit contracts, and bargaining power. Theories explaining significant differences in earnings (e.g., hedonic wages and discrimination) are developed. Income inequality and the effects of international trade are examined. Throughout the course, the effects of important public policies (e.g., minimum wage laws, taxes, and various forms of social insurance) are explored. Empirical evidence is also emphasized throughout the course.

Core Curriculum/Core Requirements: [""] Prerequisites:

C- or better in ECO 220 or permission

Course Typically Offered:

Spring, Alternating Years

Credits: 3

ECO 442 - Health Economics

This course surveys major topics in health economics including: the economic determinants of health; the market for health care and insurance; the role of government. We focus on the health system in the United States with comparisons to other countries, as well as health system reform. We also consider special topics including: the health endowment; business cycles and health; socio-economic gradients in health; health externalities; health behaviors and outcomes.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Prerequisites:

C- or better in ECO 220 or permission

Course Typically Offered:

Variable

Credits: 3

ECO 446 - Urban Economics

This course explores the economic dynamics of cities, examining the challenges and opportunities that arise in urban settings. We will combine economic theory with real-world applications to understand the relationships between individuals, firms, and government. You will gain insight into the forces shaping urban development, the allocation of resources, and the impact of policies on the economic vitality of cities. This course is ideal for those who are interested in economics, urban planning, public policy, as well as anyone seeking a deeper understanding of the economic intricacies of urban environments.

Prerequisites:

C- or better in ECO 220 or permission. ECO 446 cannot be taken for credit after passing ECO 370 with the topic of Urban Economics.

Course Typically Offered:

Fall

Credits: 3

ECO 450 - International Environmental Economics and Policy

International environmental economics and policy uses an economic framework to examine the reasons behind, and methods to solve, conflicts between economic development and growth, trade, and the environment. It then explores the processes of international policy development: identifying problems, designing and negotiating solutions, and implementing policies to change national behavior.

Core Curriculum/Core Requirements: [""] Prerequisites:

C- or better in ECO 220 or permission

Course Typically Offered:

Variable

Credits: 3

ECO 453 - Financial Economics

Examines the economics of financial markets, asset pricing, risks, and decision making in the face of uncertainty. Topics include the time value of money, the efficient market hypothesis, optimal portfolio allocation, and the capital asset pricing model.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in ECO 220 and in either MAT 116 or MAT 126 or permission

Course Typically Offered:

Alternate Years

Credits: 3

ECO 470 - Independent Capstone

This course is for students interested in completing an independent capstone project. Students must work with a faculty advisor to complete a research paper on an economic topic of their choosing.

Core Curriculum/Core Requirements: ["Writing Intensive and Capstone"] Prerequisites:

Permission required. Must have a faculty mentor before course registration.

Course Typically Offered:

Variable

Credits: 3

ECO 471 - Public Finance and Fiscal Policy

This course examines the effects of government spending and taxation. The course explores the various ways that markets fall to achieve socially optimal outcomes, which justifies government provision of some products such as education, pension (i.e., Social Security), medical insurance (Medicaid and Medicare), public assistance, and so forth. The course also studies the effects of various taxes needed to finance these and other types of government spending.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Prerequisites:

C- or better in ECO 220 or permission

Course Typically Offered:

Alternating Years

Credits: 3

ECO 475 - Industrial Organization

Explores the relationship between market structure, conduct and performance. Development of a general analytical framework to assess performance in existing markets and evaluation of current public policy on this basis.

Core Curriculum/Core Requirements: ["Writing Intensive, Capstone"] Prerequisites:

A grade of C- or better in ECO 220 and ECO 221

Course Typically Offered:

Not Regularly Offered

Credits: 3

ECO 477 - Natural Resource Economics and Policy

This course explores ways in which economic analysis can be used to inform and improve the management of natural resources. The goal of this course is to introduce students of the concepts of economics and how they relate to natural resource management. This course will cover topics, such as: How economists view the natural environment; Economic theory of resource exploitation

(renewable and nonrenewable resources); The use of natural resources and their regulation; and The effect of economic activity on the natural environment (and vice versa).

Core Curriculum/Core Requirements: ["Population and the Environment"] Prerequisites:
C- or better in either ECO 220

Course Typically Offered:
Every other spring

Credits: 3

ECO 480 - Introduction to Mathematical Economics

Mathematics used as a language in presenting concepts of economic theory.

Core Curriculum/Core Requirements: [""] Prerequisites:
A grade of C- or better in ECO 220 and in one of the following: MAT 116, MAT 126, MAT 127, or MAT 136

Course Typically Offered:
Variable

Credits: 3

ECO 488 - Spreadsheet Modeling and Decision Analysis

An examination of quantitative techniques for optimization and forecasting typically used by businesses. Emphasis is placed on modeling linear programming problems in Excel, determining optimal solutions, and interpreting parameter sensitivity. The course also covers forecasting, queuing models, and simulation modeling.

Core Curriculum/Core Requirements: [""] Prerequisites:
A grade of C- or better in ECO 220 or ECO 221 or permission

Course Typically Offered:
Variable

Credits: 3

ECO 489 - Senior Capstone

A writing intensive and discussion based course focusing on current economic problems. Students are required to prepare a major research paper and presentation in conjunction with the instructor.

Core Curriculum/Core Requirements: ["Writing Intensive and Capstone"] Prerequisites:
Senior Standing in School of Economics; a grade of C- or better in ECO 220, ECO 221, and ECO 266

Course Typically Offered:
Fall

Credits: 3

ECO 496 - Field Experience in Economics

Supervised employment in either the public or private sector. Requirements include initial proposal showing relevance of job and final report or paper. Permission required. Must have an internship proposal submitted to the internship/undergraduate coordinator. May be repeated for credit for a total of 9 completions and 27 total credits.

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission required. Must have an internship proposal submitted to the internship/undergraduate coordinator.

Course Typically Offered:
Fall & Spring

Credits: 3

ECO 497 - Independent Studies

Student-driven independent research of an economic topic. Students are required to have a faculty supervisor before being enrolled in this course. Permission required. Must have a faculty mentor before course registration. May be repeated for additional credit.

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission required. Must have a faculty mentor before course registration.

Course Typically Offered:
Fall, Spring, Summer

Credits: 1-3

Education

EDU 112 - Foundations of Education

A pre-professional course required of all education majors. This course examines historical, philosophical and current educational issues. The role of the professional educator is a focus, and the student evaluates personal skills and aptitudes in light of expectations for the profession. An eight hour practicum is required.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Course Typically Offered:
Fall and Spring

Credits: 3

EDU 216 - The Teaching Process

The purpose of this course is to gain understanding and offer experience in design, implementation and evaluation of curriculum aligned with assessment practices. Instructional goals and objectives to develop a variety of appropriate assessment tools for both formative and summative assessment are critical to effective teaching. Both classroom and standardized assessment and their reliability and validity will be considered. Philosophy, goals and practices are explored through cultural, economic, political and social influences on the curriculum.

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:
EDU 112 and ENG 101, or permission of instructor

Course Typically Offered:
Spring

Credits: 3

EDU 217 - Working with Culturally Diverse Students

This course explores the historical, philosophical and cultural foundations of education for a culturally diverse society. Students will use multiple frames of reference to examine the impact of race/ethnicity, class, gender and sexual orientation on the lives of students in America; the relationship of society and schools; and the responsibilities of schools and school personnel for promoting inclusivity. This course will focus on the social construction of privilege, examine the concept of "public" education and explore how schools can recognize and respond to issues of diversity.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"]

Prerequisites:
EDU 112 or SOC 101, or permission of instructor

Course Typically Offered:
Variable

Credits: 3

EDU 255 - Multicultural Literature for Children and Young Adults

The purpose of this course is to examine the impact of cultural, linguistic, and ethnic diversity in literature and how it applies to teaching. It introduces students to a variety of literature in which students will review and evaluate the literature of underrepresented groups such as African Americans, Asian Americans, Native Americans, Hispanic Americans and European Americans. It also requires introspection and an examination of bias, power, and privilege.

Prerequisites:
ENG 101 and EDU 112 or permission

Credits: 3

EDU 301 - Teaching and Learning

A self-designed supervised practicum experience involving tutoring; assisting a classroom teacher; and planning, implementing, and evaluating lessons in educational settings beyond the university classroom. Individual contracts are developed by the student, supervisor, and field practitioner for each experience. This course may be repeated for a total of no more than 9 cr.

Prerequisites:
EDU 112 or permission of instructor

Course Typically Offered:
Variable

Credits: .5-9

EDU 321 - Secondary Methods of Teaching

This is a course focusing on teaching methods for secondary education. Prospective secondary school teachers explore the nature and relevance of their content area for students in grades 7-12. In addition to considering the learner and the learning process, students are equipped with a range of specific instructional strategies for diverse populations, including the multicultural perspective. Teaching methods for the following secondary content areas are included: English, social studies, math, science and art. A 20 hour internship is required.

Prerequisites:

EDU 216 or permission

Corequisites:

EDU 359

Course Typically Offered:

Fall

Credits: 3

EDU 327 - Content Area Literacy Methods

This course focuses on content area literacy through the exploration and application of strategic teaching methods that will enhance student understanding of content area material. Participants will come to understand that learning is an active, constructive process and will recognize that using a variety of learning strategies and development of critical thinking skills will enhance understanding. Participants will be required to demonstrate knowledge and application of sound reading and writing strategies to be used in the classroom. These strategies will create readiness for learning, and will use reading and writing to promote content understanding. An additional focus is on encouraging extensive reading, discussion, enjoyment and appreciation of literature. A 20 hour internship is required.

Prerequisites:

EDU 359

Course Typically Offered:

Spring

Credits: 3

EDU 329 - Elementary Social Studies Methods

This course focuses on methods to teach elementary social studies curriculum and the diverse ways this component of the curriculum has been, and continues to be, defined in American schools. Students will explore a range of developmentally appropriate teaching strategies and resources that are especially pertinent to historical and cross-cultural topics, but also to procedures that are transferable to teaching other areas of the curriculum. Diffused throughout the course is an appreciation for cultural diversity and the value of looking at situations from multiple perspectives. A 20 hour internship is required.

Prerequisites:

EDU 216 or permission of instructor

Corequisites:

EDU 359

Course Typically Offered:

Spring

Credits: 3

EDU 332 - Elementary Science Education Methods

A course designed to explore issues and strategies relevant to science teaching in an elementary classroom. Integrated science curriculum materials are designed, implemented and assessed in a field practicum. Inquiry-based models for science instruction such as project-based learning are explored, as are more traditional instructional techniques. A 20 hour internship is required.

Prerequisites:

EDU 216 or permission of instructor

Corequisites:

EDU 359

Course Typically Offered:

Fall

Credits: 3

EDU 334 - Integrated Reading & Language Arts Methods

A course designed to assist prospective teachers in acquiring the competencies necessary to organize, instruct, evaluate, and manage the communication skills in the elementary/middle school programs. Course content focuses on the theories, approaches and related materials and effective practices in developmental listening, speaking, reading and writing in grades K-6. The focus is on an integrated approach to communication skills acquisition. Students are required to demonstrate competency in utilizing technology for skill reinforcement. Consideration is given to the needs of exceptional children in the regular classroom. A 20 hour internship is required.

Prerequisites:

EDU 216 or permission of instructor

Corequisites:

EDU 359

Course Typically Offered:

Fall

Credits: 3

EDU 344 - Elementary Math Methods

A course designed to acquaint prospective elementary and middle-level teachers with the content, strategies, techniques, materials, and organizational structures related to teaching mathematics. Topics include problem solving, logical thinking, finding numerical patterns, transmitting positive attitudes towards mathematics, and the use of manipulatives and technology. Methods of increasing the mathematics skills of children with exceptionalities are addressed. A 20 hour internship is required.

Prerequisites:

EDU 216 or permission of instructor

Corequisites:

EDU 359

Credits: 3

EDU 359 - Field Placement Lab

The purpose of this course is to provide students with the necessary support to meet the field placement requirements of their program coursework. The course is designed to ensure students understand the purpose of the placement and their role in the cooperating teacher's classroom, as well as develop and practice professional dispositions to maximize learning in the field placement experience.

Prerequisites:

EDU 216

Course Typically Offered:

Variable

Credits: 1

EDU 460 - Student Teaching

Student teaching is the final field experience for elementary, middle-level, and secondary education students. Individually assigned university supervisors and carefully selected cooperating teachers in local schools provide a 15-week extended apprenticeship into the profession. Students must participate in a portfolio defense at the conclusion of the student teaching experience, at which time the student teacher will provide evidence of achievement of the Maine Department of Education's initial teacher certification standards outlined in the syllabus. Student teachers must also attend campus-based orientation sessions and seminars designed to complement the student teaching experience. Prerequisite: acceptance by the Student Teaching Committee. Among other factors considered by the committee: (a) attainment of senior status; (b) GPA of 2.5 overall and in concentration and program courses; (c) successful completion of all required professional education courses; (d) successful completion of the writing sample; (e) completion of interview with education faculty; (f) attendance at an information session for student teaching applicants; (g) evidence of continuous personal growth and responsibility; and (h) successful completion of Praxis Core Academic Skills for Educators subtests and Elementary Education or relevant Praxis content area for secondary majors.

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:

Rural Education Major or Secondary Minor or Teacher Alternative Post-Bac and Departmental Consent

Course Typically Offered:

Fall & Spring

Credits: 12

Education Human Development

EDU 400 - Field Observation (Activity)

Study of education programs through visits, consultation and appraisal of practices in selected schools, instructional centers, clinics, laboratories and community agencies. Observations are considered in relation to research theory and practice. Students will complete a minimum of 100 hours in an assigned field placement.

Course may be repeated for credits for a total of 54 credits.

Core Curriculum/Core Requirements: [""] Prerequisites:

EDU 298, EDU 304, and SED 302 or permission

Course Typically Offered:

Fall & Spring

Credits: 1-6

EDU 490 - Student Teaching

A full-day, off-campus internship program in a selected school. (Pass/Fail Grade Only.)
NOT Student Teaching. Students who are in a teacher preparation program but choose to complete EHD 493 instead of student teaching will not be considered a graduate of a NCATE/CAEP approved program or a state approved program.

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:

Senior standing and EDE major, EDS major, KPE major, AED, or BME major

Course Typically Offered:

Fall & Spring

Credits: 1 - 12

EHD 100 - New Student Seminar in Education and Human Development

An introduction to university life and the requirements of programs in the College of Education and Human Development. Designed to help incoming students develop skills which enable them to be successful in college. Introduces academic, social resources, campus services and assist in career exploration. An important goal is to connect students with faculty, other students and the university community.
(Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Prerequisites:

First Year students in the College of Education and Human Development.

Course Typically Offered:

Fall

Credits: 1

EHD 101 - The Art and Science of Teaching

The Art and Science of Teaching integrates content knowledge and pedagogical knowledge. Weekly meetings highlight topics and issues central to 21st century education while overarching themes weave throughout the course: Reflective practice, diversity and inclusion, technology integration, differentiated instruction and evidence-based practice. Students reflect on the issues discussed in class and advocate for professional goals through written, oral, and technology-based composition.
Note: The Research Learning Experience (RLE) schedule includes daily and evening activities throughout the last week of August. A fee will be charged to cover these activities.
For assistance, please contact the College of Education and Human Development's Advising Center in 102 Shibles Hall, or email advisingcenter@maine.edu

Core Curriculum/Core Requirements: ["Writing Intenstive"] Prerequisites:

Restricted to Elementary, Secondary, Kinesiology and Physical Education Teaching/Coaching, Child Development and Family Relations majors only or Education minors only permission

Course Typically Offered:

Fall and Spring

Credits: 3

EHD 198 - Field Experience I: Developing Professional Identity

A one credit field experience course within a p-K-12 educational context (e.g. school, daycare, community center) that includes a bi-weekly educator led seminar. Students will observe various educators in multiple roles and develop their own emerging professional identities. This course may be repeated for credit for a total of 5 credits.

Prerequisites:

EDE or EDS Major, and CHRC or permission

Course Typically Offered:

Fall & Spring

Credits: 1-5

EHD 202 - Education in a Multicultural Society

An interdisciplinary and multicultural examination of the school-society relationship in the United States. Participants examine their own and others' assumptions about multiculturalism, globalization, and the political, economic, ecological, social, ethical and academic purposes that shape teaching and learning in the twenty-first century. Meets MDOE Diversity centered content requirement. Meets MDOE Diversity centered content requirement.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives and Writing Intensive"] Prerequisites:

Restricted to Elementary, Secondary, Kinesiology & Physical Education Teaching/Coaching and Outdoor Leadership, Child Development and Family Relations-Early Childhood, Art & Music Education majors or education minor or permission

Course Typically Offered:

Fall & Spring & Summer

Credits: 3

EHD 203 - Educational Psychology

A scientific study of human development, learning, cognition and teaching. Emphasis on theory and research and their application to educational problems.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall, Spring, Summer

Credits: 3

EHD 204 - Teaching and Assessing for Student Learning

Examines instructional planning, grouping of students, classroom space, appropriate teaching materials, the theory and ethical practice of educational assessment includes descriptive statistics, design, administration, scoring, and evaluation of assessments. Emphasis will be given to teacher-made formative and summative assessments including standardized assessments and how to incorporate data into backwards planning for unit and lesson design.

Core Curriculum/Core Requirements: [""] Prerequisites:

Teacher Candidacy or permission

Course Typically Offered:

Fall and Spring and Summer

Credits: 3

EHD 298 - Teacher Candidacy Field Experience

Students will observe in educational settings social agencies or working with K-12 schools, complete field experience guidelines report and assist teachers and professionals. May be repeated for a total of three credits.

Core Curriculum/Core Requirements: [""] Prerequisites:

EHD 198 or permission

Course Typically Offered:

Fall & Spring

Credits: 1-3

EHD 301 - Classroom-based Prevention and Intervention: Supporting Positive Behavior and Academic Achievement

This course examines the application of prevention and intervention theory and practice within classroom settings. Theoretical perspectives on risk and resilience as they pertain to the development of competent social behaviors, including those found to facilitate social relationships, serve as academic enablers, and promote self-determination will be addressed. Applied behavioral analysis, social learning theory, and the eco-behavioral framework will serve as the primary intellectual roots for this course. Particular emphasis will be given to creating a comprehensive classroom plan based on evidence-based practices and implemented within a cohesive system of behavioral and academic support and intervention. Contextual factors such as home, community, race, culture and SES, within the broader domain of social justice will provide the ecological backdrop of our study. EHD 301 and EHD 511 cannot both be taken for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

Teacher Candidacy status or permission

Course Typically Offered:

Fall and Spring and Summer

Credits: 3

EHD 421 - Methods for Teaching Literacy

Students examine methods for reading and writing instruction in content area classrooms.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Spring and Summer

Credits: 3

EHD 466 - The Methods of Teaching of World Languages

Includes analysis of current trends and methods, application of language learning principles to classroom procedures, theory and practice of language methodologies at different learning levels, use of technologies such as video and computers in the instructional process. For students seeking certification in foreign language teaching.

Core Curriculum/Core Requirements: [""] Prerequisites:

Teacher Candidacy status for Secondary Education majors; EHD 204 and SED 302.

Course Typically Offered:

Fall, every other year

Credits: 3

EHD 491 - Full-Day Student Teaching (Secondary)

A full-day, off-campus internship program in a selected school. (Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:

Teacher Candidacy status for Secondary Education majors and senior standing.

Course Typically Offered:

Fall & Spring

Credits: 1 - 12

EHD 493 - Alternative Practicum and Seminar in Education

Alternative capstone experience for students who choose not to seek teacher certification prior to graduation and takes the place of the student teaching experience. Students will develop and implement an approved course of study to include the following components: research review; application of research to practice; reflection; and presentation. May combine a practicum as part of the course of study within the seminar. Students will draw upon academic and professional course work, examine and reflect on their understandings about teaching and learning, apply integrated educational skills and knowledge in approved settings, and develop projects that synthesize academic and professional experiences.

Course may be repeated a total of 2 completions with 6 total credits.

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:

Department Consent

Course Typically Offered:

Fall, Spring, Summer

Credits: 3 - 6

EHD 494 - Student Teaching K-12 (Art or Music)

Observation and student teaching in selected elementary and/or secondary schools. (Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:

Senior standing; EHD 202 and EHD 203 or equivalents and a methods course.

Course Typically Offered:

Fall & Spring

Credits: 1 - 12

EHD 498 - Seminar for Interns

Students examine and reflect on their understanding about teaching and learning, apply integrated educational skills and knowledge and synthesize academic and professional experiences from their courses, field experiences and internships to develop and finalize their Teacher Candidacy portfolio.

Core Curriculum/Core Requirements: [""] Prerequisites:

Senior standing; completion of all other program requirements or permission.

Corequisites:

EHD 490 or EHD 491 or EHD 496 or EHD 497 or EHD 499.

Course Typically Offered:

Fall & Spring

Credits: 1-3

EHD 499 - Student Teaching K-12 (Kinesiology and Physical Education)

Observation and student teaching in selected elementary and/or secondary schools.

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:

Teacher Candidacy status for Kinesiology & Physical Education majors and senior standing

Course Typically Offered:

Fall & Spring

Credits: 1 - 12

SED 397 - Field Experience IV: Focus on Special Education

A one-credit field experience course within a p-K-12 school that includes a bi-weekly educator-led seminar. Students will spend time with special education teachers and ed techs to develop their knowledge and skills for supporting all learners in multiple contexts. Course may be repeated fo a total of 3 credits.

Prerequisites:

EHD 298 or Permission

Corequisites:

SED 302

Course Typically Offered:

Fall and Spring

Credits: 1-3

Education Language Learning

ELL 477 - Curriculum and Assessment in ESL/EFL Contexts

This course develops an understanding of the purposes of assessments that inform curriculum development and increase ELL academic language acquisition while also developing high-level, content-specific knowledge and skills. Designed for practicing teachers with ELL student in their classes, those seeking Maine's ESL endorsement or individuals planning to teach EFL overseas. Also suitable for those preparing to teach a second language other than English.

Core Curriculum/Core Requirements: [""] Prerequisites:

INT 410

Credits: 3

Education Literacy

EDU 319 - Methods for Teaching the Science of Foundational Reading and Writing in Preschool to Grade 3

Current methods, materials, and assessment tools in teaching the science of reading and writing to children preschool to grade three, including early literacy development, oral and listening language development, phonemic awareness instruction, explicit phonic instruction, spelling development, guided reading/shared reading, handwriting instruction, the writing processes of young children, and reading and writing reciprocity in literacy development. *Field experience required as part of the course.
Notes: This course requires 20 hours of field experience at a regional school. The expectation is that the teacher candidate is in a school placement for 2-2.5 hours for 8 weeks

Core Curriculum/Core Requirements: [""] Prerequisites:
EDU 298

Course Typically Offered:
Fall & Spring

Credits: 4

EDU 420 - Methods for Teaching the Science of Content Reading and Writing in Grades 3-8

Current methods, materials, strategies, and assessment tools to teach and assess reading and writing in grades 3-8, including the foundation for using scientific approaches to teaching vocabulary, content area reading, the reading/writing connection, narrative and informational text, and print skills with intermediate/middle grades students.

Core Curriculum/Core Requirements: [""] Prerequisites:
EDU 298, EDU 304 and SED 302 or by permission

Course Typically Offered:
Fall & Spring

Credits: 3

ERL 217 - Children's Literature

An overview of literature written for children between the ages of four and twelve. Emphasis on developing criteria for evaluating various types of books and selecting for individual children.

Core Curriculum/Core Requirements: [""] Prerequisites:
ENG 101

Course Typically Offered:
Fall & Spring

Credits: 3

ERL 441 - Methods of Teaching English in the Secondary School

This is a teaching methods course for future English/Language Arts teachers at the middle and secondary school levels. Students explore a variety of teaching strategies for organizing a secondary English/Language Arts curriculum, utilizing the national standards of the Common Core, and planning, implementing, and assessing appropriate instruction using current best practices for the effective teaching of English/Language Arts. The course includes a mandatory field experience.

Core Curriculum/Core Requirements: [""] Prerequisites:
Admission to Teacher Candidacy in English Education (Secondary); EHD 204; SED 302 or by permission only

Corequisites:
EHD 400

Course Typically Offered:
Fall

Credits: 3

ERL 472 - Language and Linguistics

Provides future English and world language teachers with a knowledge of linguistics as it impacts the classroom. Covers the nature and characteristics of human language, the components of language, language change and language variation, the history of the English language, and linguicism. If this course was taken under as a topics course in EHD 472, it cannot be repeated for credit.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Spring

Credits: 3

Education Mathematics

EDU 424 - Teaching Mathematics in Elementary School

An instruction to methods and techniques in teaching mathematics, arithmetic readiness program, instructional and evaluation material.

Core Curriculum/Core Requirements: [""] Prerequisites:

EDU 298, EDU 304 and SED 302 or permission

Course Typically Offered:

Fall & Spring

Credits: 3

EMA 405 - Methods for Teaching Mathematics in the Secondary School

This is a three (3) credit-hour course for prospective secondary mathematics teachers. The course focuses on methods of mathematics teaching and the knowledge of mathematics secondary teachers need to develop an effective teaching practice. EMA 405 and EMA 505 cannot both be taken for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

Teacher Candidacy status, EHD 204, SED 302, Calculus 1 or permission only.

Corequisites:

EHD 400

Course Typically Offered:

Fall

Credits: 3

Education Science

EDU 426 - Methods for Teaching Science in the Elementary School

Presents instructional methods and approaches to teaching science and scientific inquiry in grades K-8. Emphasis on developing learning goals, research literature, instructional methods, curriculum development, reflective teaching, and evaluation techniques.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

EDU 298, EDU 304 and SED 302 or permission

Course Typically Offered:

Fall & Spring

Credits: 3

ESC 452 - Methods for Teaching Science in the Secondary School

Instructional methods and approaches to teaching science and scientific inquiry in grades 7-12. Emphasis on research literature, curriculum development, reflective teaching and evaluation techniques. ESC 452 and ESC 552 cannot both be taken for credit

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

Teacher Candidacy status for Secondary Education majors; EHD 204 and SED 302 or by permission.

Corequisites:

EHD 400

Course Typically Offered:

Fall

Credits: 3

Education Social Studies

EDU 425 - Methods for Teaching Social Studies in the Elementary School

Examines methods and materials for social studies in the elementary school and ways of relating the work of the social studies class to an understanding of practical problems of the community.

Core Curriculum/Core Requirements: ["Western Cultural Tradition"] Prerequisites:

EDU 298, EDU 304 and SED 302 or by permission

Course Typically Offered:

Fall & Spring

Credits: 3

ESS 441 - Methods for Teaching Social Studies in the Secondary School

Covers current practices in teaching social studies, selection and use of instructional materials, modern trends in curriculum construction for social studies in the secondary school.

Core Curriculum/Core Requirements: [""] Prerequisites:

Teacher Candidacy status for Secondary Education majors; EHD 204 and SED 302 or permission.

Corequisites:

EHD 400

Course Typically Offered:

Fall

Credits: 3

Education Special Education

SED 302 - Adapting Instruction for Students with Disabilities

Develops knowledge and understanding of students with disabilities. Topics include: adaptation of instruction, legal and ethical issues, family and social relationships and collaboration between school and community agencies.

Core Curriculum/Core Requirements: [""] Prerequisites:

Art Education, Music Education, Teacher Candidacy, or permission.

Course Typically Offered:

Fall & Spring & Summer

Credits: 3

SED 303 - Communication & Collaboration in Special Education

This course provides the special educator with techniques and skills for effective communication, consultation and collaboration with families, general educators, and other professionals. The main emphasis of the course is on understanding collaborative consultation as a process that enables people with diverse expertise to work together to generate solutions for educating students with special needs. The course will increase awareness of the framework and rationale for collaboration, the facilitating factors involved, and strategies for implementation.

Prerequisites:

SED 302 or permission of instructor.

Course Typically Offered:

Summer

Credits: 3

SED 329 - Internship in Special Education

Students enrolled in this course will attend and engage at a field placement setting. The number of hours required in the field will be determined by the number of credits for which the student enrolls. During the field placement, the student will engage in classroom instruction and management. Students will develop a unit plan, teach lessons and engage in formative and summative assessment. Students will explore evidence-based practices in order to develop lesson plans that are directly aligned with IEP goals and district/state curriculum/standards, and to identify/design individualized accommodations, modifications or strategies that are essential for the student with special needs to benefit from their educational program. The student will develop mock written communications with professionals and parents/caregivers.

Core Curriculum/Core Requirements: ["Capstone and Service Learning in Major"] Prerequisites:

SED 330 and SED 370, or permission of instructor.

Course Typically Offered:

Fall and Spring

Credits: 1 - 9

SED 330 - Teaching Math in Special Education

This course is designed to help prospective special education teachers understand the Maine Learning Results, national mathematics standards, instructional strategies and assessment techniques, and to develop organizational structures related to teaching mathematics to diverse learners in elementary schools. Topics include problem solving, finding numerical patterns, fractions and percents, measurement, characteristics of geometric shapes, developing positive attitudes towards mathematics, and

the use of manipulative and computer software. Methods of adapting lessons for diverse learning needs and increasing the mathematics skills of children with special needs in inclusive classrooms are the central issues to be addressed.

Prerequisites:

SED 302, or permission of instructor.

Course Typically Offered:

Fall

Credits: 3

SED 362 - Typical & Atypical Expressive & Receptive Language

The purpose of this course is to inform students about the stages of expressive and receptive language. It will explore syntax, morphology, semantics, phonology, and pragmatics, as well as atypical development, individual differences, and how and why they occur. Studies will apply theories of child development, speech and hearing science and language development and disorders in order to devise language interventions for students with communication disorders.

Prerequisites:

SED 302 or permission of instructor

Course Typically Offered:

Fall

Credits: 3

SED 365 - Differentiated Instructional Strategies

A course designed to provide K-12 pre-service teachers with the knowledge and skills to create and teach lessons that are varied to meet the individual learning needs of all students. Students will engage in various activities through which they will learn to implement teaching strategies designed to create multiple paths so that students with varying abilities, interests or learning needs experience appropriate ways to use, develop and apply concepts as part of the learning process. Students will learn how to differentiate instruction by varying the content, process and/or product in their units and lessons to meet the needs of all learners. A 10 hour practicum is required.

Prerequisites:

SED 302 or permission of instructor

Course Typically Offered:

Variable

Credits: 3

SED 370 - Teaching Reading/Writing to Children with Special Needs

This course will facilitate the development of competencies related to the identification of diverse reading and writing skills and the development of appropriate individualized instructional goals and methods for individuals with exceptionalities in reading and writing.

Prerequisites:

SED 302 or permission of instructor

Course Typically Offered:

Spring

Credits: 3

SED 380 - Teaching Students with Autism Spectrum Disorders

Students in this course will gain knowledge of the IDEA and DSM-V definitions of Autism Spectrum Disorders, prevalence and possible causes. Characteristics, teaching strategies, adaptations, and related disorders secondary to Autism Spectrum Disorders will be explored.

Course Typically Offered:

Summer

Credits: 3

SED 420 - Special Education Law

Students will study the American legal system and procedural due process in order to develop a framework for addressing legal issues relating to students with disabilities. The six principles of the Individuals with Disabilities Education Act will be covered, as well as providing for a free appropriate public education; identifying and assessing students; educating in the least restrictive

environment; providing related services; addressing discipline issues; and finding solutions to challenging situations facing students with disabilities. The role of the federal, state and local government in special education issues will also be covered, with special emphasis on case and regulatory law, including Maine regulations.

Prerequisites:
SED 302 or permission of instructor

Course Typically Offered:
Fall

Credits: 3

SED 425 - Assessment in Special Education

Students in this course will examine the principles and procedures of non-discriminatory evaluation under IDEA as it relates to K-12 students with mild to moderate disabilities. Emphasis will be placed on basic terminology; legal and ethical principles related to the assessment of students with special needs; technical adequacy of assessment instruments; identification of assessment instruments; administration of individualized norm-referenced assessments; and effective communication of evaluation results.

Prerequisites:
SED 302 or permission of instructor

Course Typically Offered:
Fall

Credits: 3

SED 435 - Program Planning for Students with Disabilities

Students will develop an understanding of the process by which students are found eligible for special education services, and how to plan appropriate individualized education programs (IEPs) for students who are eligible for special education services. Legal and procedural requirements of program planning are reviewed, and an emphasis is placed upon applying evaluation results to the development of a professional IEP. Communication and collaboration in collaborative group work is emphasized.

Prerequisites:
SED 302 or permission of instructor

Course Typically Offered:
Variable

Credits: 3

SED 445 - Behavioral Support Systems and Strategies

Systems of positive behavioral support and intervention are explored in the context of targeting chronic maladaptive behaviors. Methods of data collection and analysis are also examined and applied. A 20 hour practicum is required.

Prerequisites:
SED 302 or permission of instructor

Course Typically Offered:
Variable

Credits: 3

SED 455 - Transitional Issues for Students with Disabilities

This course provides instruction in techniques and resources used to assist individuals with special needs experience success in school settings and transition into a wide range of environments. Emphasis is placed on transition into academic, independent living and vocational settings through the design of instructional programs that address individual needs and maximize quality of life. Accessibility, life skills, community-based instruction, and assistive technology are explored at length.

Prerequisites:
SED 302 or permission of instructor

Course Typically Offered:
Variable

Credits: 3

SED 460 - Student Teaching in Special Education

Student teachers participate in a variety of experiences in a school setting while working under the supervision of a certified special education teacher. The student teacher works primarily with children who have mild to moderate disabilities, though the setting may

differ from placement to placement, including self-contained, resource and general education inclusive settings. Student teachers expand and refine their knowledge and skills related to the Maine Initial Teacher Certification Standards as they apply, in particular, to students with mild to moderate disabilities and increase their responsibilities over time, with a minimum of two weeks' full-time teaching in the role of special education teacher. Student teachers participate in an orientation and bi-weekly seminars during their student teaching experience, and develop an electronic portfolio through their time in the field. The student teacher must demonstrate evidence of attainment of the Maine Initial Teacher Certification Standards through the portfolio and portfolio defense.

Core Curriculum/Core Requirements: ["Capstone and Service Learning in Major"] Prerequisites:
Rural Education Major or Secondary Minor or Teacher Alternative Post-Bac and Departmental Consent

Course Typically Offered:
Fall and Spring

Credits: 12

Education Telecommunications

EDT 400 - Integrating Technology for Teaching and Learning

Pre-service teachers learn technology tools to support teaching and learning in classrooms. Content includes application of technology (ISTE) standards required for teacher certification to instruction and assessment. Required for Elementary Education, Child Development and Family Relations Early Childhood Education option majors, and Secondary English majors.

Core Curriculum/Core Requirements: [""] Prerequisites:
Elementary, Secondary, KPE Teaching/Coaching Concentration, Child Development and Family Relations for Early Childhood Education majors only or Education minors or permission

Course Typically Offered:
Fall & Spring

Credits: 3

Electrical and Computer Engineering

ECE 100 - Electrical and Computer Engineering Seminar

Introduces first year and transfer students to different aspects of Electrical Engineering and Computer Engineering programs and exploration of career paths and professional responsibilities. Presentations will be made by the instructor, faculty, and industry speakers.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Fall

Credits: 1

ECE 101 - Introduction to Electrical and Computer Engineering

Introduction to information and concepts of general use in Electrical and Computer Engineering. Topics include: basic use of personal computers, mathematical concepts, development of problem solving skills with professional communication. Students work in teams on projects involving digital and motor control.

Core Curriculum/Core Requirements: [""] Prerequisites:
Computer Engineering and Electrical Engineering majors only or permission.

Course Typically Offered:
Fall

Credits: 3

ECE 177 - Programming I: From C Foundations to Hardware Interaction

Introduction to computer programming with emphasis on algorithms and an understanding of underlying hardware. Topics include syntax, variables, control structures, pointers, operators, functions, and input and output.

Core Curriculum/Core Requirements: [""] Prerequisites:
Engineering or Pre-Engineering Majors or permission

Course Typically Offered:
Spring

Credits: 4

ECE 198 - Selected Topics in Electrical and Computer Engineering

Topics in electrical engineering not regularly covered in other courses. May include ECE topics suitable for advanced first-year students. Content can be varied to suit current needs. May be repeated for credit for a total of 9 completions and 27 total credits as long as topics differ.

Core Curriculum/Core Requirements: [""] Prerequisites:

Permission.

Course Typically Offered:

Variable

Credits: 1-3

ECE 209 - Fundamentals of Electric Circuits

Basic circuit laws and theorems, operational amplifiers, natural and forced response of first order circuits, phasors and steady-state AC circuits, 3 phase circuits. For non-majors. Lec 3.

Core Curriculum/Core Requirements: [""] Corequisites:

MAT 127, PHY 122

Course Typically Offered:

Fall and Spring

Credits: 3

ECE 210 - Electric Circuits I

Topics include: Basic circuit laws and theorems, nodal analysis, op-amps, natural and forced responses of first and second order systems, phasor concepts, solution of steady-state AC circuits, AC power calculations.

Corequisites:

MAT 127 and PHY 122

Course Typically Offered:

Fall & Spring

Credits: 3

ECE 214 - Electric Circuits II

Extension of ECE 210 introducing frequency response, basic filters, Bode plots, and Fourier Series, with lab exercise and circuit simulations to demonstrate concepts. Participants become familiar with circuit simulation, safety and grounding considerations, instrumentation, e.g., oscilloscopes, signal sources, multimeters, and signal analyzers. Also of particular significance will be the development of technical writing skills.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

ECE 210, MAT 127

Course Typically Offered:

Spring

Credits: 4

ECE 271 - Microcontroller Systems and Interfacing

This course introduces modern microcontroller systems, emphasizing hardware structure and software programming for device control. Topics include data representation, CPU and memory organization, assembly and C programming, interrupts, DMA, timers, ADC/DAC, digital I/O, and serial communication. Hands-on labs enable students to interface microcontrollers with sensors, displays, and motors to create practical embedded applications.

Core Curriculum/Core Requirements: [""] Prerequisites:

ECE 177

Course Typically Offered:

Fall

Credits: 4

ECE 275 - Sequential Logic Systems

Methods of design and testing for logic systems with memory. Includes procedures and the design of system tests, combinational design, multi-level circuits, logic minimization, sequential design, analysis and optimization and the use of computer tools for logic design. Lec 3. (Fall.)

Core Curriculum/Core Requirements: [""] Prerequisites:
ECE 177.

Course Typically Offered:
Spring

Credits: 3

ECE 277 - Programming II: From Hardware to Objects

This course advances programming skills by integrating hardware concepts with software development practices in computer engineering. Students master essential data structures and object-oriented programming (OOP) principles while learning to write efficient, hardware-aware code. Through practical lab assignments, they apply these concepts to real-world hardware and software integration challenges, enhancing their ability to develop robust and scalable engineering solutions.

Prerequisites:
ECE 177

Course Typically Offered:
Fall

Credits: 4

ECE 314 - Signals and Systems

Analysis of continuous linear time-invariant systems including Fourier series, Fourier transforms, Laplace transform techniques and their applications; transformation and properties of continuous signals and systems, convolution, transfer functions and state variable system representations.

Core Curriculum/Core Requirements: [""] Prerequisites:
MAT 258 or MAT 259 and a grade of C- or better in ECE 210

Course Typically Offered:
Fall

Credits: 3

ECE 316 - Random Signal Analysis

This course introduces the fundamental concepts of random signal analysis based on probability theory and random processes. It presents the mathematical and engineering tools to analyze and interpret random events occurring in natural phenomena, games, sciences, and engineering.

Core Curriculum/Core Requirements: [""] Prerequisites:
MAT 127

Course Typically Offered:
Fall

Credits: 3

ECE 331 - Embedded Operating System Design

This course provides an in-depth exploration of managing computational resources in embedded and distributed systems. Topics include automation, process synchronization, memory management, real-time data handling, security, and system concurrency. Emphasis is placed on practical applications in resource-constrained environments, where efficient hardware-software integration is critical. Students will work on hands-on projects involving low-level programming and real-time performance optimization on resource-constrained platforms.

Core Curriculum/Core Requirements: [""] Prerequisites:
COS 235 or ECE 271

Course Typically Offered:
Spring

Credits: 3

ECE 342 - Electronics I

Investigates semiconductor fundamentals of the p-n junction, BJT and MOSFET. Static and low frequency dynamic models are developed and utilized in design and analysis. Explores basic electronic circuit building blocks based on diodes, BJT's MOSFET's and fully-compensated op-amps. Digital efforts are concentrated in the CMOS and pseudo-NMOS areas.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

ECE 214 and at least a C- in ECE 210

Course Typically Offered:

Fall

Credits: 4

ECE 343 - Electronics II

Introduces design and analysis of semiconductor circuits. Analog networks include amplifiers, power supplies and oscillators. Digital efforts are concentrated in the CMOS and pseudo-NMOS areas with a brief look at the BJT logic. Explores basic concepts of frequency response, feedback and data conversion. Lec 3, Lab 3. (Spring.)

Core Curriculum/Core Requirements: [""] Prerequisites:

ECE 342.

Course Typically Offered:

Spring

Credits: 4

ECE 351 - Fields and Waves

Topics include: Transmission lines and wave propagation with special emphasis on transverse electromagnetic waves in dielectric and lossy media, complex numbers, vectors, phasors, vector calculus, Smith Chart, electrostatics, magnetostatics, Gauss's laws, Faraday's law, Ampere's law, Maxwell's equations, properties of dielectric and ferromagnetic materials, time varying fields, wave reflection and transmission, waveguides, radiation.

Core Curriculum/Core Requirements: [""] Prerequisites:

MAT 228 and C- or better in ECE 210.

Course Typically Offered:

Spring

Credits: 3

ECE 394 - Electrical and Computer Engineering Practice

Work experience in electrical engineering and/or computer engineering. May be repeated for credit for a total of 9 completions and 27 total credits.
(Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Prerequisites:

Sophomore standing and permission.

Course Typically Offered:

Fall, Spring, Summer

Credits: 1-3

ECE 401 - Electrical Engineering Design Project

First of a three semester sequence of courses involving the design, implementation and reporting of an engineering device, system or software package by an individual student or small group. Part one: project selection, feasibility studies and proposal writing.

Core Curriculum/Core Requirements: [""] Prerequisites:

ECE 342 and either ECE 314 or ECE 351; Electrical Engineering Majors

Course Typically Offered:

Fall, Spring, Summer

Credits: 2

ECE 402 - Electrical Engineering Design Project

Second of a three semester sequence of courses involving the design, implementation and reporting of an engineering device, system or software package by an individual student or small groups. Part two: resource location, module debugging, prototype testing. (Fall.)

Core Curriculum/Core Requirements: [""] Prerequisites:

ECE 401; Electrical Engineering Majors

Course Typically Offered:

Fall, Spring, Summer

Credits: 4

ECE 403 - Electrical and Computer Engineering Design Project

Third of a three semester sequence of courses involving the design, implementation and reporting of an engineering device, system or software package by an individual student or small group. Part three: written and oral presentation of the completed project.

Core Curriculum/Core Requirements: ["Writing Intensive and Capstone"] Prerequisites:

ECE 402 or ECE 406

Course Typically Offered:

Fall & Spring

Credits: 2

ECE 405 - Computer Engineering Design Project

First of a three semester sequence of courses involving the design, implementation and reporting of an engineering device, system or software package by an individual student or small group. Part one: project selection, feasibility studies and proposal writing.

Core Curriculum/Core Requirements: [""] Prerequisites:

Computer Engineering Majors, ECE 271 and any two of the following courses - ECE, 331, ECE 342, ECE 471, or ECE 473.

Course Typically Offered:

Fall, Spring, Summer

Credits: 2

ECE 406 - Computer Engineering Design Project

Second of a three semester sequence of courses involving the design, implementation and reporting of an engineering device, system or software package by an individual student or small groups. Part two: resource location, module debugging, prototype testing.

Core Curriculum/Core Requirements: [""] Prerequisites:

Computer Engineering Majors, ECE 405 and ECE 214

Course Typically Offered:

Fall, Spring, Summer

Credits: 4

ECE 414 - Feedback Control Systems

Analysis and design of continuous control systems using transfer function and state variable system representations. Covers signal flow graphs and Mason's gain formula, decomposition of transfer functions, controllability and observability, root locus techniques, Routh-Hurwitz criterion, Nyquist criterion, controller design in time and frequency domains, State feedback, phase lead and lag controllers, PID type controllers.

Core Curriculum/Core Requirements: [""] Prerequisites:

ECE 314

Course Typically Offered:

Spring

Credits: 3

ECE 417 - Mobile Robotics

This course focuses on Mobile Robots: the robots like a self-driving car that move around. This is in contrast to Robotic arms installed in factories for automatic production. In this course, the students will focus on getting a taste of and understanding the basics of a wide range of robotics technology, including mathematical fundamentals, algorithms and programming. The students will learn the basic algorithms for robotic perception (understanding the world around the robot), mapping (creating a model of the environment around the robot), localization (tracking the position of the robot in the environment), planning and control (robotic decision-making to achieve a desired outcome).

Core Curriculum/Core Requirements: [""] Prerequisites:

MAT 258 or MAT 262 and COS 125 or COS 135 or COS 220 or ECE 177 or MEE 125 or Instructor Permission

Corequisites:

ECE 316 or STS 332 or CHE 350

Course Typically Offered:

Fall

Credits: 3

ECE 427 - Electric Power Systems

Power system models, power flow solutions, fault analysis, protective relaying.

Core Curriculum/Core Requirements: [""] Prerequisites:

At least a C- in ECE 210.

Course Typically Offered:

Fall

Credits: 4

ECE 428 - Smart Grid and Enabling Technologies

This course will present the foundations of smart grid, the technology that enables smart grids, the current state of the industry, and future trends in smart energy. The course will include an introduction to smart grid architecture, including traditional grids, the fundamentals of electric power, definitions and classifications of smart grids, and the components of smart grid technology, data analytics and AI in smart grids, opportunities and challenges from grid integration of renewable energy sources and a practical discussion of the applications of power electronics in the smart grid. **If this course was taken as a topics course in ECE 498, it cannot be repeated for credit.**

ECE 528 and ECE 428 cannot both be taken for degree credits.

Prerequisites:

ECE 427 or permission.

Course Typically Offered:

Fall

Credits: 3

ECE 435 - Network Engineering

Focuses on the engineering aspects of data networks including physical media and interconnections, signals and noise, modulation, multiplexing, frame and packet transmission, routing, network design and network management. Problem solving and diagnostic methods, legal and professional issues, ethics and policies, and security aspects of interconnected networks are discussed. Students gain hands-on experience and complete networking projects.

Core Curriculum/Core Requirements: [""] Prerequisites:

COS 331 or ECE 331 or ECE 471

Course Typically Offered:

Spring

Credits: 3

ECE 444 - Analog Integrated Circuits

Considers topics in the internal circuit design and system applications of analog integrated circuits. Concerns addressed include temperature and power supply sensitivity, gain, bandwidth, stability and I/O characteristics. Specific topics include current sources, differential amplifiers, level shifters, op-amps, regulators and phase-locked loops. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

ECE 314 and ECE 342

Course Typically Offered:

Spring

Credits: 3

ECE 445 - Analysis and Design of Digital Integrated Circuits

Reviews device characteristics with emphasis on switching behavior. Considers ramifications of need for designs to be compatible with IC processing technology. Emphasis on CMOS and ECL based systems. Explores interface and optimization problems as related to timing and loading. Brief look at significant parameters needed for accurate computer modeling. Lec 3. (Fall.)

Core Curriculum/Core Requirements: [""] Prerequisites:

ECE 342.

Course Typically Offered:

Spring

Credits: 3

ECE 450 - Power Electronics

This course is an introduction to switch-mode power conversion. This course covers analysis and control of dc-dc converters, buck converters, boost converters, buck-boost converters, forward converters, flyback converters, dc-ac inverters for motor drives, interfacing renewable energy sources with utility, ac-dc rectifiers, and introduction to power semiconductor devises and magnetic components.

Core Curriculum/Core Requirements: [""] Prerequisites:

ECE 314

Course Typically Offered:

Fall

Credits: 3

ECE 453 - Microwave Engineering

Topics include: rectangular and cylindrical waveguides, transmission line models, impedance matching, Smith chart methods, microwave circuits and components, s-parameter measurement techniques and antennas. (Spring.)

Core Curriculum/Core Requirements: [""] Prerequisites:

ECE 351.

Course Typically Offered:

Fall

Credits: 4

ECE 455 - Electric Drives

This course is an introduction to electric drive and their control. The course covers mechanical dynamics associated with electric drive systems, analysis and control of DC motors, induction motors, and permanent magnet AC motors, four quadrant motor operations, feedback control design for torque, speed and position.

Core Curriculum/Core Requirements: [""] Prerequisites:

ECE 314

Course Typically Offered:

Fall

Credits: 3

ECE 456 - Electric Drives Lab

This lab is an introduction to electronic drives and their control. The lab course will introduce characterization of DC motors, and current, torque, and speed control of DC motors. The lab will also introduce characterization of induction motors and V/f speed control. Lastly the lab will introduce control of permanent magnet AC motors.

Core Curriculum/Core Requirements: [""] Prerequisites:

ECE 314

Corequisites:

ECE 455

Course Typically Offered:

Fall

Credits: 1

ECE 457 - Nanoscience

An introduction to nanoscience that details the basic principles and recent developments of nanoscale science and technology. Students will learn both the fundamental concepts of nanoscale science and its application to the development of new materials, processes technology and devices. Scientific explanations for the basis of nanoscale derived properties will be illustrated by specific research examples. Topics will include: nanoscale materials, micro/nano fabrication, nano instrumentation, atomic manipulations and nanorobotics. CHY 477 and ECE 457 are identical courses.

Core Curriculum/Core Requirements: [""] Prerequisites:

CHY 122 or CHY 131 and PHY 122 and MAT 258

Course Typically Offered:

Fall

Credits: 3

ECE 462 - Introduction to Basic Semiconductor Devices and Associated Circuit Models

Introduces the fundamental device material that is basic to electronics-engineering. Initial concepts include diamond (zinc-blende) crystal structure, holes, free electrons, drift, diffusion, and the energy band model. These are then used to explore p-n junction and MOS structures including the extraction of SPICE model parameters. A more detailed look at reasons behind the characteristics of p-n and Schottky diodes, MOSFETs and BJTs follows. The goal is an understanding of the behavior of the basic semiconductor devices, their limitations and their models. If time permits additional topics from the following list will be discussed: Power Semiconductors, Photonic Devices, Semiconductor Reliability. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

CHY 121 or CHY 131 and PHY 122.

Corequisites:

MAT 258.

Course Typically Offered:

Fall

Credits: 3

ECE 463 - Energy Harvesting and Sensing

This course will introduce students to energy harvesting and sensing, focusing on key concepts and applications. It will cover the fundamentals as well as some notable developments in energy harvesting from mechanical and thermal sources. Instead of attempting an exhaustive overview, the course emphasizes fundamental principles and key developments in energy harvesting and sensing. **If this course was taken as a topic in ECE 498, it cannot be taken for credit.**
ECE 563 and ECE 463 cannot both be taken for degree credits.

Prerequisites:

ECE 342 or permission.

Course Typically Offered:

Fall

Credits: 3

ECE 464 - Microelectronics Science and Engineering

The science and engineering of CMOS and deep sub-micron semiconductor device fabrication. Semiconductor process steps including: diffusion, oxidation, reactive ion etching, chemical etching, surface cleaning, lithography, ion implantation, thin film deposition and chemical-mechanical polishing. A CMOS process flow is outlined. Computer simulation is utilized to provide insight into ion implantation, diffusion and lithography. Lec 3

Core Curriculum/Core Requirements: [""] Prerequisites:

PHY 122 and CHY 121 or 131;

Corequisites:

MAT 258

Course Typically Offered:

Spring

Credits: 3

ECE 465 - Introduction to Sensors

Various types of conductometric, acoustic, magnetic, thermal and optical sensors are presented. Techniques for interfacing the sensors using microprocessor control systems and signal processing are discussed. Applications of sensor systems in medicine, environmental monitoring, the automotive industry, the chemical industry, manufacturing and construction are given. (Spring.)

Core Curriculum/Core Requirements: [""] Prerequisites:

junior standing in engineering.

Course Typically Offered:

Fall and Summer

Credits: 3

ECE 466 - Sensor Technology and Instrumentation

Design and fabrication techniques for piezoelectric, thin film, fiber optic and silicon based sensors. Topics include: cutting,

polishing and cleaning crystals, the deposition of electrodes and sensing elements and sensor characterization. Students will design, fabricate and test a sensor.

Core Curriculum/Core Requirements: [""] Prerequisites:
ECE 465

Course Typically Offered:
Spring

Credits: 4

ECE 467 - Solar Cells and Their Applications

This course is concerned with electricity generation direction from solar energy using photovoltaic solar cells. The solar spectrum is discussed, solar cell types are introduced and efficiency factors are discussed. Techniques for efficiency improvement are reviewed. Photovoltaic electricity generation system design methods are introduced. Economic analysis, such as life cycle costing, and environmental impact of PV systems are discussed.

Core Curriculum/Core Requirements: [""] Prerequisites:
ECE 209 or ECE 210 or permission.

Course Typically Offered:
Spring

Credits: 3

ECE 471 - Embedded Systems

Application of micro-processors to the solution of design problems, including hardware characteristics, peripheral control techniques and system development. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:
ECE 271.

Course Typically Offered:
Fall

Credits: 3

ECE 473 - Computer Architecture and Organization

Evolution, design implementation, and evaluation of state-of-the-art systems; the organization and structure of computer systems; the architecture of single-processor computer systems; Memory Systems, including interleaving, hierarchies, virtual memory and cache implementations; Communications and I/O, including bus architectures, disk arrays, and DMA. (Fall.)

Core Curriculum/Core Requirements: [""] Prerequisites:
ECE 275.

Course Typically Offered:
Fall

Credits: 4

ECE 479 - Advanced Cybersecurity

This course will cover the most important areas of cybersecurity including software security, hardware security, network & system security, data security, social engineering, and different emergent areas of cybersecurity (such as the security of Artificial Intelligence models and the smart grid). This course has been built following the experiential learning paradigm and students will familiarize themselves with different aspects of cybersecurity through hands-on assignments. Additionally, through the projects, the students will build an emphasis on a particular area of their interest.
ECE 579 and ECE 479 cannot both be taken for degree credits.

Prerequisites:
COS 235 or ECE 271

Course Typically Offered:
Spring

Credits: 3

ECE 484 - Communications Engineering

This course includes topics in digital communications systems, multiplexing, signal space, modulation, coding, and information theory. Concepts such as data compression, protection, and transmission in wireless and wired networks are studied as well. Real

world examples from Wi-Fi, Bluetooth, ZigBee and WiMax standards enriches the practical aspects of the course.

Core Curriculum/Core Requirements: [""] Prerequisites:

ECE 314 and ECE 316.

Course Typically Offered:

Spring

Credits: 3

ECE 486 - Digital Signal Processing

A study of discrete-time signals and systems, Z-transforms, discrete Fourier series and transforms. Efficient implementations of discrete-time system and design of IIR, FIR and multirate digital filter structures.

Core Curriculum/Core Requirements: [""] Prerequisites:

ECE 177 and ECE 314.

Course Typically Offered:

Spring

Credits: 4

ECE 490 - Neural Networks

This course introduces the fundamentals of artificial neural networks. It provides lessons on supervised and unsupervised learning in single and multi-layer networks, software implementation overview and applications in speech, text and image analysis.
If this course was taken as ECE 498 topic: Neural Networks, it cannot be repeated for credit.

Prerequisites:

Permission

Corequisites:

ECE 316 or STS 332 or CHE 350, MAT 258, and either ECE 177 or COS 220

Course Typically Offered:

Fall

Credits: 3

ECE 491 - Deep Learning

This course is an introduction to deep learning, a branch of machine learning concerned with the development and application of deep artificial neural networks. Topics include convolution neural networks, recurrent neural networks, and their applications for various engineering and scientific problems. Students should know at least one high-level programming language. This course will use Python and give tutorials on Python programming. Students will gain hands-on experiences of developing, training, and evaluating deep learning models to solve sophisticated problems.

ECE 491 and ECE 591 cannot both be taken for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

ECE 177 or COS 220 or CIE 115 or MEE 125 or permission

Course Typically Offered:

Spring

Credits: 3

ECE 498 - Selected Topics in Electrical and Computer Engineering

Topics in electrical engineering not regularly covered in other courses. May include advanced microprocessor applications, robot applications, instrumentation semiconductor technology, introduction to VLSI design and microwave acoustics. Content can be varied to suit current needs. May be repeated for credit, with departmental permission, if topics differ for a total of 9 completions and 27 total credits

Core Curriculum/Core Requirements: [""] Prerequisites:

permission.

Course Typically Offered:

Fall & Spring

Credits: 1-3

Electrical Engineering Technology

EET 100 - Introduction to Electrical Engineering Technology

Develops a thorough insight into the engineering profession and covers important topics such as success in the classroom, problem-solving and teamwork skills, computer tools for engineers, technical communication and ethics. Also of particular importance will be an engineering design project. The development of project documentation and technical writing skills will be emphasized. Lec 3. Students who take EET 100 after ECE 101 will only receive credit and grade for EET 100.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

Electrical Engineering Technology majors only

Course Typically Offered:

Fall

Credits: 4

EET 111 - Circuit Analysis I

Introduction to circuit analysis techniques as applied to AC and DC electrical circuits. Topics include the basic laws and theorems used in electrical circuit analysis including Kirchoff's Voltage and Current Laws, Ohms law, capacitor and inductor characteristics, AC phasor representation. Includes basic computer skills and circuit simulation. Lec 3, Lab 3. Students who take EET 111 after ECE 210 will only receive credit and grade for EET 111.

Core Curriculum/Core Requirements: [""] Corequisites:

MAT 122.

Course Typically Offered:

Spring

Credits: 4

EET 115 - Creative Design Using CAD

This course will provide students with the fundamentals of AutoCad and its 3D modeling counterpart, Fusion360. In addition to industry-specific drawings such as electrical distribution one-line diagrams, construction prints, and surveying plots, students will be asked to create user interfaces and 3D models that utilize aesthetic design principles. The semester will culminate in an artistic peer-reviewed 3D design project.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Prerequisites:

EET majors only or Permission

Course Typically Offered:

Spring

Credits: 3

EET 241 - Analog Circuit Fundamentals

Topics include: semiconductor diodes, bipolar transistors, FETs, operational amplifier fundamentals, d-c and a-c analysis and design of single-transistor end FET amplifiers, hybrid pi circuits. Software simulation of circuits is integral to the course. A design project is required. Lec 3, Lab 3.
Students who take EET 241 after ECE 342 will only receive credit and grade for EET 241.

Core Curriculum/Core Requirements: [""] Prerequisites:

EET 111 or permission.

Course Typically Offered:

Fall

Credits: 4

EET 274 - Introduction to Microcontrollers

The basic architecture of the microcontroller with particular emphasis on the control and I/O sections. Structured assembly language programming of the microcontroller. Series and parallel data transfer. Analog-to-digital conversion principles. A design project will give students hands-on experience in hardware and software design and testing using microcontrollers. Lec 3, Lab 3. Students who take EET 274 after ECE 177 or after ECE 271 will only receive credit and grade for EET 274.

Core Curriculum/Core Requirements: [""] Prerequisites:

EET 111 or EET 330

Course Typically Offered:

Spring

Credits: 4

EET 275 - Digital Communications

This course will focus on configuring and utilizing various communications technologies. Serial communication, Analog-to-Digital Conversion, basic sequential systems and networking, and establishing PLC communication networks will be among the topics discussed. Combined Lec 3, Lab 2.

Students who take EET 275 after ECE 275 will only receive credit and grade for EET 275.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall

Credits: 4

EET 276 - Programmable Logic Controllers

Emphasis on industrial control using programmable logic controllers. Major topics include: PLC memory mapping, I/O configurations, and various data communications protocols. A design project is required.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall

Credits: 4

EET 312 - Circuit Analysis II

Introduction to AC circuits, including the study of reactive components, analysis techniques such as superposition and nodal/mesh analysis, passive filter circuits and the application of phasor analysis to steady state single-phase AC circuits. Lec 3, Lab 3. Students who take EET 312 after ECE 214 will only receive credit and grade for EET 312.

Core Curriculum/Core Requirements: [""] Prerequisites:

EET 111 or EET 330 and MAT 122 or a 61 or higher on UM Math placement

Course Typically Offered:

Fall

Credits: 4

EET 321 - Electro-Mechanical Energy Conversion

Covers three-phase power, power system supply and distribution, magnetic circuits and transformers, synchronous and asynchronous machines and phasor analysis.

Core Curriculum/Core Requirements: [""] Prerequisites:

EET112 or ECE 210

Course Typically Offered:

Spring

Credits: 4

EET 324 - Network Analysis and Applications

Topics include: classical analysis of electrical circuits utilizing Kirshoff's laws, differential equations, and Laplace transforms. Modeling of dynamic systems; transfer functions; block diagrams. Transient analysis of first and second order systems. Modeling of system behavior using simulation software. Students who take EET 324 after ECE 314 or after ECE 343 will only receive credit and grade for EET 324.

Core Curriculum/Core Requirements: [""] Prerequisites:

EET 111 and MAT 127

Course Typically Offered:

Fall

Credits: 4

EET 325 - Design and Applications of Control Systems

Classical design, simulation and analysis of closed-loop control systems, emphasizing industrial control applications and real-world examples and practices. Emphasis on time-domain and frequency-response methods. Lec 3, Lab 3

Core Curriculum/Core Requirements: [""] Prerequisites:

EET 324.

Course Typically Offered:
Spring

Credits: 4

EET 330 - Electrical Applications

Introduces the basics of AC and DC circuits along with analog and digital circuit principles, amplifiers and transducers. The laboratory will provide students with hands-on experience with the principles and instrumentation commonly used in industry. Students who take EET 330 after ECE 209 will only receive credit and grade for EET 330.

Core Curriculum/Core Requirements: [""] Prerequisites:
PHY 108 or PHY 122 and MAT 116 or MAT 126 and Mechanical Engineering Technology major or permission

Course Typically Offered:
Spring

Credits: 3

EET 342 - Advanced Analog Circuit Design

Topics include: differential amplifiers, dc and ac analysis of multi-transistor circuits, multi-transistor amplifier frequency analysis, power amplifiers and operational amplifiers. Software simulation of circuits is integral to the course. A design project is required. Lec 3, Lab 3.

Core Curriculum/Core Requirements: [""] Prerequisites:
EET 241

Course Typically Offered:
Spring

Credits: 4

EET 350 - Senior Design Project I

The first of a three-course sequence intended to provide EET seniors with a capstone learning experience. Requirements include selection of a design project, submission of a proposal and written and oral presentations of project status. Lec 1. (Pass/Fail Grade Only)

Core Curriculum/Core Requirements: ["Together with EET 451 and EET 452' , 'this course satisfies the General Education Capstone Experience Requirement."] Prerequisites:
EET 241

Corequisites:
EET 342

Course Typically Offered:
Spring

Credits: 1

EET 394 - Electrical Engineering Technology Practice

Cooperative work experience at full-time employment for at least a ten-week period. Course may be repeated for credit for a total of 9 completions and 27 total credits
(Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Prerequisites:
Junior standing and permission.

Course Typically Offered:
Fall, Spring, Summer

Credits: 3

EET 405 - Fundamentals of Engineering: Electrical and Computer

The Fundamentals of Engineering course is designed to provide a basic competence for all topics required of a licensed practicing engineer in the electrical and computer engineering fields. These topics are based on the areas covered in the NCEES Fundamentals of Engineering exam. The goal of this course is to comprehensively review all the topics so that students may approach the Fundamentals of Engineering exam with confidence.

Prerequisites:

Junior standing in the EET major or permission

Course Typically Offered:

Fall

Credits: 3

EET 414 - Printed Circuit Board Design

This online course will focus on printed circuit board (PCB) technology, layout, and construction. Emphasis is placed on troubleshooting PCBs and the physical realization of electronic circuits. Background topics include PCB manufacturing and assembly (focusing on cutting-edged manufacturing capabilities and designing for pick-and-place auto assembly). Emphasis will also be placed on schematic capture and circuit board layout and advanced layout techniques using Altium Designer (including 8-10 layer design, 3-D PCB design, flex-PCB design, and PCB miniaturization techniques). Students will be required to use Altium Designer to design and layout their own custom circuit board as a final project. There is no textbook and the software is free for University students.

EET 414 and EET 514 cannot both be taken for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

ECE 209 or ECE 210 or EET 241 or EET 330, or permission of instructor

Course Typically Offered:

Fall and Spring and Summer

Credits: 3

EET 415 - Automation and Integration

Introduction to systems integration will cover many aspects of the integration field that an engineer would expect to encounter. This includes basic networking, hardware types, communication standards and protocols, and troubleshooting skills. This course intends to set the groundwork for a student intending on pursuing a controls or integration engineering expertise, or to give valuable background to a professional who will work closely with these experts. Almost every engineering discipline now works closely with smart devices and automated equipment, so these skills are useful to a wide range of professionals. If this course was taken as a topics course in EET 498, it cannot be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior standing in EET program or permission

Course Typically Offered:

Fall

Credits: 3

EET 420 - Advanced AC Circuit Analysis and Energy

This course covers advanced AC circuit analysis techniques. Circuits with multiple AC sources will be covered including sources with DC power. Introductory energy and power topics will also be covered. These include real, reactive, and apparent power, the power triangle and power factor, steady state circuit analysis, three-phase power systems, magnetic circuits, transformers, and per unit analysis technique.
EET 520 and EET 420 cannot both be taken for degree credit.

Prerequisites:

MAT 125 (or equivalent) and PHY 108 (or equivalent) and EET 111 (or equivalent), or instructor approval

Course Typically Offered:

Summer

Credits: 3

EET 422 - Power Systems Analysis

Covers three phase, power system modeling and analysis, including per unit. The analysis tools associated with power system operation, maintenance and upgrade will be developed in this course. In addition, real world power systems will be evaluated to determine if there are any concerns. We will also introduce protective devices which help ensure high reliability. Students who take EET 422 after ECE 427 will only receive credit and grade for EET 422.

Core Curriculum/Core Requirements: [""] Prerequisites:

EET 321

Course Typically Offered:

Fall

Credits: 4

EET 423 - Protective Relay Applications

This course covers the principles and practice of protective relaying applied to power systems. The student will develop an understanding of how interconnected power systems and their components are protected from abnormal events. If this course was taken as a topics course in EET 498, it cannot be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

EET 321 or Permission

Course Typically Offered:

Spring

Credits: 3

EET 451 - Senior Design Project II

The second of a three-course sequence intended to provide EET seniors with a capstone learning experience. Requirements include development and completion of a design project and hardware demonstration.

Core Curriculum/Core Requirements: ["Together with EET 350 and EET 452' , 'this course satisfies the General Education Capstone Experience Requirement."] Prerequisites:

EET 350.

Course Typically Offered:

Fall

Credits: 2

EET 452 - Senior Design Project III

The third of a three-course sequence intended to provide EET seniors with a capstone learning experience. Requirements include development and completion of a design project, hardware demonstration, and written and oral presentations of project status. Lec 1.

Core Curriculum/Core Requirements: ["Writing Intensive Requirement; Together with EET 350 and EET 451' , 'this course satisfies the General Education Capstone Experience Requirement."] Prerequisites:

EET 451 or permission.

Course Typically Offered:

Spring

Credits: 1

EET 460 - Renewable Energy and Electricity Production

An overview of renewable energy resources, energy conversion and storage for stationary and transportation applications. Topics include: Basics of electrical energy and power generation, load specification, history of electric utilities, distributed generation, the economics of energy, biomass fuels, wind and solar power.

EET 460 and EET 560 cannot both be taken for credit.

Core Curriculum/Core Requirements: ["Population and Environment"] Prerequisites:

PHY 108 or PHY 112 or PHY 122, and MAT 117 or MAT 126

Course Typically Offered:

Fall and Spring

Credits: 3

EET 484 - Engineering Economics

A study of economic theory and applications in engineering and industrial organizations including capitalization, amortization, time value of money, cost comparison analysis, and breakeven value, and the ethics of engineering economic decision making. Also included are personal finance topics as applied to engineering situations and case study.
EET 484 and EET 584 cannot both be taken for credit.

Core Curriculum/Core Requirements: ["Ethics and Social Context and Institutions"] Prerequisites:

Junior or Senior standing

Course Typically Offered:
Fall, Spring and Summer

Credits: 3

EET 486 - Project Management

Covers the basics with particular emphasis on Technical Project Management. Includes designing a project plan, selecting and allocating resources, team-building skills, project plan implementation, and other topics relevant to Project Management. Focuses on developing the skills needed to effectively manage a variety of technical projects, and to prepare students for certification as Project Management Professionals (PMP). Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:
Sophomore standing

Course Typically Offered:
Spring

Credits: 3

EET 498 - Selected Topics in Electrical Engineering Technology

Topics in engineering technology not regularly covered in other courses. Content varies to suit the needs of individuals. Course may be repeated for credit for a total of 9 completions and 36 total credits.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Fall, Spring, Summer

Credits: 1-4

English

ENG 100 - College Composition Stretch, Part I

This course provides intense practice with habits of reading, writing, thinking, and revising essential to postsecondary academic work. Designed for students who want to create a strong foundation for themselves in academic reading and writing. Available only during fall semester. Students who complete ENG 100 move on to ENG 106 during the spring semester. Students will not earn credit or grades for completing both ENG 101 and either course in the College Composition Stretch Sequence, ENG 100 and ENG 106.

Core Curriculum/Core Requirements: ["Students must complete both ENG 100 and ENG 106 with a minimum grade of C or better in each course to satisfy the General Education Writing Intensive requirement. Neither course taken alone will satisfy this requirement."] Course Typically Offered:
Fall

Credits: 3

ENG 101 - College Composition

Students practice the ways in which writing serves to expand, clarify, and order experience and knowledge, with particular attention to persuasive writing. Satisfactory completion of the course depends upon quality of weekly writing assignments as well as demonstration of proficiency in college-level writing.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Fall, Spring, Summer

Credits: 3

ENG 103 - College Writing

This course is for students who have completed Composition and are continuing to develop their academic writing skills. During this class, students will work on three major papers using a recursive, multi-draft process, as well as providing peer review.

Prerequisites:
ENG 101 or permission of instructor

Course Typically Offered:
Fall

Credits: 3

ENG 106 - College Composition Stretch, Part II

This course provides intense practice with habits of reading, writing, thinking, and revising essential to post secondary academic work. Designed for students who want to create a strong foundation for themselves in academic reading and writing. Available only during the spring semester. Students will not earn credit or grades for completing both ENG 101 and either course in the College Composition Stretch Sequence, ENG 100 and ENG 106.

Core Curriculum/Core Requirements: ["Students must complete both ENG 100 and ENG 106 with a minimum grade of C or better in each course to satisfy the General Education Writing Intensive requirement. Neither course taken alone will satisfy this requirement."] Prerequisites:
C or better in ENG 100.

Course Typically Offered:
Spring

Credits: 3

ENG 111 - Composition & Presentation II

This course develops the skills introduced in ENG 101 to provide practice with the ways that people in academic and professional settings write, read, think, and present ideas orally. The focus is on the research process, information literacy, and oral presentation skills. The importance of purpose, audience, use of supporting material, vocal variety, clear articulation, and correct use of grammar, pronunciation, as well as nonverbal behavior that supports the verbal message will be emphasized. The use of citation management and interlibrary loan tools are introduced and employed. There will be a continued focus on collaboration, providing and utilizing constructive feedback, accessing campus resources, and practicing effective learning strategies. This course is required after the student completes ENG 101.

Core Curriculum/Core Requirements: ["Writing Competency"] Course Typically Offered:
ENG 101

Credits: 3

ENG 114 - Topics in World Literature

Provides glimpses of diverse worlds and helps students acquire the tools to understand and appreciate good literature. The literature of other cultures and places fascinates and educates the reader, not only because that literature often has enduring excellence but also because it gives us a new world of thought. Topics vary with semester and instructor.

Core Curriculum/Core Requirements: ["Cultural Diversity"] Prerequisites:
ENG 101 or permission of instructor.

Course Typically Offered:
Fall

Credits: 3

ENG 117 - Introduction to Literature and Ethics

An introduction to the goals, methods, and ethical implications of literary analysis in the 21st century. The underlying assumption is that there is no such thing as a generic reading of a literary work; all readings depend on a critical framework. The second assumption is that literature is either supportive, hostile, or ambivalent toward the creation of a better world. From this starting point, the course is constructed around some of the most important ethical approaches to literary interpretation that may include, but are not limited to, Marxism, gender studies, feminism, post-colonialism, ecocriticism. These opposed and overlapping approaches will help students identify contemporary methods of literary analysis and the moral insights they yield.

Core Curriculum/Core Requirements: ["Ethics"] Prerequisites:
ENG 101 or permission of instructor

Course Typically Offered:
Fall and Spring

Credits: 3

ENG 120 - Apocalyptic Literature

There is a long tradition of apocalyptic literature--stories of worlds gone wrong, of worst-case scenarios--warning readers about dangerous trends in society and challenging readers to make a better world. Through a combination of classic and contemporary novels, essays, and articles, students will explore the specific conditions that inspire these dystopian visions, the general warnings inherent in them, and the broad trends in apocalyptic literature over time.

Core Curriculum/Core Requirements: ["Population and the Environment"] Prerequisites:

ENG 101 or permission of instructor

Course Typically Offered:

Variable

Credits: 3

ENG 129 - Topics in English

Offers small-group discussions of literature focusing on a common theme. Each division takes up a different theme, such as utopianism, the quest myth, growing up in America and the like. Students can expect to read texts closely and write regularly about them. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

Open to first-year students only. May be taken before or after ENG 101 or concurrently with permission.

Course Typically Offered:

Fall, Spring, Summer

Credits: 3

ENG 131 - The Nature of Story

Explores the fundamental activity of why and how we create, tell and read/listen to stories. Readings may include selections from folk tale and myth, saga and epic, drama and novel, film and song, poetry and essay--from the ancient world to the modern, from the western cultural tradition and from a variety of other cultures.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Cultural Diversity and International Perspectives"] Course Typically Offered:

Fall & Spring

Credits: 3

ENG 170 - Foundations of Literary Analysis

An introduction to the close reading of literature. Students write frequently, exploring how conventions of genre, form, and style work in literature. Required of English majors.

Core Curriculum/Core Requirements: [""] Prerequisites:

ENG 101 is strongly recommended.

Course Typically Offered:

Fall & Spring

Credits: 3

ENG 201 - Strategies for Writing Across Contexts

Builds upon ENG 101's introduction to post secondary writing by developing students' facility with a range of strategies for tailoring rhetorical style and tone to a range of academic, transactional, and public genres

Core Curriculum/Core Requirements: ["Writing Intensive"] Corequisites:

Sophomore Standing and ENG 101.

Course Typically Offered:

Fall, Spring, Summer

Credits: 3

ENG 205 - An Introduction to Creative Writing

Offers students experience in writing in three major forms: autobiographical narrative, fiction, and poetry.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression and Writing Intensive"] Prerequisites:

ENG 101 is strongly recommended.

Course Typically Offered:

Fall, Spring, Summer

Credits: 3

ENG 206 - Descriptive and Narrative Writing

Special emphasis on the informal, autobiographical essay.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression and Writing Intensive"]

Prerequisites:
ENG 101 or equivalent.
Course Typically Offered:
Fall and Spring
Credits: 3

ENG 207 - Advanced Grammar

A study of the basic theories and practices in modern grammar and usage, within the context of achieving command over written language. Although the course deals primarily with traditional grammar, introduction to generative, structural, and transformational systems may also be considered. While much of the course involves parsing, understood as the identification of syntactic structures, students apply this knowledge to achieve command over usage and demonstrate skillful proofreading.

Prerequisites:
ENG 101
Course Typically Offered:
Spring
Credits: 3

ENG 215 - Theories and Practices of Writing

This core course introduces students to theories of writing from the field of Writing Studies, which broadly examines how writing is produced, consumed, and circulated. It provides students with theories and tools to analyze and compose texts effectively in a variety of contexts., including spaces beyond the university (e. g., in employment, internships, volunteer spaces, etc.).

Prerequisites:
ENG 101 or equivalent
Course Typically Offered:
Fall and Spring
Credits: 3

ENG 222 - Reading Poems

Focuses on helping students develop critical skills particularly suited to the interpretation and analysis of poetry. Readings will include poems from different eras in both traditional and innovative forms. May cover a range of poetic practices and a variety of media: including, for example, poetry readings, little magazines and presses, digital texts, and poetic movements.

Core Curriculum/Core Requirements: ["Western Cultural Tradition' , 'Artistic and Creative Expression"] Prerequisites:
3 hours of English.
Course Typically Offered:
Fall & Spring
Credits: 3

ENG 226 - Literary Classics: A Wish List

A self-designed, self-paced, reading-intensive course in which students tackle the literary classics that we have always wanted to read. This course instills appreciation for literature from the American, British, and world canon. From a Master List, students select the books they want to read. Working with the instructor and guided by detailed reading prompts, students reflect critically on the aesthetic achievements of reading materials and the complex influences that gave rise to these works. The interpretive process involves the examination of the relationship between literary works and the institutions, traditions, and values that define the societies reflected in those works.

Core Curriculum/Core Requirements: ["Westerm Cultural Traditions"] Course Typically Offered:
Every Year
Credits: 3

ENG 229 - Topics in Literature

Subject matter varies with faculty interest. Previous topics have included: scandalous women, detective fiction, vampires in literature, dark humor in literature, and literature of the Vietnam War. May be repeated for credit a total of 9 completions and up to 27 total units.

Core Curriculum/Core Requirements: [""] Prerequisites:

3 hours of English.

Course Typically Offered:

Fall, Spring, Summer

Credits: 3

ENG 236 - Intro to Canadian Literature

A survey of Canadian literature from 1850 to the present. Interpretation and analysis of the poetry and prose of major literary figures. Some examination of the impact of British and American models upon the tradition of Canadian literature.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives' , 'Artistic and Creative Expression and Ethics"] Prerequisites:

3 hours of English.

Course Typically Offered:

Every Year

Credits: 3

ENG 238 - Introduction to Ecoliterature: Re-Imagining Nature and the Environment

This introductory course traces environmental writing, including the Romantics of the 19th century, through environmental activist writers of the 20th century to the eco-critics of the 21st century who offer both apocalyptic and optimistic visions for sustaining human-nature relationships.

Core Curriculum/Core Requirements: ["Ethics"] Prerequisites:

3 hours of English.

Course Typically Offered:

Fall, Even years

Credits: 3

ENG 242 - Introduction to Native American Literature

An introduction to indigenous-authored texts, both pre- and post- colonial contact. Special attention will also be paid to Wabanaki stories in Maine.

Core Curriculum/Core Requirements: ["Ethics, Western Cultural and Cultural Diversity"] Prerequisites:

3 hours of English

Course Typically Offered:

Fall, Odd years

Credits: 3

ENG 243 - Topics in Identity and Representation

Reading and analysis of identity and representation in literature. Topical focus may address issues such as gender, race, ethnicity, sexuality, intersectionality, religion, indigeneity, disability, language, and class.

Core Curriculum/Core Requirements: ["Western Cultural Tradition' , 'Cultural Diversity and International Perspectives and Ethics"] Prerequisites:

3 hours of English.

Course Typically Offered:

Fall, Even Years

Credits: 3

ENG 244 - Writers of Maine

An exploration of the varied nature of the Maine experience as exemplified by writers of fiction, poetry, essays, and other creative genres.

Core Curriculum/Core Requirements: ["Western Cultural Tradition' , 'Artistic and Creative Expression and Ethics"] Prerequisites:

3 hours of English, or permission of instructor.

Course Typically Offered:
Spring,Even Years

Credits: 3

ENG 245 - American Short Fiction

A study of genre, form, and theme in representative works of American short fiction from Irving to the present.

Core Curriculum/Core Requirements: ["Western Cultural Tradition' , 'Artistic and Creative Expression and Ethics"] Prerequisites:
3 hours of English.

Course Typically Offered:
Fall

Credits: 3

ENG 249 - American Sports Literature and Film

Uses readings in fiction, poetry, drama, essays and films to explore social, humanistic, ethical and aesthetic issues in sports and its literature. Examines ways writers capture physical action and the role of sports in various genres and media.

Core Curriculum/Core Requirements: ["Ethics and Artistic and Creative Expression"] Prerequisites:
3 hours of English.

Course Typically Offered:
Spring, Even Years

Credits: 3

ENG 253 - Shakespeare: Selected Plays

A study of ten to twelve plays, selected to represent the range of Shakespeare's achievement as a playwright. Recommended for non-majors. Not open to students who have taken ENG 453.

Core Curriculum/Core Requirements: ["Western Cultural Tradition' , 'Artistic and Creative Expression and Ethics"] Prerequisites:
3 hours of English.

Course Typically Offered:
Every Year

Credits: 3

ENG 255 - Studies in the Graphic Novel

An emergent form, the graphic novel has recently come into its own for readers, publishers, artists, and writers. In a series of workshops and seminar sessions, this course takes up the study of some recent acclaimed graphic novels, with close attention paid to the specific techniques of word and image that elevate these works to prominence in their genre. The lessons in craft produced by this close analysis will then inform the creation of stand-alone segments of original graphic novels produced by students in the course. Students have the option to receive special emphasis in their final grade on their visual art and/or their creative writing. If this course was taken as a topics course in ENG 302, it cannot be repeated for credit.

Prerequisites:
ART 106 and ENG 205 or permission of the instructor

Course Typically Offered:
Variable

Credits: 3

ENG 271 - The Act of Interpretation

An introduction to critical theory. Study of individual critics or schools of literary theory. Application of these interpretative strategies to literary texts.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Writing Intensive"] Prerequisites:
ENG 170.

Course Typically Offered:
Fall & Spring

Credits: 3

ENG 280 - Introduction to Film

A survey of the history of motion pictures and an exploration of the rhetoric of film, designed to give students with no prior film study an integrated approach to understanding the moving image and how it functions.

Core Curriculum/Core Requirements: ["Social Context and Institutions and Artistic and Creative Expression"] Prerequisites:

3 hours of English.

Course Typically Offered:

Spring & Fall

Credits: 3

ENG 296 - Investigating Equity through Technical and Professional Communication

This course helps students develop a flexible and robust understanding of equity within the contexts of their daily lives through recursive considerations of purposes, audience, and document design.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression and Ethics"] Course Typically Offered:

Fall

Credits: 3

ENG 301 - Approaches to Teaching Writing

A writing-intensive seminar that provides an overview of literacy and writing studies scholarship. Course focus may include how writers develop across their lifespans, pedagogical strategies for teaching writing at various levels and in different modalities, and other contemporary topics in Writing Studies.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

ENG 101

Course Typically Offered:

Fall

Credits: 3

ENG 307 - Writing Fiction

A course on the writing of fiction with a focus on craft, form, and technique.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

ENG 205

Course Typically Offered:

Fall and Spring

Credits: 3

ENG 308 - Writing Poetry

A course in the writing of poetry with a focus on craft, form, and technique.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

ENG 205

Course Typically Offered:

Spring

Credits: 3

ENG 309 - Writing Creative Nonfiction

An intermediate course in such forms of creative nonfiction as memoir, travel literature, autobiography and personal essays.

Core Curriculum/Core Requirements: [" Writing Intensive"] Prerequisites:

ENG 201 or ENG 205 or ENG 206 or ENG 315 or permission.

Course Typically Offered:

Fall

Credits: 3

ENG 315 - Research Writing in the Disciplines

Builds on ENG 101 by preparing students for writing-intensive coursework and for senior capstone projects. This course focuses on similarities and differences among the types of peer-reviewed academic research articles that researchers and scholars use to advance knowledge in their fields. Class projects will develop familiarity with and contribute to students' own academic research writing in their chosen field of study.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

Junior standing and a declared major.

Course Typically Offered:

Fall and Spring.

Credits: 3

ENG 317 - Business and Technical Writing

Supervised practice in the writing of business and technical reports, professional correspondence, and related materials.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

ENG 101 or equivalent and junior standing.

Course Typically Offered:

Fall, Spring, Summer

Credits: 3

ENG 320 - Technical Communication for Engineering

Technical Communication for Engineering provides theory and extended practice in the major categories of communication used by engineers in professional and academic settings. Students will learn the principles of ethically communicating technical concepts to audiences with varying levels of technical background. Students will produce genres commonly used by engineers, such as memos, analytical reports, and presentations.

Core Curriculum/Core Requirements: ["Writing Intensive and Social Context and Institutions"]

Prerequisites:

MEE or CIE Majors, ENG 101 or equivalent and Sophomore Standing

Course Typically Offered:

Fall and Spring

Credits: 3

ENG 329 - Professional Editing

A course that covers the basics of professional editing. Working for the UMM Press, students acquire the practical experience of producing a critical edition. The course introduces students to standard publication processes and the major styles, reference works, and tools of editorial work. Emphasis will be placed on the development of skills in proofreading, copyediting, and editorial judgment, as students learn the different functions of proofreaders and copy editors, the vocabulary of print and document design, and acquire a good understanding of the editorial tasks involved in preparing a critical edition for publication. Course is repeatable for credit, but may only count once toward program requirements.

Prerequisites:

ENG 101, ENG 207, or permission of instructor.

Course Typically Offered:

Variable

Credits: 3

ENG 336 - Canadian Literature

An intensive study of a major Canadian writer or small group of Canadian writers, or an examination of a major theme in Canadian literature. Specific topic varies from semester to semester. This reading-intensive course is designed to teach students about Canadian literature while giving them the opportunity to practice their reading and research skills in order to better prepare them for work in advanced seminars.

Core Curriculum/Core Requirements: [""] Prerequisites:

6 credits beyond ENG 101 (ENG 170 and ENG 222 recommended) or instructor permission

Course Typically Offered:

Spring Even Years

Credits: 3

ENG 341 - Colonial and Early National American Literature

The literatures of colonial America began almost immediately after contact between Europeans and Native Americans in the fifteenth century, disseminated in multiple languages across Europe. These earliest writings were advertisements for empire: tales of adventure, catalogues of wonders, justifications and warnings. By the seventeenth century, new immigrants and American-born settlers were creating a local literature for local consumption, including the great devotional works of the New England Puritans and the first examples of that long-lived American genre, the captivity narrative. This colonial period culminated in the eighteenth century's American Enlightenment, which gave rise to the Revolution, and was soon followed by the first stirrings of literary nationalism in the early republic. Encompassing three hundred years of history and an international range of authors, this introductory course may include works translated into English and taking such representative forms as the memoir, travel narrative, sermon, and political tract, as well as the more expected literary genres of poetry, fiction, and drama. A reading-intensive course, it is designed to teach students about a crucial epoch in world history and American literature while creating an opportunity for students to practice reading and research skills in order to better prepare them for work in advanced seminars.

Prerequisites:

6 credits beyond ENG 101 (ENG 170 and ENG 222 recommended) or instructor permission

Course Typically Offered:

Fall Even Years

Credits: 3

ENG 342 - Native American Literature

Surveys literature by Native American authors from a wide range of tribal backgrounds and culture areas. Considers the development of written traditions over time in relation to oral genres, traditional themes and story forms, and situates writing by Native American people in the context of historical and socio-political events and trends in Turtle Island (North America). Provides the opportunity to reconsider stories of colonization and the Anglo-American culture/nation in the light of indigenous perspectives and experience. This reading-intensive course is designed to teach you about the history of Native American writing in English, while giving you the opportunity to practice your reading and research skills in order to prepare you for work in advanced seminars.

Prerequisites:

6 credits beyond ENG 101 (ENG 170 and ENG 222 recommended) or instructor permission.

Course Typically Offered:

Spring Even Years

Credits: 3

ENG 343 - Nineteenth-Century American Literature

An introduction to American literature and culture of the nineteenth century, a period of unprecedented violence, vision, and change encompassing some of the most storied names in poetry and prose. Because the historical events and social turmoil of the century is so crucial for an understanding of its greatest authors, the course may include writers and thinkers whose primary significance is not literary-men and women who witnessed or acted in the great events of the age. This reading-intensive course is designed to teach students about a rich, exciting epoch in literary history while giving them the opportunity to practice their reading and research skills in order to better prepare them for work in advanced seminars.

Prerequisites:

6 credits beyond ENG 101 (ENG 170 and ENG 222 recommended) or instructor permission

Course Typically Offered:

Spring, Odd Years

Credits: 3

ENG 351 - Medieval English Literature

An introduction to Medieval Literature which involves reading the wild, beautiful, idiosyncratic, and foreign yet strangely familiar works of Chaucer and his English contemporaries. The class will focus on understanding the nature of the medieval world and its expression in the literature of the time, and on developing reading skill in Middle English. This reading-intensive course is designed to teach students about a crucial epoch in literary and linguistic history while giving them the opportunity to practice their reading and research skills in order to better prepare them for work in advanced seminars. For more details see course descriptions on the English Department website.

Prerequisites:

6 credits beyond ENG 101 (ENG 170 and ENG 222 recommended) or instructor permission

Course Typically Offered:
Fall, Odd Years

Credits: 3

ENG 353 - Shakespeare and the English Renaissance

Renaissance suggests a rebirth of classical models, but this period (late 16th and early 17th centuries) is also one of startling innovation. The literature of Shakespeare and his contemporaries can be wildly comic and tragic, lyrical and grotesque, epic and domestic, rewriting the medieval and anticipating the modern worlds. Emphasis may vary among genres (drama, lyric, narrative poetry), theme (romance, revenge, rebellion, reverence), and authors (Shakespeare, Spenser, Marlowe, Donne, Milton for example). This reading intensive course introduces representative texts from a crucial period in literary history, and it provides students the opportunity to practice reading and research skills in preparation for work in advanced seminars.

Prerequisites:
6 credits beyond ENG 101 (ENG 170 and ENG 222 recommended) or instructor permission

Course Typically Offered:
Fall, Even Years

Credits: 3

ENG 355 - Restoration and Eighteenth-Century British Literature

From sentiment to sadism, astounding change ignited the Restoration and Eighteenth Century, making this period a watershed that marks the transition from Renaissance to Modern. This reading-intensive class will consider literature against the background of this historical change, inheritance, and influence. Works by Pope, Behn, Cavendish, Finch, Congreve, Dryden, Swift, Defoe, Richardson, Johnson, and Radcliffe, among others. The focus on reading and research skills will prepare students for work in advance seminars.

Prerequisites:
6 credits beyond ENG 101 (ENG 170 and ENG 222 recommended) or instructor permission

Course Typically Offered:
Fall, Odd Years

Credits: 3

ENG 357 - Nineteenth-Century British Literature

This reading intensive course introduces Nineteenth-century British literature in the context of larger political, technological, cultural, and social changes: The expanding publishing market, the growing influence of a literate middle-class, industrialization, urbanization, global capitalism and modern warfare, Britain's imperial power. Because of the sheer variety of works and genres, emphasis will vary from instructor to instructor, but along with well-known writers like Wordsworth, Austen, or Dickens, students will be introduced to lesser-known authors, popular and influential in their day but too often forgotten since. This course provides students with the opportunity to practice reading and research skills and prepares students for work in advanced seminars. For more details see Course Descriptions on the English Department website.

Prerequisites:
6 credits beyond ENG 101 (ENG 170 and ENG 222 recommended) or instructor permission

Course Typically Offered:
Spring, Even Years

Credits: 3

ENG 361 - Modernism

An introduction to modernism, the revolution in literature and culture that took place during the end of the nineteenth century and the first half of the twentieth century. Because modernism was an international movement expressed in multiple genres, this introductory course may include writers and artists from around the world working in poetry, prose, drama, and film. This reading-intensive course is designed to teach students about a crucial period in literary history while giving them the opportunity to practice their reading and research skills in order to better prepare them for work in advanced seminars.

Prerequisites:
6 credits beyond ENG 101 (ENG 170 and ENG 222 recommended) or instructor permission

Course Typically Offered:
Fall, Even Years

Credits: 3

ENG 363 - Literature of the Postmodern Period

An introduction to literature of the postmodern period, roughly defined as 1945-1989. To call the historical-literary period and writing styles that emerged after WWII "postmodern" can spark a lively argument. But, whatever your position, the fact remains that during this extraordinary times poets, playwrights, and novelists responded to a world changed by WWII in intelligent and challenging ways. Continuing modernist-period fluidity across national borders as well as genres, this reading-intensive course may include writers from around the world working in poetry, prose, and drama. It is designed to teach students about a crucial period in recent literary history while giving them the opportunity to practice their reading and research skills in order to better prepare them for work in advanced seminars. For more details, see course descriptions on the English Department website.

Prerequisites:

6 credits beyond ENG 101 (ENG 170 and ENG 222 recommended) or instructor permission

Course Typically Offered:

Spring, Odd Years

Credits: 3

ENG 364 - Contemporary Literature

An introduction to literature after 1989 and up to the present. Studying the living tradition can be incredibly exciting. From writers working in our moment we can gain a unique perspective on our world, which may help us to develop a nuanced reading of the broader culture we both consume and participate in. Because contemporary literature often defies easy genre distinctions, and sometimes even the conventional idea of the book, this course may include multiple genres and cross-genre forms, and a variety of media, from sound files to digital literature. This reading-intensive course is designed to teach students about literature emerging in our time while giving them the opportunity to practice their reading and research skills in order to better prepare them for work in advanced seminars.

Prerequisites:

6 credits beyond ENG 101 (ENG 170 and ENG 222 recommended) or instructor permission

Course Typically Offered:

Spring, Even Years

Credits: 3

ENG 371 - Readings in Literary Theory and Criticism

This reading-intensive course is designed to acquaint students with a wider range of theoretical and critical texts, concepts, and perspectives than can typically be covered in core requirement classes such as English 170 and 271 (both of which are strongly recommended). Emphasis will be given to theories of signification (semiotics), representation (mimesis), and interpretation (hermeneutics) that have informed the practice of literary analysis from antiquity to the present day. The course will also provide students with the opportunity to practice their reading and research skills in order to better prepare them for work in advanced seminars such as English 470: Topics in Literary Theory and Criticism.

Prerequisites:

6 credits beyond ENG 101 (ENG 170 and ENG 222 recommended) or instructor permission

Course Typically Offered:

Spring, Odd Years

Credits: 3

ENG 372 - Intermediate Creative Writing Workshop

A workshop at the intermediate level, bringing together writers working in various creative genres. Each writer chooses one genre to focus on for a semester-long project. Any given workshop might include novelists, short story writers, poets, screenwriters, writers of creative nonfiction, and writers of the graphic novel. Students will give and receive feedback, revise work, and grow artistically through craft, critique, and the transformative power of the written word.

Core Curriculum/Core Requirements: ["Writing Competency"] Prerequisites:

ENG 205 or Permission of instructor

Course Typically Offered:

Fall and Spring

Credits: 3

ENG 381 - Themes in Literature

When we approach study of literature thematically, surprising connections can emerge. In this reading-intensive course, we will

trace a single, defined theme through multiple literary works. This journey through a particular theme is a delightful way for you to practice your reading and research skills in preparation for advanced seminars.
This course can be taken twice for credit provided that the theme covered is different for a maximum of six credits earned.

Prerequisites:
6 credits beyond ENG 101 (ENG 170 and ENG 222 recommended) or instructor permission

Course Typically Offered:
Fall

Credits: 3

ENG 382 - Major Genres in Historical Perspective
Tragedy, comedy, lyric, novel, play or film: these are just a few of the divisions, called "genres" that we use to distinguish one kind of literary art from another. Continuing and deepening the work begun in 170 and/or 222, Major Genres in Historical Perspectives is a reading-intensive course on the thematic and technical developments of one specific genre within a broader cultural and historical framework. This theoretical approach to genre studies will allow students to spend more time reading in a genre they love, while giving them the opportunity to practice their research skills in preparation for work in advanced seminars. May be taken more than once for credit, provided the genre covered is different.

Prerequisites:
6 credits beyond ENG 101 (ENG 170 and ENG 222 recommended) or instructor permission

Course Typically Offered:
Spring

Credits: 3

ENG 395 - Writing Center Internship
An advanced course in writing and collaborative learning. Students first experience collaborative work in essay writing, critical reading of peers' essays, and rigorous practice in written and oral criticism. They participate in supervised tutoring in the English Department's writing center.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
ENG 101 or equivalent and at least one other writing intensive course, a recommendation from a UM faculty member, submission of writing sample and permission.

Course Typically Offered:
Fall

Credits: 3

ENG 402 - Topics in Writing and Research
A seminar concentrating on a specific topic or concern in undergraduate research and writing. This course emphasizes theoretical and practical approaches to research by engaging participants in a sustained research project. May be repeated for credit when topic varies.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
English Majors with Junior or Senior standing

Course Typically Offered:
Spring

Credits: 3

ENG 403 - Advance Graphic Novel Workshop
A constructive space for writers and artists to create a narrative involving sequential art. Students will submit work on a regular basis for class critiquing, and they will critique the work of others in the class. By the end of the workshop, students will have produced a significant portion of an original graphic novel or standalone piece that incorporates feedback to maximize emotional and aesthetic impact. While the workshop will include readings in craft and theory, the main emphasis rests on the creation and evaluation of original narratives constructed out of panels of word and image. Students can opt for a grade emphasis on creative writing, visual art, or both.

Prerequisites:
ART 255/ENG 255

Course Typically Offered:
Spring

Credits: 3

ENG 405 - Topics in Creative Writing

A senior level course designed to provide students with an opportunity to work intensively in a specifically defined genre, form, or methods of creative writing. May also address the broader issues of production and publication. Sample topics: graphic novel, hypertext, mixed-media, electronic writing, translation, traditional poetic forms, the epic, publication, book-making, magazine editing, the serial poem, the long poem, collaboration. ENG 405 and/or ENG 406 may be taken for credit up to a total of 6 credit hours.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

Permission of instructor.

Course Typically Offered:

Variable

Credits: 3

ENG 407 - Advanced Fiction Writing

A fiction workshop at the advanced level. This course may be taken in tandem with ENG 499 to fulfill the English capstone experience. May be repeated once for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

ENG 307

Course Typically Offered:

Spring

Credits: 3

ENG 408 - Advanced Poetry Writing

A poetry workshop at the advanced level. This course may be taken in tandem with ENG 499 to fulfill the English capstone experience. May be repeated once for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

ENG 308

Course Typically Offered:

Fall

Credits: 3

ENG 409 - Advanced Creative Non-Fiction

A creative non-fiction workshop at the advanced level. This course may be taken in tandem with ENG 499 to fulfill the English capstone experience.

Core Curriculum/Core Requirements: "" Prerequisites:

ENG 309 or permission

Course Typically Offered:

Spring

Credits: 3

ENG 415 - Advanced Report & Proposal Writing

Prepares students to write workplace proposals and reports. Students will spend approximately four weeks analyzing proposals - including grant proposals - and reports. Students will spend the next eight weeks researching and writing a grant proposal, a project proposal, or an analytical report. When possible, students will work on projects for campus clients. The last three weeks of the semester will focus on exploring visual and audio reports, including designing electronic materials that support oral presentations and preparing audio reports using podcast technology. This course will be taught as a workshop with student writers sharing drafts, providing peer feedback, and working as collaborators. Appropriate for senior students in the Technical/Professional Writing track; for graduate students; and for professionals interested in examining the genre of report writing.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

ENG 317 or permission.

Course Typically Offered:

Spring, Odd Years

Credits: 3

ENG 416 - Document and Information Design

This course explores the ways in which documents and information circulate and function in diverse professional, social, and cultural contexts. We will consider current and emerging technologies as part of the composing process (e.g., designing for mobile applications and new modalities), examine research and communication practices for diverse users, and probe the ethics and responsibilities of designers and content creators in our current historical moment.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

ENG 317 or permission.

Course Typically Offered:

Fall

Credits: 3

ENG 417 - Usability and Human-Centered Design in Technical Communication

This course examines usability and human-centered design from a social justice perspective. In technical communication, web design, and product design, "usability" refers to designing objects and communication approaches that meet the needs of the people who use them. Students will have the opportunity to conduct usability testing and learn about its relevance to equity and inclusion.

Prerequisites:

ENG 215 or ENG 315 or ENG 317 or ENG 320 or instructor permission

Course Typically Offered:

Spring

Credits: 3

ENG 418 - Topics in Professional Writing

Topics vary according to changes in the field, expertise of the faculty, and needs of the students. Possible topics include editing, document design and desktop publishing, and professional writing in intercultural contexts. May be repeated for credit.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

6 credits in writing, including ENG 317

Course Typically Offered:

Spring, Even Years

Credits: 3

ENG 429 - Topics in Literature and Language

Studies in the various topics concerning literature connected to faculty research interests (for example, utopian literature, the graphic novel, revenge in literature) or in issues pertaining to questions of language and literature, such as modern grammar, history of the English language, Old and Middle English, or theories of semiotics and linguistics brought to literary analysis. Specific topic varies from year to year. May be repeated for credit as long as the topic is different.

Core Curriculum/Core Requirements: [""] Prerequisites:

ENG 271 plus 6 hours of 300-level literature courses or instructor permission

Course Typically Offered:

Fall, Spring, Summer

Credits: 3

ENG 440 - American Seminar

A seminar on an American writer or writers or a focused epoch or movement in American literature. Topics vary, depending on the professor. Student research and writing will be emphasized.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

ENG 271 plus 6 hours of 300-level literature courses or instructor permission

Course Typically Offered:

Fall, Even Years

Credits: 3

ENG 445 - Genre Seminar

A seminar on genre. May employ a theoretical approach to genre studies and the concept of genre, or examine the thematic and

technical developments of one specific literary genre, such as the Gothic American novel. Student research and writing will be emphasized.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
ENG 271 plus 6 hours of 300-level literature courses or instructor permission

Corequisites:
N/A

Course Typically Offered:
Every Year

Credits: 3

ENG 459 - British Seminar

A seminar on a British writer or writers or a focused epoch or movement in British literature. Topics vary, depending on the professor. Student research and writing will be emphasized.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
ENG 271 plus 6 hours of 300-level literature courses or instructor permission

Course Typically Offered:
Alternate Years

Credits: 3

ENG 460 - Major Authors

An in-depth seminar of from one to three major writers. Topics vary, depending on the professor. Student research and writing will be emphasized. May be repeated for credit.

Core Curriculum/Core Requirements: [" Writing Intensive"] Prerequisites:
ENG 271 plus 6 hours of 300-level literature courses or instructor permission

Course Typically Offered:
Spring, Even Years

Credits: 3

ENG 470 - Topics in Literary Theory and Criticism

Studies in the history of literary criticism, in selected theoretic perspectives, or in the application of specific critical approaches. Specific topic varies from year to year.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
ENG 271 plus 6 hours of 300-level literature courses or instructor permission

Course Typically Offered:
Fall Even Years

Credits: 3

ENG 471 - Literature, Gender, and Gender Theory

Introduction to gender theory and issues of gender as reflected in the reception, interpretations, and transmission of literary texts. Emphasis on cultural assumptions surrounding gender, which involve both women and men.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
ENG 271 plus 6 hours of 300-level literature courses or instructor permission

Course Typically Offered:
Fall, Odd Years

Credits: 3

ENG 472 - Advanced Creative Writing Workshop

A workshop at the advanced level, bringing together writers working in various creative genres. Each writer chooses one genre to focus on for an intensive semester-long project. The workshop will provide the space to explore current techniques and the artistic effects they have on audience. Students will give and receive feedback, revise work, and achieve command of craft, critique, and the transformative power of the written word.

Prerequisites:
300-level writing course or permission of instructor.

Course Typically Offered:
Fall and Spring

Credits: 3

ENG 490 - Research Seminar in Literature

A seminar course on a small body of primary literary texts and the critical communities concerned with them. Students propose and write original researched papers that demonstrate knowledge of current research in the field, using appropriate research methods and conventions of scholarly bibliography.

Core Curriculum/Core Requirements: ["Writing Intensive and Capstone"] Prerequisites:
ENG 271 and 6 hours of 300 or 400 level literature courses or instructor permission

Course Typically Offered:
Every Year

Credits: 3

ENG 496 - English Career Internship

Students pursue internships in workplaces such as businesses, non-profits, and other organizations. Course meetings provide students with faculty mentorship, opportunities to troubleshoot their internship work with peers, and related course content. Topics covered may include diversity/equity/justice in the workplace, social justice in the community, correlation between academic courses and the workplace, and career exploration/preparation. For each topic, strategies for improving workplace communication are also covered. Each student will design their internship in consultation with their host organization and the course instructor such that it meets their specific goals. Internship work will vary, but typically includes activities such as research, ideation, communication, writing, public relations, editing, content development, community organizing, and other related activities.

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:
Department Consent

Course Typically Offered:
Fall, Spring, Summer

Credits: 3

ENG 497 - Independent Study in English

Advanced study and research in literature and/or theory not covered by other courses.

Core Curriculum/Core Requirements: [""] Prerequisites:
Senior Standing and permission of the instructor. May not be repeated.

Course Typically Offered:
Variable

Credits: 1-3

ENG 499 - Capstone Experience in English

Pre-professional experience supervised by an English faculty member, attached to an appropriate 3 credit English course (i.e. completion of a substantial critical paper based upon content of a 400-level literature course; a semester tutoring in the Writing Center after ENG 395: English Internship; ENG 496: Field Experience; or completion of a finished manuscript after an appropriate 400-level creative writing course. (Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:
Senior English major and permission of department

Course Typically Offered:
Fall, Spring, Summer

Credits: 0

Environmental Studies

ENV 102 - Atlantic Salmon Conservation Projects

Students in this course work with local watershed councils, state and federal agencies in the recovery of the endangered Atlantic salmon. As part of these projects, students will learn about the life history of the Atlantic salmon, its freshwater environment, the threats to its survival, and the processes underway to facilitate its recovery. Students learn how to measure water quality parameters, assess salmonid habitat, and the use of macroinvertebrates as biological indicators of water and habitat quality. Students may take the course more than once for additional credit with permission of the instructor.

Credits: 2

ENV 105 - Intro to Trees and Wildflowers of Maine

A non-technical approach to the identification of commonly encountered trees and wildflowers of Maine. Students are introduced to basic plant structures and the techniques used for plant identification. Upon completion of this course a student should have an appreciation of the diversity of plant life in Maine, a knowledge of the local flora and the various habitats in which different species occur, and the ability to identify additional plants that he or she may encounter in the future. May not be taken by students who have previously received credit for BIO 229.

Course Typically Offered:

Summer

Credits: 2

ENV 212 - Atlantic Salmon Conservation Projects

Students in this course work with local watershed councils, state and federal agencies in the recovery of the endangered Atlantic salmon. As part of these projects, students will learn about the life history of the Atlantic salmon, its freshwater environment, the threats to its survival, and the processes underway to facilitate its recovery. Students learn how to measure water quality parameters, assess salmonid habitat, and the use of macroinvertebrates as biological indicators of water and habitat quality. Students may take the course more than once for additional credit with permission of the instructor.

Prerequisites:

ENV 102

Course Typically Offered:

Fall

Credits: 2

ENV 244 - Scientific Writing & Presentation

This course will help you to further develop your communication skills primarily by focusing on biological and environmental topics. You will strive to be both a skillful consumer and provider of scientific and technical information related to issues, problems, and solutions in those disciplines. You will compare how information is presented to a lay audience versus the scientific community and practice those written, verbal, and visual skills. This course will help you to develop your communication skills through practice and revision. However, you need to realize that clear, effective communication requires continuous practice, well beyond a one-semester course.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

ENG 101 and ENG 111 or SPE 104

Course Typically Offered:

Fall

Credits: 3

Finance

FIN 106 - Introduction to Personal Finance

The Intro to Personal Finance course is designed to provide students with a comprehensive understanding of personal financial management. The course will cover financial planning techniques and the life cycle of financial goals, including the impact of age, education, and geographic location on personal income. Students will also learn how to prepare a basic tax return, develop personal financial statements, and construct a cash budget. The course will cover a range of topics including automobile and housing decisions, consumer loans and credit, life and health insurance, investment planning, and retirement and estate planning. By the end of the course, students will have a strong foundation in personal financial management and be well-equipped to make informed decisions about their finances.

Course Typically Offered:

Spring

Credits: 3

FIN 290 - Introduction to Topics in Finance

Introduces students to aspects of the Finance discipline. Special topics may include areas relevant to any aspect of finance at an introductory level. This course may be repeated for credits.

Prerequisites:

Business Major or Minor

Course Typically Offered:
Variable

Credits: 1-3

FIN 325 - Small Business Finance

This course explores the financial operations, management, and investment planning of small businesses and startups. Students will gain an understanding of the principles of entrepreneurial finance, the role of the financial manager, and the stages of a successful venture's life cycle. They will learn how to develop a business idea, organize and finance a new venture, and prepare and use financial statements, including balance sheets, income statements, and cash flow statements. In addition, students will evaluate operating and financial performance using financial performance measures, financial ratios, and cash burn rate measures and manage cash flow at various stages in a venture's life cycle. They will also learn about the types and costs of financial capital, securities law considerations when obtaining venture financing, and how to project financial statements and value early-stage ventures using various methods. By the end of this course, students will have the skills and knowledge needed to make qualitative and quantitative decisions when managing a small business or startup.

Prerequisites:
ACC 314 or permission

Course Typically Offered:
Spring

Credits: 3

FIN 350 - Business Finance

This course introduces the principles of finance, including time value of money, security valuation, capital budgeting, and measurement of risk. The course's emphasis is on financial decision-making in the corporate environment.

Core Curriculum/Core Requirements: [""] Prerequisites:
A grade of C- or better in ACC 201, ECO 120, ECO 121, and STS 132 or STS 215; junior standing.

Course Typically Offered:
Fall & Spring

Credits: 3

FIN 351 - Valuation and Corporate Investment Decisions

This is a course in advanced corporate finance with a focus on project and enterprise valuation. Students explore advanced issues in capital budgeting and explore in depth the financing decisions of the corporation, which include raising capital both privately and publicly. Other important topics, such as capital structure and dividend policy, may be introduced. The course includes case studies.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
A grade of C- or better in FIN 350

Course Typically Offered:
Spring and Fall

Credits: 3

FIN 352 - Financial Institutions

Analyzes the operations and economic roles of financial institutions, including commercial, savings and investment banks. Particular attention is paid to the changing nature of this industry, regulation and deregulation and management of risk.

Core Curriculum/Core Requirements: [""] Prerequisites:
A grade of C- or better in FIN 350; junior standing.

Course Typically Offered:
Fall & Spring

Credits: 3

FIN 353 - Investment Strategy

Examines the construction and management of investment portfolios.

Core Curriculum/Core Requirements: [""] Prerequisites:
A grade of C- or better in FIN 350 and STS 215 or STS 232.

Course Typically Offered:

Fall & Spring

Credits: 3

FIN 454 - Financial Derivatives and Fixed Income

The course is organized around two major financial asset classes: derivatives and fixed income. In the first module, you learn about (1) options and the growing role of financial engineering, (2) futures, swaps, and their use in risk management, and (3) hedge funds known for their extensive derivatives use. In the second module, you study (1) bond pricing and various measures of bond returns, (2) the term structure of interest rates, and (3) fixed income portfolio management.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in FIN 350. Junior Standing.

Course Typically Offered:

Spring & Fall

Credits: 3

FIN 455 - International Corporate Finance

This course applies the concepts and principles of corporate finance to multinational corporations. It provides students with an understanding of the international financial environment, the measurement and management of foreign exchange risk, global financing activities, and international portfolio investment.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in MGT 343, FIN 350, Junior Standing

Course Typically Offered:

Spring

Credits: 3

FIN 490 - Special Topics in Finance

Study of various aspects of functional areas of finance. Topics vary depending on faculty and student interests. May be repeated for credit if the topics differ.

Core Curriculum/Core Requirements: [""] Prerequisites:

FIN 350 and Junior Standing

Course Typically Offered:

Variable

Credits: 1-3

First-Year Experience

FYS 100 - First-Year Seminar

Introduction to UMaine resources, academic programs and strategies for achieving academic success and is taught by students' academic advisors. Activities designed to foster exploration and evaluation of interests, goal and abilities and their relationship to potential majors and careers.

Core Curriculum/Core Requirements: [""] Prerequisites:

Permission.

Course Typically Offered:

Fall & Spring

Credits: 1

FYS 101 - Coastal Campus First Year Seminar

This course is intended to be an orientation to the academic community at UMM. The course will introduce students to the mission of UMM and our vision of the campus's role in Downeast Maine and beyond, will help them integrate into the UMM community as they build relationships with peers and with faculty/staff and will provide knowledge and skills useful in making a successful transition to college life in Machias.

Course Typically Offered:

Fall

Credits: 1-3

Food Science and Nutrition

FSN 101 - Introduction to Food and Nutrition

A survey of food and nutrition principles, including the influence of food patterns on health and physical performance; description of a balanced diet; study of the nutrients, interrelationships, sources, effects of processing and storage, food safety, fads, controversies.

Core Curriculum/Core Requirements: ["Applications of Scientific Knowledge"] Course Typically Offered:

Fall, Spring, Summer

Credits: 3

FSN 103 - Science of Food Preparation

An exploration of food and food preparation through the study of the relationship between food structure, composition and nutritive value, and the preparation of food and food products.

Core Curriculum/Core Requirements: [""] Prerequisites:

FSN 101

Course Typically Offered:

Spring

Credits: 3

FSN 104 - Science of Food Preparation Lab

This lab provides experiential learning to complement topics learned in FSN 103, The Science of Food Preparation. The focus is on basic preparation skills to teach about foods and food preparation, and the relationship between structure, composition, and nutritive value of foods.

Course Note: FSN 103 can either be taken concurrently with FSN 104 or as a prerequisite to FSN 104.

Core Curriculum/Core Requirements: [""] Prerequisites:

FSN 103, Food Science Major or Human Nutrition or Food Science minor; or permission

Course Typically Offered:

Spring

Credits: 1

FSN 121 - Brewing with Food Science

This course is designed to utilize the process of making beer as a model to engage students in thinking about the biology, chemistry and processing aspects of the foods they consume. The course will focus on the process of beer making as well as the ingredients that go into beer and their functions. Other topics will include the history of beer (from world and U.S. perspectives), styles of beer and a beer judge's perspective of beer.

Core Curriculum/Core Requirements: ["Application of Scientific Knowledge"] Course Typically Offered:

Fall

Credits: 3

FSN 150 - Play with your food

Explore the world of food from the mindset of a food enthusiast and a scientist. Students will be able to get a taste of diverse topics around food and food science by investigating a different theme each week. Each class, students will anticipate outcomes of the lab activity and conclude with the observations of their results.

Course Note: This course is designed for first year students and returning sophomores. All students participate in seven two-hour academic lab classes during the first half of the fall semester. First year students are required to participate in the RLE bridge week before the start of the semester. This is optional for sophomores.

Prerequisites:

First-year or sophomore standing.

Course Typically Offered:

Fall

Credits: 1

FSN 202 - Foodservice Management

An overview of the foodservice industry including quantity food production and service, designing physical facilities and

administration of foodservice facilities. Topics covered include food and worker safety, menu planning, purchasing, receiving, storage, production, assembly, distribution, service, facility design and equipment, management functions and financial principles. Lec 3

Core Curriculum/Core Requirements: [""] Prerequisites:

FSN 101 and MAT 115 or MAT 116 or MAT 122 or MAT 126

Course Typically Offered:

Fall

Credits: 3

FSN 230 - Nutritional and Medical Terminology

Fundamentals of vocabulary for nutritionists and other health professionals. Web-based.

Core Curriculum/Core Requirements: [""] Prerequisites:

Sophomore Standing

Course Typically Offered:

Fall

Credits: 1

FSN 236 - Introduction to Food Safety and Food Processing Sanitation

Students will learn basic food safety and sanitation concepts applied to food processing facilities. This course provides students with the knowledge and hands-on skills to create and implement a basic sanitation program for a food processing facility. The course focuses on good manufacturing practices (GMPs) and sanitation standard operating procedures (SSOPs).

Prerequisites:

NONE

Course Typically Offered:

Spring

Credits: 1

FSN 265 - Application of Nutrition Principles

The course will apply basic nutrition knowledge to food consumption for individuals. The scientific evidence base for dietary guidance from the United States government will be discussed. Students will use dietary guidance to create eating plans to improve human health and prevent disease.

Core Curriculum/Core Requirements: [""] Prerequisites:

FSN 101 and BIO 100

Course Typically Offered:

Spring

Credits: 3

FSN 270 - World Food and Culture

An investigation of the status of the world food supply, food in the developing world, and food in the developed world, with emphasis on sustainability of food systems, as well as an exploration of food selection and preparation in a cultural context.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives and Population and the Environment"] Prerequisites:

Sophomore Standing

Course Typically Offered:

Fall

Credits: 3

FSN 290 - Career Pathways in Human Nutrition and Dietetics

This course will focus on exposing students to career options with their degree in Food Science and Human Nutrition and concentration in Human Nutrition and Dietetics. Students will develop knowledge and skills to succeed in pursuing their career choices.

Core Curriculum/Core Requirements: [""] Prerequisites:

FSN 101, Human Nutrition and Dietetics concentration or permission, Sophomore standing;

Course Typically Offered:
Spring

Credits: 1

FSN 301 - Life Cycle Nutrition

Principles of nutrition applied to needs of individuals throughout life. Study of relationship among nutrition, growth, development, and aging with emphasis on physical and psychosocial influences on nutritional status. Lec 3.

Core Curriculum/Core Requirements: ["Writing Intensive Requirement."] Prerequisites:
Junior Standing and a grade of C- or better in BMB207 or CHY 121; BIO 208 or BIO 200, and FSN 265.

Course Typically Offered:
Fall

Credits: 3

FSN 305 - Foods Laboratory

The Foods Laboratory will focus on principles of quantity cooking, recipe modification and standardization, food preservation, and food processing. Course will include field trips during class hours.

Core Curriculum/Core Requirements: [""] Prerequisites:
FSN 103

Corequisites:
FSN 202

Course Typically Offered:
Fall

Credits: 1

FSN 330 - Introduction to Food Science

Covers general characteristics of raw food materials, principles of food preservation, processing factors which influence quality, packaging, water and waste management and sanitation. Lec 3.

Core Curriculum/Core Requirements: [""] Corequisites:
BMB 207 or CHY 121 and BIO 100

Course Typically Offered:
Fall

Credits: 3

FSN 340 - Food Processing Laboratory

An introduction to thermal processing, freezing, dehydration, extrusion and curing as applied to food products in the laboratory. Lab 3

Core Curriculum/Core Requirements: [""] Corequisites:
FSN 330.

Course Typically Offered:
Fall

Credits: 1

FSN 396 - Field Experience in Food Science and Human Nutrition

An approved program of work experience which contributes to the academic major and for which academic credit is given. Students may work part time or full time for a semester in a job related to their professional career goals. May be taken more than once with departmental approval.
(Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Prerequisites:
Junior standing and permission.

Course Typically Offered:
Fall, Spring, Summer

Credits: 1 - 16

FSN 397 - Independent Studies

Independent studies in specific areas of food management, food science and human nutrition.

Core Curriculum/Core Requirements: [""] Prerequisites:

Permission.

Course Typically Offered:

Fall, Spring, Summer

Credits: 1-6

FSN 401 - Community Nutrition

Examines human needs and delivery systems within community setting. Focus on designing, implementing, and evaluating nutrition education programs or intervention projects. Field experience. Course will include field trips during class hours.

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:

FSN 410 and a grade of C or better in FSN 301

Course Typically Offered:

Spring

Credits: 4

FSN 406 - Nutritional Care of Older Adults

Overview of older adults' nutritional challenges and common food-drug interactions. Students will conduct an environmental scan of a community for nutrition services available to older adults and barriers to obtaining healthful food. Students gain hands-on experience with the Nutrition-Focused Physical Exam, Mini-Mental State Examination, the International Dysphasia Diet Standardization Initiative.

Core Curriculum/Core Requirements: [""] Prerequisites:

FSN 301 or permission

Course Typically Offered:

Fall and Spring

Credits: 1

FSN 410 - Human Nutrition and Metabolism

Science of human nutrition is studied, stressing body metabolism as integrated with organ function for normal individuals, and requirements for energy and nutrients.

Core Curriculum/Core Requirements: [""] Prerequisites:

BIO 208 or BIO 200, and a C- or better in BMB 322 or BMB 360.

Course Typically Offered:

Fall

Credits: 3

FSN 412 - Medical Nutrition Therapy I

Develops skills in clinical nutrition assessment, therapeutic diet calculations, and nutrition support. Emerging areas of nutrition in relation to disease prevention and treatment will be discussed.

Core Curriculum/Core Requirements: [""] Corequisites:

FSN 410

Course Typically Offered:

Fall

Credits: 3

FSN 415 - Food Safety Systems-Preventive Controls for Human Food

This class provides students with the knowledge and skills necessary to conduct a hazard analysis and create a food safety plan for a food processing facility operating under the Current Good Manufacturing Practice, Hazard Analysis, and Risk-based Preventive Controls for Human Food regulation (referred to as the Preventive Controls for Human Food regulation or PC for short). Course Note: Students will complete an online module (Part 1) as a prerequisite before classes start and then complete Part 2 in person during the semester. After completing this class, students have the option to be awarded a certificate from the Food Safety Preventive Controls Alliance (FSPCA) and will be a Preventive Controls Qualified Individual (PCQI).

Prerequisites:

FSN 236 and Food Safety Preventive Controls Alliance (FSPCA) Preventive Controls for Human Food Blended Online Course.

Course Typically Offered:
Spring

Credits: 1

FSN 420 - Medical Nutrition Therapy II

Metabolic and physiological alterations of disease processes. Modification of normal diets to treat specific diseases. Development of nutrition care plans. Lec 4.

Core Curriculum/Core Requirements: [""] Prerequisites:
NUR 303 and a grade of C- or better in FSN 412

Course Typically Offered:
Spring

Credits: 4

FSN 425 - Contemporary Issues in the Food Industry

A writing intensive and discussion based course on current topics and recent developments affecting the food industry. Includes readings, research, and discussion. Students prepare position papers, a non-technical paper for a lay audience, and a major research paper over the course of the semester.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
FSN 330.

Course Typically Offered:
Fall

Credits: 1

FSN 430 - Counseling and Diet Therapy

This course covers counseling theory, techniques, and application of the nutrition care process to facilitate behavior change for improved nutrition and health. Students will learn the counseling process, from interviewing and assessment, to nutrition education. Topics also include nutrition counseling for wellness, disease prevention, and medical nutrition therapy.

Core Curriculum/Core Requirements: [""] Prerequisites:
FSN 301

Course Typically Offered:
Spring

Credits: 3

FSN 436 - Food Laws and Regulations

Examination and discussion of federal, international and state laws and regulations applying to the processing, handling, distribution and serving of food products and dietary supplements.

Core Curriculum/Core Requirements: ["Ethics"] Prerequisites:
Sophomore Standing

Course Typically Offered:
Spring

Credits: 3

FSN 438 - Food Microbiology

Examines the importance of microorganisms in food processing, spoilage, and preservation; the role of microorganisms in fermentation and production of protein, enzymes, and other products; food as a vehicle of infection and intoxication. FSN 438 and FSN 528 cannot both be taken for credit. Lec 3

Core Curriculum/Core Requirements: [""] Prerequisites:
BMB 300.

Course Typically Offered:
Spring, Odd Years.

Credits: 3

FSN 439 - Food Microbiology Laboratory

This course contains a series of experiments to allow students to perform and observe fundamental principles and practices of food

microbiology. Students will work in the lab to execute the exact procedure utilized by the USDA/FDA for the detection and enumeration of microorganisms in food. FSN 439 and FSN 529 cannot both be taken for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

BMB 305 and Food Science Concentration

Corequisites:

FSN 438

Course Typically Offered:

Spring, Odd Years.

Credits: 2

FSN 440 - Utilization of Aquatic Food Resources

Utilization and food quality of wild and farmed aquatic animals including production, chemical/physical properties, nutritional value, post-harvest changes, processing systems, regulatory issues, by-product utilization and food safety. FSN 440 and FSN 545 cannot both be taken for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

BIO 100 or permission.

Course Typically Offered:

Spring, Odd Years

Credits: 3

FSN 450 - Food Biotechnology

Introduction to methods and tools applied to the production of biotechnology-derived foods and food ingredients. Discussion of food safety, product quality, consumer acceptance, regulatory oversight and ethical issues regarding the use of biotechnology to enhance the food supply. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

BIO 100 or permission.

Course Typically Offered:

Spring, Even Years

Credits: 3

FSN 475 - Sensory Evaluation Laboratory

A laboratory that provides training in the selection, design, execution, and analysis of sensory and consumer science experiments. Training in sensory science-specific software and execution of web-based surveys and focus groups. FSN 475 and FSN 575 may not both be taken for credit.

Core Curriculum/Core Requirements: [""] Corequisites:

FSN 585

Course Typically Offered:

Spring Alternating Years

Credits: 1

FSN 482 - Food Chemistry

Study of the composition, structure, and properties of foods and chemical changes occurring during processing and utilization. Lec 3. FSN 482 and FSN 580 cannot both be taken for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

BMB 322 or BMB 360 or CHY 252

Course Typically Offered:

Fall, Odd Years

Credits: 3

FSN 483 - Food Chemistry Laboratory

Laboratory exercises covering the principles presented in FSN 482. Lab 3.

Core Curriculum/Core Requirements: [""] Corequisites:

FSN 482

Course Typically Offered:
Fall, Odd Years

Credits: 1

FSN 485 - Introduction to Food Engineering Principles

Principles of biological and physical sciences related to food processing systems. General concepts of fluid flow, mass and energy balances, heat transfer, refrigeration, freezing, and psychrometrics. Overview of current practices in food engineering, with specific food industry examples. Course will include field trips during class hours.

Core Curriculum/Core Requirements: [""] Prerequisites:
FSN 330 and junior standing within the FSN major, or permission.

Course Typically Offered:
Spring, Even Years

Credits: 3

FSN 486 - Food Engineering Laboratory

Principles of biological and physical sciences related to food processing systems, concepts of materials and energy balances, thermodynamics, fluid mechanics, and heat transfer, use of engineering principles in design of the processes and equipment for processing and preservation of food products.

Core Curriculum/Core Requirements: [""] Corequisites:
FSN 485.

Course Typically Offered:
Spring, Even Years

Credits: 1

FSN 489 - Senior Project in Food Science and Human Nutrition

A research project will be conducted under the supervision of a faculty member. Written reports and an oral presentation of results are required.

Core Curriculum/Core Requirements: [""] Prerequisites:
Senior standing and permission.

Course Typically Offered:
Fall, Spring, Summer

Credits: Ar

Franco American Studies

FAS 101 - Introduction to the French cultures of North America

Introduces students to the French cultures of the United States, emphasizing the peoples of Maine and the Northeast region. Examines the French cultures of Canada, the French heritage cultures of the Northeast and the new French speaking migrants to Maine. Taught in English; no knowledge of the French language is presumed.

Core Curriculum/Core Requirements: ["Social Context and Institutions and Cultural Diversity and International Perspectives"] Course Typically Offered:
Fall

Credits: 3

FAS 120 - People, Places and Pasts

Introduces the cultural geography of Franco America. Investigates how heritage links to place with particular emphasis on gender, class, and ethnicity. Includes a field trip to a Franco American community. Run as a seminar, with no prerequisites or knowledge of French or the Franco American community required.

Core Curriculum/Core Requirements: ["Population and the Environment"] Course Typically Offered:
Spring

Credits: 3

FAS 140 - Searching for Family Origins: Genealogy, DNA, and Family Trees

Genealogy is the study of family history. It is a global phenomenon, one of the biggest participatory activity on the planet. It informs popular conceptions of the past and of identity. This course explores the implications of genealogy and family history. Students will learn the fundamentals of genealogical research, build a family tree, and think about genealogy as both a field and a personal practice. Students will explore the ethical questions of genealogy, including but not limited to genetics and DNA testing, the impact of technology, and its rule in identity.

Core Curriculum/Core Requirements: ["Social Context and Institutions and Ethics"] Course Typically Offered:

Spring, Alternating years

Credits: 3

FAS 170 - Transnational Beat, Jack Kerouac

Jack Kerouac has often been studied as the quintessential American writer. Yet Jack Kerouac was the son of French Canadian immigrants, spoke only French until he was six, wrote an early draft of his famous On the Road in French, sprinkled passages in French throughout all his writing and cited French writers as important inspirations. This course will explore the ways in which Kerouac straddle cultures and how this transnationalism infects, determines and interrupts both the content and the style of his writings. We will read excerpts of Kerouac's lesser-known writings, some of his writings in French (in translation) and of course parts of On the Road. This class will run as a seminar; no prior knowledge of French is required.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Cultural Diversity and International Perspectives"] Course Typically Offered:

Spring

Credits: 3

FAS 200 - SL: Primary Sources in Franco American Studies

This service-learning course prepares students to build print or digital information resources using primary source materials in Franco American Studies. Course readings introduce students to theories and methods of archival practice, and to ethical issues surrounding the creation and use of human records. Students engage these issues in the context of Franco American writing and scholarship, and consider the ways archives and archival materials impact an exploration of Franco American cultural identity. FAS 101 is recommended but not required.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives and Social Context and Institutions"] Course Typically Offered:

Fall and Summer

Credits: 3

FAS 240 - French Exploration and Settlement of Maine, 1604-1760

The names and traces of the early French explorers and settlers remain on in many place names along the Maine Coast, including the names of mountains and hiking trails in Acadia National Park, such as Champlain, St. Sauveur, Sieur de Mons, etc. This course examines the history of the French exploration and settlement of Maine and places the French settlement of Maine in the broader geopolitical context of the settlement of North America.

Core Curriculum/Core Requirements: ["Population and the Environment"] Course Typically Offered:

Fall

Credits: 3

FAS 329 - Topics in Franco American Studies

Focuses on themes and issues drawn from, or related to, the history, traditions, and contemporary experience of the Franco American community of Maine and the northeast region.

Core Curriculum/Core Requirements: [""] Prerequisites:

FAS 101 or permission.

Course Typically Offered:

Variable

Credits: 3

FAS 400 - Internship in Franco American Studies

This Franco American Studies course provides opportunities for students to complete and reflect upon an internship with archives

and archival materials. Students with an interest in cultural heritage preservation, library and information studies, archival science, public history, or Franco American Studies will undertake various duties in the discovery, organization, cataloging, and overall stewardship of Franco American cultural materials for the completion of an internship. In partnership with their internship cohort and instructor, they will use this course to evaluate and reflect upon these duties, the materials they encounter, and the learned skills they can deploy in their professional lives. Specific internship duties will change from semester to semester; the course's structure of evaluation and reflection will not. This internship course is open to all students and requires the completion of tasks in person at one or another UMS campus, at a separate agreed upon location, at a distance, or any combination of these in close consultation with the instructor.

Core Curriculum/Core Requirements: [""] Prerequisites:

Any FAS course or permission of the instructor

Course Typically Offered:

Fall, Spring and Summer

Credits: 0-2

French

FRE 101 - Elementary French I

A systematic study of the basics of the French language. Equal emphasis is placed on developing reading, comprehension, speaking and writing skills. For students with no previous study of French or fewer than two years in high school.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"] Course Typically Offered:

Fall & Summer

Credits: 3 - 4

FRE 102 - Elementary French II

Continued study of the basics of the French language with equal emphasis on developing reading, comprehension, speaking and writing skills. For students with no previous study of French or fewer than two years in high school.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"] Prerequisites:

FRE 101 or equivalent.

Course Typically Offered:

Spring

Credits: 3 - 4

FRE 201 - Intermediate French I

An integrated approach. Audio-visual materials and reading texts of a literary and/or cultural nature will be employed to strengthen comprehension, reading, writing, and speaking. Includes a systematic but gradual review of the essentials of French grammar.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"] Prerequisites:

FRE 102 or equivalent.

Course Typically Offered:

Fall

Credits: 3 - 4

FRE 202 - Intermediate French II

A continuation of FRE 201 using audio-visual materials and reading texts of a literary and/or cultural nature to strengthen comprehension, reading, writing, and speaking. Includes a systematic but gradual review of the essentials of French grammar.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"] Prerequisites:

FRE 201

Course Typically Offered:

Spring

Credits: 3 - 4

FRE 305 - French Conversation and Composition: Social Issues

Systematic training in the correct usage of spoken and written French through a broad range of conversational situations and writing topics focusing on social issues.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

FRE 202 or any FRE 300 level course or higher or permission

Course Typically Offered:

Fall

Credits: 3

FRE 306 - French Conversation and Composition: Global Issues

Systematic training in the correct usage of spoken and written French through a broad range of conversational situations and writing topics focusing on global issues. Continued training in the correct usage of spoken and written French.

Core Curriculum/Core Requirements: [" Writing Intensive"] Prerequisites:

FRE 202 or any FRE 300 level course or higher or permission

Course Typically Offered:

Spring

Credits: 3

FRE 307 - French for Business

For students of business, international affairs or related careers. Focuses on the development of vocabulary and the improvement of oral proficiency in business and social settings applied to various francophone settings. Applies technology to education by basing itself on a video textbook and requiring regular use of the Internet as a source of reading and information.

Prerequisites:

FRE 202 or any FRE 300 level course or higher or permission

Course Typically Offered:

Variable

Credits: 3

FRE 309 - Readings in French Literature

Practice in reading French. Also prepares students for literature and civilization courses at the 400 level. Discussion in French.

Prerequisites:

FRE 202 or any FRE 300 level course or higher or permission

Course Typically Offered:

Fall, Odd Years

Credits: 3

FRE 310 - Readings in Francophone Literature

Practice in reading and discussion in French with an emphasis on the French-speaking world beyond France.

Prerequisites:

FRE 202 or any FRE 300 level course or higher or permission

Course Typically Offered:

Fall, Even Years

Credits: 3

FRE 315 - Advanced French Conversation

Oral practice for the advanced language student. Course work revolves around the discussion of cultural and intellectual issues, as well as current political and social events, with a view toward increasing idiomatic and abstract vocabulary.

Prerequisites:

Any FRE 300 level or higher course or permission

Course Typically Offered:

Spring, Even Years

Credits: 3

FRE 320 - French Pronunciation

A formal study of the French sound system with considerable practice in phonetic transcription. Practical and remedial work in pronunciation.

Core Curriculum/Core Requirements: [""] Prerequisites:

FRE 202 or any FRE 300 level course or higher or permission

Course Typically Offered:

Variable

Credits: 3

FRE 350 - Multidisciplinary Readings in French

Intended to be taken in conjunction with a course from another department, this course supplements the content areas of the course to which it is attached and promotes increased proficiency in French through reading and discussion in French. May be repeated for credit.

Prerequisites:

Permission.

Course Typically Offered:

Variable

Credits: 1

FRE 390 - Topics in French

May include the study of literature, culture, cinema, the arts and media as expressed in Francophone countries. Topics vary. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

FRE 202 or equivalent.

Course Typically Offered:

Variable

Credits: 1-3

FRE 397 - French (May Term)

Total immersion program. May be repeated for credit.

Prerequisites:

FRE 202 or permission of instructor

Course Typically Offered:

Summer, Odd Years

Credits: 3

FRE 400 - Advanced French Grammar

An exposition of grammatical and syntactical principles through conceptual presentations along with demonstrations and practice through exercises. Designed to enhance French language competency. This course may be offered online.

Prerequisites:

FRE 305 or FRE 306 or permission.

Course Typically Offered:

Fall

Credits: 3

FRE 401 - Translation and Comparative Stylistics

An exposition of the principles of translation and comparative stylistics with practice via exercises and the translation of texts in both English and French.

Core Curriculum/Core Requirements: [" Writing Intensive"] Prerequisites:

FRE 400 or permission.

Course Typically Offered:

Spring, Even Years

Credits: 3

FRE 407 - 19th Century French Literature

Readings of major 19th century figures, including Balzac, Sand, Hugo, Flaubert, Zola, and Baudelaire, with particular attention to social and philosophical themes as well as concepts of language and genre.
May be repeated for credit, the course content may vary.

Prerequisites:

FRE 309 or FRE 310 or any FRE 400 level or higher course or permission

Course Typically Offered:

Variable

Credits: 3

FRE 408 - Twentieth Century French Literature

Readings in the novel, poetry or drama (content varies.) May be repeated for credit, with permission of instructor.

Prerequisites:

FRE 309 or FRE 310 or any FRE 400 level or higher course or permission

Course Typically Offered:

Variable

Credits: 3

FRE 413 - Advanced Composition and Stylistics

An exposition of the fundamentals of French stylistics with practice of these principles via compositions and exercises. Designed to enhance competence in written idiomatic French.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

FRE 400 or permission.

Course Typically Offered:

Spring, Odd Years

Credits: 3

FRE 430 - French Film Survey

A survey of French cinema from its origins to the present, with an emphasis on understanding film as a narrative form.

Prerequisites:

FRE 309 or FRE 310 or any FRE 400 level or higher course or permission

Course Typically Offered:

Variable

Credits: 3

FRE 463 - Quebec Poetry

A survey of Quebec poetry from the 19th century to the present, focusing on language, theme, socio-historical and political context, ideology and Quebec identity.

Prerequisites:

FRE 309 or FRE 310 or any FRE 400 level or higher course or permission

Course Typically Offered:

Variable

Credits: 3

FRE 464 - Quebec Theatre

A survey of Quebec from the 1940's to the present, focusing on language, theme, character, theatricality, socio-historical and political context, ideology and Quebec identity.

Prerequisites:

FRE 309 or FRE 310 or any FRE 400 level or higher course or permission

Course Typically Offered:

Variable

Credits: 3

FRE 465 - North American French Novel

A survey of francophone novels written in North America in the 19th and 20th centuries, focusing on the history and cultural identity of Acadia, Quebec, and New England's Franco Americans.

Prerequisites:
FRE 309 or FRE 310 or any FRE 400 level or higher course or permission

Course Typically Offered:
Variable

Credits: 3

FRE 490 - Advanced Topics in French

Advanced Topics in French and French-Canadian literature or linguistics may include: contemporary cinema, surrealism, contemporary French thought, modern French critical theory, linguistics, sociolinguistics, semiotics, symbolism, literature of commitment, images of women, and women writers. Topics vary. May be repeated for credit.

Prerequisites:
FRE 309 or FRE 310 or any FRE 400 level or higher course or permission

Course Typically Offered:
Variable

Credits: 1-3

FRE 495 - Senior Project in French

Capstone Experience in which majors in French and in International Affairs with a concentration in French, or in Cultures, Languages and the Humanities, apply language skills and knowledge gained from all prior language study. Students work closely with a faculty advisor on an approved project and give a public presentation of the project in French. When taken as a stand-alone course, the coursework will reflect the work of three credit hours, regardless of number of credits taken. When taken in conjunction with another French course at the 400 level, the course will carry no credit and will be graded Pass/Fail only.

Core Curriculum/Core Requirements: [" Capstone Experience"] Prerequisites:
Senior standing and permission.

Course Typically Offered:
Fall & Spring

Credits: 0-3

FRE 498 - Independent Projects II

No description available.

Course Typically Offered:
Spring

Credits: 1-3

General Engineering

GEE 103 - Introduction to Pre-Engineering

This course is intended for students entering the Explorations Pre-Engineering Program. The course provides an introduction to different engineering programs including Chemical and Bioengineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Engineering Physics, Mechanical Engineering, and Engineering Technology. The course also familiarizes students with building skills in the use of information and University resources.

Core Curriculum/Core Requirements: [""] Prerequisites:
Must be an Explorations Pre-Engineering student.

Course Typically Offered:
Fall

Credits: 1

GEE 105 - Introduction to Engineering

An introduction to University life, and the different programs available in the Maine College of Engineering and Computing. Emphasis on building skills in the use of information and University resources. (Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Prerequisites:
Engineering Undecided and General Engineering Undecided first semester, first-year student.

Course Typically Offered:
Fall

Credits: 1

GEE 109 - Planning for Academic Success Seminar

This course is a 1-credit pass/fail course designed to help Engineering and Computing students build the skills and utilize the resources necessary for academic success. Through weekly in-person sessions, students will explore time management, learning strategies, and campus resources while developing critical academic and professional skills. The course focuses on self-regulated learning, stress management, effective communication, and understanding university policies, all aimed at supporting students throughout their college journey. By the end of the course, students will be better equipped to balance academic responsibilities, stay on track for degree completion, and make the most of their college experience.

Prerequisites:
Department Consent

Course Typically Offered:
Fall and Spring

Credits: 1

GEE 230 - Introduction to Engineering Leadership and Management

Introduction to principles of leadership and management with applications to the engineering work environment. Topics include: definition of leadership and management, motivation, importance of communication, decision making, team building, self-assessment, professional responsibility and ethics. Guest speakers will emphasize the importance of leadership and management skills to career advancement and the competitiveness of the U.S. economy.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Spring

Credits: 1

GEE 430 - Engineering Leadership and Management Internship

Interns are placed in an engineering mill/plant, consulting services agency, or supplier business, on a full-time basis for one semester, and develop new skills and a greater understanding of the nature of leadership through their experience.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Spring

Credits: 3

Geographic Information Systems

GIS 101 - Geospatial Careers

Students will develop important career skills and meet and interact with professionals in a variety of geospatial fields. Geospatial professionals will visit class each week to share their education and work experiences, offer advice for aspiring professionals, and discuss strategies for gaining experience in the field. Assignments will help students reflect on their career aspirations, make connections with working GIS professionals, and prepare for an exciting and rewarding career.

Course Typically Offered:
Fall

Credits: 1

GIS 102 - Our Digital Earth

Students will use cutting-edge online mapping technology, as well as field experiments, to learn about earth systems (hydrosphere, atmosphere, biosphere and geosphere), their dynamic interactions, and their role in environmental issues. We will explore important earth processes such as weather and climate, ocean currents, volcanoes and plate tectonics, applying scientific and geospatial inquiry methods to collect data, create maps and graphs, and conduct experiments.

Core Curriculum/Core Requirements: ["Scientific Inquiry"] Credits: 4

GIS 204 - Introduction to Satellite Positioning and Navigation Systems

Students will gain a knowledge of the Global Positioning System and other global navigation satellite systems (GNSS), using handheld receivers in the field to navigate and gather data and processing data for use in computer mapping. Topics to be covered

include the basic principles of GNSS technology, uses of the technology, sources of error, mission planning, methods used to minimize error and prevent data loss, basic geodesy related to satellite positioning systems and basic mapping software. Students will do several outdoor, hands-on activities with handheld receivers, as well as mapping activities in the laboratory. They will be assessed on their laboratory worksheets, quizzes and a simple service project.

Prerequisites:

Basic knowledge of Microsoft Windows. Experience with spreadsheets and high school algebra are helpful.

Course Typically Offered:

Alternte Spring Semester, Alternate Winter terms.

Credits: 1-2

GIS 300 - Geographic Information Systems (GIS) I

Understanding the fundamentals of a GIS through lecture, readings and computer activities. Students will learn to use a specific GIS software system and to define and complete a simple GIS project using existing data. This computer-intensive course includes a detailed discussion of what a GIS is, why GIS is being increasingly used today, sample applications, basic map concepts, how geographic and descriptive data are stored in the computer, and the steps in a typical GIS project. Project discussions will focus on defining project objectives, building and managing the digital database, identifying the needed data, locating and acquiring the data in digital form, performing the analysis, and presenting results.

Course Typically Offered:

Fall

Credits: 4

GIS 312 - Municipal Applications of Geographic Information Systems

This hands-on course provides the basic skills needed to use geographic information systems software, data and analysis to manage municipal land records, support decision-making in local government and create zoning maps. Students will primarily use ArcGIS software, the industry standard; the class will also explore low- and no-cost GIS software appropriate for municipal applications. Students complete a service project for a real-world client, applying course skills and content. The class will include streaming lectures, hands-on lab exercises and real-world assignments and projects. Students must have a computer that meets or exceeds the system requirements for ArcGIS software and has a broadband internet connection, or they must do required exercises and assignments in the laboratory. A one-year student software license is provided.

Prerequisites:

GIS 300, or permission of instructor.

Credits: 3

GIS 313 - Python Programming for Geographic Information Systems

This course is designed for students with no prior programming experience as an introduction to programming for geographic information systems using the Python programming language. Through lectures, readings and computer activities, students will learn basic programming to execute geoprocessing tasks, automate GIS workflows and to define and complete a simple GIS project using existing data. Software covered in the course includes: Esri ArcGIS Pro/arcpy, Jupyter Notebook, Esri ArcGIS API for Python.

Prerequisites:

GIS 300 or instructor permission

Course Typically Offered:

Spring

Credits: 3

GIS 400 - Geographic Information Systems II

This is an intermediate course for students who have had some introduction to GIS. The course focuses on grid-based data models for visualization, modeling and analysis. Assessment will be based on problem sets, lab work and a final project. Readings, assignments, activities and discussions will cover: the raster data model, generating and working with grid data, georeferencing images and grids, basic remote sensing technologies, visualizing raster data sets, interpolation methods for generating continuous surface data, mathematical operations with grid data for spatial analysis, map algebra and grid-based modeling, basic modeling, evaluating and documenting error and uncertainty, ethics and accountability in spatial analysis, modeling and visualization.

Prerequisites:

GIS 300 or permission of instructor.

Course Typically Offered:
Spring

Credits: 4

GIS 401 - Special Topics in Geographic Information Systems (GIS)

This special topics course gives students hands-on experience using the procedures, hardware, and software of GIS including the following: designing a field study; gathering and storing various forms of GIS data; data management, manipulation, summarization and analysis; presentation of results. Specific offerings will permit the students to participate in studies of a variety of regional sites or areas of interest, such as the Roosevelt International Park on Campobello Island, coastal trail systems of Downeast Maine, etc. Whenever possible the specific topic will be designed and coordinated with local regional agencies.

Prerequisites:
Permission of instructor.

Course Typically Offered:
Variable

Credits: 2-4

GIS 420 - Remote Sensing & Image Analysis

Earth imaging from satellites, aircraft and remote sensors is increasingly crucial to visualizing and analyzing environmental change. This course introduces remote sensing technologies used in mapping, with an emphasis on satellite imagery and lidar. Using industry-standard software and imagery, students learn basic image analysis for oceanographic modeling, land cover change detection, climate analysis and similar applications. The course combines lecture, discussion and mapping exercises to cover the major remote sensing technologies and image formats, the physics of light and optics, potential sources of error, analytical methods and applications of remote sensing in a variety of fields. The semester culminates in a final project.

Prerequisites:
GIS 300 and GIS 400 or permission of instructor

Course Typically Offered:
Spring

Credits: 4

GIS 424 - Advanced Projects in Geographic Information Systems

Students pursue individual, advanced service-learning or advanced academic projects in GIS, meeting in class for critiques, trouble-shooting labs and seminars relevant to project topics or methods. Project topics may vary widely. Students will be expected to work closely with a community or faculty client to assess and respond to their needs, answer questions and provide them with maps, data and documentation. Through this work, students learn to plan, manage, execute and document a multi-faceted GIS project, and acquire skills with direct applications to their future careers.

Core Curriculum/Core Requirements: [" Capstone and Service Learning and Writing Intensive in major"] Prerequisites:
GIS 300 and GIS 400, or permission of instructor.

Course Typically Offered:
Variable

Credits: 4

GIS 426 - Community Applications in Geographic Information Systems

Students work together under the instructor's guidance for a single community client to perform a professional-quality service project using geographic information systems (GIS) as a decision-support and planning tool. Projects might include a town's comprehensive plan, environmental conservation planning, economic development, recreation planning, emergency response management or similar applications where GIS can assist communities in setting priorities, making choices or planning for the future. Students will be expected to work closely with clients and/or community residents to assess and respond to their needs, answer questions and provide them with maps, data and documentation. In most cases, students will present their findings to the clients or their constituents. Through this work, students learn to plan, manage, execute and document a multi-faceted GIS project, skills with direct applications to the workforce.

Core Curriculum/Core Requirements: ["Capstone and Service Learning and Writing Intenstive in Major"] Prerequisites:
GIS 300 and GIS 440, or permission of instructor.

Course Typically Offered:
Fall - Alternate Years

Credits: 4

GIS 428 - Web-Based Maps, Applications & Services

This is a practical and applied course covering design and delivery of web and mobile maps and applications, fundamentals of online databases, hosting and serving data and map services and basics of server management. The course will cover a variety of software and server providers, including Esri, Google and open source, focusing mainly on those with the greatest market share and practical value in the workplace. Students will work with services and cloud services in the course, which culminates in a real-world service project.

Prerequisites:
GIS 300 and GIS 400, or permission of instructor.

Credits: 3

GIS 429 - Geographic Information Systems Internship

Geospatial technology is now embedded in nearly every field and discipline using a wide array of applications. Increasingly, employers expect practial skills in applying geospatial tools to solve real-world problems. This course provides students with experience working with geospatial data, software, hardware and techniques in the workplace. Interns apply for positions (paid or unpaid) in a work site outside the traditional classroom environment to conduct projects using geospatial technology required for the internship. Academic credit for an approved work experience is determined by the student's faculty sponsor and the university coordinator after an examination of the following criteria: nature of the work to be performed, the proposed learning objectives, the number of weeks involved and the anticipated hours per week. Studetns must apply to the coordinator for cooperative education/internship before registering for the class. Students must log 120 hours to earn the required three credits and must demonstrate satisfactory performance and application of geospatial technology via a student report on the internship experience and supervisor evaluation and documentation.

Prerequisites:
GIS 300, acceptance by internship supervisor and approval by GIS director and director of cooperative education/internships. GIS 312 or GIS 400 is recommended.

Course Typically Offered:
By Arrangement

Credits: 3

GIS 431 - Introduction to Geostatistics

This course introduces the basic principles of geostatistics, including descriptive statistics such as variance and covariance, spatial autocorrelation, distribution and dispersion and spatial trends. Students will also learn advanced methods of estimation with spatial interpolation, as well as methods for analyzing error and uncertainty. The course combines lectures, discussion and laboratory exercises. Students are assessed on problem sets and a simple final project.

Prerequisites:
GIS 300, GIS 400 and BIO 215, or permission of instructor.

Course Typically Offered:
Variable

Credits: 4

Geography

GEO 100 - World Geography

Introduces students to the major world cultural regions and their characteristics, development and interaction. It focuses particularly on the relationship between cultural groups and the environment within and between each region. Students will be challenged to acquire factual knowledge of cultural regions necessary for geographic literacy and to critically evaluate explanations of these patterns.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives and Population and the Environment Requirements."] Course Typically Offered:
Fall

Credits: 3

GEO 212 - Geography of Maine

This course provides a geographical perspective on the historical development of Maine over the last 500 years. The course begins with what we know about Indigenous peoples living in Maine and Eastern Canada at the time of European contact in the early 1500s, followed by early attempts at European exploration of this area. The class will then examine the evolution of Maine as part of a borderland claimed by both France and England in the seventeenth century and first half of the eighteenth century, the American settlement of Maine in the late eighteenth and early nineteenth centuries, the growth of industrial manufacturing and tourism in the late nineteenth and early twentieth centuries, and the de-industrialization and development of a service economy in Maine today. The course pays particular attention to environmental, cultural, and cross-border issues, as well as the history of Maine's Indigenous peoples. (HTY 212 and GEO 212 are identical courses.)

Core Curriculum/Core Requirements: ["Population and the Environment"] Course Typically Offered:

Fall

Credits: 3

GEO 265 - The Power of Maps

Humans have been making maps for thousands of years, but never before were maps as present in everyday life as they are today. Just think of the GPS in cars and the locator apps on our phones. It is more important than ever that we understand maps, how they are made, and how they have shaped society, from guiding imperial expansion to influencing urban development, land use, tourism, and surveillance. This course teaches students the history of maps and map-making from the first rock carvings of ancient cities to Google Earth and smart bombs. Major topics will include how maps have been essential tools for government, warfare, territorial control, social and economic planning, and artistic expression. We will explore how map-making technology has changed over time, the drive for increasing accuracy, and how the design of maps reflects the cultures that produce them. Students will also learn how to make their own maps to tell a spatial historical narrative. Most broadly, this course will teach students how to read maps as rich documents that are fascinating windows on the past. If this course was taken under as a topics course in HTY 398, it cannot be repeated for credit.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives and Artistic and Creative Expressions"] Course Typically Offered:

Fall

Credits: 3

GEO 275 - Geography of Globalization

Examines changing demographic, economic, political, and cultural connections across the globe over the past 500 years; their representation through maps; and our current awareness of the globe and the Earth's environment. (GEO 275 and HTY 275 are identical courses.)

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives and Population and the Environment"] Course Typically Offered:

Variable

Credits: 3

GEO 311 - Geography of Climate Change

Introduces students to theories of environmental sustainability transitions and resource use in the context of climate change.

Core Curriculum/Core Requirements: [""] Prerequisites:

Any ANT or GEO course or permission

Course Typically Offered:

Variable

Credits: 3

GEO 349 - Early Modern North America in Atlantic Perspective

Reflecting the increasing globalization of modern society, this course employs an Atlantic perspective to understand the international history of early modern North America. Focuses on the geography of the European empires that shaped North America, beginning with the Spanish and the French, and then focusing on the British and the revolt of the American colonies. (GEO 349 and HTY 349 are identical courses.)

Course Typically Offered:

Variable

Credits: 3

GEO 410 - North American Historical Geography

This seminar examines the various ways historical geographers have studied the North American past, ranging from focused local studies to national and continental interpretations. The readings pay particular attention to the creation of cultural landscapes, environmental change, and the character of places, regions, and countries. The course considers the challenge of representing historical information in the spatial format of the map. The seminar meets weekly. Students are expected to do the readings, contribute to discussion, and participate in the class field trip.

Prerequisites:

A course at the 200 level in either Anthropology, Geography, or History; Junior standing; or permission of the instructor

Course Typically Offered:

Spring

Credits: 3

German

GER 101 - Elementary German I

The basics of the German language. Emphasis on developing reading, comprehension, speaking and writing skills. For students with no previous study of German or fewer than two years in high school.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"] Course Typically Offered:

Fall

Credits: 3

GER 102 - Elementary German II

Continued study of the basics of the German Language. Emphasis on developing reading, comprehension, speaking and writing skills. For students with no previous study of German or fewer than two years in high school.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"]

Prerequisites:

GER 101 or equivalent.

Course Typically Offered:

Spring

Credits: 3

GER 203 - Intermediate German I

An integrated approach. Reading texts as well as various audiovisual materials will be employed to strengthen reading, writing and especially speaking and comprehension skills. Includes a systematic but gradual review of the essentials of German grammar.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"]

Prerequisites:

GER 102 or GER 121 or equivalent.

Course Typically Offered:

Fall

Credits: 3

GER 204 - Intermediate German II

A continuation of GER 203. Designed to strengthen reading, writing, speaking and comprehension skills.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"]

Prerequisites:

GER 203 or equivalent.

Course Typically Offered:

Spring

Credits: 3

Hebrew

HBR 101 - Beginning Modern Hebrew

A systematic study of the basics of the Hebrew language. Equal emphasis is placed on developing reading, listening comprehension, speaking and writing skills. For students with minimal or no previous knowledge of Modern Hebrew.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"] Course Typically Offered:

Fall

Credits: 3

HBR 102 - Beginning Modern Hebrew II

Continued study of the basics of the Hebrew language, with equal emphasis on developing reading, listening comprehension, speaking and writing skills. Continued discussion of Hebrew as an expression of Jewish culture in Israel and the United States. For students with one semester study of Hebrew or the equivalent as determined through consultation with the instructor.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"]

Prerequisites:

HBR 101 or equivalent

Course Typically Offered:

Spring

Credits: 3

History

HTY 103 - Creating America to 1877

Examines interactions of the many peoples who created the United States. Topics include Native Americans, the American Revolution, and Civil War, and how colonization, immigration, gender, race, politics, class, and geography shaped the nation.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Social Contexts and Institutions"] Course Typically Offered:

Fall, Spring, Summer

Credits: 3

HTY 104 - United States History Since 1877

A survey of main themes of U.S history from 1877 to the present. The course may include an emphasis on political, social, economic, intellectual, and technological aspects of the Gilded Age, the Progressive Era, WWI, the interwar era, WWII, the Cold War, and post-Cold War era.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Social Contexts and Institutions"] Course Typically Offered:

Fall, Spring, Summer

Credits: 3

HTY 105 - History of Medieval Europe

This course will survey European history from late antiquity through the fifteenth century, examining developments in political, religious, and cultural fields. Even as we aspire to cover huge swaths of geography and history, we will also pause to investigate individual case studies and telling details. Eschewing caricature and conventional wisdom, we will explore the many varieties of medieval civilization, emphasizing the complex lessons and legacies that this period offers for the modern world.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Social Contexts and Institutions"] Course Typically Offered:

Variable

Credits: 3

HTY 106 - History of Modern Europe

This class surveys the intellectual, social, economic, and political changes that shaped the development of Europe from 1715 to the present. Topics may include the French and the Industrial Revolutions; nationalism and the emergence of nation states; the rise of Marxism; high imperialism; the two world wars; totalitarian governments of the 20th century; comparative histories of everyday life; and European integration.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Social Contexts and

Institutions"] Course Typically Offered:
Variable

Credits: 3

HTY 107 - East Asian Civilization

A survey of China's and Japan's social, economic, cultural and political life from prehistoric times to the present. Whenever applicable, Korea and Vietnam will be discussed. Emphasis on key periods in each country, especially changes in the 19th and 20th centuries.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions and Cultural Diversity and International Perspectives"] Course Typically Offered:
Spring

Credits: 3

HTY 108 - India: Identities and Changes

A survey of the social, economic, cultural and political life of India from prehistoric times to the present. Key periods, especially since the later half of the 19th century, and main themes will be emphasized.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives and Social Contexts and Institutions"] Course Typically Offered:
Fall

Credits: 3

HTY 109 - Introduction to Early Latin America

Explores the creation of dynamic Latin American societies as an unequal combination of Iberian, Indian, and African traditions. Begins with Native American civilizations before the arrival of Europeans and concludes with the national independence movements of the 19th century. The development of the modern world in a non-Anglo tradition is a central course theme.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Cultural Diversity and International Perspectives"] Course Typically Offered:
Variable

Credits: 3

HTY 110 - Introduction to Latin American History

A one-semester survey that introduces students to Latin American History, from the fifteenth century to the present. Themes include the formation of colonial societies and institutions; indigenous resistance and accommodation; the transatlantic slave trade and forced labor; the region's incorporation into the global economy; national identity and citizenship after independence; race, gender, and sexuality; dictatorships and democracies in the twentieth century; US-Latin American relations; inequality; the environment; and migration. The course draws on materials from multiple disciplines-from literature to the visual arts-that reflect the complex and diverse history of the region.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Cultural Diversity and International Perspectives"] Course Typically Offered:
Variable

Credits: 3

HTY 111 - The Classical World

A survey of ancient civilizations in the Mediterranean from the Neolithic farmers until Constantine (ca. 300 CE). This course will focus particularly on the enduring influence of the ancient Mediterranean through the examination of the classical roots of modern western society and the religious foundations of Christianity, with particular emphasis on ancient Greece, Rome, and Israel.

Core Curriculum/Core Requirements: ["Western Cultural Tradition"] Course Typically Offered:
Variable

Credits: 3

HTY 112 - Introduction to Africa

A survey of Africa's social, economic and political history from 1800 to the present. Emphasis on African and European interaction, pan-Africanist currents, and the national histories of Nigeria, South Africa, Congo and Ghana.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions and Cultural Diversity and International Perspectives"] Credits: 3

HTY 113 - History of the Modern Mediterranean World, 1789-1966

A crossroads of ideas and commerce, of empires, nations, and peoples, the Mediterranean has been part of key moments in world history. By focusing on this region, which includes the countries of Southern Europe and the Middle East, you will gain a perspective of the historical process in a set of societies which meet in between "East" and "West." Within history, more studies focus on the Early Modern Era (roughly 1400-1800). We will focus our attention on the late 18th century and finish in the 1960s. Often the "modern" Mediterranean is not viewed as a cohesive region. To counter this view, we will explore how different political, social, and cultural trends circulated throughout the great "Middle Sea" from the French Revolution to Italian unification to the First World War to the Algerian War of Independence.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions and Cultural Diversity or International Prespectives"] Course Typically Offered:

Fall, Spring, Alternating years

Credits: 3

HTY 115 - World History to 1500

The first half of the world history sequence covers the time from the first emergence of Homo Sapiens to the establishment of regular, ongoing, contact between the Americas, Europe, Africa, and Asia. This lengthy period saw the biological development and worldwide dispersal of human beings, the emergence of agriculture, cities, writing, organized religions, complex social organization and political institutions, and the creation of distinct cultural traditions. The course features cultural interactions and comparisons. This course takes a western perspective to look at global historic events.

Core Curriculum/Core Requirements: ["Western Cultural Tradition"] Prerequisites:

ENG 101

Course Typically Offered:

Every Fall and Spring

Credits: 3

HTY 116 - World History since 1500

This course examines world history from the 16th century to the present. This much shorter period saw enormous increases in trade, cultural, political and military interaction among all regions of the world. A major theme of this era is colonialism, the rise of European state, economic, and cultural power, and the reactions of the non-Western world to that power. This course takes a western perspective to look at global historic events.

Core Curriculum/Core Requirements: ["Western Cultural Tradition"] Prerequisites:

ENG 101

Course Typically Offered:

Every Fall and Spring

Credits: 3

HTY 122 - American History for Teachers

This course is designed to provide sufficient content for pre-service elementary teachers so that they can effectively incorporate a broad understanding of the majors events, themes and eras of American history into the elementary school curriculum. Students will also acquire important analytical skills and an understanding of historical concepts related to American culture and society. The course is required for all Elementary Education majors.

Prerequisites:

ENG 101 and HTY 115 or 116, or permission of instructor.

Course Typically Offered:

Spring

Credits: 3

HTY 130 - Becoming an Historian

This course introduces students to the work involved in historical inquiry using a single case study or historical controversy. (Case study or controversy will vary depending on the instructor). The course is also a "first-year success course" designed to help students develop effective study and academic skills. It can be used by history majors or potential history majors to meet the one

credit LAS 150 requirement and also fulfills a history requirement.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Fall

Credits: 3

HTY 199 - Problems in History

An analysis of a selected controversial or contemporary historical problem. In some cases the specific topic and methodology may be chosen jointly by interested students and an instructor.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Variable

Credits: 3

HTY 202 - Medieval Civilization

What were the Middle Ages in the middle of? How did "medieval" become synonymous with "ignorant" and "barbaric"? These questions will be on our minds as we survey European history from the late Roman Empire through the fifteenth century, examining developments in political, religious, and cultural fields. Even as we aspire to cover huge swaths of geography and history, we will also pause to investigate individual case studies and telling details. Eschewing caricature and conventional wisdom, we will explore the many varieties of medieval civilization, emphasizing the complex lessons and legacies that this period offers for the modern world.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives and Western Cultural Tradition"] Course Typically Offered:
Fall

Credits: 3

HTY 205 - Introduction to Public History

This introductory course explores the diverse ways that history is put to work in the world. It emphasizes many kinds of collaboration, such as with museums, historical societies, archives, and libraries and puts a premium on "sharing authority" about the past with a general audience. Given Public History's commitment to community engagement, this intro course focuses on local history and uses digital resources to gather, create, and share historical knowledge.

Core Curriculum/Core Requirements: ["Social Context and Institutions"] Course Typically Offered:
Spring

Credits: 3

HTY 210 - History of Maine

A survey of Maine's social, economic, and political life, from primitive times to the present. After a brief study of Native American life preceding white settlement, the periods of colonial, provincial, and state history are covered.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Social Contexts and Institutions"] Course Typically Offered:
Fall & Summer

Credits: 3

HTY 211 - Maine and the Sea

An overview of Maine maritime history from aboriginal uses through the current state of maritime Maine. Emphasis on the coast's history, inland Maine's relationship with the sea, Maine's maritime relationship to the world, and current historical and archaeological research.

Core Curriculum/Core Requirements: ["Western Cultural Tradition"] Course Typically Offered:
Spring

Credits: 3

HTY 212 - Geography of Maine

This course provides a geographical perspective on the historical development of Maine over the last 500 years. The course begins with what we know about Indigenous peoples living in Maine and Eastern Canada at the time of European contact in the early 1500s, followed by early attempts at European exploration of this area. The class will then examine the evolution of Maine as part of a borderland claimed by both France and England in the seventeenth century and first half of the eighteenth century, the American settlement of Maine in the late eighteenth and early nineteenth centuries, the growth of industrial manufacturing and

tourism in the late nineteenth and early twentieth centuries, and the de-industrialization and development of a service economy in Maine today. The course pays particular attention to environmental, cultural, and cross-border issues, as well as the history of Maine's Indigenous peoples. (HTY 212 and GEO 212 are identical courses.)

Core Curriculum/Core Requirements: ["Population and the Environment"] Course Typically Offered:

Variable

Credits: 3

HTY 213 - History of the Maine Woods

This course will survey the history of the Maine woods from postglacial times to the present. Topics include alterations in the forest ecology, Native American and colonial settlement, and changing economic, industrial, and recreational uses of the woods. The course will also explore the varieties of spiritual and literary interpretations ascribed to the forest environment.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Population and Environment"] Course Typically Offered:

Variable

Credits: 3

HTY 218 - History of Film

Global history of film with emphasis on the cultural, technological, and philosophical sources of film in the 20th century.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Cultural Diversity and International Perspectives"] Course Typically Offered:

Variable

Credits: 3

HTY 220 - North American Indian History

An introductory history of North American Indians, from before European contact to the present. Within a broad chronological framework, the course will look at critical themes in American Indian history; American Indians prior to contact; cultural contact; treaty making, treaty rights, sovereignty; impact of government policies on Native populations; and contemporary issues.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions and Cultural Diversity and International Perspectives"] Course Typically Offered:

Variable

Credits: 3

HTY 221 - History and Comics

This course provides a concise introduction to the field of comics studies, and then relies on the comics medium to acquaint students with some of the major topics and themes that are commonly encountered in the discipline of history. Comics are highly accessible and foster active engagement, making it a powerful medium through which to experience the discipline of history. In particular, we will be examining comics as historical documents, but also as a medium for historical analysis. Students will develop the intellectual tools, as they relate to the field of comics studies, required to interpret and criticize the content and meaning of a range of comics materials from the past and present. While it is impossible to cover the whole of the discipline of history, students will be introduced to a wide and varied selection of subject matter, including politics and political discourse, armed conflicts and mass atrocities, nature and the environment, race and ethnicity, Indigenous peoples, labor and the working class, and gender.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Artistic and Creative Expression"] Course Typically Offered:

Variable

Credits: 3

HTY 222 - Maine Indian History in the Twentieth Century

Too often Native people are relegated to the distant past, leading society to have misunderstandings about indigenous communities today. This course introduces students Wabanaki history of Maine and eastern Canada in the twentieth century. The term "Wabanaki" is an all-inclusive term that refers primarily to Mi'kmaqs, Maliseets, Passamaquoddies, and Penobscots, along with other Abenaki groups. The tribal homeland encompasses present-day northern New England, the Maritime Provinces, and southern Quebec. We will explore the variety of ways Wabanaki experiences deviated from the national narrative on American Indians and examine when Native challenges were in lockstep with western tribes in the twentieth century. This course considers

the interplay between cultural traditions and modernity. The regional scope highlights local developments. We will investigate prominent themes of resistance, accommodation, activism, sovereignty, and cultural survival. Wabanaki people were positive actors in their own affairs, not passive pawns subdued by forces beyond their control. This course will provide context to contemporary challenges Wabanaki people confront. As one tribal historian astutely noted, "I can never give up hope, as my ancestors never gave up hope."
HTY 222 and NAS 230 are identical courses.

Core Curriculum/Core Requirements: ["Population and Environment and Cultural Diversity and International Perspectives"] Course Typically Offered:
Variable

Credits: 3

HTY 232 - Womanhood in America

Examines the changing experiences of American women from colonial times to the present. Emphasis on what women did and what they were told to do, the experiences of different groups of women, and the ways in which women worked to change their situation.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Cultural Diversity and International Perspectives"] Course Typically Offered:
Variable

Credits: 3

HTY 235 - Heresy, Witchcraft, and Reform

This course will examine the definition and repression of heresy and witchcraft in Europe from late antiquity through the seventeenth century. Focusing on issues surrounding gender, belief, and otherness, we will spend time reading and thinking about the meanings of religious dissent and orthodoxy in premodern contexts. Our investigation will center on the ways in which efforts to reform the Church were closely connected to campaigns against its imagined internal enemies.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Social Context and Institutions"] Course Typically Offered:
Variable

Credits: 3

HTY 236 - Ancient Egypt and Mesopotamia

An investigation of the history of ancient Mesopotamia and Egypt from the Neolithic through the Persian Empire. This course will cover the "rise of civilization," investigating key social and cultural institutions alongside central innovations in human history from the agricultural revolution to the invention of writing to the emergence of Empires. We will investigate the cultures behind well-known artifacts, persons, and monuments, such as the Great Pyramids, the tomb of Tutankahmun, the Law Code of Hammurabi, the Hebrew Bible, and the Epic of Gilgamesh. We will combine archaeology and primary texts in order to explore the literature, religion, belief systems, political structures, social norms, and economic structures of the ancient world. Along the way we will gain a better understanding of our own world and the continued relevance of these cultures in modern contexts and their contribution to the western tradition, while examining ethical questions surrounding museums, looting, the antiquities trade, and the preservation and conservation of the past.

Core Curriculum/Core Requirements: ["Social Context and Institutions"] Course Typically Offered:
Variable

Credits: 3

HTY 240 - Creation of the Atlantic World, 1450-1888

This entry-level course uses a comparative transnational perspective to understand the formation of an integrated early modern world in the region connected by the Atlantic Ocean. Selected topics given close attention include the Spanish conquest of the Mexica/Aztec Empire, Native American responses to the invasion of their homelands, religion as a key site of conflict and accommodation among varied cultural groups, the slave trade and the rise of modern plantation slavery, environmental exchanges across the Atlantic, the Age of Democratic Revolutions with an emphasis on Haiti, and the dismantling of slavery in the western hemisphere by 1888.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives and Social Context and Institutions."] Course Typically Offered:
Spring

Credits: 3

HTY 241 - History of Globalization, 1900-Present

An introductory history of globalization. Explores the major political, economic, cultural and technological features of the twentieth century that have helped to create today's global society. Emphasizes global changes and their effects on everyday life.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions and Cultural Diversity and International Perspectives"] Course Typically Offered:

Spring

Credits: 3

HTY 251 - Technology and Society from Ancient Times till the Present

A survey of the history of Western technology and, to a lesser extent, non-Western technology from ancient times till the present. The course covers major developments both 'internally" -- as tools and machines" -- and "externally" as related to the societies which have produced them and upon they in turn have had impact. Thus HTY 251 is not an old-fashioned and one-sided "nuts and bolts" course. Instead HTY 251 examines the complex relationship between (1) technological change and (2) social, cultural, economic, and political change as each has affected the other over. Old-fashioned "nuts and bolts" history of technology courses invariably assume that virtually all technological developments constitute "progress" and often make technological "progress" the measure of all things. By contrast, HTY 251 repeatedly asks if that traditional simplistic equation between technological advances and social, cultural, economic, and political advances is accurate or if it might be rethought in various instances over the course of history.

Core Curriculum/Core Requirements: ["Western Cultural Tradition Social Context and Institutions"] Course Typically Offered:

Fall

Credits: 3

HTY 261 - New England and Eastern Canada Since 1815: A Transnational Region

This course examines the historical development of the geographical areas now referred to as New England and Eastern Canada from 1815, the end of the Napoleonic Wars and the War of 1812, the last major Anglo-American conflict, to the present. An emphasis will be placed on exploring New England and Eastern Canada as a transnational region in the making, where there have been more historical similarities than differences in spite of the gradual hardening of borders between countries, states, and provinces. The course will follow a rough chronology, and cover topics such as building borders, political institutions, and identities, economic pursuits like agriculture, forestry, and fishing, sporting cultures, women's suffrage, civil rights, environmental movements, and indigenous resurgences.

Core Curriculum/Core Requirements: ["Population and Environment and Social Context and Institutions"] Course Typically Offered:

Alternating

Credits: 3

HTY 265 - The Power of Maps

Humans have been making maps for thousands of years, but never before were maps as present in everyday life as they are today. Just think of the GPS in cars and the locator apps on our phones. It is more important than ever that we understand maps, how they are made, and how they have shaped society, from guiding imperial expansion to influencing urban development, land use, tourism, and surveillance. This course teaches students the history of maps and map-making from the first rock carvings of ancient cities to Google Earth and smart bombs. Major topics will include how maps have been essential tools for government, warfare, territorial control, social and economic planning, and artistic expression. We will explore how map-making technology has changed over time, the drive for increasing accuracy, and how the design of maps reflects the cultures that produce them. Students will also learn how to make their own maps to tell a spatial historical narrative. Most broadly, this course will teach students how to read maps as rich documents that are fascinating windows on the past. If this course was taken under as a topics course in HTY 398, it cannot be repeated for credit.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives and Artistic and Creative Expressions"] Course Typically Offered:

Variable

Credits: 3

HTY 275 - Geography of Globalization

Examines changing demographic, economic, political, and cultural connections across the globe over the past 500 years; their representation through maps; and our current awareness of the globe and the Earth's environment. (GEO 275 and HTY 275 are identical courses.)

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives and Population and the Environment"] Course Typically Offered:

Variable

Credits: 3

HTY 278 - American Military History

America's experience with warfare, from the colonial period through the Vietnam era. How American wars have been fought, and the complex interrelationship between American society and the military, including economic, political and social factors.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Social Contexts and Institutions"] Course Typically Offered:

Fall

Credits: 3

HTY 279 - European Military History

A survey from the 18th Century to the present. Examines the causes and nature of war, the relationship of soldiers and civilians, and war's impact on modern society.

Core Curriculum/Core Requirements: ["Western Cultural Tradition"] Course Typically Offered:

Variable

Credits: 3

HTY 281 - Military History of Modern Asia

The course explores the origins and historical developments in the military and strategic history of the Asia Pacific region. Students will begin by examining the regional strategic situation that existed in the aftermath of World War II in East Asia. Students will then move on to consider the origins of the Cold war in East Asia, the Chinese and Japanese Grand Strategy, and the modern history of the divided Korean nation. Students will also discuss the partition of British India in 1974 and the making of two countries (India and Pakistan), the historical rivalry between India and Pakistan, overt nuclearization in South Asia as well as evolving forces of nationalism and religious extremism in this region. Students will also concentrate on the transformations of Indian democracy, and the rise and fall of dictatorships in Pakistan. Students will be exposed to a wide variety of historical materials, including recently published historical works in history and strategic studies, as well as films and documentaries to frame and understand Asia Pacific history.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"] Course Typically Offered:

Variable

Credits: 3

HTY 310 - Slavery, Politics, and Memory in American History

This course follows a chronological path through the rise and development of African slavery in colonial North America, the impact of the Revolution on systems of bondage and ideas about freedom, the development of these ideas in the antebellum United States, antislavery and proslavery movements, the coming of emancipation during the Civil War, and the legacy of slavery and redefinition of freedom during Reconstruction. It also focuses on how this history has been remembered, commemorated, erased, and distorted to serve various present-day concerns.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives","Ethics"] Prerequisites:

Three credits of History or permission of instructor.

Course Typically Offered:

Variable

Credits: 3

HTY 311 - Research Seminar

A writing intensive seminar that introduces students to the historiography and methodology of important themes in history. Its topics

vary. This is a required seminar for all History majors as preparation for the Senior Seminar. Utilizing secondary and selected primary sources students will consider how historians construct different interpretative narratives of past events.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

Three credits of History or permission of instructor.

Course Typically Offered:

Fall and Spring

Credits: 3

HTY 312 - Furs, Frontiers, and Fame: North American Exploration

This course examines the identities, practices, and spaces of exploration in North America from the late fifteenth to the twentieth centuries. Different political, economic, scientific, and cultural motives for the exploration of Canada and the United States over time will be compared and contrasted. The experiences of Spanish, French, English, Russian, American, and Canadian explorers and expeditions will be situated in local, national, imperial, and global contexts. The course will broadly explore the themes of cross-cultural encounter, exploration and science, textual and visual representation, and the public commemoration of explorers and exploration.

Prerequisites:

Three credits of History or permission of instructor.

Course Typically Offered:

Variable

Credits: 3

HTY 314 - History of Modern Islam

This course is designed to provide students a better understanding of the political use of religion in the Muslim world. We will review the Islamic history, its major teachings, rituals, attitudes, sects within the religion, and its relations with other cultures and faiths. The course will survey different traditions of teachings of both Sunni and Shia Islam and will examine different contemporary and historical theological struggles and debates to interpret sharia law within the Islamic world. We will also examine the fall of the last Islamic Caliphate, i.e., the Ottoman Empire, and the rise of Islamic extremism and Arab nationalism in the post-World War I era. At the end of this course, students should be able to develop a framework for explaining the sources and symbols through which historically specific experiences and understandings have been signified as Islamic.

Core Curriculum/Core Requirements: "" Prerequisites:

Three credits in History or instructor permission

Course Typically Offered:

Fall

Credits: 3

HTY 330 - Robber Barons, Reformers and Radicals 1877-1914

Traces the transformation of the United States into a modern nation by exploring themes of industrialization, urbanization, immigration, politics, and imperial outreach. Particularly focuses on the contest of power between so-called "Robber Barons", or industrial leaders, and the reformers and radicals who challenged their vision for the nation.

Prerequisites:

Three credits of History or permission of instructor.

Course Typically Offered:

Variable

Credits: 3

HTY 349 - Early Modern North America in Atlantic Perspective

Reflecting the increasing globalization of modern society, this course employs an Atlantic perspective to understand the international history of early modern North America. Focuses on the geography of the European empires that shaped North America, beginning with the Spanish and the French, and then focusing on the British and the revolt of the American colonies. (GEO 349 and HTY 349 are identical courses.)

Prerequisites:

Three credits of History or permission of instructor.

Course Typically Offered:

Variable

Credits: 3

HTY 351 - The Age of Revolutions (1775-1848)

This course focuses on the revolutions that transformed Europe and the Americas between 1775 and 1850. The course emphasizes two connected processes: first, the political, social, economic, and intellectual developments influencing the breakdown of the empires of Britain, France, Spain, and Portugal in the Americas; second, the French Revolution, particularly Napoleon's rule in France and Europe (1799-1815), the formation of the Napoleonic empire, the changes he introduced throughout this empire, and the period's legacy in the first half of the nineteenth century.

Core Curriculum/Core Requirements: [""] Prerequisites:

Three credits of History or permission of instructor.

Course Typically Offered:

Variable

Credits: 3

HTY 365 - The American Immigrant Experience

Writing Intensive course that examines the many kinds of immigrant experiences in the American colonies and the United States from 1600 to the present day, drawing on first-person accounts and historians' interpretations. Considers the influence of age, sex, legal status, race, religion, occupation, and class, as well as whether immigrants came voluntarily, as free persons, or by force, as slave labor.

Core Curriculum/Core Requirements: [""] Prerequisites:

Three credits of History or permission of instructor.

Credits: 3

HTY 390 - A Sense of Place

A course offering students the opportunity to participate in a program emphasizing study and travel. Periodic trips have been planned to American or European locales in order that participants gain a better understanding of historic events and/or the people associated with these locales.

Prerequisites:

3 credits of history or permission of instructor

Course Typically Offered:

Spring

Credits: 1-3

HTY 398 - Historical Issues

An exploration of selected contemporary historical issues not covered in existing courses. In some cases the specific topic and methodology may be chosen jointly by interested students and an instructor.

Core Curriculum/Core Requirements: [""] Prerequisites:

Three credits of History or permission.

Course Typically Offered:

Fall, Spring, Summer

Credits: 1-3

HTY 402 - Roman History

The rise of ancient Rome from a small Italian town to mistress of the Mediterranean. Problems of excessive greatness including failure of a city-state republic to rule a vast empire and triumph of Caesarism. Covers the establishment of the "Roman Peace" under the emperors, "Christianization" and problem of the "Decline of Rome".

Core Curriculum/Core Requirements: [""] Prerequisites:

Three credits of History or permission of instructor.

Course Typically Offered:

Variable

Credits: 3

HTY 403 - Early Middle Ages

Europe from late antiquity to about 950, considering the social, economic, political, and intellectual developments during

Merovingian and Carolingian times, emphasizing the early medieval agricultural revolution and reconstructing the factors affecting the lives of ordinary people.

Prerequisites:
Three credits of History or permission.

Course Typically Offered:
Variable

Credits: 3

HTY 404 - Late Middle Ages

Social, economic, political, and intellectual history of Europe from 950 to the Renaissance, focusing on the medieval frontier period and the late medieval era of environmental crisis and economic contraction.

Prerequisites:
Three credits of History or permission.

Course Typically Offered:
Variable

Credits: 3

HTY 405 - Early Modern Europe: The Age of Reform

A survey of the cultural, religious, social, economic and political history of Europe from 1300 to the end of the period of religious wars. Emphasis on the cultural rebirth following upon the recovery of the art, literature and philosophy of cultural antiquity; on the Reformation and Counter-Reformation as marking the end of the "closed," relatively homogeneous world of Medieval Christendom and an entrance into a more open universe of spiritual and intellectual possibilities; and on the economic, social and technological transformations that made possible and were in turn accelerated by the expansion of European societies into Africa, Asia and the Americas.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
Three Credits of History or permission.

Course Typically Offered:
Variable

Credits: 3

HTY 407 - The History of Europe, 1648-1848

The course explores aspects of European society, politics, and culture from the mid-seventeenth until the mid-nineteenth century. Among the major themes and topics addressed are the expansion of Europe's overseas empires; the Enlightenment; monarchy, aristocracy and their critics; the French Revolution and its consequences; industrialization, urbanization, and their discontents; and the evolution of political and social thought in the nineteenth century.

Prerequisites:
Three credits of History or permission.

Corequisites:
Variable

Course Typically Offered:
Fall

Credits: 3

HTY 409 - European Society and Culture in the Age of Total War

Europe in the age of the two world wars, focusing on the causes and consequences of the wars themselves, concurrent political and social problems, and the intellectual and cultural contexts.

Prerequisites:
Three credits of History or permission of instructor.

Course Typically Offered:
Variable

Credits: 3

HTY 411 - The Holocaust

The Nazi persecution and extermination of European Jews (1933-1945) including the exploration of modern anti-Semitism, Nazi

ideology, the persecution of German Jews after 1933, and the extermination of six million European Jews in Nazi occupied Europe during the Second World War.

Prerequisites:
Three Credits of History or permission.

Course Typically Offered:
Variable

Credits: 3

HTY 415 - African-American History

Examines the African-American experience both thematically and chronologically, from slavery to emancipation, and the lives of African-Americans in the twentieth century. Includes African survivals and slave culture; the impact of racism, religion, and family on African-American lives; efforts by blacks to improve their lives; and the meaning of their history for contemporary African-Americans.

Core Curriculum/Core Requirements: [""] Prerequisites:
Three credits in History or instructor permission.

Course Typically Offered:
Variable

Credits: 3

HTY 422 - Ancient Greece

Greece is the birthplace of democracy, western philosophy, and much of modern western thought. In this course we explore the political and social history of ancient Greece and the development of Greek culture. This course covers ancient Greece from the stone age through the Hellenistic era following the death of Alexander the Great with a focus on the culture and institutions of classical Greece (ca. 500-350 BCE).

Prerequisites:
Three credits of History or instructor permission

Course Typically Offered:
Variable

Credits: 3

HTY 427 - Vikings!

Marauding barbarians with a lust for blood and plunder, the Vikings retain their grip on the popular imagination. To what extent are our images of the medieval Norse grounded in historical reality? This course will begin by asking what archaeological finds, runestones, skaldic poetry, and foreign chroniclers can tell us about the people of Viking Age Scandinavia. We will then explore how different societies and cultural groups have shaped and reshaped images of the Vikings to suit different agendas. Our investigation will range from thirteenth-century Iceland, where medieval Christian writers composed vernacular sagas about pagan heroes, to contemporary America, where Viking imagery appears on everything from football helmets to comic books.

Prerequisites:
Three credits of History or permission.

Course Typically Offered:
Variable

Credits: 3

HTY 432 - History of Modern Ideas

This is a survey of some of the major currents of modern intellectual history. In the nineteenth century, Europe was filled with presumptions of its own ascendancy and world-superiority. These ideas were largely justified through an interpretation of history. This course will begin by looking at the dominant place of history in the nineteenth century and, in particular, its relation to God, nature, and the nation. It then turns to some of the grave doubts that emerged over Europe and its modes of thought. The twentieth century can be interpreted as a disintegration of meaning and understanding, and this course will assess various attempts to describe this crisis, including endeavors to find a new basis for coherent meaning. Such endeavors continue to the present, where this course concludes. Attention to the history of are will supplement the discussion of texts.

Core Curriculum/Core Requirements: [""] Prerequisites:
Three credits of History or permission.

Course Typically Offered:

Variable

Credits: 3

HTY 433 - Greek and Roman Mythology

The study of classical myths as the poetic expression of the Greek and Roman spirit, as the depiction of everything considered sacred, and as the embodiment of the basic patterns of the human psyche. Discusses the major theories of myth. Uses modern psychology and anthropology to show how the myths reveal secrets of our emotional, intellectual, and spiritual lives.

Core Curriculum/Core Requirements: [""] Prerequisites:

Three credits in History or instructor permission.

Course Typically Offered:

Variable

Credits: 3

HTY 446 - History of Modern Middle East, 1800-Present

The economic, social, and political transformations experienced by the Middle East in the nineteenth and twentieth centuries. Focus on the rise of Arab nationalism and the Israeli-Arab conflict.

Prerequisites:

Three credits of History or permission.

Course Typically Offered:

Variable

Credits: 3

HTY 449 - History of South Africa

Examines the political, economic, and social history of South Africa from 1652 to the present. Emphasis on race relations from the establishment of the Cape Colony to the fall of Apartheid. Explores European colonization, the formation of the Zulu Empire, the South African War, and the birth of the New South Africa.

Prerequisites:

Three credits of History or permission.

Course Typically Offered:

Variable

Credits: 3

HTY 450 - History of the British Empire

Examines the history of the British Empire from the late 15th century to the end of the 20th century. Emphasis on the 19th century, especially the period of rapid growth c. 1875-1914, in Africa and Asia.

Prerequisites:

Three credits of History or permission.

Course Typically Offered:

Variable

Credits: 3

HTY 456 - History of Modern Britain

The political, socio-economic, and constitutional aspects of British history from 1700 to the present, emphasizing economic growth and the development of democracy.

Prerequisites:

Three credits of History or permission.

Course Typically Offered:

Variable

Credits: 3

HTY 459 - Colonial Canada

Canada's history from New France to 1850, emphasizing political, social, and economic developments and relations with the American people. (This course is identical to FAS 459.)

Core Curriculum/Core Requirements: [""] Prerequisites:

Three credits of History or permission.

Course Typically Offered:

Variable

Credits: 3

HTY 460 - Modern Canada

Canada's history from Confederation to the present, emphasizing political, social, and economic developments and Canada's relations with the United States.

Prerequisites:

Three credits of History or permission.

Course Typically Offered:

Variable

Credits: 3

HTY 461 - Colonial British America to 1763

Examines the founding and development of English-speaking colonies in the New World. Themes include the trans-Atlantic context of colonization, Native Americans, the growth of slavery, and religious and regional variation in colonial America.

Core Curriculum/Core Requirements: ["writing Intensive"] Prerequisites:

Three credits of History or permission.

Course Typically Offered:

Variable

Credits: 3

HTY 462 - The American Revolution

Explores the pivotal era that created the United States as an independent nation in the late 18th and early 19th centuries. In addition to a traditional focus on the Revolutionary War and the Federal Constitution, the course also considers conflict within patriot ranks as well as the experience of people who did not necessarily benefit from the Revolution.

Prerequisites:

Three credits of History or permission.

Course Typically Offered:

Variable

Credits: 3

HTY 463 - The Early Republic, 1789-1840

Explores the shaping of American society by people and events between the years 1789-1840. While paying due attention to political and economic changes during this period, the focus will be on the lives and experiences of ordinary people: their families, work, homelife, communities, attitudes and expectations.

Prerequisites:

Three credits in History or instructor permission.

Course Typically Offered:

Variable

Credits: 3

HTY 464 - America at the Crossroads: The Era of Civil War Reconstruction 1840-1876

Problems and processes involved in territorial expansion, economic growth, the slavery issue, civil war, and the reconstruction of American society.

Prerequisites:

Three credits of History or permission.

Course Typically Offered:

Variable

Credits: 3

HTY 467 - Early 20th Century America, 1914-1945

Changes in American politics, economics, society, and culture including the Wilson era of reform and intervention in World War I,

the age of business, depression and the New Deal of FDR, World War II and American global power.

Prerequisites:
Three credits of History or permission.

Course Typically Offered:
Variable

Credits: 3

HTY 468 - America Since 1945
Changes in American politics, economics, society, and culture including the Cold War and McCarthyism, protest movements of the 1960s, Watergate, the energy crisis and economic recession, affluence and poverty in the 1980s.

Prerequisites:
Three credits of History or permission.

Course Typically Offered:
Variable

Credits: 3

HTY 475 - History of Modern Warfare
The course explores the historical developments in the evolution of modern warfare and military thought over the last two centuries. Students will begin by examining the theoretical writings of classical military theorists and different outstanding historical cases of military innovation in modern warfare. Later, students will consider many topical segments from literature and films of major wars and will also examine the changing nature of war by analyzing new war-fighting domains such as cyberwar and space as the final frontier. In this class, students will be engage in activities designed to improve your reading, writing, and presentation skills. Students will also be provided an opportunity to study these materials in-depth and will be encouraged to conduct research on your own. By the end of the course, students will be able to analyze the evolution of modern war across the different military domains over the last two centuries.

Course Typically Offered:
Variable

Credits: 3

HTY 476 - History of Modern Terrorism
This course focuses on the historical study of terrorism and political violence. Students will discuss the difference between state terror and terrorism perpetrated by non-state actors; however, the majority of the course material will focus on terrorism by the latter. The course offers a case study approach to the history of political violence from antiquity to the modern Islamic Jihad of the twentieth century. Each week students will explore the challenges and problems associated with conceptualizing terrorism through focusing on primary sources concerning key moments in the development of terrorism in a variety of historical contexts. Students will be exposed to a wide variety of political science and historical works such as Nechaev's revolutionary catechism and classic writings on terrorism by Robespierre, Trotsky, and Qutb. In doing so, students will be provided with an opportunity to study the history of political violence in-depth and will be encouraged to conduct research on our own. The course begins with the study of "Terror Tyrannicide in the Ancient World" followed by the "French Revolution" then moving on to "Globalization of Islamic Jihad" in the late-twentieth century. Throughout the course, students will discuss both historical and social science approaches to the topic of terrorism, its political uses, ad reflect on how it has been represented in media and literature.

Course Typically Offered:
Variable

Credits: 3

HTY 477 - The History of Modern American Capitalism
Examines changes in the world of work during successive phases of capitalist development since the Revolutionary War. Focus on skilled and unskilled labor; the evolving factory system; public policies and effects of technological change; ethnicity, race, and gender on worker responses. Assesses contemporary workplace issues from an historical perspective.

Prerequisites:
Three credits of History or permission.

Course Typically Offered:
Variable

Credits: 3

HTY 479 - North American Environmental History

Environmental history is the study of past interactions between humans and nature, and this course examines environmental historical processes across the North American continent over time. While it is impossible to cover the entirety of North America's environmental past, in-depth explorations of various major themes, including biological exchanges, water and waterways, urbanization and industrialization, and energy production, will thoroughly introduce students to a wide variety of subject matter.

Core Curriculum/Core Requirements: ["Ethics and Population and the Environment"]

Prerequisites:

Three credits of History or permission.

Course Typically Offered:

Variable

Credits: 3

HTY 480 - Global Environmental History

Environmental history is the study of past interactions between humans and nature, and this course examines environmental historical processes on the global scale by comparing and contrasting on the local, regional, and national scales over time. While it is impossible to cover the environmental history of the whole globe, in-depth explorations of seven major themes, including agriculture and settlement, biological exchanges, and urbanization and industrialization, will thoroughly introduce students to the subfield of global environmental history. Students will also have the opportunity to analyze at length specific environmental historical subject matter and improve their digital literacy through group website projects.

Prerequisites:

Three credits in History or instructor permission.

Course Typically Offered:

Variable

Credits: 3

HTY 481 - Amerindians of the Northeast: A History

Considers Amerindian history from a regional perspective, with emphasis on intersocietal and interethnic relations between the 16th and 19th centuries. It encompasses the Algonquian and Iroquoian speaking peoples from the Atlantic seaboard to the upper Great Lakes and from the Ohio Valley to the Hudson Bay.

Core Curriculum/Core Requirements: [""] Prerequisites:

Three credits of History or permission.

Course Typically Offered:

Variable

Credits: 3

HTY 498 - Senior Seminar in History

Intensive reading, research, and writing under the close supervision of an instructor on a selected problem in American or European history. Required of History majors.

Core Curriculum/Core Requirements: ["Writing Intensive and Capstone"] Prerequisites:

Restricted to history majors with senior standing.

Course Typically Offered:

Fall & Spring

Credits: 3

Honors

HON 101 - Foundations of Inquiry

In this first course in the Honors sequence, you will establish and practice foundational academic skills within various topic areas of instructor expertise. Working within diverse content areas in different sections of the course, each drawing from diverse Human Cultural Traditions (e.g., Gods and Monsters; What is a poem; rebellious women in literature; etc.), you will develop core skills in reading critically, source awareness and analysis, learning from diverse discussions, and writing.

Core Curriculum/Core Requirements: ["Western Cultural Tradition"] Prerequisites:

Honors College or permission

Course Typically Offered:

Fall

Credits: 3

HON 102 - Connect: Evidence & Argument

In this second course in the Honors sequence, you will enter into the community and practice of active scholarship within various topic areas of instructor expertise. Working within diverse content areas in different sections of the course, each drawing from diverse Global Perspectives (e.g., international drug policy; dissent literature; road narratives; "work" across cultures etc.), you will develop core skills in writing, editing, and revising; finding and synthesizing scholarly sources, and constructing scholarly arguments.

Core Curriculum/Core Requirements: ["Cultural Diversity & International Perspectives and Writing Intensive"] Prerequisites:

Enrolled in the Honors College and HON 101

Course Typically Offered:

Spring

Credits: 3

HON 111 - Civilizations: Past, Present and Future I

The four courses constituting Civilizations: Past, Present and Future follow a chronological trajectory from earliest recorded times through the present, examining philosophy, history, literature, the arts and natural, physical and social sciences. In particular, by incorporating primary sources, small group discussions and multiple perspectives, these courses explore the way in which civilizations and cultures have been developed and have interacted with others. (Offered in the Fall semester.)

Core Curriculum/Core Requirements: ["Completion of any of these courses (HON 111, 112, 211 or 212) satisfies either the General Education Western Cultural Tradition or the Cultural Diversity and International Perspectives requirement. Completion of any two satisfies the Western Cultural Tradition, Cultural Diversity and International Perspectives, and Ethics requirements. Completion of three satisfies the Western Cultural Tradition, Cultural Diversity and International Perspectives, Social Context and Institutions, and Ethics requirements. Completion of all four satisfies the Ethics requirement and all areas of the Human Values and Social Context requirements for 16 of the total 18 credits required in those areas. In addition, HON 211 and HON 212 each are designated Writing Intensive. Successful completion of HON 111 and HON 112 with a grade of C or better in each, satisfies the University's basic composition requirement (ENG 101.)"] Prerequisites:

Enrollment in the Honors College

Course Typically Offered:

Fall

Credits: 4

HON 150 - Phage Genome Discovery I

This inquiry-driven research course provides a hands-on laboratory experience in which students isolate a novel bacteriophage from the environment and characterized the bacteriophage through experimentation. Topics covered include phage biology and bacteriology, gene structure and expression, DNA isolation, restriction digest analysis, agarose gel electrophoresis, and electron microscopy. In this writing intensive course, students will learn effective scientific writing skills through instruction and writing activities and will write a final manuscript to report their research findings. Students also carry out activities and reflective writing assignments that simultaneously teach students both scientific content as well as personal, interpersonal, and critical-thinking skills essential to the practice of science. (HON 150 and BMB 150 are identical courses.)

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

Permission

Course Typically Offered:

Fall

Credits: 4

HON 155 - Genome Discovery II: From DNA to Genes

Provides laboratory experience working on DNA sequence from a bacteriophage isolated during the previous semester. Topics

include bioinformatics, genome annotation, open reading frame and RNA identification, BLAST analysis, phylogenetics and submission to a genomic database. In addition students will gain skills in designing and running computational experiments, reading the scientific literature, writing scientific papers, and making oral presentations.
(HON 155 and BMB 155 are identical courses)

Core Curriculum/Core Requirements: [""] Prerequisites:
HON 150

Course Typically Offered:
Spring

Credits: 3

HON 170 - Currents and Context

An opportunity for students to develop and enhance their awareness and understanding of events throughout the region, the country, and the world as well as to improve dialogue about these. In doing so, students will employ up-to-date information sources to explore issues including, but not limited to cultural conflicts; the roles of intergovernmental and nongovernmental organizations (IGOs and NGOs); the three branches of American government; the economy; the environment; and political debates of global, regional, and local concern. May be repeated once for credit.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Prerequisites:
Enrollment in the Honors College or permission.

Course Typically Offered:
Fall & Spring

Credits: 1

HON 180 - A Cultural Odyssey

An opportunity for students to extend their cultural education in the context of opportunities available at the University of Maine and in the surrounding area. Various arts events including dance, music, theatre, poetry, and visual art will be explored and analyzed. May be repeated once for credit. Required for all students in the Honors College.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Prerequisites:
Enrollment in the Honors College or permission.

Course Typically Offered:
Fall & Spring

Credits: 1

HON 211 - Civilizations: Past, Present and Future III

The third course in the Honors Civilizations sequence. (Offered in the Fall semester.)

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
Enrollment in the Honors College

Course Typically Offered:
Fall

Credits: 4

HON 212 - Civilizations: Past, Present and Future IV

The fourth course in the Honors Civilizations sequence. (Offered in the Spring semester.)

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
Enrollment in the Honors College

Course Typically Offered:
Spring

Credits: 4

HON 300 - Crossing Borders

Crossing Borders is an international learning and teaching module which allows students to discover ways of bringing down barriers and boundaries in a global classroom environment. The participants will cross borders in many ways, because they will cooperate with peers from other countries on joint tasks, communicate in a multinational community and compare ways to empower and include marginalized populations in different countries. Course includes a travel component.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Prospective"]

Prerequisites:
Junior Standing

Course Typically Offered:
Fall

Credits: 3

HON 308 - Visiting Scholar in Ethics Tutorial

An opportunity for students, through careful reading, thorough research, and measured discussion to determine the John M. Rezendes Visiting Scholar in Ethics to be brought to campus for the following year. Students in the tutorial will develop and refine criteria for the decision, analyze evidence presented about the candidates, deliberate using those criteria, and correspond and negotiate with viable candidates to determine availability and suitability.

Core Curriculum/Core Requirements: ["Ethics"] Prerequisites:
Junior standing in Honors College with three first- or second-year Honors courses and permission.

Course Typically Offered:
Not Regularly Offered

Credits: 3

HON 310 - Honors Tutorial

Small group discussions, under tutorial direction, of important readings in a specific topic or theme. May be repeated for credit with the permission of the dean of The Honors College. (Offered in both Fall and Spring semesters and occasionally in the Summer Session.)

Core Curriculum/Core Requirements: ["May satisfy several General Education categories; contact The Honors College for details."] Prerequisites:
Junior standing in Honors College and at least three of HON 111, HON 112, HON 211 or HON 212.

Course Typically Offered:
Not Regularly Offered

Credits: 3

HON 349 - Tutorial Alternative Portfolio

Presentation of materials documenting a pre-approved and completed Tutorial Alternative. Supervised by an Honors College associate and the Dean of the Honors College.
(Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission.

Course Typically Offered:
Summer

Credits: 0

HON 350 - Honors Seminar

Topics in such subject areas as the arts, philosophy, history of science, the study of society, etc. Specific topics vary.

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission.

Course Typically Offered:
Spring

Credits: 3

HON 391 - Introduction to Thesis Research

A series of weekly meetings designed to provide prospective Honors thesis writers with the background, resources and understanding necessary to produce quality independent work. Will engage students in investigating previous theses written in The Honors College, discussions with students currently writing theses and faculty advising theses, identifying a thesis advisor, developing an individual thesis topic, increasing information literacy and research skills and producing an annotated bibliography or literature review.
(Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Prerequisites:

Enrolled in the Honors College and Completion of the Civilizations Sequence (HON 111-212) or by permission.

Course Typically Offered:

Fall & Spring

Credits: 1

HON 396 - Honors Independent Study

A tutorially conducted study of a topic outside the student's major field. May be repeated once for credit, with permission.

Core Curriculum/Core Requirements: [""] Prerequisites:

Enrollment in the Honors College

Course Typically Offered:

Fall, Spring, Summer

Credits: 1-3

HON 397 - Honors Specialized Study

A tutorially conducted study in the student's major field, usually resulting in the choice of a thesis topic or initiation of thesis research. May be repeated once for credit, with permission.

Core Curriculum/Core Requirements: [""] Prerequisites:

Enrollment in the Honors College

Course Typically Offered:

Fall, Spring, Summer

Credits: 1-3

HON 398 - Honors Independent Research

Tutorially conducted independent research. May be repeated once for credit, with permission.

Core Curriculum/Core Requirements: [""] Prerequisites:

Enrollment in the Honors College

Course Typically Offered:

Fall, Spring, Summer

Credits: 1-3

HON 498 - Honors Thesis/Research I

Tutorially directed research for the senior thesis or project. Required of all four-year students graduating with a degree with Honors.

Core Curriculum/Core Requirements: [""] Prerequisites:

Enrollment in the Honors College and HON 391

Course Typically Offered:

Fall, Spring, and occasionally in Summer

Credits: 3

HON 499 - Honors Thesis/Research II

The completion of the senior project begun in HON 498. Required of all four-year students graduating with a degree with Honors.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

Enrollment in the Honors College and HON 498

Course Typically Offered:

Fall, Spring, and occasionally in Summer

Credits: 3

Human Centered Design

HCD 101 - Introduction to Human-Centered Design

Introduces the core principles, methodologies, and applications of human-centered design practice. Areas of investigation include user research, ideation, interaction design, visualization, prototyping, and usability. The students will rapidly prototype and evaluate paper and software prototypes, and simulation and role play. This course emphasizes design as a creative problem-solving tool

and engages with design from a broad perspective, thus enabling students to use fundamental design concepts effectively and compellingly in their work. This course also lays the foundation for the HCTD program, introducing possible future career paths and research opportunities.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:

Fall

Credits: 3

HCD 310 - Interactive Systems Design and Development

This course provides opportunities to identify, design, build, and evaluate interactive systems using human-centered design principles and engineering. Emphasis is placed on usability, accessibility, and user-centered design strategies for creating foundational interactive experiences. The students will learn technical skills such as basic control systems using microcontrollers, sensors and actuators, and advanced concepts from wearable and ubiquitous computing domains. Technical concepts will be introduced in a hands-on, project-based environment. The course will be structured as a series of independent explorations, each on a different prototyping methodology. The course will bring design thinking concepts and user-driven prototypes, including rapid sketched paper prototypes, lo-fi monochromatic wireframes, and high-fidelity interactive mockups.

Prerequisites:

COS 225 or NMD 211 or instructor permission

Course Typically Offered:

Spring

Credits: 3

Human Technology Interfaces

HTI 490 - Capstone Preparation

A customized course for preparation and development of the capstone project for the major in Interdisciplinary Studies in Multimodal Interaction. HTI 490 may be taken for a maximum of 9 credits. Capstone project completion occurs in HTI 499. HTI 490 (I) involves development of the capstone project, immersion in the literature of the topic being studies (including a literature review), and creation of a project abstract and proposal. HIT 490 (II) involves design and modeling of the student's project. The focus is on the early stages of project work and development. HTI 490 (III) is intended as advanced research and development of the student's project, and its focus is on the later stages of project work, data acquisition, programming, evaluation of work products, and the like. HTI 499 is devoted to documenting in a white paper or draft manuscript suitable for submission for publication the results of the student's project.

Course Note: To satisfy the Capstone Experience for the Interdisciplinary Studies in Multimodal Interaction major, students must complete 9 credits of HTI 490 and 6 credits of HTI 499.

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:

Students accepted into the major in the Interdisciplinary Studies in Multimodal Interaction.

Course Typically Offered:

Fall and Spring

Credits: 3-6

HTI 495 - Work Experience

This course focuses on work in a laboratory, business, or other approved organization, where the work undertaken involves hands-on, direct experiential learning. Students learn and practice professional skills that help integrate their experience in the VEMI Lab with their program of study. Student also enhance their skills in collaboration and teamwork. Along with their capstone experience, work experience becomes part of the required portfolio of their work in the major.

Course may be repeated for credit with 18 total credits and 4 completions.

Prerequisites:

Interdisciplinary Studies in Multimodal Interaction major and permission

Course Typically Offered:

Fall and Spring

Credits: 1-9

HTI 499 - Capstone in Interdisciplinary Studies in Multimodal Interaction

The final phase of the capstone sequence, in which students conclude their extended research project, as developed in HTI 490, related to their individualize programs of study in the College of Liberal Arts and Sciences' Bachelor of Arts in Interdisciplinary Studies in Multimodal Interaction. The final project is presented in a public presentation.
Course Note: To satisfy the Capstone Experience for the Interdisciplinary Studies in Multimodal Interaction major, students must complete 9 credits of HTI 490 and 6 credits of HTI 499.

Core Curriculum/Core Requirements: ["Capstone, Writing Intensive"] Prerequisites:
Permission and 9 credits of HTI 490

Course Typically Offered:
Fall and Spring

Credits: 3-6

Independent Study

IND 398 - Independent Study and/or Research

This course allows students the opportunity to pursue in depth or in alternative ways areas of study not otherwise readily available. Students contemplating such an approach must consult with their faculty advisors well in advance of the development of a prospectus, which should outline the purpose of the study and describe the proposed learning outcomes, methodology, and evaluation techniques. An approved application for independent study must be filed with the Registrar's Office at the time of registration for courses. The student may enroll in only one such course per semester and may accumulate a total of 12 cr toward a degree through independent study. Exceptions to these restrictions may be made with the approval of the Vice President for Academic Affairs. May be taken pass/fail at the option of instructor.

Prerequisites:
Applicants must have at least junior standing in a degree program with a cumulative grade point average of 3.0 or above in their major.

Course Typically Offered:
Variable

Credits: .5 - 4

IND 498 - Independent Study and/or Research

This course allows students the opportunity to pursue in depth or in alternative ways areas of study not otherwise readily available. Students contemplating such an approach must consult with their faculty advisors well in advance of the development of a prospectus, which should outline the purpose of the study and describe the proposed learning outcomes, methodology, and evaluation techniques. An approved application for independent study must be filed with the Registrar's Office at the time of registration for courses. The student may enroll in only one such course per semester and may accumulate a total of 12 cr toward a degree through independent study. Exceptions to these restrictions may be made with the approval of the Vice President for Academic Affairs. May be taken pass/fail at the option of instructor.

Prerequisites:
Applicants must have at least junior standing in a degree program with a cumulative grade point average of 3.0 or above in their major.

Course Typically Offered:
Variable

Credits: 1 - 6

Innovations

INV 101 - Exploring Innovation

This course is designed for students who are interested in finding out more about innovation, especially as it relates to startup businesses. The course will introduce ways of stimulating creativity, emphasize working in diverse teams and problem-solving to increase speed and decrease risk when it comes to innovation and new business opportunities. Students will 1) learn what is innovation and how to use a simple metric to identify innovation, 2) see/hear about applications of innovation in a variety of fields, 3) learn how to make smart decisions for investing in innovation.

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission

Course Typically Offered:
Variable

Credits: 1

INV 121 - Fundamentals of Innovation

Regardless of one's field of study, students need to be able to identify problems and generate solutions, communicate these solutions effectively, and test and implement them successfully. In this course, you will use the Innovation Engineering process and system, that incorporates skills and teaches students how to rapidly innovate and solve everyday problems. This course is designed to provide a complete overview of the Innovation Engineering system.

Core Curriculum/Core Requirements: ["Artistic & Creative Expressions and Social Context & Institutions requirements."] Course Typically Offered:

Fall & Spring

Credits: 3

INV 282 - Advanced Innovation Skills

This course will provide students with advanced skills in innovation and a systematic approach to creativity, communication, bringing their idea to reality (commercialization) and systems thinking. In the first set of advanced skills (create), students are provided with theories behind and practice using tools to generate meaningfully unique ideas. These tools engage creative stimulus, diversity, and mining for technology and economic, social and cultural trends. The second set of skills (communicate), combines elements of several disciplines: the clarity of professional writing, the precision of technical writing, and the expressiveness of creative writing. The third set (commercialize), how do you quantify its risks and benefits? How can you reduce the unknown quantities in your process of creating and realizing? Students learn to apply principles of the scientific method and design of experiments for evaluating ideas and making them real. The fourth set of skills (Systems), students will learn how visually map the system, measure variation, and analyze system.

Core Curriculum/Core Requirements: ["Writing Intensive and Quantitative Literacy"] Prerequisites:

INV 121

Course Typically Offered:

Fall & Spring

Credits: 4

INV 392 - Commercialize: Innovation Engineering III

So you have an exciting idea: how do you quantify its risks and benefits? How can you reduce the unknown quantities in your process of creating and realizing? Students learn to apply principles of the scientific method and design experiments for evaluating ideas and making them real. Students perform rapid test cycles using Fermi estimating, forecasting and statistical analysis to determine the feasibility, sustainability or profitability of ideas.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions and Quantitative Literacy"] Prerequisites:

INV 180

Course Typically Offered:

Variable

Credits: 3

INV 401 - Systems: Innovation Engineering IV

In this course, students will learn how to apply the tools and strategies learned in earlier courses into a system approach to innovation. Through this process, students will learn to lead systems for building alignment, collaboration and capacity to generate and implement new ideas in a wide range of organizations. The course will also cover the fundamentals of systems thinking, tools for measuring the performance of a system, and practice developing innovation strategies.

Core Curriculum/Core Requirements: [""] Prerequisites:

INV 180 and INV 282 and INV 392

Course Typically Offered:

Spring

Credits: 3

INV 405 - Innovation Leadership

Students will learn how to apply the tools and strategies learned in earlier courses into a more advanced system approach to innovation. Through this process, students will learn to lead systems for building alignment, collaboration and capacity to generate

and implement new ideas in a wide range of organizations. Students will then apply concepts explored in Innovation Engineering with the purpose of creating students' own project proposals. Students will be expected to identify a problem or opportunity and to research existing solutions to the problem before developing their own ideas and testing idea using iterative cycles to help ensure success of the idea.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Prerequisites:
INV 121 and INV 282

Course Typically Offered:
Fall & Spring

Credits: 4

INV 406 - Make It Real: Innovation Engineering VI

Students will have an opportunity during a full semester to take their own idea from proposal stage to prototype and beyond. Projects may be individual or team-based. (Pass/Fail Grade Only)

Core Curriculum/Core Requirements: [""] Prerequisites:
INV 405 or permission.

Course Typically Offered:
Spring

Credits: 3

INV 471 - Special Topics in Innovation

Provides opportunities for reflective and theoretical approaches to topics in innovation. Topics might include: innovation and medicine, finding money for innovation, innovations and development in the third world, universal design and innovation, innovations in aquaculture.

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission.

Course Typically Offered:
Spring

Credits: 3

INV 480 - Internship in Innovation

With submission of proposal approved by the curriculum committee and director of the Innovation Engineering academic program, students working as interns with public or private sector organizations on projects aimed at innovation may register for credit hours. May be repeated for credit up to six credit hours.

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission.

Course Typically Offered:
Fall

Credits: 1-6

INV 490 - Independent Study in Innovation

With approval of curriculum committee and director of academic program, students may create a plan of study for one semester with the guidance of a faculty member in Innovation.

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission.

Course Typically Offered:
Variable

Credits: 1-3

Intensive English Institute

IEI 50 - Introductory English: Listening and Speaking

IEI 50 and IEI 51, which are taken together, are normally the first in a series of course modules designed to provide non-native English-speaking students with the necessary linguistic foundation to successfully transition to a university-level curriculum. The focus of the IEI program is primarily on academic language use, and includes the development of listening, speaking, reading and writing skills. Students are initially placed in courses in the IEI program based on the English language proficiency tests given by

the IEI. In order to transfer to non-conditional status at the University of Maine, the student must complete the full sequence of courses from the initial course in which s/he is placed.

Core Curriculum/Core Requirements: [""] Prerequisites:

Permission required.

Course Typically Offered:

Fall, Spring, Summer

Credits: 0

IEI 51 - Introductory English: Reading and Writing

IEI 50 and IEI 51, which are taken together, are normally the first in a series of course modules designed to provide non-native English-speaking students with the necessary linguistic foundation to successfully transition to a university-level curriculum. The focus of the IEI program is primarily on academic language use, and includes the development of listening, speaking, reading and writing skills. Students are initially placed in courses in the IEI program based on the English language proficiency tests given by the IEI. In order to transfer to non-conditional status at the University of Maine, the student must complete the full sequence of courses from the initial course in which s/he is placed.

Core Curriculum/Core Requirements: [""] Prerequisites:

Permission required.

Corequisites:

IEI 50

Course Typically Offered:

Fall, Spring, Summer

Credits: 0

IEI 53 - Community English for Speaking and Listening Level 1

This A2 listening and speaking course focuses on helping students speak and understand the English language better- with a focus on acclimating to US culture. Students will practice informal conversation and "small talk," and learn new vocabulary, slang, and idioms. Students will read and discuss current events and news stories, role play everyday conversations, and present short discussions and speeches. Emphasis is placed on oral production in conversation and short presentations and listening comprehension strategies and skills.

Prerequisites:

IEI Placement Testing; Department Consent

Course Typically Offered:

Variable

Credits: 0

IEI 54 - Community English - A

This 3 hour per week course is for pre A1- A2 English Language Learners and focuses on helping students speak and understand the English language better- with a focus on acclimating to US culture. Students will practice informal conversation and "small talk," and learn new vocabulary, slang, and idioms. Students will read and discuss current events and news stories, role play everyday conversations, and present short discussions and speeches. Emphasis is placed on oral production in conversation and short presentations and listening comprehension strategies and skills as well as developing writing and reading ability.

Prerequisites:

IEI Placement test; Department Consent

Course Typically Offered:

Variable

Credits: 0

IEI 55 - Community English - B

TThis Pre A1- A2 listening and speaking course focuses on helping students speak and understand the English language better- with a focus on acclimating to US culture. Students will practice informal conversation and ¿small talk,¿ and learn new vocabulary, slang, and idioms. Students will read and discuss current events and news stories, role play everyday conversations, and present short discussions and speeches. Emphasis is placed on oral production in conversation and short presentations and listening comprehension strategies and skills as well as developing reading and writing ability

Prerequisites:

IEI Placement Testing; Department Consent

Course Typically Offered:

Variable

Credits: 0

IEI 56 - Community English - C

This Pre A1- A2 listening and speaking course focuses on helping students speak and understand the English language better- with a focus on acclimating to US culture. Students will practice informal conversation and ¿small talk,¿ and learn new vocabulary, slang, and idioms. Students will read and discuss current events and news stories, role play everyday conversations, and present short discussions and speeches. Emphasis is placed on oral production in conversation and short presentations and listening comprehension strategies and skills as well as developing reading and writing ability.

Prerequisites:

IEI Placement Testing; Department Consent

Course Typically Offered:

Variable

Credits: 0

IEI 57 - Career Strategies and Skills

This competency-based, multi-level course is for students who want to improve their English to meet career goals. Classes focus on building communication skills and improving listening, speaking and writing proficiencies. Students explore career options, set career goals, and devise strategies for reaching these goals by identifying what they are good at; understanding how their skills, talents, and interests translate into work; and finding the education and training they need to work in the U.S. Students will prepare job application materials, practice interviewing and negotiating skills, and learn intercultural communication strategies related to U.S. workplace culture.

Prerequisites:

Permission Required

Course Typically Offered:

Fall and Spring

Credits: 0

IEI 59 - University Culture and Ongoing Orientation

This multi-level course will introduce students to the academic expectations, resources, policies and traditions of university life in the US and serve as an ongoing orientation to the University of Maine. The course is designed to help new international students adjust to college life, establish skills that will help them be successful through their transition into their academic program and develop a sense of belonging and engagement
Course may be repeated as topics will vary depending on need.

Prerequisites:

Permission Required

Course Typically Offered:

Fall, Spring, Summer

Credits: 0

IEI 60 - Oral Communication Skills 1

This A2 level course helps students develop the English speaking and listening skills needed in the US by focusing on functional communication, vocabulary development, and pronunciation.

Core Curriculum/Core Requirements: [""] Prerequisites:

Permission Required

Course Typically Offered:

Fall and spring

Credits: 0

IEI 61 - Elementary Academic Writing in English

IEI 60 and IEI 61, which are taken together, are normally the first in a series of course modules designed to provide non-native English-speaking students with the necessary linguistic foundation to successfully transition to a university-level curriculum. The

focus of the IEI program is primarily on academic language use, and includes the development of listening, speaking, reading and writing skills. Students are initially placed in courses in the IEI program based on the English language proficiency tests given by the IEI. In order to transfer to non-conditional status at the University of Maine, the student must complete the full sequence of courses from the initial course in which s/he is placed.

Core Curriculum/Core Requirements: [""] Prerequisites:

IEI 50 and IEI 51 and permission required.

Corequisites:

IEI 60

Course Typically Offered:

Fall and Spring

Credits: 0

IEI 62 - Academic Oral Communication 1

This A2 level course prepares students for college classes and meeting career goals by developing their listening, speaking, critical thinking, and pronunciation skills.

Prerequisites:

Permission Required

Course Typically Offered:

Fall and Spring

Credits: 0

IEI 63 - English Grammar Structure 1

This A2 level course provides leveled discrete grammar review, practice, and synthesis in standard English reading, writing, listening, and speaking skills.

Prerequisites:

Permission Required

Course Typically Offered:

Fall and Spring

Credits: 0

IEI 64 - Writing Fluently and Accurately

This writing course is designed to provide A2 level students with intensive writing practice to improve fluency and command of written English structure and to build knowledge of sentence level grammar

Prerequisites:

Permission Required

Course Typically Offered:

Fall, Spring, Summer

Credits: 0

IEI 70 - Oral Communication Skills 2

This B1 level course helps students develop the English speaking and listening skills needed in the US by focusing on functional communication, vocabulary development, and pronunciation.

Core Curriculum/Core Requirements: [""] Prerequisites:

IEI 60 and IEI 61 and permission required.

Course Typically Offered:

Fall and Spring and Summer

Credits: 0

IEI 71 - Intermediate Academic Writing in English

IEI 70 and IEI 71, which are taken together, are normally the second in a series of course modules designed to provide non-native English-speaking students with the necessary linguistic foundation to successfully transition to a university-level curriculum. The focus of the IEI program is primarily on academic language use, and includes the development of listening, speaking, reading and writing skills. Students are initially placed in courses in the IEI program based on the English language proficiency tests given by the IEI.

Core Curriculum/Core Requirements: [""] Prerequisites:
IEI 60 and IEI 61 and permission required.

Corequisites:
IEI 70

Course Typically Offered:
Fall and Spring and Summer

Credits: 0

IEI 72 - Academic Oral Communication 2

This B1 level course prepares students for college classes and meeting career goals by developing their listening, speaking, critical thinking, and pronunciation skills.

Prerequisites:
Permission Required

Course Typically Offered:
Fall and Spring and Summer

Credits: 0

IEI 73 - English Grammar Structure 2

This B1 level course provides leveled discrete grammar review, practice, and synthesis in standard English reading, writing, listening, and speaking skills.

Prerequisites:
Permission Required

Course Typically Offered:
Fall, Spring, Summer

Credits: 0

IEI 74 - Writing Fluently and Accurately 2

This B1 level writing course is designed to provide students with intensive writing practice to improve fluency and command of written English structure.

Prerequisites:
Permission Required

Course Typically Offered:
Fall, Spring, Summer

Credits: 0

IEI 80 - Oral Communications Skills 3

This B2 level course helps students develop the English speaking and listening skills needed in the US by focusing on functional communication, vocabulary development, and pronunciation.

Core Curriculum/Core Requirements: [""] Prerequisites:
IEI 70 and IEI 71 and permission required.

Course Typically Offered:
Fall and Spring

Credits: 0

IEI 81 - Advanced Academic Writing in English

IEI 80 and IEI 81, which are taken together, are normally the third in a series of course modules designed to provide non-native English-speaking students with the necessary linguistic foundation to successfully transition to a university-level curriculum. The focus of the IEI program is primarily on academic language use, and includes the development of listening, speaking, reading and writing skills. Students are initially placed in courses in the IEI program based on the English language proficiency tests given by the IEI. In order to transfer to non-conditional status at the University of Maine, the student must complete the full sequence of courses from the initial course in which s/he is placed.

Core Curriculum/Core Requirements: [""] Prerequisites:
IEI 70 and IEI 71 and permission required.

Corequisites:
IEI 80

Course Typically Offered:
Fall and Spring

Credits: 0

IEI 82 - Academic Oral Communication 3

This B2 level course prepares students for college classes and meeting career goals by developing their listening, speaking, critical thinking, and pronunciation skills.

Prerequisites:
Permission Required

Course Typically Offered:
Fall and Spring

Credits: 0

IEI 83 - English Grammar Structure 3

This B2 level course provides leveled discrete grammar review, practice, and synthesis in standard English reading, writing, listening, and speaking skills

Prerequisites:
Permission Required

Course Typically Offered:
Fall and Spring

Credits: 0

IEI 84 - Writing Fluently and Accurately 3

This B3 level writing course is designed to provide students with intensive writing practice to improve fluency and command of written English structure.

Prerequisites:
Permission Required

Course Typically Offered:
Fall, Spring, Summer

Credits: 0

IEI 90 - Oral Communication Skills 4

This C1 level course helps students develop the English speaking and listening skills needed in the US by focusing on functional communication, vocabulary development, and pronunciation.

Core Curriculum/Core Requirements: [""] Prerequisites:
IEI 80 and IEI 81 and permission required.

Course Typically Offered:
Fall and Spring and Summer

Credits: 0

IEI 91 - Advanced English B: Reading and Writing

IEI 90 and IEI 91, which are taken together, are normally the fourth in a series of course modules designed to provide non-native English-speaking students with the necessary linguistic foundation to successfully transition to a university-level curriculum. The focus of the IEI program is primarily on academic language use, and includes the development of listening, speaking, reading and writing skills. Students are initially placed in courses in the IEI program based on the English language proficiency tests given by the IEI. In order to transfer to non-conditional status at the University of Maine, the student must complete the full sequence of courses from the initial course in which s/he is placed.

Core Curriculum/Core Requirements: [""] Prerequisites:
IEI 80 and IEI 81 and permission required.

Corequisites:
IEI 90

Course Typically Offered:
Fall and Spring and Summer

Credits: 0

IEI 92 - Academic Oral Communication 4

This C1 level course prepares students for college classes and meeting career goals by developing their listening, speaking, critical thinking, and pronunciation skills.

Prerequisites:
Permission Required

Course Typically Offered:
Fall and Spring and Summer

Credits: 0

IEI 93 - English Grammar Structure 4

This C1 level course provides leveled discrete grammar review, practice, and synthesis in standard English reading, writing, listening, and speaking skills.

Prerequisites:
Permission Required

Course Typically Offered:
Fall and Spring and Summer

Credits: 0

IEI 94 - Writing Fluently and Accurately 4

This C1 level writing course is designed to provide students with intensive writing practice to improve fluency and command of written English structure.

Prerequisites:
Permission Required

Course Typically Offered:
Fall, Spring, Summer

Credits: 0

IEI 97 - Intensive English Institute Special Topics Course

This intensive English course is presented at the request of a home institution. Course goals and objectives vary by design.

Prerequisites:
Department Consent

Course Typically Offered:
Variable

Credits: 0

IEI 99 - English Composition and Grammar

This course is for graduate students who are non-native English speakers. Students will read and analyze the content, structure, and style of a wide range of academic and professional writing in order to improve their own essays, articles, reports, theses, critiques, and proposals using those features. They will learn to explain, support, compare and argue their ideas effectively through attention to organization, vocabulary, and style. Grammar will be infused into the course as it applies to revision and editing of written work and consistency within various types of writing. Students will use a variety of strategies to improve skills in idea development, organization, word choice, sentence fluency, voice, grammar and mechanics. Writing tasks will be integrated with content, vocabulary, and grammar from various texts.

Prerequisites:
Department consent; referral from Grad School

Course Typically Offered:
Variable

Credits: 0

Interdisciplinary

INT 125 - Experiential Program Innovation Central

This course is designed to provide an overview of experiential learning pathways for students at a 21-century land grant research institution. Students work in teams on a semester long project designed to train them on design thinking, and enhance communication and problem solving skills. Students will learn more about the research and experiential learning at the following University centers and will be trained on various topics including project initiation, management, implantation, and reporting Advanced Manufacturing Center (AMC), Advanced Structures and Composite Center (ASCC), Center for Undergraduate Research (CUGR), Center for Innovation in Teaching and Learning (CITL), Foster Center for Student Innovation, and Innovative Media Research and Commercialization Center (IMRC).

Core Curriculum/Core Requirements: ["Application of Scientific Knowledge and Ethics"] Course Typically Offered:

Fall and Spring

Credits: 3

INT 188 - Introduction to Integrated Science and Career Exploration

INT 188 is a variable credit course that involves lecture and laboratory instruction in a data collection and analysis, measuring and graphing techniques, scientific writing, evidence-based thinking, and includes group work, a research project, a career-planning assignment focusing on Science, Technology, Engineering, and Mathematics (STEM) fields including job-shadowing experiences, and a final Research Symposium at the end of the course.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Summer

Credits: 1-3

INT 192 - Introduction to Career Development

A 1 credit experiential course focused on assisting students with exploring and identifying their career interests and goals through the utilization of a structured career development process.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall

Credits: 1

INT 193 - Introduction to Career Exploration and Development

An experiential course designed to assist students with exploring and identifying career interests and goals through the utilization of a structured career development process

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall, Spring, Summer

Credits: 2

INT 195 - (University Wide) Community Engagement / Service Learning

Community engagement opportunity for students seeking to participate in a service learning environment. Prior approval is required and will be based on a detailed written plan and documentation presented by the student. The course can be repeated up to 4 times for a total of 12 credit. Open to students in all majors as well as students with undeclared majors.

Core Curriculum/Core Requirements: [""] Prerequisites:

Permission.

Course Typically Offered:

Fall, Spring, Summer

Credits: 1-3

INT 398 - (BEN, CHE, CHY, ECE) Undergraduate Research Participation

Research topics chosen by students in consultation with faculty members. Students submit a final report describing their research and present an oral seminar.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Summer

Credits: 1-3

INT 421 - (CHB) Directed Study in Biomedical Engineering

A self-directed study opportunity coordinated by the biomedical engineering minor faculty.

Core Curriculum/Core Requirements: [""] Prerequisites:
INT 121 or permission; engineering majors only.

Course Typically Offered:
Spring, Summer

Credits: 1-3

INT 489 - Advanced Topics in Interdisciplinary Studies

Advanced work addressing topics with an interdisciplinary focus, bringing together 3 or more relevant disciplines.

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission of Instructor.

Course Typically Offered:
Not Regularly Offered

Credits: 1-99

INT 494 - Field Experience

Students participate in a political or governmental organization. Readings and reports required in addition to meetings with faculty sponsor and/or other field experience participants. Six credit hours maximum for any single field experience registration. Majors within the department may not receive more than a total of 12 credit hours toward graduation for any combination of internships and field experience, and not more than 6 credit hours may be used toward the department major.

Core Curriculum/Core Requirements: [""] Prerequisites:
Junior or Senior standing.

Course Typically Offered:
Fall, Spring, Summer

Credits: Ar

International Affairs

INA 101 - Introduction to International Affairs

Provides a common introduction to the interdisciplinary study of the field. Examines the core principles and concepts of the study of international affairs, the historical emergence and development of the contemporary global system, and the interaction between political actors and economic forces (especially between states and markets).

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Course Typically Offered:
Every years

Credits: 3

INA 201 - Topics in International Affairs

Offers a detailed examination of selected topics in international affairs, providing an opportunity for students to integrate what they have learned about international affairs by focusing in depth on a specific topic. Topics may include globalization and its impact, democratization, role of ethics in international affairs, global stability and peace and ecological environmental issues. (May be repeated if topics vary.)

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Variable

Credits: 3

INA 310 - Camden Conference Course

This course accompanies the Camden Conference held each spring. The topic changes yearly. The course prepares for the year's topic with background readings and discussions. Students attend the conference and normally meet with conference participants. Subsequent meetings analyze the ideas presented during the conference.

Course Typically Offered:
Spring

Credits: 3

INA 401 - Advanced Topics in International Affairs

Offers an advanced examination of a selected topic in international affairs. Specific topics will normally change, depending on visiting faculty, faculty research, and student interests. (May be repeated if topics vary).

Core Curriculum/Core Requirements: [""] Prerequisites:
Junior or Senior Standing or permission

Course Typically Offered:
Not regularly offered

Credits: 3

Judaic Studies

JST 200 - Introduction to Judaism

This course presents students with a survey of the developments in Jewish belief, practice, institutions and self-understanding from the Biblical period through the present day. Through the study of both primary and secondary sources, students will become familiar with the major canonical texts of Judaism, religious law, liturgy, rites of passage, the Sabbath and festivals. Students will learn how Jewish values, beliefs, philosophies, rituals and institutions developed within a variety of historical and cultural settings. Students will learn of the unique way in which Jews and Judaism engage with themselves, with G-d, and with humanity.

Core Curriculum/Core Requirements: ["Western Cultural Tradition"] Course Typically Offered:
Fall

Credits: 3

JST 205 - Jewish History and Antisemitism from Antiquity to the Founding of the State of Israel

This course is a history of antisemitism, describing its manifestations from pre-Christian Alexandria to the founding of the State of Israel. Students will be exposed to several academic and popular theories of antisemitism, exploring debates about its proper scope and development, and integrate these ideas with a study of the arc of Jewish history, read closely together in primary sources.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives and Ethics"] Course Typically Offered:
Spring

Credits: 3

JST 383 - Topics in Judaic Studies

Topics in Judaic Studies

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Variable

Credits: 3

Kinesiology and Physical Education

KPE 100 - Introduction to Athletic Training

Designed to encourage students to observe certified athletic trainers and other sports medicine professionals relative to athletic training. Areas of study include bloodborne pathogen training, rules of patient confidentiality, information about the National Athletic Trainer's Association and other governing bodies for certified athletic trainers and other material as it relates to working in an athletic training setting.

Core Curriculum/Core Requirements: [""] Prerequisites:
ATR major or permission of Athletic Training Education Director.

Course Typically Offered:
Fall

Credits: 1

KPE 201 - Athletic Training-Clinical Skills I

Lab based class with first clinical experience. Focuses on the critical thinking and application of injury prevention and immediate care of injuries and illnesses. Direct supervision by trained personnel during clinical experience.

Core Curriculum/Core Requirements: [""] Prerequisites:
KPE 250 and KPE 100.

Course Typically Offered:
Fall

Credits: 3

KPE 202 - Athletic Training-Clinical Skills II

Introduction to assessing muscle strength, range of motion, and girth measurements. Students build on assessing a patient's level of fitness learned in KPE 253. Clinical experience continues focus on immediate patient care and incorporates course content to patient care. Direct supervision of trained personnel during clinical experience.

Core Curriculum/Core Requirements: [""] Prerequisites:

KPE 100 and KPE 253.

Course Typically Offered:

Spring

Credits: 3

KPE 207 - Wilderness First Aid

This course provides foundational knowledge and skills needed to deal with medical and traumatic emergencies in remote settings. Topics include patient assessment, musculoskeletal and soft tissue injuries, wound care and infection, environmental emergencies, spinal cord management and moving patients, anaphylaxis and other medical emergencies, and CPR/AED. Successful completion of this course carries a nationally-recognized Wilderness First Aid (WFA) certification, and meets the medical training requirements for being a Registered Maine Guide, Maine Camp Trip Leader, and Maine Educational Leader.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Not Regularly Offered

Credits: 1

KPE 209 - Wilderness First Responder

This course provides the knowledge and skills necessary to deal with medical and traumatic emergencies in remote settings. Topics include patient assessment, difficult extrication and patient movement, basic search and rescue, allergies (including anaphylaxis certification), toxins, burns, wounds, fractures, dislocations, shock, spinal assessment and management, brain/head injuries, respiratory distress, heat and cold injuries, BLS CPR, legal issues and treatment of common backcountry ailments such as lost fillings, fish hook removal, fever, etc. Successful completion of this course carries a nationally-recognized WFR certification, and exceeds the Maine Guides requirements for medical training. Additional certification fee required.

Core Curriculum/Core Requirements: [""] Prerequisites:

Outdoor Leadership concentration or minor, or instructor permission required

Course Typically Offered:

Spring Even Years

Credits: 3

KPE 250 - Prevention and Care for Sports Injuries

Involves instruction in and practice of first aid and emergency medical care procedures specific to an active population. Students will practice life saving techniques such as respiratory and cardiac care. They will learn and practice injury prevention using taping and bracing techniques. Students will learn and practice how to assess and manage acute injury care for active individuals.

Core Curriculum/Core Requirements: [""] Prerequisites:

ATR or KPE major or permission.

Course Typically Offered:

Fall, Spring, Summer

Credits: 3

KPE 253 - Lifetime Fitness for Health

The course is designed to encourage personal awareness and responsibility for the maintenance of health and physical well-being through the seven dimensions of wellness; physical, intellectual, social, environmental, occupational, spiritual, and emotional. Instruction on the role of physical activity and other health behaviors on the well-being of the human body will be emphasized. Special emphasis will be directed towards developing a healthy balance between demands of school, work and social lives and their impacts on short and long-term health and fitness goals. Specific topics of instruction over the semester will include an introduction to wellness and fitness, aerobic and muscular fitness, flexibility and back health, body composition and weight management, nutrition, stress, and other relevant topics pertaining to health.

Core Curriculum/Core Requirements: ["Applications of Scientific Knowledge"] Course Typically Offered:

Fall and Spring

Credits: 3

KPE 262 - Methods of Teaching Physical Activity

Methods of teaching physical activity to all age groups and ability levels. Teaching models and practical application of models will be stressed. Teaching effectiveness techniques, theories, principles, instructional design and methods of evaluation will be examined.

Core Curriculum/Core Requirements: [""] Prerequisites:

ATR or KPE major or permission.

Course Typically Offered:

Fall, Spring, Summer

Credits: 3

KPE 263 - Individual and Net Games

This is a required skills class for KPE teaching majors. Students will learn specific skills and teaching activities in golf, tennis, badminton, volleyball and other individual sport skills.

Core Curriculum/Core Requirements: [""] Prerequisites:

KPE Majors only.

Course Typically Offered:

Fall

Credits: 3

KPE 264 - Team Sports and Invasion Games

This is a required skills class for KPE teacher candidacy majors. Students will learn specific skills and sequential teaching activities for selected team sports including basketball, lacrosse, team handball, and soccer. Emphasis will be placed on teaching content specific pedagogy while using a sport education / invasion game instructional model.

Core Curriculum/Core Requirements: [""] Prerequisites:

KPE Majors only.

Course Typically Offered:

Fall

Credits: 3

KPE 265 - Outdoor and Adventure Activities

This is an introductory course in outdoor and adventure activities, forming the foundation of an outdoor leadership education. The course focuses primarily on participation in four different activity categories: cross-country skiing and snowshoeing; bouldering and climbing; hiking and orienteering; and challenge course. The winter sports portion of the course will include instruction in snowshoeing and classic cross-country skiing, as well as the environmental and equipment considerations for safe outdoor activity participation in winter. The climbing portion of the course emphasizes the fundamental skills and safety knowledge needed for indoor bouldering and top-rope climbing, including risk management and belay certification. During orienteering students will learn and practice essential map and compass skills, and in the challenge course portion of the course students will learn about and practice the educational concepts behind facilitating and processing adventure-based activities.

Core Curriculum/Core Requirements: [""] Prerequisites:

KPE Major or Minor or permission.

Course Typically Offered:

Spring

Credits: 3

KPE 266 - Teaching Dance and Creative Movement

This course is designed to introduce students to the instruction of creative movement, dance, and educational gymnastics. Students will acquire the tools needed to incorporate the basic principles of these activities into a physical education curriculum. The elements of creative and cultural dancing, as well as educational gymnastics, will be highlighted through guided exploration. Students will engage in problem solving through movement, learn and develop a variety of dances, and design developmentally appropriate creative movement lessons for learners of all ages. To complete this experience, students will develop authentic assessments to evaluate the effectiveness of instruction and promote life-long physical literacy through creative movement, dance, and educational gymnastics activities.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Prerequisites:
KPE Major or permission.

Course Typically Offered:
Spring, odd years

Credits: 3

KPE 270 - Motor Development and Learning

The understanding and application of major principles in the development and learning of motor behavior from conception through adolescence. The effects of development in the cognitive and affective domains upon the motor domain.

Core Curriculum/Core Requirements: [""] Prerequisites:
ATR or KPE major or Exercise Science Minor or permission.

Course Typically Offered:
Fall & Spring

Credits: 3

KPE 271 - Professional Dispositions and Research in Physical and Health Education

This course is designed to introduce professional dispositions and research skills for Physical Education and Health Education preservice teachers. Past and current educational successes and challenges related to sport, physical education and health education will be reviewed through research projects, reflections, and discussions. Writing Intensive Key assessments are a part of this course. An interview assignment with a current PE or Health Education is required. Steps towards Teacher Candidacy will be required in this course.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
ENG 101 or equivalent, KPE Major or permission

Course Typically Offered:
Spring

Credits: 3

KPE 280 - Introduction to Paddling Instruction and Safety

This course covers the fundamentals of paddling skills, paddling instruction, and safety in fresh water. Students will learn a variety of paddling strokes and boat maneuvering skills in a number of paddling disciplines including canoeing, stand up paddleboarding, and kayaking. In addition, students will learn about and practice swift water rescue, trip planning, on-water group management, equipment management, and safety procedures. Instructing paddling skills is the focus for the second half of the course, and students will spend considerable time practicing and reflecting on their instruction and leadership skills.

Core Curriculum/Core Requirements: [""] Prerequisites:
KPE Major or Minor or permission.

Course Typically Offered:
Spring

Credits: 3

KPE 286 - Introduction to Outdoor Leadership and Facilitation

This course focuses on the study and practice of outdoor leadership theory, styles, and techniques applied to education and recreation settings. It is designed to be an introduction to outdoor leadership and facilitation skills, and to create a foundation of knowledge to be built upon in future coursework. Course content will include outdoor leadership theories and applications; individual leadership abilities and assessment; and group development, communication, and decision making.

Core Curriculum/Core Requirements: [""] Prerequisites:
Outdoor Leadership minor or concentration or permission

Course Typically Offered:
Fall

Credits: 1

KPE 308 - Anatomy and Injuries of the Upper Extremity

Familiarize students with human musculoskeletal anatomy and common injuries to the upper extremity. They will also learn basic strength and range of motion skills for assessing the upper extremity.

Core Curriculum/Core Requirements: [""] Prerequisites:

KPE 250

Course Typically Offered:

Spring

Credits: 3

KPE 311 - Advanced Methods of Instructing Outdoor Activities

This course establishes a strong foundation in outdoor instruction skills for students wishing to pursue careers in outdoor leadership. Students will learn about and practice specific instructional skills for a variety of outdoor activities. In this context of instructional planning and execution, students will explore overarching topics including equipment selection and maintenance, weather and environment, safety and risk management, and lesson planning and management.

Core Curriculum/Core Requirements: [""] Prerequisites:

KPE 265 and KPE 286 or permission.

Course Typically Offered:

Fall

Credits: 3

KPE 344 - Principles of Coaching

Supplies an appreciation and background in the art of coaching. Deals with the complex problems facing those that accept the challenge of handling our youth of today in a sport setting. The complete role of the effectiveness of the coach will be surveyed. Field trips to study experienced coaches will be required.

Core Curriculum/Core Requirements: [""] Prerequisites:

Sophomore standing.

Course Typically Offered:

Fall

Credits: 3

KPE 364 - Elementary School Physical Education

Specifically designed for the elementary physical educator for the purpose of studying the movement education curriculum used in elementary schools. Emphasis will focus on effective teaching techniques, instructional planning and on the progression of skills used in games, dance and gymnastics. A laboratory teaching experience will be implemented at a local elementary school.

Core Curriculum/Core Requirements: [""] Prerequisites:

KPE 262 and permission.

Course Typically Offered:

Spring

Credits: 3

KPE 365 - Curriculum and Instruction in Secondary Physical Education

Provides the preservice teacher with an opportunity to practice learned effective teaching behavior in various teaching settings. Also provides the preservice teacher with an overview of secondary schools.

Core Curriculum/Core Requirements: [""] Prerequisites:

KPE 262 and permission.

Course Typically Offered:

Fall

Credits: 3

KPE 367 - Adapted Physical Education

Helps teachers, coaches, and recreation personnel meet state and federal requirements for equal opportunities for handicapped persons. Content includes etiology and characteristics for handicapping conditions; implications for teaching; direct experience with handicapped persons.

Core Curriculum/Core Requirements: [""] Prerequisites:

KPE 262

Course Typically Offered:

Fall & Spring

Credits: 3

KPE 376 - Kinesiology

An introduction to the analysis of human motion based on anatomic knowledge, basic biomechanics and kinesiological principles as they apply to teaching and coaching sport skills.

Core Curriculum/Core Requirements: [""] Prerequisites:

Athletic Training or Kinesiology and Physical Education major or Excercise Science minor or by permission

Course Typically Offered:

Fall & Spring

Credits: 3

KPE 378 - Physiology of Exercise

Develops an understanding of the integration and regulation of physiological functions during physical activity. Through investigation of factors affecting human performance, and the coordinated adjustment of body functions to the stress of exercise, students will become more aware of the theoretical and practical applications of exercise science.

Core Curriculum/Core Requirements: [""] Prerequisites:

BIO 208

Course Typically Offered:

Fall, Spring, Summer

Credits: 3

KPE 379 - Biomechanics

This course introduces the principles of biomechanics as they relate to human movement. Students will explore kinematics and kinetics to understand how forces and motion affect the body. Emphasis is placed on musculoskeletal function, injury prevention, and performance enhancement in clinical and athletic settings.

Prerequisites:

BIO 208 and KPE 376

Course Typically Offered:

Fall and Spring

Credits: 3

KPE 384 - Practicum in Kinesiology and Physical Education

Leadership experiences under staff supervision in the service program. Limited opportunities also exist in local public schools.

Core Curriculum/Core Requirements: [""] Prerequisites:

Instructor Permission

Course Typically Offered:

Fall, Spring, Summer

Credits: 1-3

KPE 385 - Evaluation of Upper Extremity Injuries and Conditions

Provides theories and techniques for the assessment and evaluation of athletic related injuries specific to the upper extremity. Students are expected to have an understanding of musculoskeletal, neurological and vascular anatomy as well as the biomechanics and injuries specific to the upper extremity. Determination of severity and referral protocols will be presented in reference to management and treatment. The class will consist of lectures and practical lab applications.

Core Curriculum/Core Requirements: [""] Prerequisites:

KPE 308 or Permission

Course Typically Offered:

Fall

Credits: 3

KPE 386 - Evaluation of Lower Extremity Injuries and Conditions

Provides theories and techniques for the assessment and evaluation of athletic related injuries specific to the lower extremity. Students are expected to have an understanding of musculoskeletal, neurological and vascular anatomy as well as the biomechanics and injuries specific to the lower extremity. Determination of severity and referral protocols will be presented in reference to management and treatment. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:
KPE 307 or permission

Course Typically Offered:
Spring

Credits: 3

KPE 387 - Therapeutic Exercise for Musculoskeletal Injuries

Addresses flexibility, strength, proprioception, coordination, cardiovascular, and ergonomic needs as they relate to a patient with musculoskeletal problems. Patient assessment and the use of exercise equipment, program development, and progressions will be discussed. The student will practice these skills in a lab setting.

Core Curriculum/Core Requirements: [""] Prerequisites:
KPE 307 or permission.

Course Typically Offered:
Fall

Credits: 4

KPE 396 - Outdoor Leadership Field Expedition

Students in this course will work together to prepare for, execute, and debrief a multiday field expedition. The course will focus on mastery of critical outdoor leadership skills including emergency action and trip itinerary planning, risk management decision making, expedition behavior, and group management. Course activities will occur in dynamic environments, including the back-country. Overnight travel and outdoor activity participation is required. The exact activities covered will depend on the season the course is offered. This course includes both classroom time and mandatory multi-day travel, and there is a course fee. This course is for students in the Outdoor Leadership Minor or concentration.

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission

Course Typically Offered:
Spring

Credits: 3

KPE 401 - Athletic Training Seminar

The highest level athletic training course. Students will prepare for the National Athletic Trainers' Association Board of Certification athletic training certification exam. The student is required to complete 150 hours in a clinical setting under the supervision of an Approved Clinical Instructor or Clinical Instructor. Will include completion of skills proficiencies as required by the National Athletic Trainers' Association Education Council as well as mentoring Levels 1 and 2 Athletic Training Students. Students will discuss recent sports medicine research.

Core Curriculum/Core Requirements: [""] Prerequisites:
Senior standing; ATR or KPE major or permission of Athletic Training Education Director.

Course Typically Offered:
Fall

Credits: 3

KPE 411 - Ethics and Social Justice in Outdoor Leadership

In this course students will explore and critically discuss ethical and social justice issues related to outdoor activities, programming, and leadership. Topics will include wilderness travel ethics, diversity and gender issues in outdoor programming and leadership, and the creation of inclusive and equitable opportunities for all. Students will be asked to examine their own beliefs and experiences, and to consider their importance in shaping outdoor leadership identities.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives and Ethics"] Prerequisites:
KPE 265

Course Typically Offered:
Fall

Credits: 3

KPE 425 - Health Promotion and Disease Prevention

Provides specific content in health promotion and disease prevention and explores current public health issues. Program planning, needs assessment, intervention strategies and evaluation models will be presented with the constructs of epidemiological principles as they relate to increasing employee health and wellness and decreasing the incidence and prevalence of chronic disease.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

KPE Major or Exercise Science minor and Junior standing or Instructor permission.

Course Typically Offered:

Fall & Spring

Credits: 3

KPE 426 - Exercise Prescription and Leadership

Provides specific knowledge, skills and competencies needed to appropriately develop, prescribe, instruct and manage various kinds of exercise programs for diverse populations.

Core Curriculum/Core Requirements: [""] Prerequisites:

KPE 378.

Course Typically Offered:

Fall & Spring

Credits: 3

KPE 427 - Health Fitness Internship

Supervised experience in fitness, health promotion and in conducting recreation programs in camp, community, social agency or institution situations.

Core Curriculum/Core Requirements: ["Capstone Experience"] Prerequisites:

KPE 426 and a 2.75 Cumulative GPA

Course Typically Offered:

Fall, Spring, Summer

Credits: 3-6

KPE 450 - Bringing the Classroom Outdoors

This course is for pre-service or in-service educators who wish to expand their skills in facilitating outdoor learning experiences for their students. After exploring the theories and research behind outdoor learning, we will shift our focus to practical, hands-on content for implementing outdoor learning. Emphasis will be placed on exploring and increasing skills in the following areas: use of experiential learning techniques in outdoor settings; risk and group management in outdoor settings; being comfortable in a variety of outdoor activities and environments; and creating effective and enriching outdoor learning experiences.
Course Note: This course meets the training requirements of the state of Maine's Educational Trip Leader Permit, which allows educators to bring students outdoors in settings that would normally require a Registered Maine Guide Recreation license. Note that this course does not fulfill the Wilderness First Aid portion of the requirements.

Prerequisites:

Junior Standing or permission

Course Typically Offered:

Summer, odd years

Credits: 3

KPE 483 - The Comprehensive School Health Program

Examines the components of a school health program. Includes policies, procedures and activities designed to promote health of students and staff. Components that will be addressed include: health instruction, curriculum development, school health services, environment and promotion. Designed for those seeking teacher certification in health.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Spring

Credits: 3

KPE 484 - Methodology of Teaching Health Education

Focuses on the appropriate methodology necessary for teaching health education (K-12). Content, curriculum, and evaluation models will be presented within a theoretical framework that emphasizes critical inquiry and practical application. Designed for those seeking teacher certification in health.

Core Curriculum/Core Requirements: [""] Prerequisites:
KPE 483

Course Typically Offered:
Fall

Credits: 3

KPE 490 - Nutrition for Sports and Exercise

In-depth study of the role nutrition plays in the training regime of athletes and those in the general population who include regular exercise in their personal lives. Topics include: digestion and absorption of food nutrients, bioenergetics, fluid balance and rehydration, ergogenic aids, proper weight loss and disordered eating.

Core Curriculum/Core Requirements: [""] Prerequisites:
KPE 378

Course Typically Offered:
Fall, Spring, Summer

Credits: 3

Labor Studies

LST 101 - Introduction to Labor Studies

Introduction to the field of Labor Studies, an interdisciplinary area of study encompassing the labor movement and labor organizations, work and the labor market, social class, employment law and relations, labor economics, diversity in work and the labor movement, and the sociology of work.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Course Typically Offered:
Fall

Credits: 3

LST 201 - Work and Labor in a Global Economy

Provides a critical analysis of U.S. labor and the workplace from a labor studies perspective, which comprises an academic area of study encompassing: work, employees, the labor movement and organizations, employment law and relations, labor economics, and the sociology of work. Topics include: a historical overview of labor, social class and work, the role of conflict, power, and inequality, including gender, race, and class, the evolution of employment law and labor relations, organization and role of unions, workforce diversity and demographics, labor and contemporary issues involving technology, corporations, politics, and the global economy.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Prerequisites:
ECO 120 or HTY 104 or POS 100 or SOC 101 or permission of instructor.

Course Typically Offered:
Spring

Credits: 3

LST 298 - Topics in Labor Studies

Offers a detailed examination of selected topics in Labor Studies, providing an opportunity for students to apply what they have learned in Labor Studies 101 or 201 to an in-depth examination of a specific topic. Topics may include the impact of automation on low wage labor, alternative dispute resolution in labor relations, public sector collective bargaining, and strikes in Maine labor history. May be repeated if topics vary.

Core Curriculum/Core Requirements: [""] Prerequisites:
LST 101 or 201

Course Typically Offered:
Summer

Credits: 3

Latin

LAT 101 - Elementary Latin I

Fundamentals of the Latin language.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall

Credits: 3

LAT 102 - Elementary Latin II

Fundamentals of the Latin language.

Core Curriculum/Core Requirements: [""] Prerequisites:

LAT 101 or equivalent.

Course Typically Offered:

Spring

Credits: 3

Leadership Studies

LDR 100 - Foundations of Leadership

Introduction to the study of leadership as a personal and social phenomenon from a multidisciplinary perspective, with a focus on the development of practical leadership skills and behaviors. Emphasis on exploring the nature of leadership in diverse human contexts through civic and community engagement.

Core Curriculum/Core Requirements: ["Social Context and Institutions"] Course Typically Offered:

Fall and Spring and Summer

Credits: 3

LDR 200 - Leadership Ethics

An interdisciplinary examination of moral and ethical theory as applied to leadership in a wide variety of contexts. Extensive consideration given to ethical challenges faced by past, present, and future leaders in applied settings. Topics may include: self-interest; ambition; duties of leaders and followers; virtue; relativism; utilitarianism; consequentialism; "dirty-hands" problems; partiality; cross-cultural differences.

Core Curriculum/Core Requirements: ["Ethics"] Prerequisites:

LDR 100 or permission

Course Typically Offered:

Fall and Spring and Summer

Credits: 3

LDR 210 - Leadership and Sports

Examines the exercise of leadership in sports settings. Pays special attention to team dynamics, the role of culture and organization in teams, strategic management practices in sports applications, and the ethical challenges of highly competitive environments.

Core Curriculum/Core Requirements: [""] Prerequisites:

LDR 100 or permission

Course Typically Offered:

Fall & Spring

Credits: 3

LDR 220 - Leadership and Social Movements

Examines the role of social movements in processes of political and social change. Pays special attention to movement strategies and tactics, member recruitment, the dynamic interaction between activists and elites, and the mobilization of resources for movement sustainability.

Core Curriculum/Core Requirements: [""] Prerequisites:

LDR 100 or permission

Course Typically Offered:

Variable

Credits: 3

LDR 300 - Advanced Leadership Theory and Practice

An advanced interdisciplinary examination of the study of leadership from theoretical, empirical, and applied perspectives, with special emphasis on case studies from Maine's unique legacy of exemplary public leaders. Significant attention to the practical

development of applied leadership skills through group exercises, case studies, self-reflection assignments, and problem-based learning.

Prerequisites:
LDR 100 or permission

Course Typically Offered:
Fall and Spring

Credits: 3

LDR 330 - Crisis Leadership and Decision Making

Examines processes of decision-making during crisis moments. Pays special attention to individual psychology, organizational culture, and cognitive biases. Explores decision-making during crisis moments through historical and contemporary case studies.

Core Curriculum/Core Requirements: [""] Prerequisites:
LDR 100 or permission of the instructor or at least three credits from the following courses: MSL 101, MSL 102, MSL 201 or MSL 2202

Course Typically Offered:
Variable

Credits: 3

LDR 340 - Inclusive Leadership

Examines the role of diversity, equity, inclusion, and justice in leadership development. Analyzes and evaluates best practices for building and managing inclusive organizations. Pays special attention to individual and institutional processes that can promote or inhibit inclusive leadership.

Prerequisites:
LDR 100 or permission of the instructor

Course Typically Offered:
Variable

Credits: 3

LDR 350 - Topics in Leadership Studies

Offers an in-depth examination of a selected topic in leadership studies.

Core Curriculum/Core Requirements: [""] Prerequisites:
LDR 100 or permission

Course Typically Offered:
Fall and Spring

Credits: 3

LDR 370 - Leadership through Advocacy and Lobbying

Provides an intensive exploration of public affairs leadership through the art and craft of public advocacy and lobbying. Immersion in the strategies, tactic, methods, techniques, regulations, and ethics of those who advocate public policy options to elected officials.

If this course was taken under as a topics course in LDR 350, it cannot be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:
LDR 100 or POS 100 or permission of the instructor and LDR 370 cannot be taken for credit after passing LDR 350 with the topic: Leadership through Advocacy & Lobbying

Credits: 3

LDR 380 - SL: Leadership and Service

Interdisciplinary analysis of servant leadership, public service, and engaged citizenship. Exploration of the ethics and practice of service-oriented leadership through the implementation of a sustained service-learning project. Critical reflection of students' roles as leaders, followers, and engaged citizens.

Prerequisites:
Permission of the Instructor

Course Typically Offered:

Spring

Credits: 3

LDR 390 - Contemporary Leadership and the Art of Political Strategy

Detailed case studies of contemporary and historical leaders through their involvement in major events. Special focus is given to the ways in which diverse leaders confront risk, as well as determinants of leadership success and failure. Application of leadership lessons to contemporary situations. f this course was taken under as a topics course in LDR 350, it cannot be repeated for credit.

Prerequisites:

LDR 100 or POS 100 or permission of the instructor.

Course Typically Offered:

Spring

Credits: 3

LDR 395 - Bipartisan Leadership: Lessons for William S. Cohen's Career in Public Service

Examination of the rise of political polarization and gridlock in contemporary American politics. Analyzes prospects for bipartisan coalition building by investigating original archival documents related to William S. Cohen's career in the House, Senate, and as Secretary of Defense. Special attention is paid to Cohen's efforts to cross party lines in pursuit of common interests. If this course was taken under as a topics course in LDR 350, it cannot be repeated for credit.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

LDR 100 or POS 100 or permission of the instructor

Course Typically Offered:

Fall

Credits: 3

LDR 495 - Washington D.C. Leadership Institute

An immersive travel course to Washington D.C. that examines hands-on, advanced leadership perspectives in times of unpredictable change. Offers intensive leadership seminars on location in the nation's capital with notable leaders in fields such as government, foreign affairs, the military, business, non-profit organizations, athletics, education, and the arts. Includes numerous site visits to compelling destinations. If this course was taken under as a topics course in LDR 350, it cannot be repeated for credit.

Prerequisites:

Permission of the Instructor

Course Typically Offered:

Summer

Credits: 3

LDR 499 - Leadership Engagement Practicum

Students participate in a fieldwork practicum or internship with a substantial leadership component, while examining and reflecting upon their leadership skills and knowledge in an applied setting. Includes project assignments that synthesize academic and applied experiences.

Core Curriculum/Core Requirements: [""] Prerequisites:

LDR 300 or Permission of the instructor

Course Typically Offered:

Fall and Spring and Summer

Credits: 3

Liberal Arts and Sciences

LAS 102 - Reclaiming Academic Success

Orientation to campus resources, including people, and to the academic community, with special emphasis on the values and habits that characterize appreciation for higher education (such as curiosity, openness to new ideas, respect for people who hold different points of view, an appreciation for careful methods of discovery and proof, and a willingness to share ideas for the benefit of the community). This course will stress access to resources, self-evaluation, and personal assessments to develop learning strategies for success in college and life. Students will identify and understand tools that will facilitate a successful college experience.

Core Curriculum/Core Requirements: [""] Prerequisites:

Permission

Credits: 1

LAS 150 - Success in College

In this course, you will work closely with a College of Liberal Arts and Sciences faculty or staff member. You and your classmates will learn how to join an intellectual conversation at a significantly higher level than you have been accustomed to in high school. As a first-year student, you will join an academic community of thinkers, learners and researchers who are committed to achieving and maintaining the rigors and rewards of a liberal arts education. Through active participation in this course, you will acquire the skills necessary for success in college and, therefore, life. The goals of the course are the following:

- Discuss and practice basic college study skills.
- Provide an introduction to responsible conduct at the University of Maine, including how to communicate appropriately with faculty and professional staff.
- Discuss the importance of attendance, accountability, perseverance and practice engagement in academic planning/management for success.
- Overview of the many campus academic and social resources.
- Introduce students to the necessity of studying and interpreting primary sources.
- Instill, through practice, the ability to express themselves cogently.
- Enhance students' ability to communicate their ideas in a professional manner.

Core Curriculum/Core Requirements: [""] Prerequisites:

1st year College of Liberal Arts students

Course Typically Offered:

Every year

Credits: 1

LAS 195 - LAS Internship

Supervised internship experience for College of Liberal Arts and Sciences (CLAS) majors. Prior approval of the internship is required and will be based on a detailed written plan and documentation approved by the student's Faculty Advisor. Open to students in all CLAS majors. Work must be related to the student's educational and career goals. Credit will not be awarded for work completed prior to registration for this course. Applications can be obtained in the CLAS Dean's office (Pass/Fail Grade Only).

Core Curriculum/Core Requirements: [""] Prerequisites:

Approval by CLAS Faculty Advisor.

Course Typically Offered:

Fall, Spring, Summer

Credits: 1-3

LAS 497 - Independent Study: Capstone for Bachelor of University Studies

Independent study: Capstone for Bachelor of University Studies

Core Curriculum/Core Requirements: ["Writing Intensive and Capstone"] Prerequisites:

This course is open only to students who have been formally accepted into the BUS-CLAS pathway program and are in their last semester before graduating.

Course Typically Offered:

Fall, Spring, Summer.

Credits: 3

Library

LBR 101 - Introduction to Information Literacy for STEM Fields

This course provides students a foundation in navigating information resources used in an academic environment. Emphasis on developing research and critical thinking skills in STEM fields. Students enrolled in LBR 101 cannot receive credit for LBR 102.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall

Credits: 1

LBR 102 - Introduction to Information Literacy

This course provides students a foundation in navigating information resources used in an academic environment. Emphasis on developing research and critical thinking skills. Students enrolled in LBR 102 cannot receive credit for LBR 101.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall

Credits: 1

LBR 200 - Information Literacy

Introduces students to the production, transmission, organization, use and control of information. Provides the skills necessary to navigate the many kinds of information resources available today, including the Internet, other electronic formats and print materials. Emphasis on developing critical thinking skills.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Course Typically Offered:

Fall & Spring

Credits: 3

Maine Studies

MES 101 - Introduction to Maine Studies

An interdisciplinary approach to the study of Maine through sources in history, literature, political science, Native American studies, Franco American studies, and other fields. The unifying theme is the significance of locality in understanding the interaction between the landscape and the people. How does the Maine landscape shape people's choices? How do the people use the state's landscape and resources? How do social, demographic, cultural, and environmental factors shape this relationship throughout history? The activities examined include farming, fishing, lobstering, and lumbering. How have commercial interests intersected with environmental concerns? The cultures considered include Native American, early Anglo settlers, later Irish and Franco immigrants, and more recent immigration and refugee communities.

Core Curriculum/Core Requirements: ["Population and the Environment and Writing Intensive"] Course Typically Offered:

Fall, Spring, Summer

Credits: 3

MES 102 - My Maine Experience

An interdisciplinary approach to the study of Maine which combines lecture and experiential learning to allow students to explore the variegated landscapes and cultures of Maine and to better understand the interactions between the people of Maine and the environment of Maine.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall and Spring

Credits: 1

MES 201 - The Maine Coast

Provides an interdisciplinary approach to the study of the culture and environment of the Maine coast. Uses sources in art, history, literature, economics, Native American studies, African American studies, and other fields. The unifying theme is the significance of locality in understanding the interaction between the Maine coast and the people. How has the coastal topography shaped human activity there? How have artists and writers helped construct the Maine coast in the popular imagination? How do the people - both currently and in the past - use the state's coastal landscape and resources? How do social, demographic, cultural, and environmental factors shape this relationship throughout history? Examines industries such as granite, lime, fishing, shipping, ship building, and tourism, to explore how these commercial interests intersect with environmental concerns and link Maine to the global markets. Asks how further coastal development can be reconciled with the threat to the coast's fragile environment.

Core Curriculum/Core Requirements: ["Population and the Environment' , 'Social Contexts and Institutions' , 'and Writing Intensive"] Course Typically Offered:

Fall, Spring, Summer

Credits: 3

MES 298 - Topics in Maine Studies

This introductory level course looks at special topics related to the study of Maine from one or more disciplinary perspectives. Specific topics vary by summer, and courses are often combined with other departments. Class topics, descriptions, and other

specific information can be found on the course search page. Students may repeat this course twice if the specific topic is different each time.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Fall, Spring, and Summer

Credits: 3

MES 301 - Rachel Carson, Maine, and the Environment

In this course, students will take a chronological approach to the study of Rachel Carson's life and work, reading her books in the order in which they were written, with attention to the role of "place," specifically the Maine coast, in fostering her achievement as a nature writer and in shaping her vision as an environmentalist. Some of the questions the course will pose and attempt to answer are: what role did the Maine coast play in enabling Carson to understand the importance of the conservation of "wild" spaces? In what ways did Carson's experience of the Maine coast contribute to her knowledge and understanding of the sea - a central theme in her work - in all its physical and metaphorical dimensions? And how did Carson's establishment of a permanent home on the coast of Maine facilitate her development as a science and nature writer?

Core Curriculum/Core Requirements: ["Population and the Environment and Writing Intensive"] Course Typically Offered:
Variable

Credits: 3

MES 350 - Maine Women

This interdisciplinary course examines women's experiences in Maine, both historical and current. Through readings, writing assignments, and discussions, this course considers Maine women individually and collectively in such roles as industrial workers, reformers, performers, writers, politicians, and mothers. This course asks several major questions: How have Maine's particular environment, culture, economy, and history shaped women's experiences in the state? How have national movements (for example suffrage, ERA, welfare reform) shaped women's lives in Maine? How have issues of class, race, and ethnicity intersected with gender in Maine?

Core Curriculum/Core Requirements: ["Western Cultural Tradition and the Cultural Diversity and International Perspectives"] Course Typically Offered:
Variable

Credits: 3

MES 498 - Advanced Topics in Maine Studies

An advanced, interdisciplinary study of Maine Studies topics. May be taken more than once for degree credit if the topic differs. (This course is identical to MES 520.)

Core Curriculum/Core Requirements: [""] Prerequisites:
Junior or Senior standing or permission.

Course Typically Offered:
Fall, Spring, Summer

Credits: 1-3

Management

MGT 101 - Introduction to Business

This course is designed to introduce students to the contemporary business world. It includes the basic understanding of a business plan and the dynamics of core business areas. By the end of the course, students will have a clearer understanding of the different career trajectories within the world of business, their role within the global market system, and the social, economic, political, and environmental responsibility that comes with the profession of business.

Core Curriculum/Core Requirements: [""] Prerequisites:
Declared business majors or minors or CSB majors only

Course Typically Offered:
Fall and Spring

Credits: 3

MGT 111 - Introduction to Small Business Management

This course provides an introduction to small business management. Students will learn about the different types of economic systems and measures of economic performance, phases of the business cycle, types of competition, and business ethics. The course covers social responsibility, international business challenges, and the advantages and disadvantages of different types of businesses. Students will also learn about management functions, production, human resources, motivation, and marketing, including the product life cycle, product mix, and pricing strategies. The course is designed to equip students with the foundational knowledge needed to succeed in managing small businesses.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Course Typically Offered:
Fall and Spring

Credits: 3

MGT 212 - Business Communications

A course designed to develop effective communication skills in the areas of writing, speaking, and listening. Emphasis is placed on appropriate formats for business communications including grammatical style, clarity, and conciseness of messages. A second focus in communication is on social media and its applicable marketing and online engagement strategies.

Prerequisites:
ENG 101 or permission of instructor

Course Typically Offered:
Spring

Credits: 3

MGT 219 - Legal Issues in Small Business

Legal Issues in Small Business is a comprehensive course that provides students with an understanding of the legal aspects of starting, operating, and managing a small business. The course covers topics such as business structures, contracts, intellectual property, and liability. Students will learn about small business owners' legal requirements and responsibilities and how to identify and manage legal risks that can affect business operations.

Prerequisites:
ENG 101 and MGT 111

Course Typically Offered:
Fall and Spring

Credits: 3

MGT 220 - The Legal Environment of Business

An examination of fundamental legal concepts and their application to the business community. Considers the evolution of law and its underlying conceptual framework from which legal rules and principles of business develop. Selected legal cases will be critically analyzed and discussed.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions and Ethics Requirements. Must be taken in series with MGT 449 to meet Ethics requirement. Neither course alone fulfills the requirement. "] Prerequisites:
Sophomore Standing

Course Typically Offered:
Fall & Spring

Credits: 3

MGT 225 - Principles of Management and Organization

An introduction to the systems of management in business enterprises for both domestic and international organizations. The focus is on concepts, methods, and techniques of planning, organizing, directing, leading, and controlling the functions of the modern manager, and the impact of these processes upon effective interpersonal relations. The course incorporates the environmental, social and governance (ESG) framework to introduce the principles of global intercultural competencies.

Core Curriculum/Core Requirements: [""] Prerequisites:
A grade of C- or better in ECO 120 and in PSY 100 and Sophomore Standing.

Course Typically Offered:
Fall & Spring

Credits: 3

MGT 290 - Introduction to Topics in Management

Introduces student to aspects of the Management discipline. Special topics may include areas relevant to any aspect of management at an introductory level. This course may be repeated for credits.

Prerequisites:

Business Major or Minor

Course Typically Offered:

Variable

Credits: 1-3

MGT 313 - Managerial Decision Making

This course provides an examination of the issues of decision making including personal style, the external environment and internal political, cultural and ethical forces that affect the decision-making process in organizations. It goes beyond the understanding level of the introductory management courses to the level of application. Students develop both strategic and tactical problem-solving skills using cases and decision-making formulae. Prerequisite: Junior level or permission of instructor.

Prerequisites:

Junior standing or permission of instructor

Course Typically Offered:

Summer

Credits: 3

MGT 315 - Building Strategic Partnerships for Small Business Growth

This course will equip students with the skills and knowledge to build and manage strategic partnerships for small business growth in rural communities. Students will learn how to identify potential partners, negotiate partnership agreements, and manage ongoing relationships for mutual benefit and growth. They will also learn about best practices for effective communication, conflict resolution, and building trust and collaboration with partners from different backgrounds and cultures. The course will cover topics such as partnership strategy, partner identification, negotiation and contract management, performance evaluation, and legal and ethical considerations. Through practical exercises and case studies, students will develop the skills to create long-lasting and mutually beneficial partnerships that contribute to the growth and sustainability of small businesses and the local economy.

Prerequisites:

Junior standing, or permission of instructor.

Course Typically Offered:

Fall

Credits: 3

MGT 321 - Small Business Operations

This course offers a comprehensive understanding of small business operations and how to manage them effectively on a daily basis. Topics covered include production, inventory management, quality control, customer service, logistics, financial management, human resource management, and more. Through practical exercises and case studies, students will gain hands-on experience in maximizing efficiency and profitability while navigating the challenges of a competitive business environment. By the end of the course, students will be equipped with the skills and knowledge needed to manage small business operations effectively and contribute to their long-term success.

Prerequisites:

STS 132 and MGT 111

Course Typically Offered:

Fall

Credits: 3

MGT 326 - Organizational Behavior

Examines the behavior of individuals, groups and organizations. Applies a managerial perspective that considers organizational effectiveness, careers and job satisfaction. Topics include diversity, motivation, organizational communication, team processes and structure, leadership, organizational design, culture and change.

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior Standing, a grade of C- or better in MGT 325 and in PSY 100.

Course Typically Offered:
Fall & Spring

Credits: 3

MGT 327 - Business and Society

Role of business in our society and the interactions it has with various segments of the society. Specific areas examined include the legal environment; social responsibility of business, political, and social forces; and ethical dilemmas that can occur.

Core Curriculum/Core Requirements: [""] Prerequisites:
Jr Standing and a grade of C- or better in MGT 225.

Course Typically Offered:
Spring & Fall

Credits: 3

MGT 328 - Canadian/U.S. Business: A Comparison

A comparative review of the recent history of Canadian-U.S. business relations with primary emphasis on cross-border trade issues and the impact of that bilateral trade on Maine's business environment. Focus on energy, lumber, paper, agricultural products, industrial production, freight/transportation, and foreign investments.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"]
Prerequisites:
Junior standing.

Course Typically Offered:
Variable

Credits: 3

MGT 330 - Managing Human Resources

The course examines the role of human resource management (HRM) in the context of the overall business strategy. Specifically, the course covers HRM activities including planning, recruitment, selection, training, performance management, compensation, benefits and their alignment with a business strategy. It also considers internal and external factors that impact management of talent in a context of ongoing globalization, workplace diversity and legal compliance.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
Junior standing and a grade of C- or better in ECO 120, in ECO 121, and in PSY 100, or equivalent or permission.

Course Typically Offered:
Fall and Spring

Credits: 3

MGT 331 - Labor-Management Relations

An interdisciplinary survey of the labor-management systems of the private and public sectors. Considers the nature and characteristics of labor-management relations from structural, historical, international, legal, psychological, and economic perspectives.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Prerequisites:
Junior standing.

Course Typically Offered:
Variable

Credits: 3

MGT 335 - Advanced Dispute Resolution: Negotiation, Mediation and Arbitration

This course will introduce students to a range of dispute resolution options that businesses use as alternatives to litigation. Options that the course will explore are negotiation, mediation, arbitration, and collaborative law. Students will have the chance to practice dispute resolution skills, and to use these skills in various role play exercises/simulations. The class will focus on both the perspective of the business in disputes and of the neutral working with parties who are trying to resolve a dispute. The course will also address the role of emotions, gender, race, and culture in dispute resolution, as well as ethical issues. Cannot be repeated for credit if taken as a topics course in BUA 490.

Core Curriculum/Core Requirements: [""] Prerequisites:
Jr standing.

Course Typically Offered:
Variable

Credits: 3

MGT 337 - Production and Operations Management

This course addresses the organizational role of Operations Management as a primary business function. Students are challenged to apply critical thinking skills as well as apply quantitative modes such as: forecasting, scheduling, capacity planning, location analysis, project management, inventory control and statistical process control to generate plausible solutions to operations management problems.

Core Curriculum/Core Requirements: [""] Prerequisites:
Junior Standing and a grade of C- or better in ACC 202, BUA 105, MGT 101 and STS 215 or STS 232

Course Typically Offered:
Fall & Spring

Credits: 3

MGT 342 - Small Business Management

Study of how to manage growth oriented small businesses. Drawing on best practices from the literature and case studies, all aspects of running a small business will be considered. These include, but not limited to, marketing, financing, operations, human resources, and managing cash-flows.

Core Curriculum/Core Requirements: [""] Prerequisites:
Junior or Senior Standing

Course Typically Offered:
Variable

Credits: 3

MGT 343 - Introduction to International Business

Examines international business in the current era of globalization. The course emphasizes the role of cultural differences, government, laws, regulations, ethics and corporate social responsibility for the decision-making process of international business. It introduces students to the international political economy, entry into foreign markets, international business strategy, and the connections that exist between local and global issues.

Core Curriculum/Core Requirements: [""] Prerequisites:
Business, Economics or Financial Economics Major or Business Administration or Management Minor and Junior Standing and a grade of C- or better in ECO 120 and in ECO 121

Course Typically Offered:
Fall & Spring

Credits: 3

MGT 344 - Entrepreneurship and New Venture Creation

Develop an understanding of entrepreneurship theory and the relationship between entrepreneurial firms and the broader business environment. Entrepreneurship focuses on new venture creation of high growth potential ventures through incremental or radical innovation. This course is for students interested in entrepreneurship practice and those interested in pursuing entrepreneurial opportunities.

Core Curriculum/Core Requirements: [""] Prerequisites:
Junior Standing, a grade of C- or better in ACC 201, and in MGT 325.

Course Typically Offered:
Variable

Credits: 3

MGT 396 - Field Experience/Internship in Management

Students may earn from one to six credit hours for a pre-planned, supervised field experience in business relevant to the student's educational development and career goals. Credit will not be awarded for work experience acquired prior to registration for this course.
(Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Prerequisites:

Sophomore Standing

Course Typically Offered:

Fall, Spring, Summer

Credits: 1-6

MGT 406 - Sustainable Small Business Strategies

This capstone course for the Small Business Management degree program allows students to apply the principles of sustainable business practices and community building to a real-world business scenario. Students will develop a comprehensive understanding of sustainable development and its importance for businesses and society and explore the environmental, social, and economic impacts of business activities. The course will cover sustainable development, corporate social responsibility, environmental management, green marketing, sustainable finance, and sustainability reporting.

Core Curriculum/Core Requirements: ["Writing Intensive and Capstone"] Prerequisites:

MGT 342 and Senior standing; or permission of instructor

Course Typically Offered:

Spring

Credits: 3

MGT 425 - New Business Models

This course will explore new business models (e.g., gig, digital, platform, sharing, sustainable) with a focus on how they differ from previous business models, what the implications are for managing and operating the business, and how new models might be adapted and utilized in additional markets. Emphasis will be placed on student involvement and research as we explore new and emerging companies that are disrupting traditional business practices.

Prerequisites:

Junior Standing and MGT 225

Course Typically Offered:

Spring

Credits: 3

MGT 445 - International Management

Examines the management of the multinational corporation (MNC).Topics include motivations to internationalize, MNC types, strategy, structure and processes. Analysis of the competitive environment and alliances. Cross-cultural adjustment. Relies extensively on real-life business cases.

Core Curriculum/Core Requirements: [""] Prerequisites:

Grade of C- or better in MGT 225 and MGT 343; Junior standing

Course Typically Offered:

Fall

Credits: 3

MGT 449 - Strategic Management

As the capstone, the course requires that the student draw together the knowledge gained in all core business coursework to analyze contemporary challenges facing business organizations. Students demonstrate their ability to interconnect these topics using strategic management skills and analytical tools. Through in-depth study of increasingly complex business and not-for-profit organizational problems, students develop critical thinking and problem-solving skills to identify issues, develop recommendations to address the issues, and communicate their results.

Core Curriculum/Core Requirements: ["Capstone Experience Requirements. Must be taken in series with MGT 220 to meet Ethics requirement."] Prerequisites:

Senior standing Business Administration majors, A grade of C- or better in MGT 325 & FIN 350 & MKT 270; Not open to Graduate Students and may not be taken for graduate credit.

Course Typically Offered:

Fall & Spring

Credits: 3

MGT 460 - Leadership

Students will examine various perspectives of leadership theory and practice in business settings. Topics include leadership and teambuilding, culture, communication, decision making, crisis, self-awareness, ethics, creating a vision, and styles of leadership.

Core Curriculum/Core Requirements: [""] Prerequisites:

Senior Status, at least a C in MGT 325

Course Typically Offered:

Variable

Credits: 3

MGT 490 - Special Topics in Business Administration

Study of various aspects of functional areas of accounting, finance, management, marketing, decision sciences, international business and other business-related topics. Topics vary depending on faculty and student interests. May be repeated for credit if the topics differ.

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior standing and permission.

Course Typically Offered:

Variable

Credits: 1-3

MGT 498 - Independent Study for Undergraduate in Management

Provides an opportunity for well-qualified students to pursue a selected topic in great depth under the supervision of an individual faculty member. Topic to be determined in consultation with the instructor.

Core Curriculum/Core Requirements: [""] Prerequisites:

Senior standing, a cumulative GPA of at least 3.25 and permission.

Course Typically Offered:

Fall & Spring

Credits: 1-3

Marine Science

SMS 100 - Introduction to Ocean Science

A non-laboratory survey of the broad field of marine science, stresses the interconnections among aspects of oceanography, marine biology and ecology, living marine resources and human interactions with the marine environment. Practical applications of basic scientific principles are stressed.

Core Curriculum/Core Requirements: ["Applications of Scientific Knowledge and Population and the Environment"] Course Typically Offered:

Fall

Credits: 3

SMS 103 - Oceanography

This interdisciplinary course is an introduction to a variety of physical, chemical, geological and biological aspects of marine and oceanic environments. In particular, we will examine how physical processes shape biological patterns and interactions in the oceans. Students will become familiar with local benthic and pelagic marine communities, their ecology and their animals and plants. Topics will include ocean circulation, larval biology, plate tectonics, formation of ocean basins, ocean structure and chemistry, waves, tides, biology of marine life, food webs, productivity, ecology of marine communities and human effects on the oceans. Through the process of scientific inquiry, students will learn to recognize patterns, formulate and test hypotheses and collect data in the field and laboratory using a variety of hands-on oceanographic techniques.

Core Curriculum/Core Requirements: ["Scientific Inquiry"] Course Typically Offered:

Fall

Credits: 4

SMS 108 - Beaches and Coasts

An introduction to coastal landforms, including beaches, salt marshes, tidal flats and sea cliffs, their origins, global distribution, and associated nearshore processes. Human impacts to the coastal zone, including coastal erosion, land loss and management, and human responses to sea-level change are considered. Course may have field trips during class times. Lec 3. (This course is identical to ERS 108.)

Core Curriculum/Core Requirements: ["Applications of Scientific Knowledge and Population and the Environment"] Course Typically Offered:

Spring

Credits: 3

SMS 110 - Concepts in Oceanography

Basic concepts in physical, geological, chemical and biological oceanography will be discussed. Also includes an introduction to the relationship between the ocean and the atmosphere. Ends with a discussion of global change issues. Practical applications of basic scientific principles will be emphasized. May not be used for credit in the Marine Science major. Course may have field trips during class times.

Core Curriculum/Core Requirements: ["Satisfies the General Education Applications of Scientific Knowledge requirement"] Course Typically Offered:

Summer

Credits: 3

SMS 116 - Special Projects in Field Marine Biology

An introductory course to familiarize students with local marine environments and the organisms that occupy those environments. Projects include collection of biological data from soft-bottom, salt marsh and rocky shore that are followed by basic analysis in the computer lab. Students learn about sampling, experimental design and hypothesis testing, read scientific papers and write at least one paper related to results from a sampling study or experiment.

Course Typically Offered:

Varible

Credits: 3

SMS 124 - An Introduction to Basic Scuba Diving

This course will provide participants with the necessary knowledge and skills to conduct themselves with competence while using self-contained underwater breathing apparatus (SCUBA). Training will be conducted under the minimum standards of both the American Academy of Underwater Sciences (AAUS) and applicable recreational training agencies. Basic diver certification is a prerequisite to begin training as a scientific diver and utilize diving to pursue educational or career goals in the underwater sciences. Practical diving activities will be a large focus of the course. The course will be taught by the UMaine Diving Safety Officer and/or other qualified Instructors/Assistants as applicable. Following successful completion, students will receive a basic diver certification from an internationally recognized agency (PADI or SSI). Participation is not a guarantee of certification. Course Note: This course includes a week at the Darling Marine Center in June. Transportation during "Dive Week" is provided. Applicable medical and legal documentation is required.

https://umaine.edu/scientificdiving/basic-scuba/

Prerequisites:

SMS 100 and Marine Science majors, or permission

Course Typically Offered:

Spring

Credits: 1

SMS 150 - Marine Sciences Research Learning Experience

This course is designed to introduce students to the basics of data collection and analysis. Students will be working directly with marine science data collected at the Darling Marine Center during Boot Camp and supplemented with additional data during the fall semester. Students will also be exposed to the basic oceanography, biology, and ecology of the Damariscotta estuary and how to use that information to ask questions based on the collected data

Prerequisites:

First Year Marine Science majors

Course Typically Offered:

Fall

Credits: 1

SMS 201 - Biology of Marine Organisms

An introduction to the diversity, form, and function of marine organisms, and to marine environments and ecological processes.

After a synopsis of the major groups of marine microorganisms, algae, plants, and animals, the course emphasizes the relationship between their structure (anatomy and morphology) and function (physiology), as well as their development and larval biology. The course considers diverse marine habitats and ecosystems (rocky intertidal, estuaries and salt marshes, mudflats, coral reefs, open ocean, continental shelf and slope, deep sea), accentuating their physical factors (temperature, salinity and desiccation, solar radiation, oxygen, pressure) that affect their inhabitants. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

BIO 100 and SMS 100, both with a grade of C- or better, or permission.

Course Typically Offered:

Spring

Credits: 3

SMS 203 - Introduction to Integrative Marine Science

Focusing on key topics in Marine Science research, students explore the nature of inquiry, elements of experimental design, data presentation, elementary statistics, and interpretation of scientific papers. Hands on activities introduce basic concepts in the biology of marine organisms, observational skills, data literacy and experimentation.

Core Curriculum/Core Requirements: [""] Prerequisites:

Marine Science Majors only; Grade of C- or higher in SMS 100 and BIO 100 or permission.

Corequisites:

SMS 201, may be waived with permission.

Course Typically Offered:

Spring

Credits: 1

SMS 206 - Marine Biology and Ecology

An introduction to the biology of organisms in a variety of marine ecosystems, including plankton, rocky intertidal, soft-bottom intertidal, marsh, coral reef and deep sea communities. The biology and ecology of selected species in each ecosystem are discussed, including life cycles of several local seaweeds and phytoplankton. The course incorporates an introduction to scientific literature and writing a research paper. Field trips to local marine environments are used to develop advanced identification skills, an introduction to experimental design, and preliminary statistical analysis of data. This course includes a service learning component that may vary from year-to-year. Lecture 2 hours, laboratory 4 hours.

Core Curriculum/Core Requirements: ["Service Learning"] Prerequisites:

BIO 117, BIO 118, BIO 119 and SMS 103, or permission of instructor or equivalent courses (BIO 117 is equivalent to BIO 100 and BIO 118 and BIO 119 is equivalent to BIO 200)

Course Typically Offered:

Every Fall

Credits: 4

SMS 211 - Introduction to Aquaculture

Principles and practices of aquaculture from international, national and local perspectives. Includes field trip. (Students may not take both SMS 211 and AVS 211 for credit).

Core Curriculum/Core Requirements: ["Applications of Scientific Knowledge"] Prerequisites:

BIO 100

Course Typically Offered:

Fall

Credits: 3

SMS 212 - Introduction to Aquaculture

This course is intended for students who are pursuing an Aquaculture certificate (Early College) or a concentration in Aquaculture (Associate of Arts). It provides an introduction to basic concepts in both freshwater- and marine-based aquaculture, as well as hands-on opportunities for learning about physical and biological systems used to culture selected shellfish, finfish, algae, and crustacean species. Students will observe aquaculture in practice through field trips to local hatcheries, nursery and growout sites.

Course Typically Offered:

Fall

Credits: 3

SMS 223 - Marine Mammals & Pelagic Birds

The biology, ecology, and systematics of marine mammals and pelagic birds are studied through lectures and discussion of primary literature. During field trips students develop identification skills, censusing techniques and study of behavior of local species.

Prerequisites:

BIO 117 and BIO 118 or BIO 100 and BIO 200, or permission of instructor.

Course Typically Offered:

Fall - Alternate Years

Credits: 4

SMS 230 - Introduction to Marine Policy and Fisheries Management

This course focuses on the human dimensions of ocean conservation and management, with emphasis on marine fisheries management in the United States. Students will be introduced to a variety of tools and policy approaches for managing complex marine ecosystems. Discussion and readings will highlight current and historical challenges facing oceans management, as well as the role of scientists and other stakeholders in marine conservation. Potential issues addressed include ecosystem-based management, fishing communities, collective action dilemmas, bycatch and gear technology, marine protected areas and habitat, marine mammal and protected species conservation, aquaculture policy, and global climate change.

Core Curriculum/Core Requirements: ["Population and Environment"] Course Typically Offered:

Fall

Credits: 3

SMS 295 - Aquaculture Internship

This course provides students with hands-on experience at a work site such as a fish or shellfish hatchery, nursery field site, and/or growout site where cultured finfish, shellfish, sea vegetables, or crustaceans are reared commercially or for research purposes. Academic credit for an approved work experience is determined by the faculty sponsor. Prior to undertaking the internship, students must provide the faculty sponsor with a written statement regarding the: 1) work to be performed; 2) proposed learning objectives; and 3) number of hours per week. This formal approval process precedes registration. Students must complete 40 hours of supervised work for each credit earned, and must demonstrate satisfactory performance as judged by the work site supervisor. Students will produce a written report to be submitted to the faculty supervisor that covers both broad and specific topics associated with the internship as well as how the learning objectives were met.

Prerequisites:

ENG 101, BIO 117, BIO 136

Course Typically Offered:

Spring

Credits: 1-4

SMS 300 - Marine Ecology

An introduction to fundamental ecological principles in the context of marine communities. Uses examples from marine ecosystems to illustrate general principles of general ecology such as predation, competition, and nutrient cycling. Focuses on the ecology of major marine ecosystems such as estuaries, sea shores and benthic communities and on aspects of applied ecology such as fisheries management. Includes two days of field work at the Darling Marine Center. Course may have field trips during class times.

Core Curriculum/Core Requirements: [""] Prerequisites:

BIO 200 or SMS 201.

Course Typically Offered:

Fall

Credits: 3

SMS 302 - Oceanography

An overview of geological, chemical, physical and biological oceanography and the way they interact. Topics include plate tectonics and evolution of ocean basins, physical and chemical characteristics of sea water, atmosphere-ocean coupling, two- and three-dimensional ocean circulation, waves and tides, sedimentation, planktonic organisms, productivity, pelagic ecosystems, biological-physical coupling, and biogeochemical cycles. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

CHY 122 and MAT 126 and PHY 112 or PHY 122 and SMS 100 all with a grade of C- or better, or permission.

Course Typically Offered:

Fall

Credits: 3

SMS 304 - Integrative Marine Science IV: Comparative Physiology, Cellular and Molecular Biology

Illustrates the application of techniques and concepts in physiology, cellular and molecular biological techniques to the study of marine systems. Hands-on activities will explore the nature of scientific inquiry, reading and interpretation of the primary literature, elements of experimental design, and statistical analysis and presentation of student-generated data.

Core Curriculum/Core Requirements: [""] Prerequisites:

SMS 203

Course Typically Offered:

Spring

Credits: 3

SMS 306 - Marine Field Ecology

An advanced course in ecology comparing the population and community dynamics of a variety of intertidal and subtidal hard-and soft-bottom, planktonic, and coral reef communities. Topics include spatial relationships, competition, prey-predator relationships, symbiosis, behavioral patterns, seasonal cycles, succession, larval strategies, and productivity. Through field and laboratory work students learn to design and conduct experiments, analyze data, and write research papers. Lecture 2 hours, laboratory 4 hours.

Prerequisites:

BIO 215, BIO 245, BIO 315, BIO 328, and SMS 206 or permission of the instructor

Course Typically Offered:

Every Fall

Credits: 4

SMS 308 - Conservation and Ecology of Marine Mammals

Examination of variations in ecological strategies in marine mammals and investigation of marine mammal conservation and health issues. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

BIO 200 or SMS 201

Course Typically Offered:

Fall

Credits: 3

SMS 310 - Shellfish Mariculture

This course is designed for those interested in the culture of marine shellfish, including clams, oysters, quahogs, mussels, and lobsters. The course takes advantage of the Shellfish Production Center at the university's Marine Science Field Station at the Downeast Institute in the town of Beals (25 miles west of the Machias campus). Hands-on activities include rearing microalgae, conditioning broodstock, rearing planktonic larvae and early juveniles, and growing juveniles in both field-based nursery and growout settings. Students will benefit from guest lectures from experts in the field, as well as field trips to shellfish aquaculture businesses in the area.

Course Typically Offered:

Every Spring

Credits: 4

SMS 311 - Animal Ecophysiology

Animal ecophysiology is the study of how animal forms and function are shaped by the environment. This course explores the physiological processes of animals with emphasis on energy metabolism, integrative organismal systems, and homeostatis. Animal ecophysiology is the study of how animal form and function are shaped by the environment. This course explores the physiological processes of animals with emphasis on energy metabolism, integrative organismal systems, and homeostasis. The class is designed to build on the basic knowledge of animal physiology that you learned in BIO200 and provide you with a broader understanding of physiological mechanisms and adaptations of animals to their environment. BIO311 and SMS311 cannot both be taken for credit.

Prerequisites:
BIO 200 or BIO 208, or SMS 201

Course Typically Offered:
Fall, Odd years

Credits: 3

SMS 312 - Animal Ecophysiology Lab

Animal ecophysiology is the study of how animal form and function are shaped by the environment. This course explores the physiological processes of animals with emphasis on energy metabolism, integrative organismal systems, and homeostasis. The class is designed to build on the basic knowledge of animal physiology in BIO/SMS 311 and provide you with a broader understanding of physiological mechanisms and adaptations of animals to their environment. BIO 312 and SMS 312 cannot both be taken for credit.

Prerequisites:
BIO 200 or BIO 208 or SMS 201

Corequisites:
BIO 311 or SMS 311

Course Typically Offered:
Fall

Credits: 1

SMS 321 - Introduction to Fisheries Science

Introduction to the assessment, management, conservation and exploitation of fisheries resources of commercial and recreational importance. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:
BIO 100 or SMS 100 or permission.

Course Typically Offered:
Spring

Credits: 3

SMS 322 - Biology of Marine Vertebrates

This course covers the taxonomy, phylogeny and diversity of marine fishes, reptiles, birds and mammals. The course will discuss comparative functional morphology, physiology, sensory systems, ecology, behavior and life history strategies in relation to characteristics of the diverse marine habitats occupied by vertebrate animals. Students will also learn about distributions, population trends and impacts of human exploitation. Course will include field trips during class hours and on weekends.

Core Curriculum/Core Requirements: [""] Prerequisites:
BIO 200 or SMS 201, with a grad of C- or better, or permission.

Course Typically Offered:
Variable

Credits: 3

SMS 324 - Introduction to Research Diving

This course provides an introduction to research diving and satisfies the 100 hours of required training for scientific divers as prescribed by the American Academy of Underwater Sciences (AAUS). This training is required to participate in scientific diving activities at many universities, including UMaine, and at all AAUS member organizations throughout the United States. Students will be instructed in advanced diving skills, dive rescue, oxygen administration, and research diving techniques. Practical field diving activities will be a large focus of the course. Following successful completion of course objectives, students will be eligible to participate in diving research projects as a scientific diver-in-training or scientific diver. Students may also be eligible to apply for applicable recreational diving certifications. Participation is not a guarantee for certification. The course is taught by the UMaine Diving Safety Officer (DSO), selected UMaine faculty, and guest lecturers experienced in using scuba diving as a research tool. Field trips during class time are required. Transportation to Orono to pool sessions will be provided.

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission; BIO 100 and SMS 100, and Sophomore or Graduate Student standing.

Course Typically Offered:

Fall and Summer

Credits: 3

SMS 350 - Semester by the Sea Undergraduate Seminar

This course includes literature review of topics selected from current marine research. The emphasis will be on synthesizing this research in relation to courses offered as part of Semester by the Sea (SBS) to provide an overall appreciation of SBS within the context of the field of marine science. Other topics covered typically include jobs and graduate programs within the field, faculty research and other guest speakers.
Course may be taken for a total of four completions and four credits.

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior or senior standing and department permission

Course Typically Offered:

Fall

Credits: 0-3

SMS 354 - The Arctic Ocean: A Question-based Approach to Learning Marine Sciences

The purpose of the course is to challenge students to apply their knowledge of the marine science to answer questions about the ocean. The course is organized around the Arctic Ocean (AO). Students will work together to examine diverse issues concerning the rapid changes that occur in this environment at multiple spatial, temporal and organizational scales, and the global implications of these changes. Students will be encouraged to apply information from their introductory coursework and readings from the primary literature. These questions are designed to connect the theme to basic concepts from oceanography, marine biology, the Earth climate system and human-ocean interactions.

Core Curriculum/Core Requirements: [""] Prerequisites:

SMS 100, CHY 121 and CHY 123 and Junior Standing

Course Typically Offered:

Fall

Credits: 3

SMS 375 - Introduction to Marine Science Data Analysis and Computer Programming

An introduction to the exploration, management, analysis, and graphical visualization of large data sets used in marine sciences and the computer programming tools that make this possible. Focuses on the widely used programming language and data analysis package MATLAB. A hands-on skills-oriented course with no exams: uses explanatory lectures, on-line and in-class tutorials/exercises and a student-driven term project.

Core Curriculum/Core Requirements: [""] Prerequisites:

STS 232 and SMS 204 or permission.

Course Typically Offered:

Fall

Credits: 3

SMS 399 - Special Topics in Mariculture

This course allows students to experience a wide range of topics in marine aquaculture through numerous approaches including classroom seminars where topics may range from the history of mariculture in the U.S. to the biology and culture of salmonids, bivalves, or crustaceans. Additional options for students include hands-on activities involving culturing organisms in UMM's aquaculture research laboratory or attending outside seminars or conferences that involve the culture of marine organisms. May be repeated for credit as topics vary. May be offered pass/fail at instructor's option.

Prerequisites:

Permission of marine biologists.

Course Typically Offered:

Variable

Credits: 2 - 4

SMS 400 - Capstone Research Experience in Marine Science

Capstone research project or research paper for students obtaining the Bachelor of Science in Marine Science. Marine Science majors must complete at least three credits of SMS 400 and one credit of SMS 404 to satisfy the Capstone requirement for graduation. Students are advised to complete SMS 400 during the senior year.

Core Curriculum/Core Requirements: ["Together with SMS 404' , 'this course satisfies both the General Education Writing Intensive requirement and the General Education Capstone Experience requirement. A minimum of 3 credits of SMS 400 & 1 credit of SMS 404 are needed to fulfill either requirement."] Prerequisites:

Senior Standing and Department consent required.

Course Typically Offered:

Fall, Spring and Summer

Credits: 1-4

SMS 401 - Critical Issues in Aquaculture

Current and historically important issues facing the development of the aquaculture industry. Issues related to aquaculture will be researched by students who will present the issues in a series of debates. Course may have field trips during class times. This course may be repeated for up to six credits total. Lec 1.

Core Curriculum/Core Requirements: [""] Prerequisites:

SMS 211, SMS 409 and SMS 420.

Course Typically Offered:

Fall and Spring

Credits: 1

SMS 404 - Capstone Seminar in Marine Science

Seminar required of all SMS students, preferably in the semester when SMS 400 is first elected. Students will discuss selected special topics in marine sciences with emphasis on principles of scientific communication (e.g., process, traditional and electronic styles of publication, ethics). Students will develop and present synopses of their SMS 400 projects in the seminar using IT tools (e.g. PowerPoint for oral presentations and preparation of poster displays.

Core Curriculum/Core Requirements: ["Together with SMS 400, this course satisfies both the Writing Intensive and Capstone Experience. A minimum of 3 credits of SMS 400 & 1 credit of SMS 404 are needed to fulfill either requirement."] Prerequisites:

12 credit hours of SMS courses and a minimum of 60 credit hours in all university courses (junior standing); students are advised to complete SMS 400 and SMS 404 during their senior year.

Course Typically Offered:

Fall & Spring

Credits: 1

SMS 416 - Marine Engineering Literacy

A hands-on project-based class. Major focus areas include: Programming, Sensors, and Robotics. By the end of the class, students should have a basic understanding of what programming is, and they will be able to build a simple electronic sensor, calibrate it and program its output to a computer, and build/program a Lego robot to do specific missions (for example, an underwater ROV or AUV taking data while diving in water).

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C or better in both SMS 204 and PHY 112 or PHY 122

Course Typically Offered:

Spring

Credits: 3

SMS 422 - Biology of Fishes

A comprehensive course in evolution, morphology, physiology, life histories and ecology of fishes. Emphasis will be integrating knowledge of functional and physiological design to understand how fish function and how they have adapted to diverse environments. Course will include field trips during class hours and on weekends.

Core Curriculum/Core Requirements: [""] Prerequisites:

BIO 200 or SMS 201.

Course Typically Offered:

Fall

Credits: 3

SMS 423 - The Biology of Sharks

In this course students will develop a sound understanding of shark and elasmobranch biology. The course will take an evolutionary and comparative physiological approach to the many orders of elasmobranchs. The course will explore five major areas of shark biology and the current challenges to sharks in the modern world; shark evolution, shark ecology, shark physiology, shark behavior and shark fisheries. We will also look at the current pressures humans exert on sharks, particularly those caused by overfishing, and the issues surrounding captive sharks in public aquaria. By the end of the course, the students should have a sound understanding of how sharks are adapted to their environments and why they have remained one of the most successful groups of vertebrates over the last 420 million years. If this course was taken as a topics course in SMS 491, it cannot be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

SMS 322 or SMS 422

Course Typically Offered:

Spring

Credits: 3

SMS 425 - Applied Population Genetics

Covers the biological, mathematical and statistical principles of population genetics. Topics include a discussion of the role of mutation, migration, selection and inbreeding in structuring the genetic variation for both Mendelian and quantitative traits in natural and artificial populations. Emphasis is placed on both the theoretical and experimental approaches to the study of population genetics and the application and importance of population genetics to disciplines such as marine science, wildlife and conservation biology, ecology and animal husbandry, including aquaculture.

Core Curriculum/Core Requirements: [""] Prerequisites:

BIO 100 or permission.

Course Typically Offered:

Spring, Even Years

Credits: 3

SMS 430 - Microbes in the Marine Environment

This course examines the molecular building blocks of cells, structure and function of cells (Bacteria, Archaea, and eukaryotes) and cellular metabolism in the context of the marine environment, with a primary focus on microbes. Viruses and their role in evolution of microbes and nutrient cycling in the ocean are discussed. Basic molecular information is integrated into understanding evolutionary processes and mechanism of microbial interaction with higher organisms, symbiotic and pathogenic in the marine environment. Microbes in extreme environments are explored to demonstrate how molecular and cellular adaptations play out in different marine environments. Biochemical and microbial processes that are critical to the maintenance and function of the biosphere are examined, with examples from marine environments. Overall, students in this course will learn how to ingrate across different spatial scales, from molecules to ecosystems, and approaches, from cellular biology to evolution. If this course was taken as a topics course in SMS 491, it cannot be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior Standing and BIO 100 and CHY 121

Course Typically Offered:

Spring

Credits: 3

SMS 449 - Aquaculture Systems

Introduction to the application of engineering principles and practices to the commercial culture of marine and freshwater plants and animals. No engineering or engineering technology majors.

Core Curriculum/Core Requirements: [""] Prerequisites:

SMS 211

Course Typically Offered:

Fall

Credits: 3

SMS 450 - Field Experience in Marine Sciences

An approved field, research or work experience that contributes to the academic major and for which academic credit is given. The program of study is agreed upon by the student and the faculty advisor and may include independent research or work experience in the public or private sector. May also be taken as a field or laboratory supplement to an SMS lecture course and as such is required for certain courses offered as part of the Semester-by-the-Sea program. A written report or reports are required. Course will include field trips during class hours.
(Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall, Spring, Summer

Credits: 1 - 16

SMS 460 - Seminar in Marine Ecology

A seminar course whose primary objective is to explore marine ecological concepts, themes, and paradigms of student interest. Students are assigned readings from primary literature and learn how to interpret those readings critically with respect to methodological design, results, and ultimate theses.

Core Curriculum/Core Requirements: ["Satisfies Capstone and Writing Intensive when taken with SMS 461"] Prerequisites:

SMS 360, or permission of instructor.

Course Typically Offered:

Spring - Alternate Years

Credits: 3

SMS 461 - Senior Seminar in Marine Biology

A course that will offer senior-level marine biology students interesting and challenging material of a topical nature. Readings will draw from both primary and secondary sources. Content is discussed in group settings. Students will investigate areas of particular interest to them through written and oral presentations.

Core Curriculum/Core Requirements: ["Capstone and Writing Intensive when taken with SMS 461"] Prerequisites:

Completion of all other requirements within Marine Biology or permission of instructor.

Course Typically Offered:

Spring - Alternate Years

Credits: 3

SMS 479 - Semester-by-the-Sea: Microbial Ecology

Microbes-Bacteria, Archaea, and single celled eukaryotes - are the most diverse group of organisms on Earth. Microbes underlie the ecological function of every ecosystem, and are wonderfully mysterious and exciting to study. This field and lab based course will introduce students to methods used to investigate microbial diversity and habitats in the marine environment. This course emphasizes learning the scientific process first hand through the lens of microbial ecology. Students will become familiar with molecular techniques and sequence data and how they are analyzed to understand microbial diversity. Students will quantify chemical gradients and reaction rates that influence microbial activities and distribution in the marine environment. They will learn about metabolic diversity of microbes and how this diversity plays out on broader ecological scales. Students will conduct experiments and analyze and interpret results, with an overall emphasis on investigative learning and integration with prior knowledge through writing and presentations. If this course was taken as a topics course in SMS 491, it cannot be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

Jr. Standing and BIO 100 and CHY 121

Course Typically Offered:

Fall

Credits: 4

SMS 480 - Semester-by-the-Sea: Biology of Marine Invertebrates

Emphasis will be on body plan and design of marine invertebrates, including investigating how body design facilitates living in selected marine habitats. After a quick review of the marine phyla, lectures will discuss functional organization of invertebrates' bodies, including embryology and development. Emphasis in the lab sessions is on identification of coastal Maine invertebrates. Lectures, labs and field trips are integrated into a single class experience that is taught one entire day per week at the Darling

Marine Center. NOTE: Because of overlap, BIO 353 and SMS 480 cannot both be taken for degree credit. Course may have field trips during class times.

Core Curriculum/Core Requirements: [""] Prerequisites:

SMS 100 and SMS 201 or BIO 200.

Course Typically Offered:

Fall

Credits: 4

SMS 484 - SBS: Estuarine Oceanography

The course examines estuaries from an environmental perspective - how geomorphology, rivers, tides, and human alterations control the physical and biological properties of estuarine habitats. Fieldwork in mid-coast Maine estuaries includes visits to various habitats with human impacts, and hydrographic surveys that use various water, sediment and biota samplers, field sensors, laboratory and modeling approaches. Students will learn how planktonic and sessile organisms respond to forcings from land and the ocean. This course is part of Semester by the Sea at the Darling Marine Center in Walpole, Maine. Because it is a field-intensive course, it can be used towards the marine science field experience requirement.

Core Curriculum/Core Requirements: [""] Prerequisites:

SMS 100

Course Typically Offered:

Fall

Credits: 4

SMS 487 - Semester-by-the-Sea: Marine Environmental Change

Examination of natural and human-accelerated change in the ocean environment through field measurements with standard oceanographic techniques and laboratory experiments. Topics include influences of weather, tides, and seasonal cycles; and the observed and predicted effects of warming, oxygen loss, sea level rise, acidification, and human interventions in ocean systems for climate change mitigation. Course may have field trips during class times.

Prerequisites:

SMS 100 or permission. Course cannot be taken for credit if taken as SMS 491 topic Marine Environmental Change.

Course Typically Offered:

Variable

Credits: 4

SMS 491 - Problems in Marine Science

Undergraduate studies of current problems in marine science directed by individual faculty. May be experimental or theoretical independent research or directed readings by an individual student. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

Permission of instructor.

Course Typically Offered:

Fall, Spring, Summer

Credits: Ar

SMS 497 - Independent Study in Marine Science

A readings, lecture, laboratory or seminar study course arranged between instructor and individual students, covering selected topics or areas within the field of Marine Science. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

Permission of instructor.

Course Typically Offered:

Fall, Spring, Summer

Credits: 1-4

Marketing

MKT 200 - Marketing Management for the Small Business

An overview of marketing as an organizational and societal function stressing the application of marketing concepts and principles in entrepreneurship and realistic business situations. Students learn to analyze, plan, implement and control marketing strategies.

Topics include product development and management, distribution, promotion, pricing, marketing research, consumer behavior, and external environments.

Prerequisites:

MGT 111

Course Typically Offered:

Fall and Spring

Credits: 3

MKT 270 - Introduction to Marketing

Introduces students to the concepts, analyses, and activities that comprise marketing strategy and tactics, and provides practice in market analysis and marketing planning. Topics include: marketing strategy (segmentation, targeting and positioning), market environmental analysis, consumer behavior, marketing research, product management, pricing, marketing communications, and channels of distribution.

Core Curriculum/Core Requirements: [""] Prerequisites:

C- in MGT 101; Business, Economics or Financial Economic Major or Declared Business and/or Marketing Minor; Sophomore Standing

Course Typically Offered:

Fall & Spring

Credits: 3

MKT 290 - Introduction to Topics in Marketing

Introduces students to aspects of the Marketing discipline. Special topics may include areas relevant to any aspect of marketing at an introductory level. This course may be repeated for credits.

Prerequisites:

Business Major or Minor

Course Typically Offered:

Variable

Credits: 1-3

MKT 310 - Customer Relationship Management for Small Businesses

This course teaches students how to build, maintain, and grow loyal customer relationships in small businesses. Topics covered include relationship selling, the sales process, effective communication, managing sales territories and teams, ethical considerations, practical exercises, and case studies. By the end of the course, students will be equipped with the skills and knowledge needed to create and implement customer-centric strategies that drive growth and success in small businesses

Prerequisites:

MKT 200 or permission of instructor

Course Typically Offered:

Spring

Credits: 3

MKT 323 - Personal Selling

Insights into the theories, principles, methods and techniques of creative personal selling. Emphasis is placed on interpersonal skills, ethics, and viewing sales in their natural setting as an event where both buyer and seller benefit. Students learn those aspects of sales management that make it distinct from generic management.

Prerequisites:

MAR 101 or permission of instructor

Course Typically Offered:

Variable

Credits: 3

MKT 371 - Services Marketing

An in-depth examination of the marketing of services and the role of services in supporting the marketing of tangible products. The distinction between the marketing of tangibles and intangibles will be stressed. The course will identify and examine the distinct issues which are encountered in the marketing of services and will explore appropriate strategies for implementing services

marketing programs, primarily in services organizations (i.e. healthcare, tourism, banking, education, etc.). Specifically, the course will examine, in detail, the role of people in delivering services, the importance of service quality as a strategic differentiating tool, and the importance of collaboration between marketing and human resources management in the delivery of services.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in MKT 270 and Junior or Senior standing

Course Typically Offered:

Spring & Fall

Credits: 3

MKT 372 - Integrated Marketing Communication

This course is designed for students who want to understand integrated marketing communications and how all forms of communications work to achieve organizational objectives and contribute to the "brand." It examines a wide range of consumer/customer communications-advertising, public relations, promotion, Internet, direct marketing, digital and social media, event marketing, point-of-purchase, and other alternative media.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in MKT 270.

Course Typically Offered:

Variable

Credits: 3

MKT 374 - Personal Selling and Sales Management

An overview of professional selling, with an emphasis on the sales process, and an understanding of sales management. It is designed for the student to gain a greater appreciation, understanding, and respect for sales, especially the concept of relationship selling, and the techniques, policies and challenges involved in managing a sales force. The student will also gain a better understanding of how sales fits into the overall marketing function and the organization as a whole.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in MKT 270.

Course Typically Offered:

Variable

Credits: 3

MKT 376 - International Marketing

Focuses on marketing principles and strategies valuable to the successful conduct of international business operations. Differing business environments will be examined in order to sensitize students to necessary adjustments in marketing strategies.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in MGT 343 and MKT 270; junior standing.

Course Typically Offered:

Variable

Credits: 3

MKT 377 - New Product Management

New products and services are vital to the success of all companies. However, innovation is risky and most new products fail in the marketplace. The course focuses on the tools and techniques associated with selecting and analyzing market opportunities. It also examines the processes involved in designing, testing, and introducing new products and services that capitalize on those opportunities and fit company strategy. Both quantitative and qualitative approaches are covered. In particular, the course covers new product development processes, product development project management, market entry strategies, new product idea generation, and forecasting market demand. All types of product development projects are considered from breakthrough products to new platforms to brand and line extensions to product improvements in the context of both large corporations and small entrepreneurial firms.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in MKT 270 and Junior Standing or permission

Course Typically Offered:

Variable

Credits: 3

MKT 378 - Marketing Research

Considers marketing research as a tool for marketing decision making. Emphasis on problem formulation, research design, research methodology, sampling, data analysis and interpretation.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in MKT 270, STS 215 or STS 232; junior standing.

Course Typically Offered:

Fall & Spring

Credits: 3

MKT 382 - Consumer Behavior

This course presents a comprehensive framework for understanding why and how people consume. It investigates the pre-purchase, purchase and post-purchase stages of the consumption process. It draws on the social sciences to understand the psychological, situational, technological, social and cultural factors influencing the consumption process. Specific topics include perception, motivation, attitudes, values, self-concept, personality, lifestyle, consumer decision-making process, shopping and buying, group influences, consumption subcultures, and global consumer culture.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in MKT 270 and Junior or Senior Standing.

Course Typically Offered:

Fall and Spring

Credits: 3

MKT 385 - Digital Marketing Analytics

The purpose of digital analytics is to prepare students with a foundational understanding of digital marketing analytics and how successful marketing campaigns use online and mobile platforms. This course covers the fundamentals of analytics, including KPI generation, forecasting, budgeting, and ROI analysis in the context of the following: internet marketing strategies, user-generated content, search engine optimization, website design and management, inbound marketing, email marketing, social media campaigns, mobile apps, content strategy, and paid advertising.

Prerequisites:

A grade of C- or better in MKT 270 and STS 132

Course Typically Offered:

Spring

Credits: 3

MKT 410 - Marketing Intelligence

The purpose of market intelligence is to provide information for making better business decisions. In this course, you will be introduced to different marketing concepts that will help you to analyze data. This course has been designed for marketing managers who will be using market research to make decisions. Students who take this class will learn about the sorts of marketing decision problems in which research information is most useful -- problems of target market selection, new product or service introduction, customer retention, pricing, etc. This course will help students to define the problem, judge data quality, and interpret the results of marketing research.

Prerequisites:

MKT 270 and STS 132. This course cannot be repeated for credit if taken as a topic course in MKT 490

Course Typically Offered:

Fall and Spring

Credits: 3

MKT 480 - Managerial Marketing

This course is designed to review and integrate from a managerial, strategic perspective the key marketing concepts, theories, and frameworks students learned in the program. It emphasizes the integration of marketing, as an organization activity, with other activities of the business firm. It explores problems encountered by top marketing executives in modern business.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

A grade of C- or better in MKT 382 or MKT410 and Senior Standing

Course Typically Offered:
Spring and Fall

Credits: 3

MKT 490 - Special Topics in Marketing

Study of various aspects of functional areas of Marketing. Topics vary depending on faculty and student interests. May be repeated for credit of the topics differ.

Core Curriculum/Core Requirements: [""] Prerequisites:
MKT 270 and Junior Standing

Course Typically Offered:
Variable

Credits: 1-3

Mathematics

MAT 101 - The Nature and Language of Mathematics

An opportunity for non-science majors to broaden their understanding of mathematics and to examine the connections between mathematics and other areas of human understanding. Specific topics may vary from semester to semester and are chosen to provide students with the opportunity to explore, through inquiry and discovery, the development, structure, and application of mathematical systems.

Core Curriculum/Core Requirements: ["Quantitative Literacy"] Course Typically Offered:
Fall, Spring, Summer

Credits: 3

MAT 103 - Elementary Algebraic Models in Our World

An introduction to the applications of algebra with a focus on data analysis and model building. Primary attention will be given to using linear and exponential models to represent and interpret real-world relationships. If MAT 103M was taken at UMM, credit cannot be earned for this course.

Core Curriculum/Core Requirements: ["Quantitative Literacy"] Course Typically Offered:
Fall, Spring, Summer

Credits: 3

MAT 104 - Workshop

Optional Lab for MAT 103. If MAT 103M was taken at UMM, credit cannot be earned for this course

Prerequisites:
If MAT 103M was taken at UMM, credit cannot be earned for this course

Corequisites:
MAT 103

Credits: 1

MAT 108 - Elementary Numerical Mathematics From A Modern Perspective

This course offers fundamental and relevant mathematics for prospective elementary teachers to teach the K-6 non-geometric mathematics aligned with Maine state standards, including numbers and operations in base ten, number theory, fractions, decimals and percents, and arithmetic and algebraic reasoning skills. Mathematical reasoning, problem solving, and the use of appropriate manipulatives and technology are integrated throughout the course. The course models instructional techniques that can be adapted to the elementary school curricula.

Core Curriculum/Core Requirements: ["Quantitative Literacy"] Prerequisites:
Major in Child Development, Art Education or Elementary Education or Rural Education

Course Typically Offered:
Fall

Credits: 3

MAT 109 - Elementary Descriptive Geometry

This course offers fundamental and relevant mathematics for prospective elementary teachers to teach K-6 geometry, measurement, data and statistics aligned with Maine state standards. Emphasis will be on exploration activities, problem solving

and informal deductive reasoning. The use of appropriate manipulatives and technology is integrated throughout the course. The course models instructional techniques that can be adapted to the elementary school curricula.

Core Curriculum/Core Requirements: ["Quantitative Literacy"] Prerequisites:

High school geometry required. Elementary Education, Child Development-Early Childhood Education, and Art Education majors only.

Course Typically Offered:

Fall and Spring

Credits: 3

MAT 111 - Algebra for College Mathematics

This course covers the basic topics in algebra needed to enter a mathematics course at the precalculus level. The covered topics include a brief review of the real number system (including absolute value, exponents, roots, and radicals), linear equations and inequalities, quadratic equations, graphs, functions (primarily linear and other polynomial), factoring, rational and radical expressions. Optional topics include systems of equations, variation, exponential and logarithmic functions. Note: This course does not satisfy the General Education in Quantitative Literacy Requirement. If MAT 111M was taken at UMM, credit cannot be earned for this course.

Core Curriculum/Core Requirements: [""] Prerequisites:

A sufficient score on the Math Placement Exam. If MAT 111M was taken at UMM, credit cannot be earned for this course.

Course Typically Offered:

Fall, Spring, Summer

Credits: 3

MAT 112 - Workshop

Optional Lab for MAT 111 - College Alegbra. If MAT 111M was taken at UMM, credit cannot be earned for this course.

Prerequisites:

If MAT 111M was taken at UMM, credit cannot be earned for this course.

Corequisites:

MAT 111.

Course Typically Offered:

Fall, Spring, Summer

Credits: 1

MAT 115 - Applied Mathematics for Business and Economics

Topics in discrete mathematics, finite mathematics, and calculus with applications to business and economics. Topics include linear functions and regressions, the mathematics of finance, probability, and differential calculus.

Core Curriculum/Core Requirements: ["Quantitative Literacy"] Prerequisites:

A grade of C or better in MAT 111, or no grade record in MAT 111 and a sufficient score on the Math Placement Exam.

Course Typically Offered:

Fall, Spring, Summer

Credits: 3

MAT 116 - Introduction to Calculus

A three-credit introduction to calculus primarily intended for students in business, life sciences, or social sciences. The focus is on concepts and applications, utilizing numerical, graphical, and algebraic approaches and uses of technology. Topics include functions (algebraic, exponential, logarithmic, and elementary trig functions), and an overview of differential and integral calculus. Due to overlapping content, credit previously earned for MAT 126 will be removed upon completion of MAT 116. Both grades will appear on the transcript and will be utilized in GPA calculations.

Core Curriculum/Core Requirements: ["Quantitative Literacy"] Prerequisites:

A grade of C or better in MAT 111, or no grade record in MAT 111 and a sufficient score on the Math Placement Exam.

Course Typically Offered:

Fall and Spring

Credits: 3

MAT 117 - Applications of Calculus

A three-credit continuation to the introduction to calculus (MAT 116) primarily intended for students in business, life sciences, or social sciences. The focus is on applications and concepts, utilizing numerical, graphical and algebraic approaches and uses of technology. Utilizing and expanding on the variety of problem solving approaches developed in MAT 116, the focus will be on applications (such as optimization and accumulation) and additional topics including differential equations.
Due to overlapping content, credit previously earned for MAT 127 will be removed upon completion of MAT 117. Both grades will appear on the transcript and will be utilized in GPA calculations.
Departmental permission to enroll is required if previously completed MAT 127.

Core Curriculum/Core Requirements: ["Quantitative Literacy"] Prerequisites:

A grade of C or better in MAT 116 or MAT 126

Course Typically Offered:

Spring

Credits: 3

MAT 122 - Pre-Calculus

Designed as a transitional course between high school algebra and college mathematics, particularly calculus. Topics include a detailed study of polynomial, rational, exponential, logarithmic and trigonometric functions, stressing ideas needed by those who will take calculus.

Core Curriculum/Core Requirements: ["Quantitative Literacy"] Prerequisites:

A grade of C or better in MAT 111, or no grade record in MAT 111 and a sufficient score on the Math Placement Exam.

Course Typically Offered:

Fall, Spring, Summer

Credits: 4

MAT 126 - Calculus I

An introduction to calculus for students in mathematics, engineering, and the sciences. Covers the differential calculus of the algebraic, trigonometric, exponential and logarithmic functions, concluding with the definite integral and the fundamental theorem of calculus. The approach is intuitive and geometric, with emphasis on understanding the basic concepts of function, limit, derivative and integral.
Due to overlapping content, credit previously earned for MAT 116 will be removed upon completion of MAT 126. Both grades will appear on the transcript and will be utilized in GPA calculations. Also due to overlapping content, course repeat rules are applicable for MAT 126 and MAT 136.

Core Curriculum/Core Requirements: ["Quantitative Literacy"] Prerequisites:

A grade of C or better in MAT 122, or no grade record in MAT 122 and a sufficient score on the Math Placement Exam. In addition, department permission required if credit for MAT 116 has already been earned.

Course Typically Offered:

Fall, Spring, Summer

Credits: 4

MAT 127 - Calculus II

Completes the study of single-variable calculus. Topics covered include inverse trigonometric functions, hyperbolic functions, methods of integration, improper integrals, indeterminate forms, parametric equations, polar coordinates and infinite series.
Departmental permission to enroll is required if previously completed MAT 117. Due to overlapping content, course repeat rules are applicable for MAT 127 and MAT 137.

Core Curriculum/Core Requirements: ["Quantitative Literacy"] Prerequisites:

A grade of C or better in MAT 126 at the University of Maine or other system campuses. (Students who have transferred an equivalent class to UMaine will need to contact the Math Department for registration and advising where appropriate.)

Course Typically Offered:

Fall, Spring, Summer

Credits: 4

MAT 136 - Honors Level Calculus I

A more challenging introduction to calculus for students in mathematics, engineering, and the sciences. Covers differential and integral calculus of real functions of one variable, up to and including the fundamental theorem of calculus. The topics presented are similar to those in MAT 126, but theoretical concepts receive greater emphasis and problems of greater depth and scope are

considered.
Due to overlapping content, course repeat rules are applicable for MAT 126 and MAT 136.

Core Curriculum/Core Requirements: ["Quantitative Literacy"] Prerequisites:
Departmental permission.

Course Typically Offered:
Fall

Credits: 4

MAT 137 - Honors Level Calculus II

A more challenging continuation of a single-variable calculus for students in mathematics, engineering, and the sciences. Covers integral calculus of real functions of one variable including integration techniques and applications, differential equations, infinite sequences and series, uniform convergence, and Taylor series. The topics covered are similar to those in MAT 127, but theoretical concepts receive greater emphasis and problems of greater depth and scope are considered.
Due to overlapping content, course repeat rules are applicable for MAT 127 and MAT 137.

Core Curriculum/Core Requirements: ["Quantitative Literacy"] Prerequisites:
C or better in MAT 136 or department permission.

Course Typically Offered:
Spring

Credits: 4

MAT 145 - Introduction to the History of Mathematics

The goal of this course is to provide students interested in teaching middle- or high-school level mathematics, or others simply interested in the topic, the necessary understanding of the historical foundation of mathematics. The course will explore the origins of mathematics from anthropological and sociological viewpoints. It will then use this as a base for exploring the cultural development of basic numbering, arithmetic, basic statistics (mean, median, mode, etc.), simple probability, basic geometry, measurement (area, volume, etc.), patterns, including symmetry and basic networks, mathematical reasoning, and using mathematics to communicate. The development of these areas, all of which are contained in the Maine State Learning Results for middle and secondary grades, will be explored from various cultural perspectives including a selection from prehistoric, Native American, Egyptian, Mesopotamian, Ancient Greek, Roman, Hindu, Islamic, Chinese, Korean, Japanese, and European cultures. The course is designed to be a survey course that will allow for such a broad view of the development of mathematics.

Core Curriculum/Core Requirements: ["Quantitative Literacy"] Prerequisites:
MAT 103 or MAT 111 or demonstrated proficiency in pre-college mathematics (>= 500 on SAT MATH exam, >= 530 on SAT MSS exam, >= 21 on ACT Math exam or >= 61 on the Aleks Math Placement Exam).

Course Typically Offered:
Spring - Alternate Years

Credits: 3

MAT 228 - Calculus III

For students of mathematics, engineering and the sciences. Vector algebra, geometry and calculus; multivariable differential and integral calculus, including the theorems of Gauss, Green and Stokes.

Core Curriculum/Core Requirements: [""] Prerequisites:
A grade of C or better in MAT 127 at the University of Maine or other system campuses. (Students who have transferred an equivalent class to UMaine will need to contact the Math Department for registration and advising where appropriate.)

Course Typically Offered:
Fall, Spring, Summer

Credits: 4

MAT 258 - Introduction to Differential Equations with Linear Algebra

An introduction to elementary linear algebra and ordinary differential equations including applications.
Due to overlapping content, credit previously earned for MAT 259 and MAT 262 will be removed upon completion of MAT 258. Both grades will appear on the transcript and will be utilized in GPA calculations. (Not open to students who have already taken MAT 262 or MAT 259.)

Core Curriculum/Core Requirements: [""] Prerequisites:
Grade of C or better in MAT 127 at UM or other system campus. Students with prior credit for MAT 259 and/or MAT 262 who

nonetheless wish to enroll in MAT 258 should contact the Math Department.

Course Typically Offered:

Fall and Spring

Credits: 4

MAT 259 - Differential Equations

The theory and applications of ordinary differential equations for science and mathematics students intending to take further courses in applied mathematics. (Note: Students planning to take MAT 262 or MAT 453 should choose MAT 259 instead of MAT 258.)

Due to overlapping content, credit previously earned for MAT 258 will be removed upon completion of MAT 259. Both grades will appear on the transcript and will be utilized in GPA calculations.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C or better in 127. Students with prior credit for MAT 258 who nonetheless wish to enroll in MAT 259 should contact the Math Department.

Course Typically Offered:

Fall & Spring

Credits: 3

MAT 261 - Introduction to Abstract Mathematics

Topics covered typically include logic, basic set theory, relations and functions, sequences, limits, cardinality, and algebraic and geometric structures, but may vary somewhat with the instructor. Class size will remain small, not to exceed 20 students. The goal is to enable students to read, critique, construct, and write mathematical proofs. At least 40% of the student's grade will be based on the quality of written work. Written assignments must present mathematical arguments in a clear, logical manner, using standard mathematical notation as well as correct English grammar, spelling, and punctuation. Students will be given considerable coaching and feedback with preliminary drafts so that submitted final versions of their work will be of acceptable quality.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

A grade of C or better in MAT 127 or permission.

Course Typically Offered:

Fall & Spring

Credits: 3

MAT 262 - Linear Algebra

An introduction to matrices, systems of linear equations, linear transformations, determinants, vector spaces, orthogonality, eigenvalues and eigenvectors, with applications. Some use will be made of mathematical software.

Due to overlapping content, credit previously earned for MAT 258 will be removed upon completion of MAT 262. Both grades will appear on the transcript and will be utilized in GPA calculations.

Core Curriculum/Core Requirements: [""] Prerequisites:

C or better in MAT 127. Students with prior credit for MAT 258 who nonetheless wish to enroll in MAT 262 should contact the Math Department.

Course Typically Offered:

Fall & Spring

Credits: 3

MAT 300 - Topics in Mathematics

Topics in mathematics not regularly covered in other courses. Content varies to suit current needs. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

Permission of department.

Course Typically Offered:

Not Regularly Offered

Credits: 1-3

MAT 329 - Problems Seminar II

Problem-solving in selected areas of mathematics. Material will be taken from various problem books, competitions and mathematical periodicals. Recommended for students who wish to participate in the annual Putnam competition. May be repeated

for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C or better in MAT 261 or permission.

Course Typically Offered:

Fall

Credits: 1

MAT 345 - History of Mathematics

Offers an overview of the history of mathematics with an emphasis on the development of mathematical ideas. Designed to foster an understanding of the expression of mathematical ideas in a variety of different cultural contexts as well as an appreciation of the roots of modern mathematics.

Prerequisites:

A grade of C or better in either MAT 261 or two MAT/STS classes numbered strictly higher than 228, or Department permission.

Course Typically Offered:

Not Regularly Offered

Credits: 3

MAT 362 - Linear Algebra II

A second course on linear algebra with a greater emphasis on theory and proofs than MAT 262. Topics include abstract vector spaces, linear maps, matrices, determinants, eigenvalues and eigenvectors, inner product spaces, and Jordan normal form.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C or better in MAT 258 or MAT 262, or departmental permission

Course Typically Offered:

Fall

Credits: 3

MAT 400 - Topics in Mathematics

Topics in mathematics not regularly covered in other courses. Content varies to suit current needs. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

Permission of department.

Course Typically Offered:

Fall and Spring

Credits: 1-3

MAT 401 - Capstone Seminar in Mathematics

Required of all mathematics and statistics majors. Students will be asked to draw upon and integrate their mathematics course work by exploring mathematical topics in their historical and scientific context. Students are expected to exhibit innovative problem-solving and thoughtful writing. Each student will be required to write a paper on the topic under investigation and to present the results in a colloquium talk to the class.

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:

A grade of C or better in MAT 261, MAT 262 and senior standing.

Course Typically Offered:

Spring

Credits: 3

MAT 425 - Introduction to Real Analysis I

A study of functions of a real variable and the related topology of the real line. Concepts of limit, convergence, continuity and differentiability are studied.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C or better in MAT 228 and MAT 261.

Course Typically Offered:

Fall

Credits: 3

MAT 426 - Introduction to Real Analysis II

A continuation of MAT 425 emphasizing integration and sequences and series of functions. Contents may vary from year to year.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C or better in MAT 425.

Course Typically Offered:

Spring

Credits: 3

MAT 451 - Dynamical Systems

A study of the nature and behavior of solutions of linear and nonlinear systems of differential and difference equations through mathematical analysis and the use of available menu-driven PC software. For students in mathematics and the sciences. Some knowledge of vectors and matrices and some familiarity with personal computers is recommended.

Core Curriculum/Core Requirements: [""] Prerequisites:

Grade of C or better in MAT 258, or a grade of C or better in both MAT 259 and MAT 262, or departmental permission.

Course Typically Offered:

Variable

Credits: 3

MAT 452 - Complex Analysis

An introduction to functions of complex variables including differentiation, integration, series, mappings and applications.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C or better in MAT 228.

Course Typically Offered:

Spring

Credits: 3

MAT 453 - Partial Differential Equations I

A study of the most common linear partial differential equations (transport, wave, heat and Laplace's equation) in the context of their derivations from basic principles of physics. Techniques include separation of variables, eigenfunction expansions, Fourier series, characteristic curves, and energy estimates.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C or better in MAT 228 and either MAT 258 or MAT 259, or permission.

Course Typically Offered:

Fall

Credits: 3

MAT 454 - Partial Differential Equations II

A continuation of MAT 453.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C or better in MAT 453.

Course Typically Offered:

Variable

Credits: 3

MAT 463 - Introduction to Abstract Algebra I

A study of algebraic systems characterized by specific axiom systems. Begins with a study of sets theory, functions, and operations, and continues with topics selected from group theory, ring theory, and linear algebra.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C or better in MAT 261 and MAT 262.

Course Typically Offered:

Fall

Credits: 3

MAT 464 - Introduction to Abstract Algebra II

A continuation of MAT 463, with emphasis on properties of rings and fields and culminating in Galois Theory.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C or better in MAT 463.

Course Typically Offered:

Spring

Credits: 3

MAT 465 - Theory of Numbers

Elementary properties of integers including divisibility, prime and composite numbers, uniqueness of prime factorization, Diophantine equations, congruences and continued fractions.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C or better in MAT 261 or permission.

Course Typically Offered:

Variable

Credits: 3

MAT 471 - Differential Geometry

The application of multivariable calculus to the study of curves, surfaces and their higher-dimensional analogues.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C or better in MAT 228 and in either MAT 258 or MAT 262.

Course Typically Offered:

Variable

Credits: 3

MAT 475 - Higher Geometry

Topics include: constructions, Euclidean properties, Ceva's and Menelaus' theorems with applications--Desargues', Pappus' and Pascal's theorems, isometries, axiometric approach to one of the geometries, algebraic models for geometry, Klein's Erlanger program, classical construction problems.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C or better in MAT 228 or permission.

Course Typically Offered:

Not Regularly Offered

Credits: 3

MAT 481 - Discrete Mathematics

Primarily designed for both mathematics and computer science majors. While the calculus-based mathematics of classical engineering and physical science is essentially "continuous," the finite mathematics of computer science and some social sciences is essentially "discrete" or "combinatorial." MAT 481 is an introductory course offered in this spirit. Topics covered typically include graphs and networks, analysis of algorithms, generating functions and recurrence relations, graph coloring, satisfiability, computational complexity, automata and languages, Turing machines and computability, and a brief introduction to the theory of NP-completeness.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C or better in MAT 261 or MAT 262 or Department permission.

Course Typically Offered:

Fall

Credits: 3

MAT 486 - Biological Modeling and Simulation

Mathematical and computational models primarily from population biology and epidemiology, including deterministic and stochastic, discrete- and continuous-time, and spatial and network models. A software package such as Matlab or R will be used for simulations and visualization, and for additional topics such as vectorized calculations, function optimization, and differential equation solvers, which have a wide variety of applications in the sciences and engineering. Some basic familiarity with probability is recommended.

Core Curriculum/Core Requirements: [""] Prerequisites:

Permission

Credits: 3

MAT 487 - Numerical Analysis

An introduction to computational methods for solving numerical problems. Topics such as interpolation, systems of linear or nonlinear equations, numerical integration, eigenvalues, optimization, ordinary and partial differential equations are considered.

Core Curriculum/Core Requirements: [""] Prerequisites:

Grade of C or better in MAT 258, or a grade of C or better in both MAT 259 and MAT 262, or departmental permission.

Course Typically Offered:

Not Regularly Offered

Credits: 3

Mechanical Engineering

MEE 103 - Introduction to Mechanical Engineering and Design

An introduction to the mechanical engineering profession, including codes, standards, ethics, and professionalism. Introduces the core areas of mechanical engineering and the processes involved in the design, analysis, and operation of components and systems, including spatial visualization, engineering graphics, computer aided design, and experimental methods, as well as teamwork, communication, and design projects. Provides an overview of the Department of Mechanical Engineering, the curriculum, engineering professional and student organizations, and mechanical engineering internships and careers.

Core Curriculum/Core Requirements: [""] Prerequisites:

MEE major or permission

Course Typically Offered:

Fall

Credits: 3

MEE 125 - Computational Tools for Mechanical Engineers

Introduces the student to computational tools used by mechanical engineers. Students are exposed to computational software platforms common in academic and professional environments. Approximately one quarter of the course is dedicated to spreadsheets and symbolic math. The remainder of the course focuses on programming techniques and examples relevant to mechanical engineering.

Core Curriculum/Core Requirements: [""] Prerequisites:

MEE Major or permission

Corequisites:

MAT 126

Course Typically Offered:

Spring

Credits: 3

MEE 150 - Applied Mechanics: Statics

A study of force systems and equilibrium, structural models, friction, distributed forces. Designed to develop the ability to analyze and solve engineering problems. Rec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

MAT 126.

Course Typically Offered:

Fall & Spring

Credits: 3

MEE 230 - Thermodynamics

The fundamentals of thermodynamics and some applications. Covers forms of energy, energy transfer, energy transformations, thermodynamic properties of substances, the first and second laws of thermodynamics applied to closed and open systems, entropy, and power and refrigeration cycles.

Core Curriculum/Core Requirements: [""] Prerequisites:

MAT 127.

Course Typically Offered:
Fall & Spring

Credits: 3

MEE 251 - Solid Mechanics

The principles of solid mechanics and their applications to practical problems, stresses and deflections in members under axial, torsion, bending, shear, or combined loading.

Core Curriculum/Core Requirements: [""] Prerequisites:
MAT 127 and a grade of C or better in MEE 150.

Course Typically Offered:
Fall & Spring

Credits: 3

MEE 255 - Solid Mechanics Laboratory

An introduction to experimental design and methods, instrumentation, calibration of equipment, and data analysis in solid mechanics applications. Practice in writing concise lab reports to communicate clearly the objectives, methods, results, and conclusions of experimental work.

Core Curriculum/Core Requirements: [""] Prerequisites:
A grade of C or better in MEE 150

Corequisites:
MEE 251

Course Typically Offered:
Fall

Credits: 2

MEE 270 - Applied Mechanics: Dynamics

Motion of particles and rigid bodies, impulse and momentum, work and energy and simple harmonic motion, force, mass and acceleration. Rec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:
A grade of C or better in MEE 150; or MEE 252.

Corequisites:
MAT 228

Course Typically Offered:
Fall & Spring

Credits: 3

MEE 303 - Engineering Conceptual Design

Engineering design, with a focus on the conceptual design process, including problem definition, design space exploration, design impacts including engineering economics, codes and standards, engineering ethics, and the development and evaluation of design alternatives. The course introduces design principles such as Design for X, Design Thinking, and Human Centered Design in the context of case studies and individual and team projects. The course will also include project management tools and teamwork fundamentals, as well as elements of solid modeling and engineering graphics.

Prerequisites:
MEE 103 and sophomore standing or permission

Course Typically Offered:
Fall and Spring

Credits: 3

MEE 320 - Materials Engineering and Science

The principles of material science with emphasis on the relationship between structure and properties and their control through composition, mechanical working and thermal treatment. Rec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:
A grade of C or better in MEE 230 and in MEE 251.

Course Typically Offered:
Fall and Spring

Credits: 3

MEE 330 - Manufacturing Engineering

An introduction to manufacturing, engineering graphics, and computer-aided design for the product development cycle. Survey of various manufacturing processes with examination of the interplay among functional requirements, design configuration, material and manufacturing process selection. Geometric dimensioning and tolerancing in the context of engineering drawing specifications and manufacturing of parts and assemblies. Hands-on activities for a better understanding of the topics covered in the course.

Core Curriculum/Core Requirements: [""] Prerequisites:
A grade of C or better in MEE 150

Course Typically Offered:
Spring and Fall

Credits: 3

MEE 348 - Introduction to Flight

Students will be introduced to basic principles of powered flight, with focus on fixed-wing heavier-than-air aircraft. Emphasis will be placed on aircraft anatomy, aerodynamics and airfoil analysis, stability, and propulsion.

Core Curriculum/Core Requirements: [""] Prerequisites:
MAT 127, PHY 121, and MEE 125 (or equivalent)

Course Typically Offered:
Spring

Credits: 3

MEE 360 - Fluid Mechanics

An introduction to fluid mechanics including fluid statics, kinematics, Bernoulli equation, viscous flows, dimensional analysis and similitude and external flows. Rec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:
A grade of C or better in MEE 230 and in MEE 270

Corequisites:
MAT 258 or MAT 259

Course Typically Offered:
Fall and Spring

Credits: 3

MEE 365 - Thermo-Fluids Laboratory

An application of experiment design, instrumentation, calibration of equipment, and data analysis to concepts in thermodynamics, fluid mechanics, and heat transfer. Practice in writing lab reports to communicate clearly the objectives, methods, results, and conclusions of experimental work.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
A grade of C or better in MEE 230

Corequisites:
MEE 360

Course Typically Offered:
Spring

Credits: 3

MEE 370 - System Dynamics and Introductory Control

This course introduces the students to the modeling and analysis of dynamic systems, including mechanical, electrical, and electromechanical systems, to understand their behavior and be able to design control systems systematically. The topics covered in this course include modeling of one-degree-of-freedom and two-degree-of-freedom mass-spring-damper systems, Laplace transforms and transfer function representation, block diagrams, dynamic response of first and second-order linear time-invariant systems, and design and analysis of feedback control systems.

Core Curriculum/Core Requirements: [""] Prerequisites:
ECE 209, MAT 258, and a grade of C or better in MEE 270

Course Typically Offered:
Fall and Spring

Credits: 3

MEE 375 - Controls and System Integration Lab

An application of experiment design, instrumentation, calibration of equipment, and data analysis to concepts in controls and integrated systems. Practice in writing concise lab reports to communicate clearly the objectives, methods, results, and conclusions of experimental work.

Core Curriculum/Core Requirements: [""] Prerequisites:
MEE 270 with a grade of C or better, and MAT 258, and ECE 209 (or equivalent)

Corequisites:
MEE 370

Course Typically Offered:
Spring

Credits: 2

MEE 381 - Machine Design

Aspects of functional and safe design including proper use of software for design, kinematical design of machines, advanced concepts in mechanics of materials, and stress concentration. Design of mechanical components subjected to static and fatigue loads. Synthesis and selection of various machine components including shafts, bearings, gears and gear trains, screws and fasteners.

Core Curriculum/Core Requirements: [""] Prerequisites:
A grade of C or better in MEE 251 and MEE 270

Course Typically Offered:
Spring and Fall

Credits: 3

MEE 394 - Mechanical Engineering Practice

Full-time engineering work for at least 10 weeks (400 hours) with a company, government agency, organization, laboratory, research group or research center. This can include engineering work at an academic institution, including UMaine.

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission

Course Typically Offered:
Fall, Spring and Summer

Credits: 3

MEE 430 - Digital Manufacturing

Digitalization of manufacturing (DM) is applicable in every industrial sector, and can bring a new paradigm of knowledge-based production and manufacturing. DM is driven by the application and standardization of information and communication technologies and the increasing demand for greater efficiency of operations. The course focuses on various components of DM and their interplay; design and manufacturing information type, their collection, analysis, and utilization. Additionally, additive manufacturing or 3D printing (3DP), a popular tool for DM implementation, will be covered. The topics include process science, material characterization, part characterization, and the economic impact of 3DP.

Core Curriculum/Core Requirements: [""] Prerequisites:
MEE 120 and MEE 330

Course Typically Offered:
Fall

Credits: 3

MEE 432 - Heat Transfer

The fundamental laws of heat transfer by conduction, convection and radiation. Applied to the study of engineering problems via analytical, numerical, and graphical techniques. Rec 3. (Fall.)

Core Curriculum/Core Requirements: [""] Prerequisites:
MAT 258 and MEE 360.

Course Typically Offered:
Fall and Spring

Credits: 3

MEE 433 - Solar-Thermal Engineering

Applied analysis and design of thermal devices (non-photovoltaic) using solar radiation as an energy source. Students will learn techniques to estimate the solar resource, which is the amount of solar energy which can be collected at a given time and location. Analysis of basic solar thermal devices, including collectors and thermal energy storage devices, is introduced using basic thermodynamic and heat transfer theory. Analysis and design of complete solar thermal systems, combining multiple devices, is included. Recent developments in solar thermal energy systems, including low-temperature, high-temperature, and thermochemical systems are discussed.

Core Curriculum/Core Requirements: [""] Prerequisites:
A grade of C or better in MEE 230.

Course Typically Offered:
Not Regularly Offered

Credits: 3

MEE 441 - Manufacturing and Testing of Composites

An introduction to the manufacturing and material property determination of fiber reinforced polymer (FRP) materials. Includes fabrication, post-processing, and testing of thermoset and thermoplastic composite materials.

Core Curriculum/Core Requirements: [""] Prerequisites:
MEE 251 or MEE 252 or MET 219 or permission of the instructor

Course Typically Offered:
Spring

Credits: 3

MEE 444 - Robot Dynamics and Control

This course introduces the fundamentals of robotics. Topics include planar and spatial transformations and displacements, Euler angles, forward kinematics of robotic manipulators using the Denavit-Hartenberg method, inverse kinematics, velocity and acceleration of robotic manipulators, dynamics of robotic manipulators using Newton-Euler equations, and a review of robot control fundamentals.
MEE 444 and MEE 551 cannot both be taken for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:
A grade of C or better in MEE 270; and MEE 380

Course Typically Offered:
Spring

Credits: 3

MEE 448 - Aircraft Design

The conceptual design of an aircraft to satisfy given specifications, including elements of initial sizing, geometry selection (or vehicle configuration), aerodynamics, propulsion integration, stability and control, loads, structures, manufacturability, and cost analysis. Students will apply design skills in a semester long design project.

Students who have completed MEE 448 with a passing grade are not eligible to take MEE 548 or vice versa.

Core Curriculum/Core Requirements: [""] Prerequisites:
MEE 251, MEE 348 or permission

Course Typically Offered:
Fall

Credits: 3

MEE 449 - Aircraft Performance

Performance of fixed wing aircraft, including the equations of motion, basic aerodynamics, and level flight, climb and descent,

range, endurance, take off and landing, turning and energy state performance. Fundamentals of longitudinal stability and control.

Prerequisites:
MEE 348 or Permission

Course Typically Offered:
Fall

Credits: 3

MEE 450 - Mechanics of Composite Materials

Introduction to the behavior of composite materials and their use in engineering structures; fabrication methods, behavior and properties of the constituent fibers and matrices, micromechanical predictions of composite properties, anisotropic elasticity, behavior of composite laminae, classical lamination theory, failure theories, composite beams and plates, material characterization and introduction to the design of composite structures.

Core Curriculum/Core Requirements: [""] Prerequisites:
A grade of C or better in MEE 251

Course Typically Offered:
Fall

Credits: 3

MEE 452 - Aircraft and Automobile Structures

Introduction to aircraft and automobile structures. Structural mechanics of thin-walled stiffened and unstiffened members. Analysis and design of single and multi-cell structures under torsion, bending, shear, and combined lading conditions. Instability and failure analysis of thin-walled columns and stiffened panels. Energy absorption in single multi-cell tubular members.

Core Curriculum/Core Requirements: [""] Prerequisites:
MEE 251

Course Typically Offered:
Spring

Credits: 3

MEE 453 - Experimental Mechanics

Experimental methods and techniques for analysis of stress and displacement. Also covers electric strain gages, brittle lacquers, mechanical and optical strain gages, and introduction to photo elasticity. Lec 2, Lab 2.

Core Curriculum/Core Requirements: [""] Prerequisites:
A grade of C or better in MEE 251.

Course Typically Offered:
Not Regularly Offered

Credits: 3

MEE 455 - Advanced Strength of Materials

Considers limitations of elementary stress formulas, theories of failure, unsymmetrical bending, beams, plates, torsion of non-circular bars, thick-walled cylinders, stress concentrations, energy methods. Introduces theory of elasticity. Rec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:
A grade of C or better in MEE 251.

Course Typically Offered:
Not Regularly Offered

Credits: 3

MEE 456 - Introduction to the Finite Element Method

An introduction to the finite element methods including matrix operations, interpolation functions, basic element types, and implementation to problems in mechanical engineering including simple structures, plane stress, heat transfer and fluid mechanics. Rec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:
MAT 258 and a grade of C or better in MEE 251.

Course Typically Offered:

Fall and Spring

Credits: 3

MEE 459 - Engineering Optimization

Introduction to mathematical optimization theory. Analytical, graphical, and numerical approaches for solving unconstrained or constrained optimization problems involving linear or nonlinear functions. Application of optimality criteria and mathematical programming techniques to problems involving multiple design variables.

Students who have completed MEE 459 with a passing grade are not eligible to take MEE 559 or vice versa.

Core Curriculum/Core Requirements: [""] Prerequisites:

MAT 228 and MAT 258

Course Typically Offered:

Fall

Credits: 3

MEE 462 - Dynamics of Fluid Flow

Develop an understanding of fundamental concepts in fluid mechanics including analytical solution of Navier-Stokes equation, boundary layer theory, potential flow and compressible flow. Emphasis is on mathematical formulation, problem solving, and engineering applications as well as on developing physical insights into fluid flow.

Core Curriculum/Core Requirements: [""] Prerequisites:

MEE 360

Course Typically Offered:

Not regularly offered

Credits: 3

MEE 463 - Applied Computational Fluid Dynamics

The course is designed for students with no or little computational fluid dynamics (CFD) knowledge who want to learn CFD application to solve mechanical engineering and aerospace engineering problems. The course provides an introduction to the theoretical fundamentals as well as the use of commercial CFD codes to analyze flow and heat transfer in practical engineering problems. The students will understand the process of developing a geometrical model of the flow, applying appropriate boundary conditions, specifying solution parameters and visualizing the results. They will also learn to assess the accuracy of CFD solutions.

Core Curriculum/Core Requirements: [""] Prerequisites:

MEE 360 or equivalent

Course Typically Offered:

Not Regularly Offered

Credits: 3

MEE 471 - Mechanical Vibrations

Examines free and forced vibrations with viscous damping for discrete and continuous mass systems as well as derivation and application of energy methods. Rec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

MAT 258 and a grade of C or better in MEE 270.

Course Typically Offered:

Not Regularly Offered

Credits: 3

MEE 475 - Fuel Cell Science and Technology

A study of the basic operating principles of fuel cells, the different types of fuel cells, fuel reforming and power conditioning, and the efficiency, performance and application of fuel cell systems. (This course is identical to MET 475.)

Core Curriculum/Core Requirements: [""] Prerequisites:

Prerequisites: MET 236, MET 433, PHY 462 or a grade of C or better in MEE 230; CHY 121 or permission

Course Typically Offered:

Spring

Credits: 3

MEE 477 - Introduction to Structural Dynamics

Introduction to the fundamental and applied aspects of structural dynamics. Axial, flexural and torsional vibration characteristics of continuous structural members and machine elements using analytical and numerical methods. Finite element analysis of the steady state and transient response of structural elements and systems. Application of theoretical and numerical techniques to the dynamic analysis of mechanical and aerospace structural members.

Prerequisites:

MEE 251, MEE 270, MEE 370 and MAT 258 or by permission

Course Typically Offered:

Not Regularly Offered

Credits: 3

MEE 480 - Wind Energy Engineering

This course presents the theory and design of modern wind turbines. Theoretical aspects of the course cover the fundamentals of assessing the aerodynamic loads and efficiency of a wind turbine. Design procedures for wind turbines are outlined with an emphasis on maximizing performance, assuring structural integrity and minimizing the cost of energy. Current trends in offshore wind are also covered as well as the social and environmental issues of a burgeoning wind energy industry.

Core Curriculum/Core Requirements: [""] Prerequisites:

MAT 258 and C or better in MEE 251.

Corequisites:

CIE 350 or MEE 360.

Course Typically Offered:

Spring, Even Years

Credits: 3

MEE 484 - Power Plant Design and Engineering

A study of power station engineering and economy, including design, construction and operation theory of steam, internal-combustion, and hydroelectric power plants. Introduction to nuclear power plants, solar energy, fuel cells, and associated problems. Rec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

Grade of C or better in MEE 230 and MEE 231

Course Typically Offered:

Not Regularly Offered

Credits: 3

MEE 486 - Refrigeration and Air Conditioning System Design

This course offers a comprehensive introduction to modeling the heating and cooling loads of buildings. Students will learn to determine indoor and outdoor design conditions and estimate heat gains and losses resulting from various factors, including heat conduction through building envelopes, solar radiation, internal heat sources, and ventilation and infiltration air. Emphasis is placed on both manual calculation methods and the application of building energy simulation software to support HVAC system design, evaluate building performance, and enhance energy efficiency.

Core Curriculum/Core Requirements: [""] Prerequisites:

C or better in MEE 230 (Thermodynamics) or MET 236 (Thermal Applications), or permission

Course Typically Offered:

Variable

Credits: 3

MEE 487 - Capstone Design I

Design of mechanical engineering systems components, including problem definition, analysis, synthesis and optimization. Engineering ethics.

Core Curriculum/Core Requirements: ["Satisfies the General Education Capstone Experience Requirement when taken in series with MEE 488. Neither course alone satisfies the requirement."] Prerequisites:

MEE 360 and MEE 381 and Corequisite MEE 370 or by Permission

Course Typically Offered:
Fall

Credits: 4

MEE 488 - Capstone Design II

Design of mechanical engineering systems, including problem definition, analysis, synthesis and optimization.

Core Curriculum/Core Requirements: ["Satisfies the General Education Capstone Experience Requirement when taken in series with MEE 487. Neither course alone satisfies the requirement."] Prerequisites:
MEE 487

Course Typically Offered:
Spring

Credits: 3

MEE 489 - Offshore Floating System Design

The course introduces the basics of naval architecture and offshore engineering design concepts to senior engineering students. A broad introduction is provided on the topics of floating platform stability, structural strength, global performance, mooring systems and installation. Use of industry guest lecturers will complement regular lectures for the course. Emphasis is placed on applying recommended practices by regulatory bodies into hands-on design projects.

Core Curriculum/Core Requirements: [""] Prerequisites:
MEE 360 and MEE 380 or Permission of Instructor.

Course Typically Offered:
Not Regularly Offered

Credits: 3

MEE 490 - Modern Control Theory and Applications

This course introduces state-space methods for analysis and design of linear control systems. The assumed prerequisites are undergraduate courses in linear algebra and dynamic systems and controls. The analysis part of this course is concerned with stability, controllability, observability, realization, and minimality of the state-space model, while the control design part delves into the methods of pole placement for state feedback and observer design, and optimal methods such as linear quadratic regulator (LQR) and Kalman filter. Students will also learn how to apply the theory to engineering problems using MATLAB for both continuous-time and discrete-time systems.

Core Curriculum/Core Requirements: [""] Prerequisites:
MEE 370

Course Typically Offered:
Fall

Credits: 3

MEE 491 - Offshore Wind Farm Engineering

This course introduces the basics of offshore wind farm engineering and design. A broad introduction is provided on the topics of offshore climate, turbine selection criteria, substructure design, installation processes, operation, maintenance, electrical infrastructure, environmental impacts, and decommissioning aspects of offshore wind farms. The basic theory together with state-of-the-art industrial practices and future technologies driving the offshore wind farm development will be addressed.

MEE 491 and MEE 591 cannot both be taken for credit.

Prerequisites:
MEE 251 and MEE 360 or permission

Course Typically Offered:
Not Regularly Offered

Credits: 3

MEE 498 - Selected Topics in Mechanical Engineering

Topics in mechanical engineering not regularly covered in other courses. Content varies to suit needs. May be repeated for credit, with departmental permission.

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission.

Course Typically Offered:
Fall & Spring

Credits: 1-3

Mechanical Engineering Technology

MET 100 - Introduction to Mechanical Engineering Technology

Students will cover topics relevant to succeeding as a MET student and graduate. Lec 1, Lab 2. Students who take MET 100 after MEE 101 will only receive credit and grade for MET 100.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Fall

Credits: 2

MET 107 - Machine Tool Processing I

Theory and application of fundamental metal removing processes and basic metrology and tool nomenclature. Light machine work using drill presses, lathes, milling machines and surface grinders.

Core Curriculum/Core Requirements: [""] Prerequisites:
MET 121 or MEE 120 and MAT 122 or a passing score on the UM Math Placement Exam and Mechanical Engineering Technology Majors or permission

Course Typically Offered:
Spring

Credits: 3

MET 121 - Technical Drawing

An introduction to graphic symbols utilizing both manual and CADD skills applied to engineering drawings. Topics include: lettering, geometric construction, multiview drawing, sections, dimensioning and assembly drawing. Lec 2, Lab 2. Students who take MET 121 after MEE 103 will only receive credit and grade for MET 121.

Must have a PC (not Mac) laptop that will run Solidworks software

Core Curriculum/Core Requirements: [""] Prerequisites:
Mechanical Engineering Technology majors

Course Typically Offered:
Fall & Spring

Credits: 3

MET 126 - Machine Drawing

Preparation of complete working drawings of a project for MET 312. Topics include: pictorial drawings, descriptive geometry, CADD, design process, dimensioning, tolerancing, fasteners, details, and assembly drawings. Lec and Lab 4. (Spring)

Core Curriculum/Core Requirements: [""] Prerequisites:
MET 121 and MET 107 or Junior Standing and MET 107 as a corequisite.

Course Typically Offered:
Spring

Credits: 3

MET 150 - Statics

The study of forces acting on particles and rigid bodies in equilibrium, trusses, centroids and centers of gravity, properties of area, friction. Lec 3. Students who take MET 150 after MEE 150 will only receive credit and grade for MET 150.

Core Curriculum/Core Requirements: [""] Prerequisites:
MET 121, PHY 107 or PHY 121, and MAT 122 or a passing score on the UM Math Placement Exam.

Course Typically Offered:
Spring

Credits: 3

MET 213 - Introduction to CAM

Introduction to advanced computer aided design and computer aided manufacturing. Covers programming and operation of computer numerical control machine tools.

Core Curriculum/Core Requirements: [""] Prerequisites:

MET 107 and MET 121, or permission.

Course Typically Offered:

Fall

Credits: 2

MET 219 - Strength of Materials

An introduction to machine design. A study of stress and strain in materials and bodies subjected to tension, compression, torsion and flexure as well as deflection of prismatic members, columns, combined stresses. Lec 3. Students who take MET 219 after MEE 251 will only receive credit and grade for MET 219.

Core Curriculum/Core Requirements: [""] Prerequisites:

MET 150

Corequisites:

MAT 127

Course Typically Offered:

Fall

Credits: 3

MET 233 - Thermal Science

A study of elementary thermodynamics including engineering calculations relative to heat, power, work and mechanical and electrical energy. Rec 3. Students who take MET 233 after MEE 230 will only receive credit and grade for MET 233.

Core Curriculum/Core Requirements: [""] Prerequisites:

PHY 108 or PHY 112 or PHY 122

Corequisites:

MAT 116 or MAT 126

Course Typically Offered:

Fall

Credits: 3

MET 234 - Mechanical Technology Laboratory I

Experimental application of solid and fluid mechanics, and thermodynamics. Covers calibration of laboratory instruments.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

MET219 or MEE 251 and MET 233 or MEE 230

Course Typically Offered:

Spring

Credits: 3

MET 236 - Thermal Applications

Applications of fundamentals studied in MET 233 including steam and gas cycles, analysis of cycle components, steam generators, pumps, turbines, compressors, heat transfer and refrigeration systems. Rec 3. Students who take MET 236 after MEE 231 will only receive credit and grade for MET 236.

Core Curriculum/Core Requirements: [""] Prerequisites:

MET233 or MEE 230, and MAT 126

Course Typically Offered:

Spring

Credits: 3

MET 270 - Manufacturing Technology

Examines materials and processes for manufacturing consumer and producer goods. Technologies include metal casting, plastics/ceramics/composites processing, and metal forging and extrusion. Includes supporting topics in materials selection, quality

control and the manufacturing enterprise. Evening tours of manufacturing facilities may be scheduled.

Core Curriculum/Core Requirements: [""] Prerequisites:
MET 121 and sophomore standing.

Course Typically Offered:
Fall

Credits: 3

MET 312 - Machine Tool Processing II

Manufacture and evaluation of prototype assembly, including redesign of components as needed.

Core Curriculum/Core Requirements: [""] Prerequisites:
MET 107 and MET 126

Course Typically Offered:
Fall

Credits: 3

MET 313 - CAD / CAM Projects

Student create 2-D and 3-D CAD drawings of machined parts, create process and setup sheets for the parts, use CAD/CAM software to develop CNC programs for the parts, and use CNC machine tools to fabricate the parts.

Core Curriculum/Core Requirements: [""] Prerequisites:
MET 107 and MET 213 and MET 312

Course Typically Offered:
Spring

Credits: 3

MET 317 - Dynamics

A study of kinematics and kinetics of particles, including conservation of energy, conservation of momentum and impulse. Also kinematics of rigid bodies including linkages, gears and gear trains. Students who take MET 317 after MEE 270 will only receive credit and grade for MET 317.

Core Curriculum/Core Requirements: [""] Prerequisites:
MET 150 or CET 413 and MAT 117 or MAT 127

Course Typically Offered:
Fall

Credits: 3

MET 325 - Fluid Flow Technology

Examines fluid statics, dynamics and energy as well as flow measuring devices, fluid components and systems. Rec 3. Students who take MET 325 after MEE 360 will only receive credit and grade for MET 325.

Core Curriculum/Core Requirements: [""] Prerequisites:
MET 233, MET 317, and MAT 258

Course Typically Offered:
Spring

Credits: 3

MET 355 - Engineering Materials

The study of the composition and behavior of materials used in engineering. Materials covered include metals, plastics, wood, ceramics, and concrete. The laboratory demonstrates the effect of heat treatment on the mechanical properties of steels. Lec 2, Lab 2. Students who take MET 355 after MEE 320 will only receive credit and grade for MET 355.

Core Curriculum/Core Requirements: [""] Prerequisites:
CHY 121, MET 219, MET 234, Mechanical Engineering Technology major with junior standing.

Course Typically Offered:
Spring and Fall

Credits: 3

MET 391 - Heating, Ventilating and Air Conditioning

Determination of heating, ventilating and air conditioning loads for buildings and industrial processes. Heat transfer devices and applications to systems. Refrigeration for controlled-temperature applications. Heating, ventilating and air conditioning system layout and control systems. Rec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

MET 233 or MET 433

Course Typically Offered:

Spring

Credits: 3

MET 394 - Mechanical Engineering Technology Practice

Cooperative work experience in mechanical engineering technology at full-time employment for at least a ten-week period. (Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Prerequisites:

MET 234, junior standing and Permission

Course Typically Offered:

Fall, Spring, Summer

Credits: 3

MET 433 - Thermodynamics

A study of thermodynamic concepts, properties and applications, including work, heat, energy, entropy, First and Second Laws, processes, cycles and systems. Rec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

PHY 107 or PHY 111 or PHY 121 and MAT 116 or 126

Course Typically Offered:

Fall

Credits: 3

MET 440 - Lean Six Sigma

An introduction to Lean Manufacturing and Six Sigma continuous improvement methodologies via lectures, independent assignments, and in-class experiments using discipline-independent processes. Topics will include the 8 forms of waste; value stream maps; the DMAIC model; Gage R&R; hypothesis testing; Ishikawa diagrams; and Design of Experiments (DOE). If this course was taken under as a topics course in MET 320 it cannot be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

MAT 127

Course Typically Offered:

Spring

Credits: 3

MET 451 - Plastics Manufacturing

An introduction to the manufacturing, post-processing, and material property determination of thermoplastic and thermoset polymers. Includes post-processing and joining of plastics and the use of adhesives.

Core Curriculum/Core Requirements: [""] Prerequisites:

MET 219 and Junior Standing

Course Typically Offered:

Fall, Alternating years

Credits: 3

MET 453 - Experimental Mechanics

An introduction to experimental methods for measuring strain and deformation of engineering materials, structures, and mechanical components. Topics will include electrically and optically recorded strain and deformation; computer data acquisition and reduction techniques; applications to static and dynamic events, sensors, fatigue, fracture and residual stresses; quasi-static load frames.

Core Curriculum/Core Requirements: [""] Prerequisites:

MET 234

Course Typically Offered:
Fall, Alternating Years

Credits: 3

MET 462 - Design I

Analysis of mechanical elements as well as applications of mechanics of materials, stress concentration, combined stresses, fatigue, and factor of safety to the design of machine components. Lec 3. Lab 2

Core Curriculum/Core Requirements: [""] Prerequisites:
MET 219 or MEE 251 and MAT 127

Course Typically Offered:
Spring

Credits: 4

MET 463 - Design II

Continuation of MET 462 including drive components, welded connections, lubrication, bearings, gearing, miscellaneous machine elements and engineering materials. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:
MET 462.

Course Typically Offered:
Fall

Credits: 3

MET 464 - Senior Design Project I

The first of a two-course sequence providing MET seniors with a capstone learning experience. Components include project definition, research, safety, benchmarking, ergonomics, engineering analysis, and preparation of design drawings and a project presentation. Design of a capstone design project. Rec 3.

Core Curriculum/Core Requirements: ["Satisfies the General Education Capstone Experience Requirement when combined with the successful completion of MET 465."] Prerequisites:
MET 219; senior standing or permission.

Corequisites:
MET 462

Course Typically Offered:
Fall

Credits: 2

MET 465 - Senior Design Project II

Continuation of MET 464. Components include team project management, building a prototype, testing and refining the design, and making a final design presentation. Lec 3

Core Curriculum/Core Requirements: ["Satisfies the General Education Capstone Experience when combined with the successful completion of MET 464."] Prerequisites:
MET 464

Corequisites:
MET 463

Course Typically Offered:
Spring

Credits: 2

MET 475 - Fuel Cell Science and Technology

A study of the basic operating principles of fuel cells, the different types of fuel cells, fuel reforming and power conditioning, and the efficiency, performance and application of fuel cell systems. (This course is identical to MEE 475.)

Core Curriculum/Core Requirements: [""] Prerequisites:
Prerequisites: CHE 385, MET 236, MET 433, PHY 462 or a grade of C or better in MEE 230; CHY 121 or permission

Course Typically Offered:
Summer

Credits: 3

MET 498 - Selected Laboratory Topics in Mechanical Engineering Technology

Topics in engineering technology (laboratory-based) not regularly covered in other courses. Content varies to suit the needs of individuals. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:
permission.

Course Typically Offered:
Fall & Spring

Credits: 1-3

MET 499 - Selected Topics in Mechanical Engineering Technology II

Topics in engineering technology not regularly covered in other courses. Content varies to suit the needs of individuals. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission.

Course Typically Offered:
Fall & Spring

Credits: 1-3

Mental Health Rehabilitation

MHR 200 - Behavioral & Community Mental Health Systems

This course will review systems of care provided by the state, as well as those provided by for-profit and not-for-profit entities, to serve the needs of behavioral health consumers. Essential components of this course include addressing contemporary public and social policy and social services provision within those policies including fundamentals of behavioral health care, child protection, and welfare systems. In addition, the course examines the history and impact of laws and regulatory standards that dictate these policies and ultimately service provision in behavioral care for children, adults and the elderly. Both current practices and historical precedent are woven into a model represented in both its completeness and contradictions.

Core Curriculum/Core Requirements: [""] Prerequisites:
PSY 100 or permissive of instructor

Course Typically Offered:
Variable

Credits: 3

MHR 205 - Introduction to Counseling Skills

This course introduces students to the basic skills required for counseling. Students will practice implementing these skills during counseling role plays in class, as well as providing their peers with positive and constructive feedback at the conclusion of the role plays. The ability to utilize feedback and be reflective will be emphasized. This course will also review ethical issues associated with counseling and the role of supervision. Psychodynamic, Behavioral, Person-Centered, Cognitive and Family Systems Counseling Theories, as well as Motivational Interviewing will be introduced.

Core Curriculum/Core Requirements: [""] Prerequisites:
MHR 200 or permission of instructor; MHR 200 may be taken as a co-requisite

Course Typically Offered:
Variable

Credits: 3

MHR 210 - Vocational Aspects of Disability and Psychiatric Rehabilitation

This course will address the notion of psychiatric rehabilitation via a range of services to support people with psychiatric and other disabilities, in a holistic fashion, noting the conceptual practice of psychosocial rehabilitation as a core organizing principle underlying all behavioral health care. Core philosophies are examined, including historical and current theories and practices, noting the use of contemporary effective practices which are key to current psychiatric rehabilitation. Since employment is a key part of rehabilitation, the course will focus on vocational rehabilitation. Skills for evaluating and assessing the vocational impact of

a disability and effective strategies for promoting client understanding and access to community resources will be addressed.

Core Curriculum/Core Requirements: [""] Prerequisites:

MHR 200 or permission of instructor

Course Typically Offered:

Alternate Years

Credits: 3

MHR 215 - Families: Challenges & Resilience

This class will explore the complexity of families and how to conceptualize their functioning, including recognizing strengths, current challenges, family rules and behavior patterns. Assessment and basic models of intervention to address challenges will be included. Cultural differences that impact notions of family and family functioning will also be discussed. This course will use the impact of substance use within families for case studies. This course is required for the Family Coaching and Mentoring Certificate I and covers a competency area for the test required to become a Certified Alcohol and Drug Counselor (CADC).

Corequisites:

PSY 100 or ANT 102, or permission of instructor.

Credits: 3

MHR 300 - Case Management

This course introduces students to case management as it is utilized in the health and human services fields. Case management is a process of assessing a client's needs, and planning and facilitating their connections with health and human services and other resources. Case management includes education, advocacy and networking with providers and services across many disciplines. This course will introduce students to the skills and responsibilities central to case management, as well as professional, legal, and ethical issues that impact this service. This course partially satisfies Maine MHRT/C Certification competencies.

Core Curriculum/Core Requirements: [""] Prerequisites:

MHR 200 or permission of instructor

Course Typically Offered:

Variable

Credits: 3

MHR 305 - Trauma, Crisis and Recovery

This course introduces students to concepts of trauma and crisis, as well as resiliency and recovery. The psychological term trauma describes significant events that are usually devastating, life-threatening and shocking. Traumatic events can have ongoing impacts on people's thinking, feeling and behavior. This course will include information of types of traumatic experience (i.e. assault, sexual abuse, motor vehicle accidents, combat or natural disaster), basic knowledge and skills used in assessment and screening of trauma, and an overview of services and supports for people who have experienced trauma. Historical, social and cultural factors which impact our understanding of trauma will also be addressed, as well as trauma's social and physiological impact on individuals. This course will also cover the process of going into crisis and strategies for responding to the person in crisis, as well as understanding the role and scope of crisis response services. Though anyone can go into crisis under a particularly stressful or shocking circumstance, people with significant trauma histories are at high risk for going into crisis.

Core Curriculum/Core Requirements: [""] Prerequisites:

MHR 200 or permission of instructor

Course Typically Offered:

Alternate Years

Credits: 3

MHR 310 - Counseling Diverse Populations

This counseling course is designed to help the student acquire the skills necessary to become a culturally competent mental health or social service practitioner, that is, someone who is sensitive to cultural differences and to their impact on human interactions. The course is based on the fundamental premise that cultural competence is an ongoing and multi-layered process working at personal, interpersonal, and organization-wide levels. Topics to be addressed include skills to increase cultural awareness and understanding skills to foster effective interpersonal communication and organizational change strategies. Studies will learn to identify and understand culture as it operates on different social levels (class, ethnicity, gender, sexual orientation). Students will also learn to identify the barriers to effective communication and positive relationships including how culture may be a barrier.

Core Curriculum/Core Requirements: [""] Prerequisites:

MHR 200 and MHR 205 or permission of instructor

Course Typically Offered:

Alternate Years

Credits: 3

MHR 315 - Substance Use and Dual Diagnosis Counseling

This course is an overview of different treatment models for chemical dependency and dual diagnosis treatment. Chemical dependency for the purposes of this course will include diagnoses of substance abuse and dependence for alcohol, street drugs and abused prescription medication. Dual diagnosis in this context refers to having both a mental health diagnosis (i.e. depression, anxiety, ADHD, bipolar disorder) and a substance abuse or dependence disorder. Students will be reviewing the history and development of dual diagnosis treatment and learning about screening, assessment and basic treatment models, as well as understanding the current array of services for chemical dependency. Students will also learn how to identify state board requirements for becoming a Certified Drug and Alcohol Counselor (CADC) and Licensed Drug & Alcohol Counselor (LADC), as well as the requirements to qualify and register for the professional exams.

Core Curriculum/Core Requirements: [""] Prerequisites:

MHR 200 and MHR 205 or permission of the instructor.

Course Typically Offered:

Fall

Credits: 3

MHR 320 - Foundations of Mentoring and Supervision

Mentoring and Coaching explores adult development and learning theory, mentoring as well as coaching models and approaches and current research on stages in mentoring relationships. Students will practice skills associated with effective mentoring and coaching including establishing trust in collaborative mentor relationships; assessing and addressing the needs of the novice family coach; assessing coaching skills through observation; conferencing and supporting professional goal planning; assessing early training that contributes to the development of family coaching professionals.

Prerequisites:

Successful completion of Coaching and Mentoring Certificate I; SOC 320; MHR 300

Credits: 3

Meterology

MTR 101 - Meteorology

An introduction to the study of weather and weather-related phenomena including solar radiation, temperature, moisture, winds, air pressure, air masses, weather patterns, weather analysis, weather forecasting, climate, weather instruments, and computers. Upon completion of this course, a student should have a qualitative understanding of how many of the basic principles of physics, chemistry and mathematics are applied in meteorology; an ability to relate personal weather observations to data received from weather instruments and analyzed on standard weather charts; and a new set of general data analysis skills. The course is delivered asynchronously and the Web is used extensively.

Course Typically Offered:

Fall and Spring

Credits: 4

Military Science & Leadership

MSL 100 - Leadership Laboratory

Available only to students enrolled/contracted in the ROTC program. Cadets develop and improve military leadership skills by participating in hands on training. Includes continuous counseling and periodic evaluations of cadet performance. In case of class conflicts, an alternate leadership lab can be arranged with the permission of the Military Science Department Chairperson. (Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall & Spring

Credits: 0

MSL 101 - Foundations of Officership

Introduces students to issues and competencies that are central to a commissioned officer's responsibilities. Establish framework

for understanding officership, leadership, and Army values followed and life skills such as physical fitness and time management. No military obligation associated with this course.

Core Curriculum/Core Requirements: [""] Corequisites:
MSL 100

Course Typically Offered:
Fall & Spring

Credits: 1

MSL 102 - Basic Leadership

Establishes foundation of basic leadership fundamentals such as problem solving, communications, briefings and effective writing goal setting, techniques for improving listening and speaking skills and all introduction to counseling. No military obligation associated with this course.

Core Curriculum/Core Requirements: [""] Corequisites:
MSL 100

Course Typically Offered:
Spring

Credits: 1

MSL 105 - Leadership and Physical Fitness

A study of the United States Army physical fitness program, including aerobic exercises and strength-building programs, which provide actual leadership and fitness opportunities. Emphasis on the importance of exercise and fitness to the individual and development of a personalized training program.
(Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Corequisites:
MSL 100

Course Typically Offered:
Fall & Spring

Credits: 1

MSL 201 - Leadership and Decision Making

This course focuses on the Adaptability Army Learning Area. Students are exposed to critical and creative thinking scenarios where they will be required to find innovative solutions to problems through Troop Leading Procedures (TLP). The Army Profession is also stressed through leadership forums and a leadership self-assessment. No military obligation associated with this course.

Core Curriculum/Core Requirements: [""] Prerequisites:
MSL 100, MSL 101, MSL 102 (with exceptions)

Course Typically Offered:
Fall & Spring

Credits: 2

MSL 202 - Army Doctrine and Development

The course focuses on the Adaptability Army Learning Area. Students are exposed to critical and creative thinking scenarios where they will be required to find innovative solutions to problems through Troop Leading Procedures (TLP). The Army Profession is also stressed through leadership forums and a leadership self-assessment. No military obligation associated with this course.

Core Curriculum/Core Requirements: [""] Prerequisites:
MSL 100, 101, 102 (with exceptions)

Course Typically Offered:
Spring

Credits: 2

MSL 301 - Training Management and the Warfighting Functions

Focuses on Training Management and the Warfighting Functions. It is an academically challenging course where commissioned students study, practice and apply the fundamentals of Training Management and how the Army operates through the Warfighting

Functions. At the conclusion of this course, the student will be capable of planning, preparing and executing training for a squad conducting small unit tactics. This course includes one lab per week using peer facilitation overseen by MSL IV's, supervised by ROTC Cadre.

Core Curriculum/Core Requirements: ["Western Cultural Traditional"] Prerequisites:

Permission

Course Typically Offered:

Fall & Spring

Credits: 3

MSL 302 - Training Applied Leadership in Small Unit Operations

Focuses on applied leadership in small unit operations. It is an academically challenging course where the commissioned student will study, practice, and apply the fundamentals of direct level leadership and small unit tactics at the platoon level. At the conclusion of the course, the commissioned students will be capable of planning, coordinating, navigating, motivating and leading a platoon in the execution of a mission. This course includes a lab per week using peer facilitation overseen by MSL IV's, supervised by ROTC Cadre. Successful completion of this course will help prepare the commissioned student for the Cadet Summer Training Advance Camp they will attend during the summer at Fort, Knox, KY.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives and Ethics"] Prerequisites:

Permission

Course Typically Offered:

Spring

Credits: 3

MSL 350 - The Evolution of American Warfare

Historical analysis of American theory of warfare from colonial period through Operation Desert Storm and the applications of Force XXI. Social, economic and political influences are examined, tracing the evolution of the American military; the development of a global military strategy, imprint of the social fabric of the nation on the military as the United States evolved into a world power. Additionally, the student will examine the effects of institutions on organization structures. Technology and the practice of warfare is emphasized. Lec 3.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Social Contexts and Institutions"] Corequisites:

MSL 100

Course Typically Offered:

Fall & Spring

Credits: 3

MSL 390 - Cultural Understanding and Language Proficiency

The course is a 30 day deployment that has a mission that supports the United States Embassy's strategic plan for that particular country. Many of these missions are performed in VERY austere conditions that include unusual living conditions, foods, and risks of common traveler's illnesses. However, during these missions, students receive an educational experience unmatched by anything you will do in a college classroom.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"] Prerequisites:

Permission

Course Typically Offered:

Summer

Credits: 3

MSL 401 - The Army Officer

This course focuses on development of the Army Officer. It is an academically challenging course where one will develop knowledge, skills, and abilities to plan, resource, and assess training at the small unit level. The student will also learn about Army programs that support counseling subordinates and evaluating performance, values, and ethics, career planning, and legal responsibilities. At the conclusion of this course, students will be familiar with how to plan, prepare, execute, and continuously

assess the conduct of training at the company or field grade officer level. This class includes a lab per week which the student will oversee MSL III lesson facilitation and supervised by ROTC Cadre.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions' , 'Ethics and Writing Intensive"] Prerequisites:

MSL 301 and MSL 302

Course Typically Offered:

Fall

Credits: 4

MSL 402 - Company Grade Leadership

This course is an academically challenging course where students develop knowledge, skills, and abilities required of Junior Officers pertaining to the Army in Unified Land Operations and Company Grade Officer roles and responsibilities. This course includes reading assignments, homework assignments, small group assignments, briefings, case studies, practical exercises, a mid-term exam, and an Oral Practicum as the final exam. The Oral Practicum explores the student's knowledge of how they will be prepared for the Army Warfighting Challenges (AWFC) covered throughout the ROTC Advanced Course. Successful completion of this course will assist in preparing the cadet for the Basic Officer Leadership Course (BOLC B) and is a mandatory requirement for commissioning. This course includes a lab per week overseeing MSL III lesson facilitation and supervised by ROTC Cadre.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives and Social Contexts and Institutions Requirements."] Prerequisites:

MSL 401 or permission.

Corequisites:

MSL 100

Course Typically Offered:

Spring

Credits: 4

MSL 410 - Cadet Troop Leader Training

Course provides Cadets the opportunity to experience leadership in Army Table of Organization and equipment (TO& E) units throughout the Army over a three to four week period during the summer following the junior year. Cadets serve in lieutenant-level leadership positions in active-duty units around the world. Cadets must compete to be nominated by Cadre to participate in the program. Cadet Troop Leader Training is a follow-on training experience upon completion of the Cadet Leaders Course at Fort Knox, Kentucky during the summer between the Cadets' junior and senior years.

Core Curriculum/Core Requirements: ["Social Context and Institutions"] Prerequisites:

By Permission of the department of Military Science and Leadership. Requirements include: Must be a contracted Cadet, who has completed the Basic Course Requirements of Army ROTC (either MSL 101, MSL 102, MSL 201, and MSL 202, or Cadet Initial Entry Training, or the US Army Basic Training Course); have completed MSL 301 and MSL 302 and the 30 day Cadet Leaders Course.

Course Typically Offered:

Summer

Credits: 3

MSL 420 - Cadet Leadership Course

Course is a 30 day, scenario driven, training event focused on solving complex problems at the company-level. CLC builds upon work accomplished on campus and develops the student's small unit leadership ability in a tactical environment. Two part course. Part 1, focus on leadership tasks and simple tactics. Part 2, is a 5-7 day leadership challenge that will take place in a military setting in a field environment. The final evaluation will be informed by peer evaluations. Students will not be evaluated against a specific task standard but instead the instructors will assess their leadership traits in comparison to their peers and potential to perform in the Army. Class is 30 continuous days (24 hours a day, 7 days a week) in duration.

Core Curriculum/Core Requirements: [""] Prerequisites:

By Permission of the Professor of Military Science.

Course Typically Offered:

Summer

Credits: 3

MSL 498 - Investigations in Leadership and Mission Command

This course enables a student who has already received a minor in Military Science to continue their education in leadership.

Core Curriculum/Core Requirements: [""] Prerequisites:

By permission of the Professor of Military Science.

Course Typically Offered:

Spring and Fall

Credits: 3

Modern Languages and Classics

MLC 190 - Topics in Modern Languages

Specific topics determined by current interests of students and staff. May be repeated for credit if different topic is taken.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"] Course Typically Offered:

Fall & Spring

Credits: 1-3

MLC 210 - Introduction to Modern Languages

This course familiarizes students with fundamental questions of human language - what language is and how it works. This course studies where the modern languages come from, how they are related to one another and to ancient languages, and what happens when languages come into contact with one another. It serves as a basic introduction to linguistics as well as a primer in cultural and linguistic difference.

Class note: No prior knowledge of languages other than English is required or expected.

Core Curriculum/Core Requirements: ["Western Cultural Tradition"] Course Typically Offered:

Fall

Credits: 3

MLC 496 - Field Work in Modern Languages

Supervised work in either the public or the private sector which is relevant to the study and use of a modern language. Requirements include an initial proposal which shows the relevance of the work experience to the student's program in modern languages and a final report or paper.

Core Curriculum/Core Requirements: [""] Prerequisites:

An appropriate level of fluency as determined by the department.

Course Typically Offered:

Variable

Credits: 0 - 12

VOX 101 - Beginning Spoken Chinese I

Beginning Chinese language study using a combination of self-instruction and recitation. Class is taught by native speakers in the target language, and includes a high degree of cultural engagement.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"] Prerequisites:

Permission of Coordinator of Critical Language Program.

Course Typically Offered:

Variable

Credits: 3

VOX 106 - Beginning Spoken Italian I

Beginning Italian language study using a combination of self-instruction and recitation. Class is taught by native speakers in the target language, and includes a high degree of cultural engagement.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"] Prerequisites:

Permission of Coordinator of Critical Language Program.

Course Typically Offered:
Variable

Credits: 3

VOX 107 - Beginning Spoken Japanese I

Beginning Japanese language study using a combination of self-instruction and recitation. Class is taught by native speakers in the target language, and includes a high degree of cultural engagement.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"]

Prerequisites:
Permission of Coordinator of Critical Language Program.

Course Typically Offered:
Variable

Credits: 3

VOX 108 - Beginning Spoken Korean I

Beginning Korean language study using a combination of self-instruction and recitation. Class is taught by native speakers in the target language, and includes a high degree of cultural engagement.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"]

Prerequisites:
Permission of Coordinator of Critical Language Program.

Course Typically Offered:
Variable

Credits: 3

VOX 109 - Beginning Spoken Portuguese I

Beginning Portuguese language study using a combination of self-instruction and recitation. Class is taught by native speakers in the target language, and includes a high degree of cultural engagement.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"]

Prerequisites:
Permission of Coordinator of Critical Language Program.

Course Typically Offered:
Variable

Credits: 3

VOX 110 - Beginning Spoken Russian I

Beginning Russian language study using a combination of self-instruction and recitation. Class is taught by native speakers in the target language, and includes a high degree of cultural engagement.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"]

Prerequisites:
Permission of Coordinator of Critical Language Program.

Course Typically Offered:
Variable

Credits: 3

VOX 136 - Beginning Spoken Italian II

Beginning Italian language study using a combination of self-instruction and recitation. Class is taught by native speakers, and includes a high degree of cultural engagement.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"]

Prerequisites:
VOX 106 and Permission of Coordinator of Critical Language Program.

Course Typically Offered:
Variable

Credits: 3

VOX 137 - Beginning Spoken Japanese II

Beginning Japanese language study using a combination of self-instruction and recitation. Class is taught by native speakers, and includes a high degree of cultural engagement.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"]

Prerequisites:

VOX 107 and Permission of Coordinator of Critical Language Program.

Course Typically Offered:

Variable

Credits: 3

VOX 138 - Beginning Spoken Korean II

Beginning Korean language study using a combination of self-instruction and recitation. Class is taught by native speakers, and includes a high degree of cultural engagement.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"]

Prerequisites:

VOX 108 and Permission of Coordinator of Critical Language Program.

Course Typically Offered:

Variable

Credits: 3

VOX 139 - Beginning Spoken Portuguese II

Beginning Portuguese language study using a combination of self-instruction and recitation. Class is taught by native speakers, and includes a high degree of cultural engagement.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"]

Prerequisites:

VOX 109 and Permission of Coordinator of Critical Language Program.

Course Typically Offered:

Variable

Credits: 3

VOX 140 - Beginning Spoken Russian II

Beginning Russian language study using a combination of self-instruction and recitation. Class is taught by native speakers, and includes a high degree of cultural engagement.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"]

Prerequisites:

VOX 110 and Permission of Coordinator of Critical Language Program.

Course Typically Offered:

Variable

Credits: 3

VOX 167 - Beginning Spoken Japanese III

Beginning Japanese language study using a combination of self-instruction and recitation. Class focuses on oral communication and is taught by a native speaker. Includes a high degree of cultural engagement.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"]

Prerequisites:

VOX 137 and Departmental Consent

Course Typically Offered:

Variable

Credits: 3

VOX 190 - Critical Languages (Other)

Specific topics determined by current interests of students and staff. May be repeated for credit if different topic is taken.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"]

Prerequisites:

Permission of Critical Languages Coordinator.

Course Typically Offered:

Variable

Credits: 3

VOX 207 - Intermediate Spoken Japanese I

Intermediate Japanese language study using a combination of self-instruction and recitation. Class focuses on oral communication and is taught by a native speaker. Includes a high degree of cultural engagement.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"]

Prerequisites:

VOX 137 and Permission

Course Typically Offered:

Variable

Credits: 3

VOX 290 - Intermediate Critical Languages (Other)

Specific languages determined by current interests of students and staff. May be repeated for credit if taking a higher level of the same language or a different language.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"]

Prerequisites:

Permission

Course Typically Offered:

Variable

Credits: 3

Music

MUS 100 - Recital Laboratory

Experience in recital performance and in listening to performances of one's peers. May be repeated. Lab 1.

Core Curriculum/Core Requirements: [""] Prerequisites:

Required of music majors enrolled in applied music.

Course Typically Offered:

Fall & Spring

Credits: 0

MUS 103 - Applied Music: Private Lessons

Individual or group instruction in vocal or instrumental performance (drums, guitar, piano, violin, voice, winds, etc.). Each student, whether a beginner or a more experienced musician, is expected to progress at his or her own optimum rate. An in-house performance at semester's end (closed to the public) is the final for this course. Instruction on some instruments may be contingent upon faculty availability. May be repeated for credit.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:

Fall and Spring

Credits: 1

MUS 121 - Principles of Singing I

Emphasizes diction in the standard languages: French, German, Italian and English. Introduces the international phonetic alphabet and classical vocal literature, basic voice science, technique and performance practice.

Core Curriculum/Core Requirements: [""] Prerequisites:

Required for first-year voice majors in Music Education, Music Performance and Bachelor of Arts in Music programs; open to others by permission.

Course Typically Offered:

Fall

Credits: 2

MUS 122 - Principles of Singing II

Continuation of MUS 121.

Core Curriculum/Core Requirements: [""] Prerequisites:

Required for first-year voice majors in Music Education, Music Performance and Bachelor of Arts in Music programs; open to others by permission.

Course Typically Offered:

Spring

Credits: 2

MUS 150 - Majoring in Music

This course is intended to help first year music students during their first semester adjust to being in college in the School of Performing Arts at The University of Maine and the School of Performing Arts resources and develop skills designed to achieve success. Students will learn about their intended major, be introduced to department faculty and resources, set semester, year and career goals, and have an opportunity to practice performance skills in the performance space prior to their second semester required recital lab, and to learn more about their chosen profession of music.

Core Curriculum/Core Requirements: [""] Prerequisites:

Music Major Only

Course Typically Offered:

Fall

Credits: 1

MUS 201 - Applied Music Lessons

Applied music lessons. May be repeated for credit. Note: course topic number designates instrument or voice.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Prerequisites:

Bachelor of Arts in Music or Music minors.

Course Typically Offered:

Fall & Spring

Credits: 1

MUS 210 - Applied Music Lessons

Applied music lessons for the first four semesters. May be repeated for credit until Junior Standing Exam is passed. Note: Course Topic number designates instrument or voice. Applied Music 1-2.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Prerequisites:

Music Education or Music Performance majors.

Course Typically Offered:

Fall, Spring, Summer

Credits: 2

MUS 298 - Special Subjects in Music

Specific topics and approaches will be chosen jointly by interested students and the staff. This offering is designed to address advanced issues not covered in regular offerings.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Prerequisites:

Permission.

Course Typically Offered:

Fall, Spring, Summer

Credits: 1-3

MUS 310 - Voice Pedagogy/Literature

A presentation of literature and/or pedagogical materials for voice. Intended to prepare the professional performer who maintains adjunct activities as a studio teacher.

Core Curriculum/Core Requirements: [""] Prerequisites:

Required for Bachelor of Music in Performance majors; others by permission.

Course Typically Offered:

Variable

Credits: 1-2

MUS 312 - Piano Pedagogy

Piano Pedagogy is "The Art of Teaching Piano:" Students will analyze current methodology, research intermediate level repertoire, and develop a business plan and a studio policy. This course will provide the tools for hands-on teaching in a private setting.

Core Curriculum/Core Requirements: [""] Prerequisites:

Required for all piano majors and open to other pianists by permission.

Course Typically Offered:

Not Regularly Offered

Credits: 1

MUS 316 - Piano Literature I

Survey of the major works of the keyboard repertoire from the Baroque and Classical periods.

Core Curriculum/Core Requirements: [""] Prerequisites:

Required of piano majors, permission of the instructor required for all other students.

Course Typically Offered:

Not Regularly Offered

Credits: 1

MUS 318 - Piano Literature II

Survey of major works of the piano repertoire from the Romantic and Contemporary periods.

Core Curriculum/Core Requirements: [""] Prerequisites:

Required of piano majors, permission of the instructor required for all other students.

Course Typically Offered:

Not Regularly Offered

Credits: 1

MUS 350 - Applied Music Lessons

Applied music lessons after having passed the Junior Standing Exam. May be repeated for credit. Note: Course Topic number designates instrument or voice.

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior Standing Exam. Undergraduate Music Education major.

Course Typically Offered:

Fall & Spring

Credits: 2

MUS 450 - Applied Music Lessons

Applied music lessons after having passed the Junior Standing Exam. May be repeated for credit. Note: Course Topic number designates instrument or voice.

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior Standing Exam. Undergraduate Music Performance major.

Course Typically Offered:

Fall & Spring

Credits: 4

MUS 498 - Senior Project

A significant research paper, original composition, or by special permission, a lecture-recital presented in lieu of a recital. Accomplished under the guidance of an assigned faculty member during the senior year.

Core Curriculum/Core Requirements: ["Capstone Experience"] Prerequisites:
Senior standing. Required for all BA in Music majors.

Course Typically Offered:
Fall & Spring

Credits: 3

Music Education

MUE 207 - Voice Class

The systematic development of the principles of good singing through class method approach.

Prerequisites:
Music Education major or permission.

Course Typically Offered:
Fall

Credits: 2

MUE 209 - String Class

Basic performance and pedagogical skills pertaining to each of the four string instruments. Lab 4.

Core Curriculum/Core Requirements: [""] Prerequisites:
Music Education major or permission.

Course Typically Offered:
Fall

Credits: 2

MUE 210 - Introduction to Music Education

Provides exposure to music classrooms, primary and secondary. Covers philosophies of music education, programming and evaluation. Fingerprinting required for field experience component of this course.

Core Curriculum/Core Requirements: ["Ethics"] Prerequisites:
Open to all music majors and Department consent

Course Typically Offered:
Fall

Credits: 3

MUE 213 - Woodwinds I

First semester of a required two-semester course dealing with woodwind instrument pedagogy. Covers clarinet, saxophone and introduction to flute.

Core Curriculum/Core Requirements: [""] Prerequisites:
Music Education major or permission.

Course Typically Offered:
Fall

Credits: 1

MUE 214 - Woodwinds II

Second semester of a required two-semester course dealing with woodwind instrument pedagogy. Covers flute, oboe and bassoon. Lab 2.

Core Curriculum/Core Requirements: [""] Prerequisites:
MUE 213, Music Education major or permission.

Course Typically Offered:
Spring

Credits: 1

MUE 217 - Brass Class

Basic performance and pedagogical skills pertaining to the brass instruments. Lab 4.

Core Curriculum/Core Requirements: [""] Prerequisites:

Music Education major or permission.

Course Typically Offered:

Spring

Credits: 2

MUE 222 - Percussion Class

Basic performance and pedagogical skills pertaining to the percussion instruments. Lab 4.

Core Curriculum/Core Requirements: [""] Prerequisites:

Music Education major or permission.

Course Typically Offered:

Spring

Credits: 2

MUE 320 - General Music Methods: Elementary

Methods, materials, organization and administration of the K-6 classroom music curriculum. Includes classroom instruments, field experiences, materials and methods for gifted and talented and students with special needs.

Core Curriculum/Core Requirements: [""] Prerequisites:

MUL 202, MUY 212, and MUE 210

Course Typically Offered:

Fall

Credits: 3

MUE 321 - General Music Methods: Secondary

Methods, materials, organization and administration of the 6-12 classroom music curriculum. Includes classroom instruments, field experiences, materials and methods for gifted and talented and students with special needs.

Core Curriculum/Core Requirements: [""] Prerequisites:

MUE 320, MUL 202, MUY 212, and MUE 210

Course Typically Offered:

Spring

Credits: 3

MUE 401 - Organization and Administration of Secondary Music Performance Programs

This course will cover the organization, scheduling, and feeder-system techniques of beginning band, choral, and orchestral programs through high-school level instruction. Areas of study will include curriculum, pedagogical techniques, organization of space and materials, budgeting, materials acquisition, assessment, music education philosophy, finding employment, and interview techniques.

Core Curriculum/Core Requirements: [""] Prerequisites:

MUE 209, MUE 213, MUE 217, MUE 222 and MUP 340

Course Typically Offered:

Fall

Credits: 3

MUE 403 - Instrumental Laboratory

Performance on secondary instruments in a heterogeneous setting. Required for those enrolled in MUE 401 but may be taken separately. Instrumental majors must attend Instrumental Laboratory for two of the three fall semesters following their first-year student year. Lab 1. Offered every fall.

Core Curriculum/Core Requirements: [""] Prerequisites:

Music Education majors with sophomore standing.

Course Typically Offered:

Fall

Credits: 1

Music History

MUH 150 - History of Jazz

The History of Jazz explores the origin and development of the improvised American form of music popularly known as Jazz. Special emphasis will be placed on African-American culture-including African traditions- in its broader historical context; how this culture, interacting with the many and diverse elements of American and (imported) European general and musical cultures, led to the development of Jazz. The course will cover its social, as well as the artistic significance. We will study and analyze various Jazz styles; especially through recorded and historical film and video tape, performances by the music's major innovators and practitioners. In addition, we will examine the most relevant and original contributions by members of all the various American ethnic and religious groups which were influenced by and adopted/adapted African-American musical culture. We will also take into consideration, influential on Jazz-related new world phenomena from the Caribbean and Latin America; for example, Afro-Cuban rhythms. Jazz' significant global influence will be discussed, an influence initiated by African-Americans who toured and lived in Europe from the end of WWI to the present. If this course was taken under as a topics course in MUS 298, it cannot be repeated for credit.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives and Artistic and Creative Expressions"] Course Typically Offered:

Spring

Credits: 3

MUH 201 - History of Western Music I

The history of music from antiquity to approximately 1750 with a technical study of the significant musical trends.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

Music major and MUL 202 or permission of instructor.

Course Typically Offered:

Fall

Credits: 2

MUH 202 - History of Western Music II

The history of music from 1750 to the present day with a technical study of the significant musical trends.

Core Curriculum/Core Requirements: [""] Prerequisites:

MUL 200 and MUL 202 or permission.

Course Typically Offered:

Spring

Credits: 2

MUH 450 - Topics in Music History

Selected topics examine specific musical genres, style periods, composers, and/or works of music such as opera, film music, degenerate music, symphony history, sonata form history, etc. Through reading, listening, and discussion, these courses build historical expertise, improve aural perceptions of form and genre, and encourage a deeper understanding of music as a cultural expression. Topics rotate, so please check the specific topic being offered each semester. This course is designed for senior-level music performance and music education majors and will run concurrently with the MUH 550/650 course on the same topic. This course is open to music majors who have passed the required undergraduate music history sequence (MUL 200, MUH 201, MUH 202) and are interested in further study.

Prerequisites:

MUH 202

Course Typically Offered:

Variable

Credits: 3

Music Literature

MUL 101 - The Art of Listening to Music: Elements

Designed for the student with no previous experience in music. Provides a working vocabulary of terms and listening experiences intended to expand the basic understanding of the art form.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:

Fall, Spring, Summer

Credits: 3

MUL 104 - Music in Film: 20th Century & Beyond

An Interdisciplinary Fine Arts course designed to introduce students to the wide scope of music supporting one hundred years of film (1915-2015). The goal is a deepened musical literacy within the context of the film medium. The scope includes music already recognized by the student but not known (i.e. The Shining, 2001: A space Odyssey) to music by contemporary artists (i.e. Trent Reznor, Beck) to the great tradition of orchestral film composers like Bernard Hermann and James Horner.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:

Variable

Credits: 3

MUL 150 - Rock'n Roll and other 20th Century Music

Designed for students with no previous experience in music. Studies the precursors of Rock'n Roll such as ragtime, jazz, country and blues. Discusses how this music reflected and changed American and world cultures. Also examines other music that branched out of western music in the late twentieth century.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:

Variable

Credits: 3

MUL 200 - Music Literature Laboratory

Introduction to music research, academic writing in music, digital music, and world music. Extensive use of electronic information retrieval systems. Usually taken in first year to develop computer proficiency.

Core Curriculum/Core Requirements: [""] Prerequisites:

Music majors only.

Course Typically Offered:

Fall & Spring

Credits: 1

MUL 202 - The Art of Listening to Music: Historical Survey

Designed for the student with some previous experience in music. Primarily an historical survey of music from 1600 to the present, with some attention to musical terms and listening experiences. Music listening assignments to be completed in Fogler Library.

Core Curriculum/Core Requirements: ["Western Cultural Tradition"] Prerequisites:

MUL 101 or permission.

Course Typically Offered:

Fall

Credits: 3

Music Organizations and Ensembles

MUO 101 - University Singers

Rehearsal and performance of choral concert repertoire. Extended concert tours. Five hours of rehearsal a week. Attendance at all rehearsals and public performances required. May be repeated for credit. Lab 5.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Prerequisites:

audition (requires sight reading ability).

Course Typically Offered:

Fall & Spring

Credits: 0-1

MUO 103 - Oratorio Society

Rehearsal and performance of major choral works. Attendance at all rehearsals and public performances required. May be repeated for credit. You must sign up for 1 credit if you want to receive credit towards general education requirements. Audition required.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Prerequisites:
Permission via an audition. Must sign up for the credit bearing section to receive credit towards general education requirements.

Course Typically Offered:
Fall & Spring

Credits: 0-1

MUO 109 - Collegiate Chorale

Rehearsal and performance of choral music appropriate for choral singers with limited background and training. No audition required; open to all students. Attendance at all rehearsals and public performances required. May be repeated for credit. Lab 2.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:
Fall & Spring

Credits: 0-1

MUO 111 - Marching Band

This course is open to students who play piccolo, flute, clarinet, saxophone, trumpet, horn (mellophone), trombone, euphonium (marching baritone), tuba (sousaphone), or percussion. Students will perform at home football games and select off-campus events. The course begins one week before the start of fall semester classes, with participation in preseason rehearsals required. Attendance at all rehearsals and performances is mandatory. This course may be repeated for credit.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:
Fall

Credits: 0-1

MUO 112 - Concert Band

Rehearsal and performance (on and off campus) of a variety of concert band literature appropriate for the general University instrumentalist. Attendance required at rehearsals and performances. May be repeated for credit. Lab 3. (Spring semester only.)

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:
Spring

Credits: 0-1

MUO 113 - Pep Band

This course is open to students who play piccolo, flute, clarinet, saxophone, trumpet, horn (mellophone), trombone, euphonium (marching baritone), tuba (sousaphone), or percussion. Students will perform at home hockey and basketball games and select off-campus events. Attendance at all rehearsals and performances is mandatory. This course may be repeated for credit.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:
Fall & Spring

Credits: 0-1

MUO 114 - Symphonic Band

Rehearsal and performance of the most challenging and significant band literature. Attendance required at rehearsals and performances. Occasional touring on class days. May be repeated for credit. Lab 3.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Prerequisites:
Audition.

Course Typically Offered:
Fall & Spring

Credits: 0-1

MUO 121 - University Orchestra

Rehearsal and performance of standard orchestral repertoire. Attendance at all rehearsals and public performances required. May be repeated for credit. Lab 4.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Prerequisites:

Audition.

Course Typically Offered:
Fall & Spring

Credits: 0-1

MUO 132 - Opera Workshop

Rehearsal and performance of standard opera repertory. May be repeated for credit. Lab 3.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Prerequisites:
Audition.

Course Typically Offered:
Fall & Spring

Credits: 0-1

MUO 141 - Brass Ensemble

The study and performance of chamber music for brass instruments. May be repeated for credit.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Prerequisites:
Audition required. Must sign up for the credit bearing section to receive credit towards general education requirements.

Course Typically Offered:
Fall & Spring

Credits: 0-1

MUO 142 - Low Brass Ensemble

Low Brass Ensemble is the laboratory extension of applied lessons wherein students are expected to apply concepts learned in the lesson to the ensemble situation. The low brass ensemble is also open to advanced campus trombonists, euphoniumists, and tubists who are not enrolled in applied study but can contribute positively to the ensemble.

Course Typically Offered:
Fall and Spring

Credits: 0-1

MUO 143 - UMAINE Jazz Ensemble

Rehearsal and performance of music for the large (16-24) jazz ensemble. Membership through audition. Attendance at all rehearsals and performances required. May be repeated for credit. Applied Music 1.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:
Fall & Spring

Credits: 0-1

MUO 149 - Chamber Music

The study and performance of chamber music. May be repeated for credit. Lab 2.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Prerequisites:
Permission of instructor.

Course Typically Offered:
Fall & Spring

Credits: 0-1

MUO 150 - Percussion Ensemble

Performs chamber music composed primarily for percussion instruments. May be repeated for credit. Lab 2.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Prerequisites:
Percussion performance experience (i.e. snare drum or keyboard percussion or timpani) and the ability to read music; permission of instructor. Must sign up for the credit bearing section to receive credit towards general education requirements.

Course Typically Offered:
Fall & Spring

Credits: 0-1

MUO 155 - Chamber Jazz Ensemble

The rehearsal and performance of music for the Chamber Jazz Ensemble, that is, a small group consisting of one or several pitched instruments in "C", "Bb", "Eb", or "C bass clef" only , capable of a full chromatic scale with keyboard accompaniment (keyboardists must bring their own) for participation in the course. Vocalists as well, who elect the ensemble, will need to play a pitched musical instrument that meets the criteria outlined above. Attendance at all rehearsals and public performances required. In addition, memorization of 4-8 works from the standard jazz repertory will be required. May be repeated for credit. Lab 1.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Prerequisites:

Permission of instructor.

Course Typically Offered:

Fall & Spring

Credits: 0-1

MUO 160 - Black Bear Men's Chorus

Rehearsal and performance of men's choral repertoire. Ensemble with members from campus and community. Short audition used for placement within the ensemble only. Attendance at all rehearsals and public performances required. May be repeated for credit.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:

Fall & Spring

Credits: 0-1

Music Performance

MUP 205 - Piano Class I

Designed to provide a basic command of the keyboard. Recommended especially for students preparing to take the proficiency examination in secondary piano. May be taken as an introduction to piano performance for the beginning student. Lab 2.

Core Curriculum/Core Requirements: [""] Prerequisites:

Music majors only.

Course Typically Offered:

Fall

Credits: 1

MUP 206 - Piano Class II

A continuation of MUP 205, designed to provide basic command of the keyboard. Lab 2.

Core Curriculum/Core Requirements: [""] Prerequisites:

Music majors only.

Course Typically Offered:

Spring

Credits: 1

MUP 215 - Piano Class III

A continuation of MUP 205, MUP 206 designed to complete the proficiency examination in secondary piano. Lab 2.

Core Curriculum/Core Requirements: [""] Prerequisites:

MUP 205, MUP 206 or permission. Music majors only.

Course Typically Offered:

Fall

Credits: 1

MUP 216 - Piano Class IV

A continuation of MUP 205, MUP 206 designed to complete the proficiency examination in secondary piano. Lab 2.

Core Curriculum/Core Requirements: [""] Prerequisites:

MUP 205, MUP 206 or permission. Music majors only.

Course Typically Offered:

Spring

Credits: 1

MUP 251 - Collaborative Piano

The study of Collaborative Techniques, vocal and instrumental, with emphasis on developing sight reading, listening skills and stylistic awareness.

Core Curriculum/Core Requirements: [""] Prerequisites:

Required of all piano majors and open to other advanced pianists, by permission.

Course Typically Offered:

Not Regularly Offered

Credits: 1

MUP 340 - Basic Conducting

Introduction to conducting techniques with emphasis on practical application to vocal and instrumental groups. Lab 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

MUY 212.

Course Typically Offered:

Fall

Credits: 3

MUP 341 - Choral Conducting and Literature

Introduces basic choral conducting and studies of problems in the organization and training of choral groups.

Core Curriculum/Core Requirements: [""] Prerequisites:

MUP 340.

Course Typically Offered:

Spring

Credits: 3

MUP 345 - Instrumental Conducting and Literature

Introduces basic instrumental conducting, and study of problems in the organization and training of bands and orchestras.

Core Curriculum/Core Requirements: [""] Prerequisites:

MUP 340.

Course Typically Offered:

Spring

Credits: 3

MUP 401 - Performance-Secondary Instrument I

Applied study in voice, keyboard, strings, winds and percussion instruments as a secondary applied area for the graduate student. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

Music majors only; permission.

Course Typically Offered:

Fall

Credits: 2

MUP 402 - Performance-Secondary Instrument II

A continuation of MUP 401. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

MUP 401 or permission.

Course Typically Offered:

Spring

Credits: 2

MUP 405 - Keyboard Musicianship

A comprehensive application of the study of harmony to the keyboard, directed towards the development of sight-reading and accompanying skills, keyboard score-reading, transposition, harmonization at sight, improvisation and the realization of figured bass or other chording schemes.

Core Curriculum/Core Requirements: [""] Prerequisites:

MUP 216, MUY 212, MUY 214 or equivalent level, including completion of piano proficiency requirements.

Course Typically Offered:

Fall

Credits: 2

Music Theory

MUY 101 - Fundamentals of Music

An elemental study of the dimensions and basic characteristics of musical sounds, with primary emphasis upon the development of skills and concepts through creating, performing and analysis.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:

Fall, Spring, Summer

Credits: 3

MUY 111 - Elementary Harmony I

Diatonic chordal relationships through written work, analysis, and keyboard application.

Core Curriculum/Core Requirements: [""] Prerequisites:

Music major and permission.

Course Typically Offered:

Fall

Credits: 2

MUY 112 - Elementary Harmony II

A continued study of chordal relationships. Primarily for music majors.

Core Curriculum/Core Requirements: [""] Prerequisites:

MUY 111 and permission.

Course Typically Offered:

Spring

Credits: 2

MUY 113 - Elementary Sight Singing and Ear Training I

Sight singing, ear training and dictation.

Core Curriculum/Core Requirements: [""] Prerequisites:

MUY 101 or permission.

Corequisites:

MUY 111

Course Typically Offered:

Fall

Credits: 2

MUY 114 - Elementary Sight Singing and Ear Training II

Sight singing, ear training and dictation.

Core Curriculum/Core Requirements: [""] Prerequisites:

MUY 113.

Course Typically Offered:

Spring

Credits: 2

MUY 211 - Advanced Harmony I

A continuation of MUY 112. Chromatic chordal relationships and 20th century harmonic practice.

Core Curriculum/Core Requirements: [""] Prerequisites:
MUY 112.

Course Typically Offered:
Fall

Credits: 2

MUY 212 - Advanced Harmony II

A continuation of MUY 112. Chromatic chordal relationships and 20th century harmonic practice.

Core Curriculum/Core Requirements: [""] Prerequisites:
MUY 211.

Course Typically Offered:
Spring

Credits: 2

MUY 213 - Advanced Sight Singing and Ear Training I

A continuation of MUY 114.

Core Curriculum/Core Requirements: [""] Prerequisites:
MUY 114.

Course Typically Offered:
Fall

Credits: 2

MUY 214 - Advanced Sight Singing and Ear Training II

A continuation of MUY 114.

Core Curriculum/Core Requirements: [""] Prerequisites:
MUY 213.

Course Typically Offered:
Spring

Credits: 2

MUY 310 - Jazz Theory Fundamentals

This course introduces the basic fundamentals of jazz theory, with applications to melodic improvisation, jazz piano techniques, and arranging for small jazz ensembles. It will cover jazz terminology, chord symbols and progressions, scales and modes, ear training, common jazz forms, melodic writing, instrumentation, and basic piano voicings.

Core Curriculum/Core Requirements: [""] Prerequisites:
MUY 112 and MUP 206

Course Typically Offered:
Fall

Credits: 3

MUY 315 - Twentieth Century Musical Techniques

Techniques for structural analysis of post-impressionist through contemporary music.

Core Curriculum/Core Requirements: [""] Prerequisites:
MUY 212 or permission.

Course Typically Offered:
Not Regularly Offered

Credits: 2

MUY 410 - Jazz Arranging

The study of arranging for small and large jazz ensembles.

Core Curriculum/Core Requirements: [""] Prerequisites:
MUY 310

Course Typically Offered:
Fall, Even Years

Credits: 3

MUY 411 - Jazz Piano

The study of jazz keyboard playing in a solo setting, as well as small and large jazz ensembles.

Core Curriculum/Core Requirements: [""] Prerequisites:
MUY 310

Course Typically Offered:
Spring, Even Years

Credits: 3

MUY 412 - Jazz Pedagogy

This course allows students to build a foundation for teaching jazz music in a school setting and in a private studio. It covers techniques for individual performance and improvisation, as well as arranging for and rehearsing small and large ensembles. Students will gain familiarity with the standard instruments used in a jazz band and learn techniques for helping students use these instruments effectively in a jazz ensemble setting.

Core Curriculum/Core Requirements: [""] Prerequisites:
MUY 310

Course Typically Offered:
Spring, Odd Years

Credits: 3

MUY 422 - Tonal Counterpoint

A study of contrapuntal techniques as practiced by composers of the 18th and 19th centuries.

Core Curriculum/Core Requirements: [""] Prerequisites:
MUY 112 or permission.

Course Typically Offered:
Not Regularly Offered

Credits: 2

MUY 451 - Form and Analysis

Analysis of the structure of musical compositions of various historical periods, including the study of common forms found in the standard concert repertoire.

Core Curriculum/Core Requirements: [""] Prerequisites:
MUY 212.

Course Typically Offered:
Not Regularly Offered

Credits: 3

MUY 452 - Orchestration

Study and practical application of scoring techniques for various instrumental groups, including orchestral and band transcriptions and reductions.

Core Curriculum/Core Requirements: [""] Prerequisites:
MUY 212.

Course Typically Offered:
Spring

Credits: 3

MUY 461 - Composition I (Small Forms)

Composition in the Variation Forms, including ostinato, ground motive, passacaglia, chaconne and theme with variations.

Core Curriculum/Core Requirements: [""] Prerequisites:
MUY 212 or permission.

Course Typically Offered:
Variable

Credits: 2

Native American Studies

NAS 101 - Introduction to Native American Studies

Introduces the interdisciplinary perspective of Native American Studies. Examines the experience of Native Americans, past and present, focusing on diverse and distinct cultural areas and historical events. Explores Native Americans' integral part in the development of the Americas and the European impact on traditional Native societies, historically and currently. Lec 3.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions and Cultural Diversity and International Perspectives Requirements."] Course Typically Offered:
Fall & Spring

Credits: 3

NAS 102 - Introduction to Wabanaki Culture, History and Contemporary Issues

Examines the world view, way of life, history, art, literature and contemporary issues of the Native nations that make up the Wabanaki Confederacy. The culture, philosophy and creation stories of the individual tribes, including the Penobscot, Passamaquoddy, Maliseet and Micmac tribes are explored. In addition, concepts such as sovereignty, treaty rights and tribal government are discussed. NAS 101 is recommended.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions and Cultural Diversity and International Perspectives"] Course Typically Offered:
Variable

Credits: 3

NAS 201 - Topics in Native American Studies

Provides an interdisciplinary, intermediate level of study of selected topics regarding American Indians in more detail and complexity.

Core Curriculum/Core Requirements: [""] Prerequisites:
NAS 101 or permission.

Course Typically Offered:
Fall & Spring

Credits: 1-3

NAS 202 - Wabanaki Languages I

Provides an interdisciplinary, introductory level of study of selected topics regarding American Indians in more detail and complexity. While there are distinct Indigenous languages of the Native nations that make up the Wabanaki Confederacy, these languages are similar. This course will offer an opportunity for students to begin to build their Wabanaki vocabulary and develop skills in pronunciation and oral communication, as well as discussing the history of Wabanaki words. Taught by a Wabanaki speaker. If this course was taken as a topics course in NAS 201, it cannot be repeated for credit.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"] Prerequisites:
NAS 101 or permission

Course Typically Offered:
Fall and Spring

Credits: 3

NAS 203 - Wabanaki Language II

Provides an interdisciplinary, intermediate level of study of selected topics regarding American Indians in more detail and complexity. The course is designed to utilize the basic vocabulary learned in Wabanaki Languages I and begin using phrases and dialogues for conversational interactions. Although the primary languages utilized will be Passamaquoddy and Maliseet, other Wabanaki Languages will be referenced. If this course was taken as a topics course in NAS 201, it cannot be repeated for credit.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"] Prerequisites:

NAS 202 or permission

Course Typically Offered:

Spring

Credits: 3

NAS 220 - North American Indian History

An introductory history of North American Indians, from before European contact to the present. Within a broad chronological framework, the course will look at critical themes in American Indian history; American Indians prior to contact; cultural contact; treaty making, treaty rights, sovereignty; impact of government policies on Native populations; and contemporary issues.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives and Social Context and Institutions"] Course Typically Offered:

Spring

Credits: 3

NAS 230 - Maine Indian History in the Twentieth Century

Too often Native people are relegated to the distant past, leading society to have misunderstandings about indigenous communities today. This course introduces students Wabanaki history of Maine and eastern Canada in the twentieth century. The term "Wabanaki" is an all-inclusive term that refers primarily to Mi'kmaqs, Maliseets, Passamaquoddies, and Penobscots, along with other Abenaki groups. The tribal homeland encompasses present-day northern New England, the Maritime Provinces, and southern Quebec. We will explore the variety of ways Wabanaki experiences deviated from the national narrative on American Indians and examine when Native challenges were in lockstep with western tribes in the twentieth century. This course considers the interplay between cultural traditions and modernity. The regional scope highlights local developments. We will investigate prominent themes of resistance, accommodation, activism, sovereignty, and cultural survival. Wabanaki people were positive actors in their own affairs, not passive pawns subdued by forces beyond their control. This course will provide context to contemporary challenges Wabanaki people confront. As one tribal historian astutely noted, "I can never give up hope, as my ancestors never gave up hope."
HTY 222 and NAS 230 are identical courses.

Core Curriculum/Core Requirements: ["Population and Environment and Cultural Diversity and International Perspectives"] Course Typically Offered:

Variable

Credits: 3

NAS 240 - Engaging Foodways

Food can study anything, from our identity to how issues like class, race, and gender create inequities within U.S. Food systems. Engaging foodways is meant to capture the beautiful aspects of food, while also calling to attention food issues in ways that provides students with problem solving skills. The first area students work in centers food and identity, we use communication literature to see food as a social construct using family recipes. The next area focuses on issues related to food insecurity. Students utilize ethnographic style methods to learn how engaged experiences can be used to support action. The last area recognizing that food structures do not work, we center literature on food justice and sovereignty to show how students can engage in policy conversations about food.

Course Typically Offered:

Spring

Credits: 3

NAS 270 - Gender in Native American Cultures

This course explores the concept of gender in indigenous communities of North America. Course materials will explore historical and contemporary perspectives of gender and sexual orientation to better understand how Native communities define and practice gender. NAS 101 or WGS 101 is a recommended prerequisite. (WGS 270 and NAS 270 are identical courses.)

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives and Social Context and Institutions"] Course Typically Offered:

Spring

Credits: 3

NAS 295 - American Indians and Climate Change

Introduces students to the Indian cultures of the United States and U.S. territories in the South Pacific, paying particular attention to

the issue of climate change and how it is impacting indigenous peoples in these regions; also examines climate effects on natural resource conditions as it relates to Indian cultures and the roles indigenous groups play in policy responses to climate change.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Variable

Credits: 3

NAS 298 - Directed Study in Native American Studies

Individual study, research, field experience and writing projects in Native American Studies. May be repeated for credit. Arranged upon request.

Core Curriculum/Core Requirements: [""] Prerequisites:
NAS 101 and permission.

Course Typically Offered:
Fall & Spring

Credits: 1-6

NAS 401 - Advanced Topics in Native American Studies

Provides an advanced level of study of selected topics regarding American Indians in great detail and specificity.

Prerequisites:
NAS 101, junior standing and permission.

Course Typically Offered:
Spring, Summer

Credits: 3

NAS 451 - Native American Cultures and Identities

In this seminar, we will examine Native American cultures and identities (past and present), with special attention to reading works by Native authors and examining topics such as the effects of colonialism on Native Americans, representations of Native Americans in popular culture, new biological technologies like DNA testing that shape understandings of Native identities, the role of traditional cultures in Native communities, tribal sovereignty and economic development in the twenty-first century, and indigenous environmental perspectives.

Prerequisites:
ANT 102 or NAS 101 permission

Course Typically Offered:
Spring, Even Years

Credits: 3

NAS 498 - Directed Study in Native American Studies

Advanced individual study, research, field experiences and writing projects in Native American Studies. May be repeated for credit. Arranged upon request.

Core Curriculum/Core Requirements: [""] Prerequisites:
NAS 101, one additional course within the Native American Studies minor, junior or senior standing, and permission.

Course Typically Offered:
Fall, Spring, Summer

Credits: 1-6

Naval Science

NAV 100 - Naval Science Laboratory

Developed to ensure coverage of Professional Core Competency (PCC) objectives not included in formal Naval Sciences courses. Topics deal with general Navy training, naval warfare doctrine, employment of naval forces, joint operations, and midshipmen professional development. (Pass/Fail Grade only).

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission of instructor.

Course Typically Offered:
Fall & Spring

Credits: 0

NAV 101 - Introduction to Naval Science

Emphasizes organizational structure, warfare components, and assigned roles/missions of the U.S. Navy/USMC. Covers all aspects of Naval Service from its relative position within DoD, to the specific warfare communities/career paths. Also includes basic elements of leadership/Navy Core Values. Designed to give student initial exposure to many elements of Naval culture. Also provides conceptual framework/working vocabulary for student to use on summer cruise. Laboratories are also provided to include alcohol and drug abuse prevention, detection and control, tobacco use cessation/prevention, suicide and HIV/AIDs prevention.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall

Credits: 2

NAV 102 - Naval Ships Systems I (Engineering)

Detailed study of ship characteristics and types including ship design, hydrodynamic forces, stability, compartmentation, propulsion, electrical and auxiliary systems, interior communications, ship control and damage control. Included are basic concepts of theory/design of steam, gas turbine, diesel and nuclear propulsion. Case studies on leadership/ethical issues in the engineering area are also covered.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Spring, Even Years

Credits: 3

NAV 201 - Naval Ships Systems II (Weapons)

Outlines theory and employment of weapons systems. Student explores the processes of detection, evaluation, threat analysis, weapon selection, delivery, guidance and explosives. Fire control systems and major weapons types are discussed including capabilities and limitations. The physical aspects of radar and underwater sound are described. Facets of command, control, communications, computers and intelligence are explored as means of weapons system integration. The tactical and strategic significance of command and control warfare and information warfare is discussed. Supplemented with review/analysis of case studies involving the moral and ethical responsibilities of leaders in the employment of weapons. Other major themes in leadership include honor, courage, integrity, loyalty, responsibility, authority, accountability, character development, crisis decision making, and conflict resolution.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Spring, Odd Years

Credits: 3

NAV 202 - Sea Power and Maritime Affairs

The history of navies in the modern period (c. 1500 to the present) including use of naval forces in the achievement of national goals, development of naval technology and tactics, effects of naval construction and manning upon society, sociology of navies, comparison of naval policies in various states, the current balance sheet of navies. (Additional work will be required for Navy ROTC students.)

Core Curriculum/Core Requirements: ["Western Cultural Traditions, Social Context and Institutions"] Credits: 3

NAV 301 - Navigation

In-depth study of the theory, principles, procedures and application of plotting, piloting and celestial navigation. Students learn piloting techniques, the use of charts, the use of visual and electronic aids, and theory of operation of both magnetic and gyro compasses. Celestial navigation topics include celestial coordinate system, the navigation triangle and an overview of the sight reduction process. Students develop practical skills in plotting and celestial navigation. Other topics include tides, currents, effects of wind/weather, voyage planning and application and understanding of international/inland rules of navigation. Supplemented with review/analysis of case studies involving actual navigation.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall, Even Years

Credits: 3

NAV 302 - Naval Operations and Seamanship

Study of relative motion, vector-analysis theory, formation tactics and ship employment. Also included are introductions to naval operations and operations analysis, ship behavior and characteristics in maneuvering, applied aspects of ship handling, afloat

communications, and command and control. Supplemented with a review/analysis of case studies involving moral/ethical/leadership issues pertaining to the concepts listed above.

Core Curriculum/Core Requirements: [""] Prerequisites:

NAV 301 and permission of instructor.

Course Typically Offered:

Fall, Odd Years

Credits: 3

NAV 303 - Leadership and Management

Comprehensive study of organizational behavior and management. Topics include survey of management functions of planning, organizing and controlling; an introduction to individual/group behavior in organizations; and extensive study of motivation/leadership. Major behavior theories explored in detail. Practical applications explored through using experiential exercises, case studies and laboratory discussions. Other topics include decision making, communication, responsibility, authority, accountability and total quality leadership.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Spring

Credits: 3

NAV 304 - Leadership and Ethics

Sharpens the understanding of some important issues about morality and develops moral reasoning ability. Integrates an intellectual exploration of Western moral traditions and ethical philosophy with topics and issues confronting newly commissioned officers as military leaders. Provides a foundation in major moral traditions including Utilitarianism, Kantian ethics, Constitutional Law, Natural Law theory, and virtue ethics. Students will discuss the ethics of war through discussions of the Just War Theory (Jus Ad Bellum) and the Conduct of War (Jus in Bello). Readings will be from various fields, including leadership, ethics, philosophy, theology, and law and will be enhanced through case studies, video segments, and current issues in the news.

Core Curriculum/Core Requirements: ["Ethics"] Prerequisites:

Permission of instructor. It is recommended that students have junior or senior standing, however they need not be in the NROTC program.

Course Typically Offered:

Spring

Credits: 3

NAV 310 - Evolution of Warfare

Traces development of warfare from dawn of recorded history to the present, focusing on the impact of major military theorists, strategists, tacticians and technological developments. Students acquire a basic sense of strategy, develop an understanding of military alternatives, and see the impact of historical precedence on military thought and actions.

Core Curriculum/Core Requirements: ["Western Cultural Tradition' , 'Social Contexts and Institutions and Cultural Diversity and International Perspective"] Prerequisites:

permission of instructor.

Course Typically Offered:

Spring

Credits: 3

NAV 411 - Fundamentals of Maneuver Warfare

Fundamentals of Maneuver Warfare: [Replaces NAV 410: Amphibious Warfare] Broad aspects of warfare and their interactions with maneuver warfare doctrine. Focus on the United States Marine Corps as the premier maneuver warfare fighting institution. Historical influences on current tactical, operational, and strategic implications of maneuver warfare practices. Case studies. Enrollment preference to NROTC students.

Core Curriculum/Core Requirements: [""] Prerequisites:

Permission of instructor.

Course Typically Offered:

Spring

Credits: 3

New Media

NMD 100 - Introduction to New Media

An exploration into the history, concepts, and modern practices of new media. Students will learn what defines new media, what they are, how they are produced, and how they challenge the way we think, create, and relate to our society/environment. This course will examine the benefits that emerging technologies afford, while also considering the challenges and consequences their adoption creates. Topics include computing, the web/internet, media production, digital narrative, microelectronics, additive manufacturing, and ethics in a digital era.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Course Typically Offered:
Fall

Credits: 3

NMD 101 - Digital Audio Production and Podcasting

This course is designed to introduce students to the extensive opportunities within the field of Digital Audio Recording such as music, podcasting, and radio. With a strong theoretical foundation concerning computer set-up and operation, the students will explore professional production within Freeware, GarageBand, ProTools and Digital Performer standards.

Course Typically Offered:
Variable

Credits: 3

NMD 104 - New Media Design

An introduction to the principles of digital design. Topics include illustration, graphic design, and image manipulation pertaining to both vector and raster-based imagery. Students will produce hands-on projects for critique such as abstracts, logos, portraits, posters, and digital paintings.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:
Fall

Credits: 3

NMD 105 - Creative Coding I

Introduction to programming as a new media art and design practice. Use of creative processes in programming by writing code to generate images, sound, animations, text, and interactivity. Use of computing environments such as processing for creating and developing software "sketches" that allow visual expression. Understand and control how data is represented in computers (data types and structures), instruct computer how make decisions on the fly (conditionals), how and when to repeat instructions (loops), and structure and organize computer code (functions and objects).

Core Curriculum/Core Requirements: ["Quantitative Literacy"] Course Typically Offered:
Spring

Credits: 3

NMD 106 - Time-Based Media

An introduction to the principles of digital filmmaking, video, and audio production. Students will learn how to shoot and edit their own footage through a variety of creative projects. Topics include camera operation, field audio, lighting, cinematography, and visual storytelling.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Spring

Credits: 3

NMD 160 - Creative Programming

In this course, students will learn to use a creative process in programming a computer by developing code to generate images and sound, produce animations, manipulate text, and make media that respond interactively to user input. The class will use computing programs such as Processing, an artist-designed programming language designed for visual and interactive applications, as a basis for creating and developing software "sketches" that allow visual expression. Another environment introduced with be Pd ("pure data", an open source version of Max/MSP), which is a visual programming language. Pd enables musicians, visual artists, performers, researchers, and developers to create software graphically, without writing lines of code. In the process, students will learn basic programming skills, including understanding and controlling how data is represented in computers (data types and structures), telling the computer how to make decisions on the fly (conditionals), how and when to repeat instructions (loops),

structuring and organizing computer code (functions and objects), and techniques for debugging code.
This course is designed particularly for students in New Media, Arts, Music, Humanities, and Social Sciences interested in understanding better how computers work and in learning to create their own digital media, through students of all backgrounds are welcome. The course assumes basic high school math and no technical background.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Spring

Credits: 3

NMD 170 - 3D Modeling and Animation

An introduction to the principles of 3D computer modeling, rendering, and animation for both professional application and multimedia production. The primary software used in this course is Blender.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:
Variable

Credits: 3

NMD 200 - Designing Humane Tech

Examines the goals and impacts of New Media technologies. Topics include how design choices respond to and influence our bodies, our communities, and our political, economic and ecological systems. Focus on how humane design choices enable us to create a healthier and more sustainable world. A class with reading, discussion, writing assignments and conceptual design projects.

Core Curriculum/Core Requirements: [""] Prerequisites:
NMD 100 and two of the following: NMD 104, NMD 105, NMD 106 or permission

Course Typically Offered:
Fall

Credits: 3

NMD 206 - Project Design Workshop I

Explores creativity and problem solving using tools, techniques and tactics of new media. Identifies critical social, economic, cultural and ecological problems in neighborhoods and communities. Draws on creative skills and playful impulses to design and build solutions using new media strategies. An ecologically mindful, whole systems approach is adopted, seeking out interdisciplinary partners across campus and community to achieve solutions. Individual, peer, and team generated projects are emphasized.

Core Curriculum/Core Requirements: [""] Prerequisites:
NMD 200

Course Typically Offered:
Spring

Credits: 3

NMD 208 - Digital Video Production

This course provides the basics of video production, incorporating both lecture and laboratory experience. Students will learn about shot composition, sound, lighting, and editing, all from a digital video format. Students will produce and edit several projects from a variety of media formats, depending on the interests of the student.

Prerequisites:
Sophomore standing or permission of instructor.

Course Typically Offered:
Fall

Credits: 3

NMD 211 - Creative Coding II

Students are provided an introduction to and overview of new media and emerging technologies, interaction design, and software development. Topics covered include foundational programming, interaction and creative implementations, and basic project development. Students develop skills in group collaboration, brainstorming practices, concept development, and rapid project prototyping.

Core Curriculum/Core Requirements: [""] Prerequisites:
NMD 105 or COS 121 or COS 125

Course Typically Offered:
Variable

Credits: 3

NMD 212 - Rapid Prototyping

Basic analog and digital electronics, laser cutting and 3D Printing techniques as they apply to New Media art and design framework. Taught via a studio lab format.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Not Regularly

Credits: 3

NMD 225 - Digital Music Production

NMD 225 is an introduction to the theory and digital tools used for creative composition and professional music production across various genres.
This course cannot be taken for credit if already taken as NMD 398 Digital Music Production

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:
Summer

Credits: 3

NMD 241 - Documentary Photography and Storytelling

The constant evolution of digital technology has broadened the definition of documentary and as such, the tools to effectively tell a story have become more accessible. As a result, understanding the basic concepts of storytelling has never been more important. What makes a story interesting and compelling to a broad audience has not changed, only the tools to tell a story have. The root of this course will be based around gaining an understanding of storytelling through digital photography. Primary focus of this course will be educating students on how to take advantage of a variety of technologies for the specific purpose of creative expression from the perspective of a photographic documentarian.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:
Variable

Credits: 3

NMD 245 - Film Criticism and Theory

Students will develop skills in the analysis of form and content so that they will achieve proficiency in the use of film studies vocabulary. Participants will learn to think critically about the media industry and to evaluate film as an art form, individual psychological experience, technology, social text, and commodity. (CMJ 245 and NMD 245 are identical courses.)

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Spring

Credits: 3

NMD 250 - Electronic Music Composition I: Item and Arrangement

Designed to provide students with an opportunity to explore the ideas and techniques of audio composition with recorded media. Item and Arrangement refers to the style of composition that creatively places recorded sounds in a fixed timeline. Starting with Musique Concrete in the late 1940's, this technique continues today as a foundation for many contemporary and popular forms, including acoustic ecology and hip-hop. Students can expect to learn how to work with sound in the digital environment including fundamentals in field recording technique, waveform editing, filtering and digital processing. Students will be expected to regularly produce and discuss work in relation to the theoretical history of Electronic Music.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:
Variable

Credits: 3

NMD 251 - Electronic Music Composition II: Composing a Process

A companion of NMD 250. Offers an introduction to creating Electronic Music, and electronic art in general, in the form of a process rather than as a fixed object. From John Cage through Conceptualism, viewing art-making as "composing a process" is central to much contemporary art, particularly in New Media. Students will be introduced to compositional methods such as indeterminacy, algorithmic composition, systems analysis and interactivity as well as fundamentals of digital audio synthesis and composing in the Max/MSP environment. Students will be expected to regularly produce and discuss work in relation to the theoretical history of Electronic Music.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Variable

Credits: 3

NMD 295 - Topics in New Media

Topics not regularly covered in other new media courses. Content varies to suit current needs. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Variable

Credits: 1-3

NMD 306 - Community Collaboration and Development

New Media project design, with emphasis on team-based research and development. Requires students to think across a variety of platforms, from analog tools to stand alone devices to online applications. Students will be challenged to think creatively and rigorously about the objective, structure, and form of a community client project; the work of each team will culminate in a new media proposal and/or prototype, preparing them for the New Media capstone sequence.

Core Curriculum/Core Requirements: [""] Prerequisites:
NMD 200 and NMD 340 or NMD 343 or NMD 344 or NMD 345 or permission

Course Typically Offered:
Spring

Credits: 3

NMD 324 - Introduction to Narrative Film Making

The first part in a two-semester course in the process, theory, practice and problems of digital filmmaking. Through the examination of films, narrative fiction and the completion of out-of-class assignments, students will gain insight into the realm of digital filmmaking. Structured as both an academic and "hands-on" approach to the language, method and theory of digital filmmaking through applied concepts and process. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Variable

Credits: 3

NMD 340 - Designing and Creating Websites

This course focuses on work with real-world clients to create Web pages or responsive apps with compelling designs and interactive features. A review of basic graphic design, HTML, CSS, simple PHP and web architecture tools like WordPress provides a technical foundation combined with critical skills for collaboration, negotiation and teamwork. Students apply these to tell a digital story that represents community or client values, and then apply the same skills of designing, coding and networking to produce a professional portfolio of their creative work as New Media students.

Core Curriculum/Core Requirements: [""] Prerequisites:
Sophomore standing and NMD 104

Course Typically Offered:
Spring

Credits: 3

NMD 342 - Interaction Design and Physical Computing

Interaction Design and Physical Computing will explore opportunities for physical interaction with our environment. The course focuses on materials and methods used within interaction design to combine hardware, software and physical materials into working prototypes. Students will learn fundamentals of physical computing to design and build interactive objects and environments using sensors, actuators and microcontrollers.

Core Curriculum/Core Requirements: [""] Prerequisites:

NMD 211 or permission

Course Typically Offered:

Variable

Credits: 3

NMD 343 - SL: Digital Narrative Workshop I

Explores emerging forms of digital storytelling and how these new forms transform authorship, audience, interaction and publishing. Students produce their own original narratives using digital storytelling techniques, web based media, and non-linear game-like environments. Team projects and skill sharing encouraged. Field work outside the classroom and publication of a storytelling project for community partners. This course has been designated as a UMaine service-learning course.

Prerequisites:

NMD 104 and NMD 106 or permission

Course Typically Offered:

Fall

Credits: 3

NMD 344 - Motion Graphics & Design I

An introduction to motion graphics and design principles. Students will learn how to imbue traditional 2D design with motion and explore different techniques used in professional application.

Core Curriculum/Core Requirements: [""] Prerequisites:

NMD 104 and NMD 106 or permission

Course Typically Offered:

Spring

Credits: 3

NMD 345 - Web Applications

This class trains students in creating compelling Web designs and interactive Web pages using advanced HTML, CSS, and JavaScript. Although the focus will be designing and scripting for the Web, the class will apply these easy-to-learn techniques to other contexts, such as bookmarklets and browser extensions. In addition to this practical know-how, students in this class learn today's legal and cultural context for sharing, and prototype a creative application of their own choosing.

Core Curriculum/Core Requirements: [""] Prerequisites:

COS 225 or NMD 105, or Instructor Approval

Course Typically Offered:

Variable

Credits: 3

NMD 347 - Artificial Intelligence for Art and Design

Introduction to techniques, historical contexts, and conceptual approaches to artificial intelligence as a creative medium. Cognitive science debate on theories of the mind impacts of AI on society as intellectual labor is replaced by algorithms, and the divide between autonomy and authorship in working with AI for artmaking. Introduction to different movements and techniques within AI, such as cybernetics, artificial life, nouvelle AI, expressive AI, neural networks, genetic algorithms, machine learning, and deep learning. Students directly apply understanding in creating original works using different approaches.

Core Curriculum/Core Requirements: [""] Prerequisites:

NMD 200 and NMD 211

Course Typically Offered:

Not Regularly Offered

Credits: 3

NMD 358 - Documentary Film Criticism and Theory

Centered around the Camden International Film Festival, this course engages students in critically assessing documentary films through an understanding of the genre's history, theoretical foundations, and means of production, aspects particularly relevant in this age of rapidly evolving media. Students will be exposed to various new technologies during the festival on the development, production and distribution of contemporary non-fiction film. Besides periodic class meetings across the semester and four days attendance at the Festival, students will have opportunities to discuss documentaries in public forums and meetings with

documentary professionals in seminar conferences. Students will develop in-depth research projects, either developing their own documentaries or writing analytic papers on issues core to the field. If this course was taken under as a topics course in NMD 398, it cannot be repeated for credit.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Not Regularly Offered

Credits: 3

NMD 398 - Topics in New Media

Topics not regularly covered in other new media courses. Content varies to suit current needs. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:
Department consent.

Course Typically Offered:
Not Regularly Offered

Credits: 1-3

NMD 424 - Narrative Film Making

The second part in a two-semester course in the process, theory, practice and problems of digital filmmaking. Concentrates on practical experience. Students will learn the cinematic process through direct development and production of short subject digital films. Structured as both an academic and "hands-on" approach to the language, method and theory of digital filmmaking. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:
NMD 324 or permission

Course Typically Offered:
Not Regularly Offered

Credits: 3

NMD 430 - Topics in New Media

An exploration of intermediate and advanced topics in multimedia production and design, including, among others, digital video production, software and hardware design or, electronic publishing. Designed to provide students with a deeper and more sophisticated experience with a multimedia issue, tool, or skill--or combination of all three.

Core Curriculum/Core Requirements: [""] Prerequisites:
Department consent.

Course Typically Offered:
Variable

Credits: 1-3

NMD 440 - SL: Websites for Clients & Communities

This course builds on the personal portfolio web design skills of NMD 340, and now focuses on work with real-world clients. A review of more advanced graphic design, HTML, CSS, and PHP provides a technical foundation. Meanwhile students work on collaboration, negotiation and teamwork with classmates and outreach with clients. Students apply these technical and personal skills to create professional websites for clients and communities. Clients may hire students for paid internships after the class work is complete to develop more complex websites.

Core Curriculum/Core Requirements: [""] Prerequisites:
C- or better NMD 340

Course Typically Offered:
Variable

Credits: 3

NMD 441 - Documentary Video and Storytelling

Provides the essential skills, concepts and processes used by documentary still photographers and audio producers to create professional quality digital mixed media products for the Internet and other interactive media.

Core Curriculum/Core Requirements: [""] Prerequisites:
NMD 241 or permission

Course Typically Offered:

Not Regularly Offered

Credits: 3

NMD 442 - User Experience Design

This is a course that explores major concepts in designing the User Experience (UX). UX Design plays a critical role in the successes and effectiveness of any product, application and service. It's just not enough to have technologically advanced and aesthetically appealing products, applications and services - it is critical that they deliver a good user experience to their end users. In order to understand the foundations of UX Design, this course will provide a comprehensive overview of the user experience design process and is intended to familiarize students with the methods, concepts, and techniques necessary to make user experience design an integral part of developing effective interactions. The course provides students with an opportunity to acquire the resources, skills, and hands-on experience they need to design, develop, and evaluate information interfaces from a user-centered design perspective.

Core Curriculum/Core Requirements: [""] Prerequisites:

NMD 211 or permission

Course Typically Offered:

Variable

Credits: 3

NMD 443 - Digital Narrative Workshop II

Students explore interactive authorship, seek audience participation, develop interactive environments, and publish final pieces in an online magazine. Exploration and reflection on larger cultural metanarratives, many of which are in the process of transition. Students may continue community partnerships begun in Digital Narrative I, and further develop their projects in reach or in depth. They may also seek alternative ways of either crafting or publishing and sharing community stories, such as through Virtual Museums, Community Archives, Social Media campaigns, or Storytelling peer-to-peer workshops. Final projects will culminate in online publication and/or a community/public audience engagement.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in NMD 343

Course Typically Offered:

Variable

Credits: 3

NMD 444 - Motion Graphics & Design II

An exploration into advanced motion design techniques such as rigging, compositing, motion tracking, and special effects. Students will learn how to merge motion graphics and video, allowing for more complex compositions.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in NMD 344

Course Typically Offered:

Variable

Credits: 3

NMD 445 - Mobile Applications

Mobile applications have become one of the predominant ways that people interact with each other. Yet designing and developing apps for phones and tables typically requires a mastery of a half-dozen languages and platforms. This course, by contrast, builds on familiar Web design and development skills taught in NMD 345, Web Applications, to produce a working app for common mobile platforms such as iOS and Android by using a full-stack approach. Students conceive and produce an app that interchanges data with the cloud to offer access to new information or connect people in new ways.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better NMD 345 or permission

Course Typically Offered:

Variable

Credits: 3

NMD 490 - Independent Study in New Media

Topics not regularly covered in other courses. Content varies to suit current needs. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:
permission of instructor.

Course Typically Offered:
Fall, Spring, Summer

Credits: 3

NMD 498 - New Media Capstone I

In this first semester of a two-part course, students conceive and build a complex, self-determined new media project. Students are expected to bring an ambitious yet feasible idea to the course. The first semester emphasizes extensive research, writing, and in-class presentations, followed by a series of working prototypes developed in an iterative fashion. This semester fulfills the Writing Intensive general education requirement. High levels of maturity, creativity, self-discipline and personal organization are expected.

Core Curriculum/Core Requirements: ["Writing Intensive requirement. Together with NMD 499, this course also satisfies the General Education Capstone Experience Requirements."] Prerequisites:
Senior Standing and a grade of C- or better in NMD 306 or permission

Course Typically Offered:
Fall

Credits: 3

NMD 499 - New Media Capstone II

In this second semester of a two-part course, students expand and refine the prototype developed in the first semester. After students test their applications in class and with an outside target audience, the course culminates in a final presentation at year's end. High levels of maturity, creativity, self-discipline and personal organization are expected.

Core Curriculum/Core Requirements: ["Together with NMD 498' , 'this course satisfies the General Education Capstone Experience requirement."] Prerequisites:
A grade of C- or better in NMD 498

Course Typically Offered:
Spring

Credits: 3

Nursing

NUR 101 - Issues and Opportunities in Nursing

Introduces first-year Nursing students to issues in nursing education and University resources. Assists with the development of writing and critical thinking skills. Seeks to enhance cultural growth and understanding and to influence the establishment of self-care and wellness as a priority for nursing students. Discussion of legal and ethical aspects and professional organizations in nursing. Students meet clinical faculty in order to explore their education and experiences in nursing.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Fall

Credits: 1

NUR 102 - Foundations of Nursing Practice I

This course is designed to introduce students to professional nursing practice. Offers students the opportunity to apply nursing concepts and attitudes in a collaborative, classroom setting. Students will develop nursing strategies to explore patient centered care, safety, comfort, and communication that will meet the American Association of Colleges of Nursing Essentials for Nursing Education. Guiding course principles include foundations of the nursing profession, quality and safety towards delivering evidence-based healthcare utilizing the nursing process.

Core Curriculum/Core Requirements: [""] Prerequisites:
NUR major; BIO 100, BMB 207, BMB 209, and NUR 101

Corequisites:
NUR 106

Course Typically Offered:

Fall & Spring

Credits: 2

NUR 103 - Foundations of Nursing Practice II

This foundational nursing course expands upon concepts essential to success as a nursing student and professional nurse. The concepts of professionalism, communication and collaboration with interprofessional teams, self-care, diversity, and the nursing process are explored in relation to the role of the student and professional nurse. In addition, concepts including ethics, patient-centered care, evidence-based practice, quality improvement, informatics, safety, nursing theory, and health literacy are also discussed. These concepts will be covered in discussion of both nurses' role in caring for patients, as well as issues related to professional development in nursing.

Core Curriculum/Core Requirements: [""] Prerequisites:

Nursing Major; NUR 102, NUR 106, BIO 208, BMB 240 AND BMB 241. May be taken concurrently with listed prerequisites with department permission.

Course Typically Offered:

Fall and Spring

Credits: 3

NUR 106 - Foundations of Nursing Practice I LAB

This course is designed to introduce fundamentals of nursing practice by applying an evidence-based approach within a laboratory learning environment. Students will develop foundational nursing skills for clinical practice to promote quality-based patient care that aligns with American Association of Colleges of Nursing Essentials for Nursing Education.

Core Curriculum/Core Requirements: [""] Prerequisites:

Nursing Major, BIO 100, or both BMB 207 and BMB 209.

Corequisites:

NUR 102

Course Typically Offered:

Fall and Spring

Credits: 0.5

NUR 150 - Scholarship of Wellness & Mindfulness

This course follows an immersive bridge-week curriculum where students engage in evidence-based practices that integrate artistic and creative practices of mindfulness, yoga, and cooking within a scientific case-based research study focused on their wellness. Students engage and critique the practices through the lens of holistic health and examine their effects on a range of personal quantitative and qualitative health variables. They practice mindfulness and learn about research design and analysis using personal Fitbit data. The course guides the students through the intellectual skill of developing a personal well-being and wellness laboratory report.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression and Quantitative Lit"]

Prerequisites:

Nursing Major or permission

Course Typically Offered:

Fall and Spring

Credits: 1

NUR 160 - Introduction to Human Genetics and Genomics for Health Care Professions

Genomic applications have become increasingly more relevant to the delivery of healthcare across all health settings. This course introduces students to genetic/genomics information in various applications within healthcare. Students are provided an overview of genomic concepts that relate to caring for persons/families/communities and/or populations throughout the lifespan. Students will acquire the knowledge, skills and attitudes required to meet selected core competencies outlined in the Essentials of Genetic and Genomic Nursing: Competencies, Curricula Guidelines and Outcome Indicators. Special emphasis will be given to current events that utilize clinical guidelines and follow evidence-based practice.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall & Spring

Credits: 1

NUR 165 - Introduction to Care of the Older Adult

This course provides a foundation of essential knowledge, skills and attitudes in the provision of care to older adults. The content focuses on aging as a normal development process and includes analysis of issues confronting this population. The course focuses on older adults as vibrant and essential members of society with an emphasis on the health professionals' role in promoting older adult wellness and health. Key recommendations and evidence-based practice from leading geriatric organizations are embedded into
the course.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall and Spring

Credits: 1

NUR 166 - Healthcare Informatics

This course provides foundational knowledge regarding informatics for health care professionals. Emphasis is placed on the knowledge and skill used in information management and patient care technology to deliver safe and effective patient-centered care.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall and Spring

Credits: 1

NUR 200 - Care of Adults I

This course introduces nursing concepts necessary for novice care of adult clients with selected illness and disease conditions, with the use of the nursing process to promote health and healing. Students apply pathophysiology and health assessment principles to focus nursing assessment and care planning to implement care and evaluate outcomes. Patient-centered care, safety, teamwork and collaboration, and evidence-based practice are highlighted through case studies, active learning tasks, lecture, and discussion.

NOTE: students must have a cumulative Lab/Science GPA of 3.0

Core Curriculum/Core Requirements: [""] Prerequisites:

Nursing Major; Minimum grade of C in the following: NUR 102, NUR 103, NUR 106, BIO 100, BIO 208, BMB 207, BMB 209, BMB 240, BMB 241

Corequisites:

NUR 201 and NUR 202

Course Typically Offered:

Fall & Spring

Credits: 3

NUR 201 - Care of Adults I Clinical

This course introduces the student to the professional nursing role in direct care learning experiences. Students will build on knowledge, skills and attitudes gained from the science and humanities, previous and concurrent nursing courses in the provision of professional nursing care to adults. This clinical experience will provide students with the opportunities to apply theoretical knowledge, critical thinking, and basic nursing skills when implementing safe patient care.

Course Note: Overall cumulative GPA 3.0 and cumulative lab/science GPA of 3.0 required.

Core Curriculum/Core Requirements: [] Prerequisites:

Nursing Major; minimum grade of C in the following: NUR 102, NUR 103, NUR 106, BIO 100, BIO 208, BMB 207, BMB 209, BMB 240, BMB 241

Corequisites:

NUR 200 and NUR 202

Course Typically Offered:

Fall & Spring

Credits: 1.5

NUR 202 - Application of Theory to Nursing Practice I

This course prepares students to provide holistic evidence-based nursing care through laboratory learning experiences. Students will develop the knowledge, skills, and attitudes required to meet selected core competencies for safe patient care. Lab: 2

NOTE: students must have a cumulative Lab/Science GPA of 3.0

Core Curriculum/Core Requirements: [""] Prerequisites:

Nursing major; Minimum grade of C in BIO 100, BIO 208, BMB 207, BMB 209, BMB 240, BMB 241, NUR 102, NUR 103, NUR 106

Corequisites:

NUR 200 and NUR 201

Course Typically Offered:

Fall and Summer

Credits: 1

NUR 203 - Dosage Calculation for Nurses

This course provides the foundation for safe dosage calculation for medication administration. Learners will adapt a standard method to calculate dosages of enteral and parenteral medications including intravenous infusions and methods. Special considerations for pediatrics and older adults will also be addressed. Essential medication delivery mechanisms and mathematics will be emphasized.

Core Curriculum/Core Requirements: ["Quantitative Literacy"] Prerequisites:

NUR 102, NUR 103, NUR 106, MAT 111 or higher, and STS 132 or PSY 241. May be taken concurrently with NUR 103 with department permission.

Course Typically Offered:

Fall and Spring

Credits: 1

NUR 214 - Mindfulness-Based Stress Reduction

Mindfulness-Based Stress Reduction (MBSR) is an empirically-supported 8-week psycho-educational group intervention that teaches mindfulness meditation as a health intervention. Created by Dr. Jon Kabat-Zinn in 1979. MBSR offers participants the possibility to develop a different relationship to stress resulting from chronic physical and psychological illnesses. Research outcomes have demonstrated positive improvements in physical and psychological symptoms and changes in health attitudes and behaviors.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:

Fall and Spring

Credits: 2

NUR 300 - Health Assessment Through the Lifespan

Develops the knowledge and skills necessary to conduct an individual assessment. Emphasis on data collection through the development of communication, interviewing, history-taking and physical examination skills. Lec 3, Lab 3.
NOTE: students must have a cumulative Lab/Science GPA of 3.0

Core Curriculum/Core Requirements: [""] Prerequisites:

Nursing Major; Minimum grade of C in BIO 100, BIO 208, BMB 207, BMB 209, BMB 240, BMB 241, CHF 201, NUR 102, NUR 103, NUR 106

Corequisites:

NUR 308

Course Typically Offered:

Fall & Spring

Credits: 3

NUR 301 - Care of Adults II

This course builds on the knowledge, skills and attitudes mastered in all preceding nursing courses, sciences and social sciences. Students will develop the ability to collaborate with other members of the health care team in providing comprehensive care to adults in a variety of clinical settings. Concepts of patient-centered care, quality improvement, evidence-based practice, safety, informatics, team-work and collaboration are further developed in the context of care of adults with acute and chronic health problems.

Core Curriculum/Core Requirements: [""] Prerequisites:

Nursing Major; NUR 200, NUR 201, NUR 202, NUR 300, NUR 303, and NUR 308

Corequisites:

NUR 302 and NUR 316

Course Typically Offered:

Fall, Spring and Summer

Credits: 3

NUR 302 - Application of Theory to Nursing Practice II

This laboratory based, skill building course prepares students to provide complex patient-centered care of adults with acute and chronic health problems. Students will develop the knowledge, skills and attitudes to meet selected core competencies of safe, high quality, evidence-based patient care. This laboratory course also provides students with the mathematics skills necessary to provide safe patient care.

Prerequisites:

Nursing major, minimum of C in NUR 200, NUR 201, NUR 202, NUR 300, NUR 303

Corequisites:

NUR 301 and NUR 316

Course Typically Offered:

Fall and Spring

Credits: 1

NUR 303 - Pathophysiology

A study of the physiological, genetic and biochemical basis of disease.

Course Note: Students must have an overall cumulative GPA 3.0; cumulative Lab/Science GPA of 3.0

Core Curriculum/Core Requirements: [""] Prerequisites:

Nursing major (or by permission); minimum grade of C in BIO 208, BMB 240, BMB 241, NUR 102, NUR 103, NUR 106. May be taken prior to NUR 103 or concurrently with NUR 103 with department permission

Course Typically Offered:

Fall & Spring

Credits: 3

NUR 306 - Care of Adults II Clinical

This course expands the student's understanding of the professional nursing role through the direct care of adults with acute and chronic health problems in a variety of clinical settings. Students continue to use knowledge, skills and attitudes gained from the sciences, humanities, and previous and concurrent nursing courses to provide high quality care that is based on standards of practice and current evidence. Students apply theoretical knowledge, clinical reasoning and complex nursing skills when implementing safe patient care (six clinical hours per week).

Core Curriculum/Core Requirements: [""] Prerequisites:

Department consent

Course Typically Offered:

Fall and Spring

Credits: 2

NUR 308 - Health Assessment through the Life Span Lab

Develops the knowledge and skills necessary to conduct an individual assessment through actual and virtual laboratory activities. Emphasis on data collection through the development of communication, interviewing, history taking and physical examination skills.

Course note: Overall cumulative GPA 3.0; cumulative Lab/Science GPA of 3.0.

Core Curriculum/Core Requirements: [""] Prerequisites:

Nursing Major; minimum grade of C in BIO 100, BIO 208, BMB 207, BMB 209, BMB 240, BMB 241, CHF 201, NUR 102, NUR 103, and NUR 106

Corequisites:

NUR 300

Course Typically Offered:

Fall

Credits: 1

NUR 310 - Evidence Based Practice in Healthcare

Methods of research and basic concepts to the research process will be introduced. Qualitative and quantitative approaches will be addressed. The student will evaluate research studies and consider the implications of research for nursing practice. Students will gain an appreciation of the role of research in the development of the discipline and profession of nursing. Emphasis will be placed on the role of evidence-based practice in the delivery of high quality, safe patient-centered care.
Course Note: Overall cumulative GPA 3.0; cumulative Lab/Science GPA of 3.0 is needed.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

Nursing Major with a minimum GPA of 3.0; STS 132 or equivalent, NUR 200 and NUR 300.

Course Typically Offered:

Fall & Spring

Credits: 3

NUR 316 - Pharmacology for Nursing Practice

This course prepares students to apply principles of pharmacotherapeutics in provision of evidence-based nursing interventions. Emphasis is on patient-centered care across the lifespan with special focus on patient safety, the use of health informatics, and on education of patients and their families for optimal health outcomes.

Core Curriculum/Core Requirements: [""] Prerequisites:

NUR Major; NUR 200, NUR 201, NUR 202, NUR 300, NUR 303 and NUR 308

Corequisites:

NUR 301 and NUR 302

Course Typically Offered:

Fall, Spring and Summer

Credits: 3

NUR 321 - Maternal, Newborn, and Women's Health Nursing Clinical

Encompasses Obstetrical lab in the LRC for four hours and seven days (8 hrs per shift) on the maternity/newborn unit at Eastern Maine Medical Center. Students will be assigned to a community hospital of their choice for two days (8 hrs per day) and a primary care setting that serves women and their families (8 hrs per day). Total clinical hours 84. Students will register for one day of clinical per week and will complete all clinical assignments on that day.

Core Curriculum/Core Requirements: [""] Prerequisites:

NUR 320.

Corequisites:

NUR 320

Course Typically Offered:

Fall & Spring

Credits: 2

NUR 334 - Care of Adults III

This course continues to extend the student's understanding of the knowledge, skills and attitudes required to provide holistic, evidenced-based care of adults with chronic and complex health concerns. Concepts of patient-centered care, quality improvement, safety, teamwork and collaboration, and informatics are highlighted with this patient population. Exemplars provide the basis for discussion of current research, evidence from clinical practice and best practice models for this patient population.

Core Curriculum/Core Requirements: [""] Prerequisites:

NUR 340, NUR 341, NUR 413, NUR 414, NUR 415

Corequisites:

NUR 335

Course Typically Offered:

Fall & Spring

Credits: 3

NUR 335 - Care of Adults III Clinical

This course continues to extend the student's understanding of the professional nursing role through the direct care of adults with chronic and complex health concerns in a variety of clinical settings. Students apply knowledge, skills and attitudes gained from the

sciences, humanities, and previous and concurrent nursing courses to provide high quality care to adults based on standards of practice and current evidence. Students provide complex, high quality, safe patient care to acutely ill adults through the application of theoretical knowledge and clinical reasoning in a variety of settings.

Core Curriculum/Core Requirements: [""] Prerequisites:

NUR 340, NUR 341, NUR 413, NUR 414, NUR 415

Corequisites:

NUR 334

Course Typically Offered:

Fall & Spring

Credits: 2

NUR 340 - Psychiatric Mental Health Nursing

Builds on previously learned knowledge to promote a greater understanding of the nurse's role in the care of clients who have mental health needs. Content includes an overview of mental illnesses and major treatment modalities, with an emphasis on the use of the nursing process in patient care. A major focus is the therapeutic use of relationship and communication skills in all health care settings.

Core Curriculum/Core Requirements: [""] Prerequisites:

NUR 301, NUR 302, NUR 306, NUR 316

Corequisites:

NUR 341 (may be taken prior to NUR 341 with department consent)

Course Typically Offered:

Fall & Spring

Credits: 3

NUR 341 - Clinical Practice in Psychiatric Mental Health Nursing

Clinical experiences offer students the opportunity to apply knowledge and skills in the direct care of patients. Helps students gain a greater understanding of mental illnesses and disorders, expand their knowledge of psychotropic medications, develop skills in therapeutic communication, and apply a broad range of therapeutic interventions that can be used in a variety of treatment settings. Students are expected to develop insight into their own preconceptions about mental illness, as well as greater self-awareness of personal responses to patient care situations.

Core Curriculum/Core Requirements: [""] Prerequisites:

NUR 301, NUR 302, NUR 306, NUR 316

Corequisites:

NUR 340

Course Typically Offered:

Fall & Spring

Credits: 2

NUR 404 - Fundamentals of Pharmacology

The basic concepts of pharmacology for health professionals, introducing pharmacodynamics and kinetics. Emphasis on clinical pharmacology of major drug categories and major drug interactions.

Core Curriculum/Core Requirements: [""] Prerequisites:

For Nursing Majors; NUR 303, BMB 207/209, BMB 208/210, BIO 208.

Corequisites:

NUR 301 or permission

Course Typically Offered:

Fall & Spring

Credits: 3

NUR 413 - Nursing Care Management of Women, Infants and Families

Focuses on the comprehensive care of women from adolescence through older adulthood. The reproductive process is examined as a part of the life cycle continuum and family health. Health promotion, and disease prevention and management concepts are emphasized as they apply to pregnancy, prenatal care, birth, and post-delivery period, newborn care, and parenting.

Core Curriculum/Core Requirements: [""] Prerequisites:
NUR 301 NUR 302, NUR 306 and NUR 316

Corequisites:
NUR 414 (may be taken before NUR 414 with department consent)

Course Typically Offered:
Fall & Spring

Credits: 3

NUR 414 - Maternal, Newborn, and Women's Health Nursing Clinical

Students provide comprehensive family-centered care for childbearing families in acute and primary care settings. Students also have clinical simulation experiences in the School of Nursing Learning Resource Center.

Core Curriculum/Core Requirements: [""] Prerequisites:
NUR 301, NUR 302, NUR 306, NUR 316

Corequisites:
NUR 413

Course Typically Offered:
Fall & Spring

Credits: 1

NUR 415 - Socio-Cultural Issues in Health and Health Care

This course explores social and cultural influences on health and illness. Cultural diversity, cultural competence, social determinants of health, health disparities, and health literacy will be topics covered.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions and Cultural Diversity and International Perspectives"] Prerequisites:
Nursing Major or Non-nursing by department consent

Course Typically Offered:
Fall and Spring

Credits: 3

NUR 416 - Nursing Care Management of Children and Families

Students develop a comprehensive approach to the care of infants, children, adolescents and families. Utilize developmental approach in health promotion and care of pediatric patients with acute or chronic illness.

Core Curriculum/Core Requirements: [""] Prerequisites:
NUR 340, NUR 341, NUR 413, NUR 414, NUR 415

Corequisites:
NUR 417 (may be taken prior to NUR 417 with department consent)

Course Typically Offered:
Fall & Spring

Credits: 3

NUR 417 - Nursing Care Management of Children and Families Clinical

Students utilize the nursing process to provide comprehensive nursing care for pediatric patients and families in acute and primary care settings.

Core Curriculum/Core Requirements: [""] Prerequisites:
NUR 340, NUR 341, NUR 413, NUR 414, NUR 415

Corequisites:
NUR 416 (may be taken prior to NUR 416 with department consent)

Course Typically Offered:
Fall & Spring

Credits: 1

NUR 419 - Introduction and Service to Global Health

This course will introduce students to global health concepts and will explore global burden of diseases, social and environmental determinants of health, implications of migration, travel and displacement, and globalization of health and healthcare. The students will learn about health disparities in undeserved and underprivileged countries. The meaning of global citizenship and the role of the nurse as an advocate for human rights will be explored. Field and living conditions may be rigorous and/or primitive and include travel/overnight stay. The course will meet weekly prior to the travel component. There is a fee associated with this course for travel expenses. This course is for students that are in the Nursing Major.

Core Curriculum/Core Requirements: [""] Prerequisites:

Permission

Course Typically Offered:

Spring

Credits: 3

NUR 435 - Nursing Care of Patients and Families at End of Life

This course further develops students' knowledge, skills and attitudes necessary to provide quality, patient-centered care at the end of life. Key recommendations from the American Association of Colleges of Nursing's Peaceful death: recommended competencies and curricular guidelines for end of life nursing care will be incorporated into the course.
Note: non-Nursing majors may take course with department consent

Core Curriculum/Core Requirements: [""] Prerequisites:

Nursing Major and a minimum grade of C in NUR 200, NUR 201, and NUR 202 or permission

Course Typically Offered:

Fall and Spring

Credits: 1

NUR 440 - Nursing Care Management of Adults II

One of two senior level courses focusing on acute and chronic complex health problems with emphasis on major life threatening illnesses. Functional health patterns provide the basis for course organization. The role of the nurse in health promotion, illness management, independent and collaborative decision making, and professional issues encountered in practice are discussed in class. Lec 2.

Core Curriculum/Core Requirements: [""] Prerequisites:

NUR 320, NUR 321, NUR 330, NUR 331 and NUR 404. Senior standing in School of Nursing and permission.

Course Typically Offered:

Fall & Spring

Credits: 3

NUR 444 - Management and Leadership in Health Care System

This course focuses on leadership and management competencies needed by professional nurses to be successful in leading themselves, others and organizations as a full partner in inter-professional teams. Theoretical and evidence-based frameworks are used to analyze current best practices in leadership and management. Emphasis is placed on the student's understanding of leadership roles, systems communications, team dynamics, quality improvement, and resource management. Leadership activities and projects provide opportunities for students to expand their leadership and management skills and to assume the role of nurse as a change agent.

Core Curriculum/Core Requirements: [""] Prerequisites:

NUR 334, NUR 335, NUR 416, NUR 417, NUR 452, and NUR 453

Corequisites:

NUR 447 and NUR 455 and NUR 456

Course Typically Offered:

Fall & Spring

Credits: 3

NUR 450 - Psychiatric Mental Health Nursing

Builds on previously learned knowledge to promote a greater understanding of the nurse's role in the care of clients who have mental health needs. Content includes an overview of mental illnesses and major treatment modalities, with an emphasis on the use of the nursing process in patient care. A major focus is the therapeutic use of relationship and communication skills in all health care settings.

Core Curriculum/Core Requirements: [""] Prerequisites:
Senior standing in the School of Nursing.

Corequisites:
NUR 451

Course Typically Offered:
Fall & Spring

Credits: 3

NUR 451 - Clinical Practice in Psychiatric Mental Health Nursing

Clinical experiences offer students the opportunity to apply knowledge and skills in the direct care of patients. Helps students gain a greater understanding of mental illnesses and disorders, expand their knowledge of psychotropic medications, develop skills in therapeutic communication, and apply a broad range of therapeutic interventions that can be used in a variety of treatment settings. Students are expected to develop insight into their own preconceptions about mental illness, as well as greater self-awareness of personal responses to patient care situations.

Core Curriculum/Core Requirements: [""] Prerequisites:
NUR 450 or concurrently.

Course Typically Offered:
Fall & Spring

Credits: 2

NUR 452 - Community and Population Health

Introduces students to the concepts and principles of community health care. Students will gain knowledge about primary, secondary, tertiary prevention, public health frameworks, policy, health determinants, and epidemiology. Students will develop evidence-based, population-focused interventions about current public and community health issues. Students perform population and community assessments and interventions as well as engage in extensive service learning.

Core Curriculum/Core Requirements: [" Population and the Environment"] Prerequisites:
Department Consent

Corequisites:
NUR 453

Course Typically Offered:
Fall & Spring

Credits: 3

NUR 453 - Community Nursing Care Management

Focus on concepts and principles of community health nursing. Students are introduced to the role of the community health nurse and the community as a client. Students will use the functional health patterns framework for nursing diagnoses of individuals, families and communities. Current issues influencing the health of communities are examined. The clinical focus includes health promotion, disease prevention, health maintenance and restoration. A variety of clinical experiences are offered in community based settings.

Core Curriculum/Core Requirements: [""] Prerequisites:
Department Consent

Corequisites:
NUR 452

Course Typically Offered:
Fall & Spring

Credits: 1

NUR 455 - Senior Clinical Practicum

A capstone experience in which students apply knowledge gained from all prior semesters, including theoretical, clinical, and research knowledge for the provision of evidence-based, safe patient care. Students are partnered with expert nurses providing acute and chronic health care services in a variety of settings.

Core Curriculum/Core Requirements: ["Capstone Experience and Ethics"] Prerequisites:
NUR 334, NUR 335, NUR 416, NUR 417, NUR 435, NUR 452, NUR 453

Corequisites:
NUR 444, NUR 447 and NUR 456

Course Typically Offered:
Fall & Spring

Credits: 5

NUR 456 - Professional Practice Through the Lifespan

This course synthesizes the knowledge, skills, and behaviors of professional nursing practice at the baccalaureate level. Emphasis is on the multi-faceted role of the professional nurse in the provision of care across the health-illness continuum throughout the lifespan. Content is designed to assist students to assess complex patient care needs during transitions in care settings as a vital member of the inter-professional team. Standardized testing, practice questions, and a review session will be incorporated to help prepare students for licensure exam.

Core Curriculum/Core Requirements: [""] Prerequisites:
NUR 334, NUR 335, NUR 416, NUR 417, NUR 452 and NUR 453

Corequisites:
NUR 444, NUR 447, and NUR 455

Course Typically Offered:
Fall & Spring

Credits: 4

NUR 495 - Independent Study in Nursing

Individualized study with permission of the instructor. May or may not have an experiential component.

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission of instructor.

Course Typically Offered:
Fall & Spring

Credits: 1-3

NUR 497 - Projects in Nursing

Individualized project with permission of the instructor. May or may not have an experiential component.

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission.

Course Typically Offered:
Fall & Spring

Credits: 1-3

Peace Studies

PAX 201 - Introduction to Peace and Reconciliation Studies

Introduces students to various concepts in the field of Peace and Reconciliation Studies. Topics include forms of violence and their relationship to social structure and cultural practices; global militarization and environmental destruction and their impact on human needs; and peace-making and conflict resolution at both micro and macro levels.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions and Cultural Diversity and International Perspectives"] Course Typically Offered:
Not Regularly Offered

Credits: 3

PAX 250 - Peace and Pop Culture

Incorporates case studies and creative expression by active artist-peace builders working in different media throughout the World. Students will investigate the sources, causes, processes and products that reside at the intersection of peace and popular culture. Students will interpret, analyze and evaluate examples from art, music, theater, dance, poetry, literature, museums, gardens, trails, film, television, magazine, cartoon, radio, Internet, video game, and comic book publishing industries.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions' , 'Artistic and Creative Expression' , 'and Writing Intensive"] Course Typically Offered:

Not Regularly Offered

Credits: 3

PAX 260 - Realistic Pacifism

Using the international examples of such pragmatic practitioners of non-violence as Gandhi, this course explores the promise and success of peacemaking. The broad influences of religion, democracy and social justice movement as applied to the struggle against global terrorism, and the ways in which these complex factors can converge to create a culture of forgiveness, reconciliation and restorative justice, will be the focus of the course.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions and Writing Intensive"]

Course Typically Offered:

Not Regularly Offered

Credits: 3

PAX 290 - Nonviolence: Perceptions and Perspectives

Nonviolence is a cornerstone of Peace and Reconciliation Studies, and a thorough understanding of the history, theory, and practice of the ideas and ethics relating to nonviolence is essential. This interdisciplinary course investigates the development of theories of nonviolence and philosophical, cultural, and religious perspectives on nonviolence. Examples of the practice of nonviolence from across the globe are highlighted, and the skills and tools necessary for the ethical practice of nonviolence and the creation of cultures of peace are investigated. This course is required for the Peace and Reconciliation Studies minor and certificates.

Core Curriculum/Core Requirements: ["Cultural Diversity or International Perspectives and Ethics."] Course Typically Offered:

Not Regularly Offered

Credits: 3

PAX 350 - Buddhism, Peace and Contemplative Traditions

An introduction to Buddhism and its relationship to Zen and Western contemplative traditions. Some philosophical aspects of Buddhism as well as stories, sutras, ethical precepts, relationship to ecological concerns and the embodying of the Way in our daily lives.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"] Course Typically Offered:

Not Regularly Offered

Credits: 3

PAX 351 - This Sacred Earth: Ecology and Spirituality

Examines Eastern and Western views on the environment in terms of spiritual traditions. A major part of the course addresses a new approach to spirituality of nature, called Deep Ecology which includes ecotheology and ecofeminist spirituality.

Core Curriculum/Core Requirements: ["Ethics"] Course Typically Offered:

Not Regularly Offered

Credits: 3

PAX 398 - Topics in Peace and Reconciliation Studies

Explores peace and reconciliation studies through more in-depth study of specific topics drawn from the introductory course, such as the roles of technology, religion, gender, ethnicity and social stratification in the establishment and maintenance of peace and reconciliation studies. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Not Regularly Offered

Credits: 3

PAX 410 - Theories in Peace and Reconciliation Studies

An exploration and critical discussion of historical and contemporary theories about conflict, peace, and reconciliation. Course offered via WebCT.

Core Curriculum/Core Requirements: [""] Prerequisites:

PAX 201 or permission.

Course Typically Offered:

Not Regularly Offered

Credits: 3

PAX 451 - Mediation: Its Premises, Practices and Policies

Introduces students to the theory and practice of mediation. Participants will reflect together on the nature and origins of conflict and its impact on society and individuals. Students will acquire and practice the skills needed for effective conflict management.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Spring

Credits: 3

PAX 452 - Advanced Study in Transformative Mediation

Students will deepen their understanding of the premises and principles of the transformative orientation to mediation practice. Students will consider how values and belief systems impact the development of mediation models or schools of thought. Includes skills development through intensive coaching.

Core Curriculum/Core Requirements: [""] Prerequisites:

PAX 451 or permission.

Course Typically Offered:

Not Regularly Offered

Credits: 3

PAX 490 - Special Topics in Peace and Reconciliation Studies

Review of specific subject areas in the field. Subject areas vary by semester. May be repeated for credit.

Course Typically Offered:

Not Regularly Offered

Credits: 3

PAX 491 - Forgiveness: Creating a Culture of Peace and Reconciliation

How do we forgive those we consider enemies? Are there limits to forgiveness? Can we learn forgiveness? These questions form the core of the class journey as it explores forgiveness from academic, personal, historical and cultural perspectives. Through reading, writing, conversation and other forums, it looks at forgiveness as a tool for peace building.

Core Curriculum/Core Requirements: ["Ethics and Cultural Diversity and International Perspectives"] Prerequisites:

PAX 201 or permission.

Course Typically Offered:

Spring

Credits: 3

PAX 498 - Special Projects in Peace and Reconciliation Studies

Advanced individual study, research and written projects in Peace and Reconciliation Studies and related areas, conducted under the guidance of a faculty member associated with the Peace and Reconciliation Studies Program. Arranged on request. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

PAX 201 or permission.

Course Typically Offered:

Not Regularly Offered

Credits: 1-6

Philosophy

PHI 100 - Contemporary Moral Problems

Examines a variety of moral problems causing controversy in contemporary society. Focuses on evaluating arguments for and against competing solutions to these problems. Also discusses different philosophical strategies for thinking about moral obligations and relationships. Topics surveyed may include: abortion, affirmative action, euthanasia, feminism, the environment, capital punishment, welfare and aid to the needy, technology, war and racism, among others.

Core Curriculum/Core Requirements: ["Ethics' , 'Western Cultural Tradition and Social Contexts

and Institutions"] Course Typically Offered:
Fall & Spring

Credits: 3

PHI 102 - Introduction to Philosophy

An introduction to philosophical thought and critical thinking through a reading of works from the philosophical tradition. Readings might include works from philosophers such as Plato, Aristotle, Augustine, Descartes, Hume, Locke, Kant, Marx, Nietzche and/or other great works of philosophy. Questions will be asked about the nature of wisdom and knowledge, the essence of reality and of ideas, human nature, virtue and community, justice and political life.

Core Curriculum/Core Requirements: ["Ethics and Western Cultural Tradition"] Course Typically Offered:
Fall & Spring

Credits: 3

PHI 103 - Think!

A study of principles used to distinguish correct from incorrect reasoning including the nature of thought, uses of language, recognition of arguments, informal fallacies, purposes and types of definition, deduction and induction. Emphasis on understanding and mastering through practice some fundamental techniques for testing the soundness of many different kinds of reasoning.

Core Curriculum/Core Requirements: ["Western Cultural Tradition"] Course Typically Offered:
Every Year

Credits: 3

PHI 104 - Existentialism and Literature

A critical study of philosophical significance of individual choices and actions involving questions of personal identity, responsibility and authenticity as these themes are developed in existentialist literature. Special attention will be given to existentialist literary techniques.

Core Curriculum/Core Requirements: ["Ethics' , 'Western Cultural Tradition and Artistic and Creative Expression"] Course Typically Offered:
Fall & Spring

Credits: 3

PHI 105 - Introduction to Religious Studies

An analysis of religion as an expression of human culture past and present. Considers institutional and non-institutional manifestations of religion as conveyed through myth and symbol, religious experience, struggle for societal change, mysticism, and quests for the articulation of human values. Inquiry by various disciplines will be considered, e.g., anthropology, psychology, sociology, history, philosophy, and theology.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Social Contexts and Institutions"] Course Typically Offered:
Fall, Alternating Years

Credits: 3

PHI 132 - Life, Technology and Evolution

A philosophical study of the relationship between our evolutionary past, the emergence of cultures and technologies that define our human present, and the sustainability of life given the environmental challenges of the future. Focus will be given to recent ethical and ecological issues in biotechnology, local climate change issues and inter-disciplinary thinking.

Core Curriculum/Core Requirements: ["Population and Environment"] Course Typically Offered:
Not Regularly Offered

Credits: 3

PHI 201 - Practicing Philosophy

An introduction to the methods and conventions of contemporary philosophy, with a focus on providing students with the skills needed to read, understand, discuss, analyze, and write philosophy. Through this writing intensive course, students will learn techniques, terminology, and diverse styles of doing philosophy. It has no prerequisites and is open to all students interested in developing philosophical and writing skills. Typically offered once a year with varying topics.

Core Curriculum/Core Requirements: ["Western Cultural Tradition","Writing Intensive"]

Prerequisites:
Major or minor in PHI or one course in Philosophy, or Sophomore standing or permission

Corequisites:
N/A

Course Typically Offered:
Fall

Credits: 3

PHI 210 - Classical Greek & Roman Philosophy

An analysis of Hellenic philosophy with emphasis on Plato and Aristotle, including Presocratic philosophy, Platonism, Aristotelianism, Stoicism and Epicureanism.

Core Curriculum/Core Requirements: ["Ethics' , 'Western Cultural Tradition"] Prerequisites:
One course in Philosophy or Sophomore Standing, or permission

Course Typically Offered:
Fall, Alternating Years

Credits: 3

PHI 214 - Continental Philosophy

A study of some of the most influential thinkers in 20th Century Continental Philosophy. Explores themes central to this area of philosophy including the nature of self-identity, our ability to understand ourselves and our motivations, the social and political character of this understanding, and the implications of these themes for our understanding of such areas of human existence as ethics, art, and politics. Authors considered in the course may include Freud, Sartre, Marcuse, Foucault, Deleuze, Derrida, de Beauvoir, and Judith Butler.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Social Contexts and Institutions"] Prerequisites:
One course in Philosophy or Sophomore Standing, or permission

Course Typically Offered:
Variable

Credits: 3

PHI 221 - Classical Chinese Philosophy

This course provides an introduction to major philosophical schools in the "classical" period of (pre-Qin) China, including Confucianism, Mohism, Daoism, and Legalism. We will concentrate on early debates over human nature and the best practices of self-cultivation, the general nature of the cosmos and the human role in it, and the proper ordering of society. We will read not only the original texts by early Chinese philosophers, but also contemporary discussions and developments of their views. These different philosophical positions greatly influenced later Chinese intellectual and social history, including the development of Buddhism, and shaped cultures and religions in Japan, Korea, and Southeast Asia as well. Thus, understanding these early debates is an important stepping-stone for understanding East Asian thought and culture generally.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives and Ethics"] Prerequisites:
One course in Philosophy or Sophomore Standing, or permission

Course Typically Offered:
Alternating years

Credits: 3

PHI 222 - Philosophy of Games

An introduction to the ways that philosophy can inform our understanding of games and the way games can provide new means for approaching philosophical problems. Topics include philosophical accounts of games, the aesthetic value and ethics of games, how formal theories of decision and games can be applied to philosophical problems, and how games can serve as a medium for addressing philosophical questions, with a focus on agency, personal identity, and meaning. Class preparation will require both reading philosophical texts and playing or watching play of assigned games.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression and Western Cultural Tradition"] Prerequisites:

One course in Philosophy or Sophomore Standing, or permission

Course Typically Offered:

Variable

Credits: 3

PHI 230 - Ethics

Readings and discussions of works by Aristotle, Mill, Kant, Nietzsche and other moral philosophers. In each case, the nature of the system, its summum bonum and defense is examined, criticized, and tested for its applicability to personal and public ethical predicaments.

Core Curriculum/Core Requirements: ["Ethics and Western Cultural Tradition"] Prerequisites:

One course in Philosophy or Sophomore Standing, or permission

Course Typically Offered:

Variable

Credits: 3

PHI 231 - Topics in Applied Ethics

Deals with the ethical issues in various professions and practices such as business, law, agriculture, government, science, teaching and journalism. Different sections may focus on specific professions or problem areas (e.g.., Business Ethics, Environmental Ethics, etc..)

Core Curriculum/Core Requirements: ["Ethics' , 'Western Cultural Tradition and Social Contexts and Institutions"] Prerequisites:

One course in Philosophy or Sophomore Standing, or permission

Course Typically Offered:

Not Regularly Offered

Credits: 3

PHI 232 - Environmental Ethics

A critical survey of major contemporary discussions of human relationships to nature and the causes of the environmental crisis. Topics will include animal rights, biocentrism, deep ecology, ecofeminism, bio-regionalism, social ecology and sustainability. Special attention will be given to building an ethical vocabulary for interpreting the place of humans in relation to the non-human.

Core Curriculum/Core Requirements: ["Ethics' , 'Social Contexts and Institutions and Population and the Environment"] Prerequisites:

Sophomore standing or one course in philosophy or permission

Course Typically Offered:

Fall & Spring

Credits: 3

PHI 235 - Biomedical Ethics

Investigates physician, nursing, and hospital codes of conduct, the physician/patient relationship, concepts of health/disease, procreation/abortion decisions, genetics/reproductive technologies, health resources/social justice allocations, medical humanities, ethics in a pandemic, and other ethical dimensions of medical practice.

Core Curriculum/Core Requirements: ["Ethics' , 'Western Cultural Tradition and Social Contexts and Institutions"] Prerequisites:

One course in Philosophy or Sophomore Standing, or permission

Course Typically Offered:

Fall and Spring

Credits: 3

PHI 240 - Social and Political Philosophy

A critical study of major social and political philosophers from Plato to the present in light of their ethical and metaphysical systems. Topics include the problem of justice, the nature of the state and its relationship to other social institutions, and the individual. The primary focus will be on normative rather than descriptive theory.

Core Curriculum/Core Requirements: ["Ethics' , 'Western Cultural Tradition"] Prerequisites:

One course in Philosophy or Sophomore Standing, or permission

Course Typically Offered:

Not Regularly Offered

Credits: 3

PHI 244 - Philosophy of Law

Topics include the nature and limits of law, sovereignty and legal duty. Special emphasis on theories of jurisprudence, the relationship between morality and law, the constitutional role of courts, and critical legal studies, including feminism, critical race theory, environmental law and deconstruction.

Core Curriculum/Core Requirements: ["Ethics' , 'Western Cultural Tradition and Social Contexts and Institutions"] Prerequisites:

One course in Philosophy or Sophomore Standing, or permission

Course Typically Offered:

Not Regularly Offered

Credits: 3

PHI 250 - Logic

An introductory course in modern symbolic logic. Techniques of deductive inference, including decision procedures and axiomatization, are studied in developing the propositional and predicative logics. Some attention is given to metalogic and the philosophy of logic.

Core Curriculum/Core Requirements: ["Quantitative Literacy and Western Cultural Tradition"] Prerequisites:

One course in Philosophy or Sophomore Standing, or permission

Course Typically Offered:

Fall

Credits: 3

PHI 262 - Philosophy of Art

An investigation of the nature and importance of aesthetic experience and its objects, the possibility of standards of art and taste, and the relation of art to other areas of experience. Topics include art and morality, art and science, art and the environment. Readings from Tolstoy, Hume, Dewey, Langer, Bell, Danto, Dickie and Beardsley, among others.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Artistic and Creative Expression"] Prerequisites:

One course in Philosophy or Sophomore Standing, or permission

Course Typically Offered:

Alternate Years

Credits: 3

PHI 287 - Classical Indian Philosophy

This course introduces major philosophical schools in pre-modern India (7th cen. BCE - 8th cen. CE), including Sāṃkhya, Yoga, Nyāya, Vaiśeṣika, Mīmāṃsā, Vedānta, Jainism, Buddhism, and Cārvāka. Special emphasis is placed on arguments about the nature of the self, its relationship to ultimate reality, and methods of overcoming the human predicament. Readings include original texts by Indian philosophers in English translation as well as contemporary discussions and developments of their views. In this way the continuing influence of these philosophies in the religions and cultures of South Asia and worldwide diaspora is highlighted.

Core Curriculum/Core Requirements: ["Ethics' , 'Cultural Diversity and International Perspectives"] Prerequisites:

One course in Philosophy or Sophomore Standing, or permission

Course Typically Offered:

Alternate Years

Credits: 3

PHI 310 - History of Medieval and Renaissance Philosophy

An analysis of Arabic and Latin philosophy from late antiquity to the 16th century with emphasis on the developments in logic,

epistemology, physics, and metaphysics that led to the birth of early modern philosophy in Europe.

Core Curriculum/Core Requirements: [""] Prerequisites:
Sophomore Standing and one course in Philosophy or permission

Course Typically Offered:
Spring, Alternating years

Credits: 3

PHI 312 - History of Modern Philosophy

An interpretation of modern philosophy from Bacon and Descartes in the 17th century, developing through 18th century rationalism and empiricism and culminating in the system of Kant.

Prerequisites:
Sophomore Standing and one course in Philosophy or permission

Course Typically Offered:
Spring, Alternating years

Credits: 3

PHI 315 - 19th Century Philosophy

A study of the philosophy of Hegel and related 19th Century philosophies that consider the historical and situational character of consciousness and knowledge. Explores the implications for areas of human existence such as ethics, politics, art, economics, and science. Additional authors considered may include Kant, Schiller, Nietzsche, and Marx.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Social Contexts and Institutions"] Prerequisites:
Sophomore standing or permission.

Course Typically Offered:
Variable

Credits: 3

PHI 317 - Phenomenology

A critical study of the philosophical significance of individual choices and actions, including questions of personal identity, responsibility, authenticity and the ways in which those aspects of human experience are described. Readings include texts by Nietzsche, Heidegger, Sartre, Merleau-Ponty and contemporary authors, who conduct existential and phenomenological investigations of race, class and gender.

Prerequisites:
Sophomore Standing and one course in Philosophy or permission

Course Typically Offered:
Variable

Credits: 3

PHI 330 - Advanced Topics in Ethics

This course introduces students to advanced topics in ethical theory, focusing on contemporary issues in normative ethics and metaethics. Specific topics will be determined by the instructor. They may include advanced topics in metaethics, such as moral relativism and nihilism, advanced topics in normative ethics, such as moral responsibility and moral distress, or advanced topics in theories of well-being, such as hedonism, happiness, and Aristotle's eudaimonia.

This course may be repeated for a total of 6 credits if taken with different topics.

Prerequisites:
Sophomore standing and one course in philosophy, or by permission.

Course Typically Offered:
Variable

Credits: 3

PHI 332 - Environmental Philosophy

A focused study of texts, perspectives and issues concerning the philosophy of nature, environmentalism and climate change from historical, cross-cultural and humanities perspectives.

Prerequisites:
Sophomore Standing and one course in Philosophy or permission

Course Typically Offered:
Spring, Alternating years

Credits: 3

PHI 336 - Feminist Philosophy

This course will survey intersectional feminist approaches to traditional philosophical areas such as ethics, political philosophy, aesthetics, metaphysics, epistemology, and philosophy of science. Topics may include the body, the self, work, disability, the family, human trafficking, immigration, sex work, reproduction, sexual orientation, gender, and sexuality.

Core Curriculum/Core Requirements: [""] Prerequisites:
Sophomore standing and one course in philosophy, or by permission.

Course Typically Offered:
Alternating Years

Credits: 3

PHI 351 - Philosophy and Literature

Surveys the relationship between philosophy and literature. Asks how reading literature contributes to philosophical understanding. Also explores literary challenges to traditional philosophy. Specific topics will vary with the instructor.

Prerequisites:
Sophomore Standing and one course in Philosophy or permission

Course Typically Offered:
Fall, Alternating Years

Credits: 3

PHI 353 - Minds and Machines

A study of classic and recent work in the philosophy of mind and artificial intelligence. Topics include the relation between mind and body, the nature of consciousness, knowledge of other minds, neuroscience of free will, computational models of the mind, whether machines can have minds, and the limits of artificial intelligence.

Prerequisites:
Sophomore Standing and one course in Philosophy or permission

Course Typically Offered:
Not Regularly Offered

Credits: 3

PHI 360 - Metaphysics

Metaphysics is the branch of philosophy that concerns itself with the fundamental nature of the world. Questions that metaphysics attempts to answer include: What do we mean when we say something exists? Do any things other than physical objects (numbers, qualities, God, etc.) exist? Why is there anything rather than nothing? What are human beings: material organisms, immaterial souls, or something else? What makes you the same person as you were ten years ago? Are we really free to choose our actions, or are our actions (even thoughts) predetermined by something else in the world? What is the nature of time and space? Is time travel possible?

In this course, we will focus on some of those questions and evaluate arguments for different answers that are proposed by philosophers from different philosophical traditions. This will not only give us a deep understanding of those metaphysical disputes but also help us approach other branches of philosophy.

Prerequisites:
Sophomore Standing and one course in Philosophy or permission

Course Typically Offered:
Alternating Fall

Credits: 3

PHI 404 - Pragmatism, Democracy, and Education

A critical study of major works in the philosophical tradition of American Pragmatism, with a focus on pragmatic accounts of inquiry, democracy, and education. Readings include works by classical pragmatists like Peirce, James, Dewey, as well as contemporary

work by authors like Rorty, West, and Misak.

Prerequisites:
Junior Standing and 1 Course in Philosophy, or Instructor Permission

Course Typically Offered:
Variable

Credits: 3

PHI 420 - Topics in Continental Philosophy

A critical study of topics addressed by major movements and thinkers in continental philosophy since the turn of the century. Readings include works by Husserl, Heidegger, Sartre, de Beauvoir, Merleau-Ponty, Levi-Strauss, Derrida, Lacan, Foucault, Habermas and Gadamer.

Prerequisites:
Junior Standing and 1 Course in Philosophy, or Permission

Course Typically Offered:
Not Regularly Offered

Credits: 3

PHI 432 - Environmental Justice

A critical study of historical and multicultural perspectives on environmental justice. This course will focus on environmental intersectionality, the theory that environmental burdens disproportionately affect oppressed social groups. Attention will be given to environmental philosophy, ethics and policy, ranging from local indigenous struggles, to national and global issues.

Core Curriculum/Core Requirements: [""] Prerequisites:
Junior Standing and 1 Course in Philosophy, or Permission

Course Typically Offered:
Variable

Credits: 3

PHI 465 - Advanced Topics in Philosophy

Individual and small group study of problems or systems of philosophical concern relying on careful use of major philosophical resources, as well as attempts at fresh exploration of fundamental topics. Topics vary. May be repeated for credit when different philosophers or problems are studied.

Core Curriculum/Core Requirements: [""] Prerequisites:
Junior Standing and 1 Course in Philosophy, or Permission

Course Typically Offered:
Not Regularly Offered

Credits: 3

PHI 466 - Readings in Philosophy

Individual study of a selected topic, agreed upon by the student and the instructor. Designed to address advanced issues not covered in normal offerings.

Core Curriculum/Core Requirements: [""] Prerequisites:
Junior Standing and three courses in Philosophy and permission

Course Typically Offered:
Not Regularly Offered

Credits: 1-3

PHI 475 - Philosophy Capstone

One semester of study is required for all philosophy majors. Normally offered each semester with topics of study varied depending upon the instructor and student interest. Provides upper-level philosophical study shared by philosophy majors and other students with an interest in advanced philosophical learning.

Core Curriculum/Core Requirements: ["Writing Intensive and Capstone"] Prerequisites:
Senior standing (Junior with permission), PHI 201, and 2 additional courses in philosophy, or for credit as PHI 465 sophomore standing, two courses in philosophy, or permission

Course Typically Offered:
Spring

Credits: 3

Physical Education

PHE 101 - Physical Education Activity

A choice of activities is available each semester, depending on the season and scheduling requirements. May be repeated for credit as topics vary. Students may elect a maximum of 3 activities in any one semester. Offered pass/fail.

Course Typically Offered:
Fall and Spring

Credits: 1

PHE 103 - Open Water I SCUBA

This Professional Association of Diving Instructors (PADI) course is a performance-based education course which leads to certification upon completion of all requirements. This course teaches the foundational knowledge and skills necessary to dive with a buddy, independent of supervision. The course involves classroom activities, pool exercises and/or supervised open water dives.

Prerequisites:
Medical clearance.

Course Typically Offered:
Fall

Credits: 3

PHE 106 - Fit for Service

This course is designed to help students train for and pass service physical fitness exams. Students will learn and practice exercises and techniques to get higher scores on service physical fitness assessments. The typical events are timed push-ups, sit-ups, ruck march, and run. Students will also learn to employ a variety of exercise plans and produce improved cardiovascular endurance.

Course Typically Offered:
Fall

Credits: 1

PHE 107 - Personal Wellness

This course is designed to help students explore the various dimensions of wellness, including the areas of physical, emotional, social, intellectual, spiritual, environmental, and financial wellness. Students will gain experience developing achievable wellness goals and strategies to benefit them in their current personal lives and through their academic careers, as well as to support lifelong wellness. Students will have opportunities to engage in a variety of activities that help expand and provide meaningful additions to their current wellness strategies.

Core Curriculum/Core Requirements: ["Personal Wellness"] Course Typically Offered:
Fall and Spring

Credits: 3

PHE 203 - Advanced Open Water SCUBA

This course expands the knowledge and experience of students beyond the Basic Open Water SCUBA course and prepares students for advance SCUBA certifications in Rescue Diver and others. Students will participate in classroom instruction, pool instruction and open water dives. The course covers concepts, practical applications, problem solving, safety, and hands-on experiences. Students will study, understand and be able to demonstrate the skills associated with the following topical areas: naturalist, deep water dives, navigation, search and recovery, night diving, shipwreck concepts and practices, and recreational dive planner. Every student will demonstrate knowledge and practical skills in all areas to complete the course and to obtain PADI certification. Quizzes and tests are part of the evaluation process. Grades are determined based on all parts of assessment.

Prerequisites:
PHE 103 or equivalent certification.

Course Typically Offered:
Fall

Credits: 3

Physics

PHY 100 - Introduction to Physics and Astronomy

Introduces first-year physics and engineering physics students to the professions and opportunities in physics, engineering physics, and astronomy, including departmental faculty, research opportunities, and facilities. In addition to discipline specific information, the course will introduce students to departmental, college, and university resources that will help them succeed in their education. (Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Prerequisites:

First-year standing within the BA or BS in Physics or the BS in Engineering Physics or permission.

Course Typically Offered:

Fall

Credits: 1

PHY 105 - Descriptive Physics

An introduction to basic concepts of physics intended for the non-science major. Lec w/dem 3, Lab 3.

Core Curriculum/Core Requirements: ["Lab in Basic or Applied Sciences"] Course Typically Offered:

Spring

Credits: 4

PHY 107 - Technical Physics I

An introduction to the basic concepts of mechanics and heat with illustrations taken from technical applications. Algebra and trigonometry are used. Intended for Engineering Technology students. NOTE: Because of overlapping subject matter, no more than four (4) degree credits are allowed for any combination of PHY 107, PHY 111 and PHY 121.

Core Curriculum/Core Requirements: ["Lab in Basic or Applied Sciences"] Course Typically Offered:

Fall

Credits: 4

PHY 108 - Technical Physics II

An introduction to the basic concepts of electricity, magnetism and light with illustrations taken from technical applications. Algebra and trigonometry are used. Intended for Engineering Technology students. NOTE: Because of overlapping subject matter, no more than four (4) degree credits are allowed for any combination of PHY 108, PHY 112 and PHY 122.

Core Curriculum/Core Requirements: ["Lab in Basic or Applied Sciences"] Prerequisites:

PHY 107

Course Typically Offered:

Spring

Credits: 4

PHY 111 - General Physics I

An introduction to the principles of mechanics, energy, heat, sound and properties of matter. Designed for science majors as well as premedical and predental students. No calculus. A working knowledge of algebra and trigonometry is required. NOTE: Because of overlapping subject matter, no more than four (4) degree credits are allowed for any combination of PHY 107, PHY 111 and PHY 121.

Core Curriculum/Core Requirements: ["Lab in Basic or Applied Sciences"] Course Typically Offered:

Fall, Spring and Summer

Credits: 4

PHY 112 - General Physics II

A continuation of PHY 111. Introducing electricity, magnetism, optics and atomic, nuclear, and quantum physics. NOTE: Because of overlapping subject matter, no more than four (4) degree credits are allowed for any combination of PHY 108, PHY 112 and PHY 122.

Core Curriculum/Core Requirements: ["Lab in Basic or Applied Sciences"] Prerequisites:

PHY 111

Course Typically Offered:

Spring, Summer

Credits: 4

PHY 121 - Physics for Engineers and Physical Scientists I

An introductory calculus-based physics course, primarily serving students majoring in engineering or the physical sciences. Focuses on mechanics. NOTE: While Calc I (MAT 126 or equivalent) is not a pre- or corequisite for PHY 121 (Physics for Eng. & Physical Scientists I), it is a prerequisite for PHY 122 (Physics for Eng. & Physical Scientists II). Since PHY 121 is calculus based, it is expected that students are either concurrently enrolled in or have prior credit for MAT 126. NOTE: Because of overlapping subject matter, no more than four (4) degree credits are allowed for any combination of PHY 107, PHY 111 and PHY 121.

Core Curriculum/Core Requirements: ["Lab in the Basic or Applied Sciences"] Prerequisites:

A grade of C or better in MAT 122 or MAT 126, or no grade record in MAT 122 and a passing score (for MAT 126) on the Math Placement Exam

Course Typically Offered:

Fall, Spring, Summer

Credits: 4

PHY 122 - Physics for Engineers and Physical Scientists II

A continuation of PHY 121 including electricity, magnetism, and optics. While not required, it is recommended that MAT 127 be taken concurrently with, or prior to PHY 122. NOTE: Because of overlapping subject matter, no more than four (4) degree credits are allowed for any combination of PHY 108, PHY 112 and PHY 122.

Core Curriculum/Core Requirements: ["Lab in the Basic or Applied Sciences"] Prerequisites:

A grade of C- or better in PHY 121 and a grade of C or better in MAT 126

Course Typically Offered:

Fall, Spring, Summer

Credits: 4

PHY 200 - Career Preparation in Physics and Engineering Physics I

A sophomore level course required of all physics and engineering physics majors. An introduction to the professions of physics and engineering physics, including the ethical standards of professional practice. Technical communication skills and practice in working on teams are developed through projects, presentations, and class discussions of contemporary issues and strategies to enhance professional qualifications.

Core Curriculum/Core Requirements: [""] Prerequisites:

Sophomore standing.

Course Typically Offered:

Fall

Credits: 1

PHY 223 - Special Relativity

The basic principles of special relativity with a primary emphasis on mechanics.

Core Curriculum/Core Requirements: [""] Prerequisites:

MAT 126, and a grade of C- or better in either PHY 112 or PHY 122

Course Typically Offered:

Spring

Credits: 1

PHY 231 - Mathematical Methods in Physics

Mathematical methods with applications to physics. Topics include: infinite series, power series, complex numbers, linear algebra, partial differentiation, multiple integrals, vector analysis, Fourier series and Fourier transforms, ordinary and partial different equations. If this course was taken as a topics course in PHY 497, it cannot be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

Grade of C or better in MAT 228

Corequisites:

MAT 259 or permission of instructor

Course Typically Offered:

Spring

Credits: 3

PHY 236 - Introductory Quantum Physics

The basic principles of quantum theory, atomic structure, nuclear structure, and some aspects of molecular, solid state, and elementary particle physics.

Core Curriculum/Core Requirements: [""] Prerequisites:

MAT 127, a grade of C- or better in either PHY 112 or PHY 122

Course Typically Offered:

Fall

Credits: 3

PHY 241 - Computational Physics

This course is a problem-solving course, developing the ability to solve numerical problems in physics and astronomy using computer programming methods with the Python language. Upon completion of this course, the student will possess the basic knowledge of numerical modeling that may be required for graduate school or in a position at a technical corporation.

If this course was taken as a topics course in PHY 497, it cannot be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in PHY 236

Course Typically Offered:

Spring

Credits: 3

PHY 261 - Physical Measurements Laboratory

Experiments primarily in modern physics. Lab 2.

Core Curriculum/Core Requirements: [""] Prerequisites:

MAT 127, a grade of C- or better in either PHY 112 or PHY 122

Corequisites:

PHY 236

Course Typically Offered:

Fall

Credits: 2

PHY 262 - Electronics

A laboratory-based introduction to analog and digital electronics and to the collaborative design and testing of circuits for a variety of practical applications. Primarily for physics and engineering physics majors; others admitted by permission. If this course was taken as a topics course in PHY 497, it cannot be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

MAT 127, A grade of C- or better in either PHY 112 or PHY 122

Course Typically Offered:

Spring

Credits: 2

PHY 364 - Modern Experimental Physics

Experiments selected from various topics in physics including x-ray diffraction, microwaves, nuclear magnetic resonance, Hall effect, etc. Students develop their own experimental methods. Normally taken by junior physics and engineering physics majors.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

MAT 228 and a grade of C- or better in PHY 236

Course Typically Offered:

Fall

Credits: 2

PHY 365 - Mechanics Laboratory

Theories and practices in the measurement of physical quantities in mechanics. Primarily for physics and engineering physics majors; others admitted by permission.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

MAT 259 and a grade of C- or better in PHY 451

Course Typically Offered:

Spring

Credits: 2

PHY 400 - Career Preparation in Physics and Engineering Physics II

A senior level course required of all physics and engineering physics majors. Refinement of technical communication skills through projects, presentations and class discussions of contemporary issues in science and engineering and strategies for career enhancement after graduation.

Core Curriculum/Core Requirements: ["Together with PHY 481 or PHY 482' , 'this course Satisfies the General Education Capstone Experience Requirement."] Prerequisites:

Grade of C- or better in PHY 200; senior standing.

Course Typically Offered:

Fall

Credits: 1

PHY 447 - Molecular Biophysics

An introduction to physical properties of biological macromolecules including proteins, nucleic acids and membranes. Solution thermodynamics developed as needed. Some statistical mechanics introduced. Topics include macromolecular structure, dynamics and functions, inter- and intra-molecular interactions, ligand binding equilibria, helix-coil transitions, physical techniques used in biophysics such as calorimetry, X-ray diffraction, optical and magnetic resonance spectroscopy. Four credit version contains additional term project to be arranged with instructor.

Core Curriculum/Core Requirements: [""] Prerequisites:

MAT 126, CHY 121, and a grade of C- or better in either PHY 112 or PHY 122 or permission

Course Typically Offered:

Spring

Credits: 3 - 4

PHY 451 - Mechanics

A detailed treatment of mechanics using Newtonian and Lagrangian methods. Newton's laws, particle motion in a plane, linear oscillations, damped oscillations, coupled oscillators, rigid body rotation, and potential methods.

Core Curriculum/Core Requirements: [""] Prerequisites:

A Grade of C- or better in PHY 231

Course Typically Offered:

Fall

Credits: 3

PHY 454 - Electricity and Magnetism I

An intermediate level course in the fundamentals of the theory of electricity and magnetism. Treats electrostatics and magnetostatics, both in vacuum and in matter. Rec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in either PHY 112 or PHY 122 and in PHY 231

Course Typically Offered:

Fall

Credits: 3

PHY 455 - Electricity and Magnetism II

A continuation of PHY 454. Treats electrodynamics by developing Maxwell's equations and applying them to systems of general

interest. Rec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in PHY 454.

Course Typically Offered:

Spring

Credits: 3

PHY 463 - Statistical Mechanics

Introduces statistical mechanics and thermodynamics with examples chosen from magnetic systems, ideal gases, metals, superfluidity, chemical reactions, phase transformations, mixtures, semiconductors, kinetic theory or related topics. Normally taken as a junior or senior elective by students in the sciences or engineering. Rec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

MAT 258 or MAT 259 and a grade of C- or better in PHY 236.

Course Typically Offered:

Spring

Credits: 3

PHY 469 - Quantum and Atomic Physics

Basic principles of quantum mechanics. Exploration of canonical systems and the postulates of quantum mechanics using Dirac, vector-matrix, and wavefunction notations. Analysis of spin, energy, position, and momentum eigenstates, both time independent and time dependent, for several bound and scattering state systems.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in both PHY 231 and PHY 236

Course Typically Offered:

Fall

Credits: 3

PHY 470 - Nuclear Physics

Properties of the nucleus, nuclear reactions, radioactive decay, nuclear models, nuclear reactors and nuclear health physics. May be taken without the laboratory, PHY 471.

Core Curriculum/Core Requirements: [""] Prerequisites:

C or better in either MAT 258 or MAT 259

Course Typically Offered:

Spring

Credits: 2-3

PHY 471 - Nuclear Physics Laboratory

Laboratory exercises to accompany PHY 470. Lab 2.

Core Curriculum/Core Requirements: [""] Corequisites:

PHY 470

Course Typically Offered:

Spring

Credits: 1

PHY 472 - Geometrical and Fourier Optics

Covers geometrical optics, refraction and reflection at plane and spherical surfaces, optical instruments; Fourier optics, interference of waves and diffraction by a single and a double aperture; Lasers - theory of their operation, mode locking and pulse formation. Rec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in either PHY 112 or PHY 122.

Corequisites:

MAT 228

Course Typically Offered:

Fall

Credits: 3

PHY 480 - Physics of Materials

An Introductory courses in the physics of materials, primarily solid state physics. The structural, mechanical, electrical, magnetic, and optical properties of materials are discussed. This course is appropriate for upper level undergraduates and graduate students in the field of physical sciences and engineering. The topics will build upon and utilize concepts from materials science, quantum physics, mechanics, and electricity and magnetism.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in both PHY 231 and PHY 236

Course Typically Offered:

Fall

Credits: 3

PHY 481 - Project Laboratory in Physics I

An individual project laboratory tailored to the student's particular interests. In consultation with a faculty sponsor, each student is expected to develop a suitable project, approved by the sponsor and the course coordinator. The project may or may not be related to the sponsor's research. Full written reports are required.

Core Curriculum/Core Requirements: ["Together with PHY 400' , 'this course satisfies the General Education Capstone Experience Requirement."] Prerequisites:

Open to Physics or Engineering Physics majors with senior standing; others by permission of instructor.

Course Typically Offered:

Fall, Spring, Summer

Credits: 3

PHY 482 - Project Laboratory in Physics II

Completion of the project begun in PHY 481.

Core Curriculum/Core Requirements: ["Together with PHY 400' , 'this course satisfies the General Education Capstone Experience Requirement."] Prerequisites:

A grade of C- or better in PHY 481

Course Typically Offered:

Fall, Spring, and Summer

Credits: 3

PHY 495 - Engineering Physics Practice

Supervised engineering practice in an industrial setting. Placement is off-campus and usually of several month's duration. Prior approval of department chairperson is required.

Core Curriculum/Core Requirements: [""] Prerequisites:

Sophomore standing with successful completion of 16 hours of physics courses and a declared major in Engineering Physics.

Course Typically Offered:

Fall, Spring, Summer

Credits: 1-6

PHY 496 - Field Experience in Physics

Supervised research or development in an academic laboratory, government laboratory, or industrial environment. Placements are usually off-campus and of several month's duration. Prior approval of the department chairman is required.

Core Curriculum/Core Requirements: [""] Prerequisites:

Sophomore standing with successful completion of 16 hours of physics courses and a declared major in Engineering Physics.

Course Typically Offered:

Fall, Spring, Summer

Credits: 1-6

PHY 497 - Topics in Physics

Selected topics in areas not already covered by regular course offerings in the department. Primarily for undergraduates.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Fall, Spring, Summer

Credits: Ar

PHY 499 - Problems in Physics

A thesis project primarily for undergraduates and ordinarily of an experimental nature.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Fall, Spring, Summer

Credits: 1-3

Plant, Soil and Environmental Sciences

PSE 100 - Plant Science

Basics of plant anatomy, morphology, ecology, physiology and taxonomy with examples drawn from common agricultural and horticultural plants are discussed. Labs include hands-on investigations of local plants. Lec 3, Lab 2. Course may include field trips during class hours.

Core Curriculum/Core Requirements: ["Lab in the Basic or Applied Sciences"] Course Typically Offered:
Fall

Credits: 4

PSE 105 - Principles of Sustainable Agriculture

Basic design principles and examples of environmentally and economically sustainable agricultural systems. Describes the use of synthetic fertilizers and pesticides, but emphasis will be placed on identifying management practices that a) biologically improve soil structure, organic matter content, and fertility; and b) minimize or eliminate the need for chemical interventions for control of insect pests, pathogens, and weeds. Rec 3.

Core Curriculum/Core Requirements: ["Application of Scientific Knowledge and Population and the Environment"] Course Typically Offered:
Fall

Credits: 3

PSE 110 - Introduction to Horticulture

Students will understand the science of growing plants. They will apply botany and soil science to produce horticulture crops. Students will work independently on hands-on projects to apply basic science principles in order to understand horticultural concepts including fruit and leaf morphology, seed germination, and plant growth.

Core Curriculum/Core Requirements: ["Applications of Scientific Knowledge"] Course Typically Offered:
Spring

Credits: 3

PSE 203 - Weed Biology and Identification

This course is focused on the study of weed communities in turf and urban landscapes, roadsides and waste areas, wetlands, forest edges and agricultural fields. Students will learn to identify approximately sixty weedy plant species and will know the principle habitat, life cycle, plant family and binomial for each species. Course may include field trips during class hours.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Fall, Even Years

Credits: 1

PSE 210 - Digital Landscape Graphics

An introduction to 2D/3D computer-aided design (CAD) with a focus on landscape design using Vectorworks Landmark. Exercises relevant to landscape design and horticulture fields include topography manipulation, plan graphics, construction documentation, site modeling, and use of the software's construction schedules and plant libraries.

Core Curriculum/Core Requirements: [""] Prerequisites:
ENH majors or permission

Course Typically Offered:

Spring, Odd Years

Credits: 2

PSE 215 - Vegetable and Fruit Production

The course will provide students with a practical introduction to growing vegetable and fruit crops of local importance with an emphasis on organic and sustainable production systems. Lectures will focus on particular species, or group of related species, and will include information on cultivar selection, field preparation, fertility and pest management, cultural practices, and harvesting. This course may include off campus field trips during class hours.

Core Curriculum/Core Requirements: [""] Prerequisites:

BIO 200 or PSE 100 or SFR 100.

Course Typically Offered:

Fall, Odd Years

Credits: 3

PSE 219 - SL: Herbaceous Landscape Plants

The study of fundamental principles and practices of identifying, growing and using perennial and annual herbaceous ornamental plants in the landscape. Students will work with Cooperative Extension and Penobscot County Master Gardeners to manage herbaceous plant gardens that serve the community for education and demonstration. Students will participate in extensive outdoor labs and may participate in field trips. This course has been designated as an UMaine service-learning course. Course may include field trips during class hours.

Core Curriculum/Core Requirements: [""] Prerequisites:

Grade of C- or better in PSE 100 or BIO 200 or SFR 100.

Course Typically Offered:

Fall

Credits: 3

PSE 221 - Woody Landscape Plants

The study of deciduous and evergreen trees, shrubs, vines, and groundcovers for use in the New England landscape; including identification skills, culture, and function in the landscape. Extensive outdoor labs. Lec 3, Lab 2.

Core Curriculum/Core Requirements: [""] Prerequisites:

Grade of C- or better in PSE 100 or BIO 200 or SFR 100.

Course Typically Offered:

Fall

Credits: 4

PSE 224 - Site Analysis, Grading and Drainage

An introduction to the landscape design site planning process, this course introduces students to reading the landscape in topographic map form and the principles of site manipulation to control hydrological function. Topics and exercises include recognizing existing site hydrology, directing surface water flow around structures and through subsurface systems, layout and grading for circulation, calculating cut and fill, retaining wall design and slope design. Course may include field trips outside of class on weekdays.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in PSE 100 or permission

Course Typically Offered:

Fall

Credits: 3

PSE 227 - Landscape Design I

The first Landscape Design course in a series of two. An introduction to fundamental principles and practices of landscape design including hand graphics techniques, design process, design composition, development of space, hardscape construction materials and basic planting design.

Core Curriculum/Core Requirements: [""] Prerequisites:

Environmental Horticulture Major or Permission

Course Typically Offered:
Spring

Credits: 4

PSE 261 - Nutrient Management

This 5-week course provides students with tools to understand fertilizer recommendations, calculate fertilizer additions from organic and inorganic sources for different soils, and develop nutrient management plans. The importance and goals of nutrient management and nutrient management in different scales and types of systems are emphasized.

Core Curriculum/Core Requirements: [""] Prerequisites:
BMB 207 or CHY 121 and EES 140

Course Typically Offered:
Spring

Credits: 1

PSE 263 - Plant Health Diagnostics

The goal of plant health diagnosis is to identify the causal agent threatening plant health and to prescribe management to reduce plant damage from insects, pathogens and abiotic stresses. This course summarizes the methods and strategies used to diagnose stresses affecting plant health.

Core Curriculum/Core Requirements: [""] Prerequisites:
BIO 100 or PSE 100 or SFR 100

Course Typically Offered:
Fall

Credits: 1

PSE 265 - Soil Health for Farm Resilience and Climate Mitigation

This course provides students with tools to understand the concepts and practices of soil health in different scales and types of systems. The importance, goals, and challenges of managing for soil health are emphasized. Both agronomic and environmental outcomes for soil health practices are considered. Students will build their understanding of, and ability to use, course information through weekly discussions and will critically evaluate the use of soil health practices for climate mitigation.

Core Curriculum/Core Requirements: [""] Prerequisites:
BIO 100 or PSE 100 or SFR 100, and EES 140 or permission

Course Typically Offered:
Fall

Credits: 1

PSE 305 - Problems in Plant, Soil and Environmental Sciences

Opportunity is provided for specialization in specific areas of plant, soil and environmental sciences.

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission.

Course Typically Offered:
Fall, Spring, Summer

Credits: 0-16

PSE 312 - Sustainable Food Systems: Challenges and Opportunities

This course is an examination of food systems through a sustainability lens, including the evolution of food systems over time, supply and value chains, food justice, food sovereignty, hunger, food and agriculture policy at the federal and state level.

Core Curriculum/Core Requirements: [""] Prerequisites:
PSE 105 or permission

Course Typically Offered:
Fall, Even Years

Credits: 3

PSE 325 - Turf and Grounds Management

Investigation of the science and practice of turf and grounds management in residential, commercial, and public landscapes. Topics include grass biology and identification, lawn establishment, turfgrass maintenance, site analysis and improvement, designing for effective maintenance, mulching and weed control, plant responses to pruning, and the ecological tension between native and managed landscapes. Lab activities will be conducted within the campus landscape.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better is required in PSE 100 or BIO 200 or SFR 100.

Course Typically Offered:

Fall, Odd Years

Credits: 3

PSE 328 - Landscape Design II

The second Landscape Design course in a series of two, this is a project-intensive course focusing on the culmination of previous course instruction where students produce multiple residential landscape plans with all supporting documentation. Students will have hands-on opportunity to produce plans for real residential sites. Layout plans and advanced planting design will be introduced. Students are expected to integrate course knowledge in soils, site analysis, grading, drainage, hand drawn and CAD landscape graphics, landscape construction materials and details, woody and herbaceous plant material, and cost estimating schedules to supplement construction documentation. Course may include field trips outside of class on weekdays.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in PSE 210 and PSE 219 and PSE 221 and PSE 227

Course Typically Offered:

Fall

Credits: 4

PSE 360 - Agroecology and Sustainable Cropping Systems

Students will learn about and discuss various aspects of transdisciplinary agroecology and sustainable cropping systems. This will include a synthesis of fundamental topics (e.g. tillage, irrigation, crop genetic resources, diversity) in the context of social and economic realities of contemporary U.S. agriculture. We will explore agronomic and horticultural cropping systems using local, regional, national, and global examples. Students will work collaboratively in on-farm context to assess an agroecology system, understand its complexities, practice research and practical farm management skills (e.g. biodiversity assessment, soil sampling) and make recommendations for improving sustainability.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

PSE 105 or permission

Course Typically Offered:

Fall, Odd Years

Credits: 4

PSE 396 - Field Experience in Plant, Soil and Environmental Sciences

An approved program of work experience which contributes to the academic major and for which academic credit is given. Students may work part time or full time for a semester in a job related to their professional career goals, including on-farm internships.
(Pass/Fail Grade Only)

Core Curriculum/Core Requirements: [""] Prerequisites:

Sophomore standing and permission.

Course Typically Offered:

Fall, Spring, Summer

Credits: 1 - 16

PSE 397 - Special Topics in Plant, Soil, and Environmental Sciences

An in-depth study of topics in plant, soil and environmental sciences. Course may be repeated with different topics.

Prerequisites:

Department Consent

Course Typically Offered:

Spring

Credits: 1-6

PSE 402 - Plant Breeding and Genetic Resources

A general introduction to plant breeding principles and genetic resources. The course content will focus on the genetic basis of plant breeding and explore concepts on plant breeding, crop sciences, and related disciplines. The course will cover how plant breeding contributes to a more sustainable and profitable agriculture and a pathway to learning technologies applied to plant breeding.

PSE 402 and PSE 502 may not both be taken for credit.

Prerequisites:

Junior standing and PSE 100 or BIO 100 or SFR 100

Course Typically Offered:

Spring

Credits: 3

PSE 403 - Weed Ecology and Management

Ecological principles and their application in non-chemical and reduced input weed management strategies. Course may include field trips during class hours. Lec 2, Lab 2. PSE 403 and PSE 513 cannot both be taken for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

BIO 200 or PSE 100 or SFR 100

Course Typically Offered:

Fall, Odd Years

Credits: 3

PSE 410 - Plant Propagation

Students will explore the principles and practices of plant propagation, including sexual propagation from seeds and asexual propagation from cuttings, tissue culture, grafting, budding, division, and layering. This course includes a lab focused on practical experiences in propagation and the basics of experimental design and data interpretation.

Core Curriculum/Core Requirements: [] Prerequisites:

A grade of C- or better in PSE 100 or BIO 100 or SFR100, and Junior standing. EES 140 is recommended.

Course Typically Offered:

Spring

Credits: 4

PSE 415 - Greenhouse Management

The study of greenhouse management practices and principles. Specific areas of study will include greenhouse structure, operation, and the use of greenhouses for ornamental plant production. Extensive greenhouse work. Lec 3, Lab 2. Course may include field trips during class hours. EES 140 is recommended.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C- or better in PSE 100 or BIO 200 or SFR 100, and Junior standing.

Course Typically Offered:

Spring

Credits: 4

PSE 424 - Nursery Management

Covers the basic systems and methods for production of nursery crops, including container and field production, quality control, substrate management, irrigation, pest and diseases, financial considerations, retail and wholesale operations, selling and shipping nursery stock, overwintering, and the relationship between nursery and landscape industries. Extensive outdoor labs include work on campus. Course may include field trips on weekends.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

Junior standing and a grade of C- or better in PSE 100, BIO 100 or SFR 100.

Course Typically Offered:

Fall, Even Years

Credits: 3

PSE 425 - Landscape Management

Designed to provide students with the opportunity to bring together all aspects of theoretical and applied training. Students develop an understanding of professional practice in landscape management, business management, project management and group collaboration. Accomplished through interacting with a variety of professionals, field trips and real life hands-on projects. Lec 2, Lab 2. Course may include field trips outside of class time on weekdays.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

Grade of C- or better in PSE 203 or PSE 221 or PSE 325 or PSE 403

Course Typically Offered:

Spring, Even Years

Credits: 3

PSE 430 - SL: Community Engagement and Sustainability Capstone

This course will allow students in Environmental Horticulture, Sustainable Agriculture, and Sustainable Food Systems the opportunity to apply information learned in their respective programs.Students will collaborate on service learning projects and will gain professional skills and knowledge through guest lectures by professionals in a variety of horticulture, agriculture, or food systems-related occupations. By engaging in service and community learning through this capstone course, students will partner with research groups, outreach and education organizations, or independent businesses to apply their knowledge and skills to real-world problems that address community needs. This course has been designated as a UMaine service-learning course.

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:

Senior Standing in Environmental Horticulture, Sustainable Agriculture, or Sustainable Food Systems

Course Typically Offered:

Spring

Credits: 3

PSE 440 - Environmental Soil Chemistry and Plant Nutrition

A study of the origin and nature of soil chemical properties and how they influence plant growth and environmental quality. The cycling of nutrients and carbon through soils, the biosphere, the hydrosphere, and the atmosphere is discussed. The impacts of human practices such as fertilization, mining, fossil fuel consumption, irrigation, and waste disposal on the quality of soils in both managed and natural systems are considered.

Core Curriculum/Core Requirements: [""] Prerequisites:

BMB 208 or CHY 122 and EES 140.

Course Typically Offered:

Spring, Even Years

Credits: 3

PSE 457 - Plant Pathology

This course provides an understanding of the biology of plant diseases, the agents that cause them, the conditions that affect their severity, and the methods used to manage them. Students should develop the ability to recognize or diagnose particular diseases and an understanding of the principles of disease management. PSE 457 and PSE 557 cannot both be taken for credit. Course may include field trips during class hours.

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior or Senior Standing and either BIO 100 or PSE 100.

Course Typically Offered:

Fall

Credits: 4

PSE 469 - Soil Microbiology

This course considers the physiological, biochemical and ecological diversity of soil microorganisms and their interactions with other organisms and the environment. Topics include microbial cycling of organic matter and nutrients in soil, sustainable soil management, microbial interactions with important resources such as energy, and pathogenic organisms.

Core Curriculum/Core Requirements: [""] Prerequisites:

BIO 100 and BMB 207/209 or CHY 121/123 or permission.

Course Typically Offered:

Spring, Odd Years

Credits: 3

Political Science

POS 100 - American Government

Introduces the major principles, structures, processes and policies of United States government. Covers the Constitution and its development, civil liberties, federalism, the role of political parties and interest groups, and the nature of the presidency, the bureaucracy, the Congress and the national courts.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Course Typically Offered:

Fall, Spring, Summer

Credits: 3

POS 120 - Introduction to World Politics

A study of contemporary international politics focusing on the interaction of nation-states and including a review of the patterns of global politics from World War II to the present.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Cultural Diversity and International Perspectives"] Course Typically Offered:

Fall & Spring

Credits: 3

POS 201 - Introduction to Political Theory

An introduction to the fundamental questions of political philosophy--what is justice? how ought we to live our lives? what is the best regime?--through detailed study of a few central books in the history of political thought, such as Plato's Republic and Machiavelli's Prince.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Ethics"] Course Typically Offered:

Spring

Credits: 3

POS 203 - American State and Local Government

Examines the structure and activities of sub-national governments, with particular attention to state modernization, intergovernmental relations, and comparisons between Maine and other states.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Course Typically Offered:

Summer

Credits: 3

POS 220 - Leadership and Social Movements

Examines the role of social movements in processes of political and social change. Pays special attention to movement strategies and tactics, member recruitment, the dynamic interaction between activists and elites, and the mobilization of resources for movement sustainability.

Core Curriculum/Core Requirements: [""] Prerequisites:

LDR 100 or permission; LDR 220 cannot be taken for credit if taken previously as a topic in POS 359

Course Typically Offered:

Fall, Alternating years

Credits: 3

POS 241 - Introduction to Comparative Politics

Provides an introduction to the major themes of comparative politics, including: comparative political legacies, processes of modernization, comparative governmental institutions, modern political parties and interest groups, comparative policymaking processes, and problems of establishing and maintaining democratic government.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions and Cultural Diversity and International Perspectives"] Course Typically Offered:

Fall, Spring

Credits: 3

POS 243 - Canadian Government and Politics

Provides a historical background to the development of the Canadian political system. Introduces the institutions and processes of Canadian government, federalism, political parties, and interest groups. Considers major public policy issues in contemporary Canada.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions and Cultural Diversity and International Perspectives"] Course Typically Offered:

Variable

Credits: 3

POS 282 - Introduction to American Law

Examines the nature and function of law in America, emphasizing its evolution and incorporation as a dynamic social instrument.

Core Curriculum/Core Requirements: ["Ethics"] Course Typically Offered:

Fall & Spring & Summer

Credits: 3

POS 301 - Classical Political Thought

A survey of ancient political philosophy through detailed study of selected writings of Plato, Xenophon, Aristotle, Thucydides and others.

Core Curriculum/Core Requirements: [" Writing Intensive"] Prerequisites:

POS 201 or permission or junior or senior standing.

Course Typically Offered:

Variable

Credits: 3

POS 303 - Early Modern Political Thought

A survey of early modern political philosophy from the Renaissance to the Enlightenment through detailed study of selected writings of Machiavelli, Descartes, F. Bacon, Hobbes, Locke and others.

Core Curriculum/Core Requirements: [" Writing Intensive"] Prerequisites:

POS 201 or junior or senior standing.

Course Typically Offered:

Variable

Credits: 3

POS 304 - American Political Thought

The development of political ideas in America from the founding period to the present as expounded in the writings of American statesmen and political theorists, and foreign commentators such as Tocqueville.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

Junior or senior standing or permission.

Course Typically Offered:

VARIABLE

Credits: 3

POS 305 - Late Modern Political Thought

A survey of modern political philosophy from the French Revolution to the twentieth century through detailed study of selected writings of Rousseau, Hegel, Marx, Mill, Nietzsche, and contemporary authors.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

POS 201 or junior standing.

Course Typically Offered:

Variable

Credits: 3

POS 306 - Crafting the American Constitution

This course will engage students in a substantive, detailed, and critical examination of the debates surrounding the drafting,

ratification, and early implementation of the Constitution of the United States. It will begin with an examination of the important thinkers who influenced the American Founders, move to a detailed analysis of the critical issues at the Constitutional Convention and in the state ratification debates, and conclude with a look at some early government actions and Supreme Court decisions that put flesh on the bones of the Constitution. During the entirety of this course, students will be asked to reflect on the degree to which the founding debates are still relevant to contemporary American politics and government.

Prerequisites:
POS 100.

Course Typically Offered:
Fall

Credits: 3

POS 307 - Democratic Theory

Surveys the major theoretical perspectives of democracy, emphasizing core positions such as liberalism and civic republicanism. Examines competing articulations of more participatory and engaged democratic political systems. Also considers critical perspectives which analyze democracy's exclusions with regard to race, class, gender, and power.

Prerequisites:
POS 201

Course Typically Offered:
Spring

Credits: 3

POS 308 - Liberalism and its Critics

In this course, we carefully examine some of the landmark texts out of which modern liberalism and conservatism emerged. We study the fascinating shape that these ideas initially took during the Enlightenment, and we ask whether the changes that they have since undergone represent improvements or deteriorations. Our goal, then, is not only to understand the true potentials of liberalism and conservatism. It is also to gain a broader view of the political identities available to us in modern times.

Core Curriculum/Core Requirements: [""] Prerequisites:
POS 201 or permission

Course Typically Offered:
Spring and Summer

Credits: 3

POS 309 - Topics in Political Theory

Offers a detailed examination of a selected topic in political theory. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:
POS 201.

Course Typically Offered:
Variable

Credits: 3

POS 335 - Major Governments of Western Europe

The political traditions, parties, governmental structures, and special political problems of Great Britain, France and Germany.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Prerequisites:
POS 100. Junior or senior standing.

Course Typically Offered:
VARIABLE

Credits: 3

POS 336 - Government and Politics in Russia

Examines the historical Russian political legacy, the experience of Soviet rule from 1917 until 1991, and explores in-depth current domestic and foreign politics in the Russian Federation. Focuses primarily on the development of the post-Soviet Russian political system.

Prerequisites:

POS 100. Junior standing.

Course Typically Offered:
Variable

Credits: 3

POS 337 - Government and Politics in Eurasia

Examines contemporary government and politics in Eurasia, the general region from Central Asia to the Balkan peninsula of Europe. Major themes will include the formation of independent nation-states in Central Asia, the Caucasus mountain region and Ukraine following the dissolution of the USSR in 1991; and government and politics in Turkey. Also considers patterns of international relations within Eurasia and relations between these countries and the larger world.

Prerequisites:
Junior or senior standing or permission of instructor.

Course Typically Offered:
Variable

Credits: 3

POS 344 - Public Policy in Canada

Introduces students to global public policy challenges by focusing on the case of Canada. Concentrates on economic inequality and efforts to remedy it. Discusses competing ideas about when and why inequality becomes a social problem as well as different prescriptions for managing or reducing inequality through public policy. Canada is compared to the US and various other countries.

Prerequisites:
Six hours of political science.

Course Typically Offered:
Variable

Credits: 3

POS 345 - Comparative Drug Policy

This course comparatively examines a number of different countries and their approaches to illicit substances, from militarized, punitive strategies to those that conceptualize substance use primarily as a public health issue. Our goal is to better understand the considerations that inform such policy and the variation that exists globally in national approaches to addressing illicit substances. This course cannot be taken for credit after passing POS 349 with the topic of Comparative Drug Policy.

Prerequisites:
POS 120 or POS 241 or permission

This course cannot be taken for credit after passing POS 349 with the topic of Comparative Drug Policy.

Course Typically Offered:
Fall

Credits: 3

POS 348 - The Politics of Sport in America

The primary purpose of POS 348 is to engage students in a substantive, detailed, and critical examination of the intersection of sport and American society through the lens of political science. Sports and American politics and government are closely connected in myriad ways.

Prerequisites:
POS 100.

Course Typically Offered:
Summers.

Credits: 3

POS 349 - Topics in Comparative Politics

Offers a detailed examination of a selected topic in comparative politics. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:
POS 241.

Course Typically Offered:

Variable

Credits: 3

POS 352 - American Public Opinion

Covers the role of public opinion in shaping the American political system. It focuses on defining and measuring citizen opinion, the way citizens develop their political views and the linkages between public opinion and public policy.

Prerequisites:

POS 100 or junior or senior standing.

Course Typically Offered:

Variable

Credits: 3

POS 353 - The U.S. Congress

Examines the legislative process and its components, with special attention to congressional elections, the committee structure, the impact of institutional reform and the influence of bicameralism.

Prerequisites:

POS 100 or Junior or Senior standing.

Course Typically Offered:

Fall, Even Years

Credits: 3

POS 354 - The U.S. Presidency

Examines presidential leadership in contemporary American politics. Devotes special attention to institutional, constitutional, and historical influences on the presidency. Other topics include: presidential decision-making, psychological aspects of the presidency, and the sources of cooperation and conflict between the legislative, executive, and judicial branches of government. Analysis of the president's role in foreign and domestic policy.

Prerequisites:

POS 100 or junior or senior standing.

Course Typically Offered:

Variable

Credits: 3

POS 355 - Music and Politics in the American Context

Examines the intersections and interactions of music and politics in the United States. Topics of investigation and discussion include (but are not limited to): the role of music in society, why the state might be interested in music, how music contributes to identity, and the political messages and activism produced by music.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Prerequisites:

POS 100 or permission of instructor.

Course Typically Offered:

Spring

Credits: 3

POS 357 - Film and Politics

Examines the relationship between film and politics. Explores the portrayal of American and international politics in film through a series of common, politically-relevant themes. Also considers how film has been used as an outlet for political messages, as well as an entertainment medium, and examines how political films inform society's understanding of politics.

Prerequisites:

None.

Course Typically Offered:

Fall

Credits: 3

POS 359 - Topics in American Government

Offers a detailed examination of a selected topic in American politics. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:
POS 100.

Course Typically Offered:
Variable

Credits: 3

POS 362 - Maine Government

Analyzes changes in the institutions and policies of the state of Maine in recent times. Covers the role of Maine in the federal system, the impact of institutional and organizational reform, and state policymaking.

Core Curriculum/Core Requirements: [""] Prerequisites:
POS 100 or Junior or Senior Standing

Course Typically Offered:
Spring

Credits: 3

POS 363 - Urban Government and Politics

Examines the politics and government of urban areas in the United States, in both historical and contemporary contexts. Topics of investigation and discussion include (but are not limited to): the functions and roles of American cities, the responsibilities of urban governments, the issue of power in the metropolis, the American federal system and urban governance, race, ethnicity, and class in urban America, and the challenges facing contemporary urban society.

Prerequisites:
POS 100 or permission of instructor.

Course Typically Offered:
Variable

Credits: 3

POS 368 - China

Examines contemporary China; its recent history, political system, economic and social development, and China's relations with its Asian neighbors and the United States.

Prerequisites:
One HTY or POS course at the 200 level or above.

Course Typically Offered:
Variable

Credits: 3

POS 369 - Topics in International Relations

Offers a detailed examination of a selected topic in International Relations. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:
POS 120

Course Typically Offered:
Variable

Credits: 3

POS 370 - Terrorism

Analyzes the impact of terrorism on international affairs and security. Topics include the origins of terrorism, the evolution of terrorism, the proliferation of weapons of mass destruction, the formulation of security strategies, and the ethical dilemmas arising from counter-terrorism.

Prerequisites:
POS 100 or POS 120 or permission.

Course Typically Offered:
Variable

Credits: 3

POS 372 - Canadian Foreign Policy

Canadian theory and practice of foreign policy, with emphasis on the major international problems which Canada faces today. Special attention is directed to Canada's relations with the United States and other Western Hemisphere countries.

Prerequisites:
POS 100 or POS 120 or permission of instructor.

Course Typically Offered:
Variable

Credits: 3

POS 374 - American Foreign Policy

American foreign policy and the major international problems facing the United States today. Special focus will be on United States relations with Europe, Russia, Japan and the Third World.

Prerequisites:
POS 100 or POS 120.

Course Typically Offered:
Variable

Credits: 3

POS 375 - United States and the Middle East

Survey of factors and forces that influence American foreign policy in the Middle East, with special emphasis on the Palestinian-Israeli conflict, relations with Iran and U.S. military presence in the Persian Gulf. Policies of various American presidents from Truman to present will be discussed and analyzed.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Variable

Credits: 3

POS 376 - Politics of the Global Economy

The world is deeply integrated through cross-border financial flows and international economic institutions. This course introduces the field of international political economy, the study of the interplay between domestic and international politics and economic policies and developments and examines the politics of trade, sovereign debt, finance, multinational corporations, global economic inequality and more. This course can be counted either in the International Relations or Comparative Politics subfield within Political Science.

Prerequisites:
POS 120

Course Typically Offered:
Variable

Credits: 3

POS 378 - Theories of War and Peace

This course is the study of the causes and effects of the major events of conflict and cooperation which occur among and across countries. The major theme is understanding patterns of war and peace through an examination of foreign policy decision-making, international trade and investment, economic development, human rights, global environmental concerns, terrorism, weapons of mass destruction, globalization, and international organizations and institutions.

Core Curriculum/Core Requirements: [""] Prerequisites:
POS 120 or INA 101 or Permission

Course Typically Offered:
Variable

Credits: 3

POS 379 - Refugees in Global Politics

Refugees and forced displacement are key topics, but often ignored, in international relations. Refugees are at the center of international law, international organizations, global governance, regime complexity, human rights, state and non-state actors, security, and development. This course introduces the main theoretical concepts of forced migration and refugees and places these concepts within the larger debates in political science. We will examine the evolution of international refugee law, the growth of UNHCR, and the implementation of durable solutions (repatriation, resettlement, and local integration). We will study the

relationship between citizenship, statelessness, internally displacement, and sovereignty and examine the intersection of security, development, borders, and walls. In addition, we will deepen our understanding of these issues by engaging with art and media produced about and by refugees. Finally, the course will explore the related concepts of externalization, securitization of migration, and the migration-development nexus. The course includes quizzes, a situation briefing, and a research paper related to refugee policy. If this course was taken as POS 369 with topic Refugees in Global Politics, it cannot be repeated for credit.

Prerequisites:
POS 120

Course Typically Offered:
Variable

Credits: 3

POS 380 - Interest Groups and American Politics
Every day millions of Americans act politically to defend their interests, yet Americans as a whole overwhelmingly have a negative opinion of interest groups and their involvement in the political process. How can this be? This course will examine the purposes, roles, and ultimately the results produced by interest groups in the American political process. Students will finish with a much more complete understanding of the place that interest groups occupy in the American political universe.

Prerequisites:
POS 100 or permission of instructor.

Course Typically Offered:
Variable

Credits: 3

POS 381 - Political Parties and Elections
Analyzes the development of, and current theories regarding, political parties and elections in American politics. Topics include theories of party realignment, voting behavior, party composition and behavior, and the relationship between parties, elections and democracy. Covers both presidential and congressional elections.

Prerequisites:
POS 100 or junior or senior standing.

Course Typically Offered:
Fall, Even Years

Credits: 3

POS 383 - American Constitutional Law
Examines the evolving nature of the U.S. Constitution through consideration of major Supreme Court decisions in areas such as federalism, legislative power, executive authority and judicial autonomy.

Prerequisites:
POS 100 or junior or senior standing.

Course Typically Offered:
Variable

Credits: 3

POS 384 - American Civil Liberties
Examines the tension between individual rights and the social order through consideration of major Supreme Court decisions involving the Bill of Rights and the Fourteenth Amendment.

Prerequisites:
POS 100 or junior or senior standing.

Course Typically Offered:
Variable

Credits: 3

POS 385 - Women and Politics
Examines women as citizens and leaders and also examines movements to increase women's public role in U.S. politics. Considers racial, ethnic, partisan and class dimensions of those movements and political activities and the influence of government policies on gender relations.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
POS 100 or junior or senior standing.

Course Typically Offered:
Variable

Credits: 3

POS 386 - Religion and Politics in the United States

Religion has historically played a substantial role in the government and politics of the United States, and continues to do so in contemporary American society. Focuses on the intersections and interactions between religion and politics in the United States. Areas of examination include, (but are not limited to): religion and American culture, religion and the Constitution, religion and public policy, religion and individual political behavior, and religion and violence in the United States.

Prerequisites:
POS 100 or permission of instructor.

Course Typically Offered:
Variable

Credits: 3

POS 453 - Political Behavior and Participation

Looks at which citizens get involved in politics and why they do so. Examines theories involving individual choice and resources, community organizations, interest group activities and social movements. Additional topics include participation and democratic theory, historical reasons why participation has changed and proposals to increase citizen involvement in politics.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
Junior or Senior standing.

Course Typically Offered:
Variable

Credits: 3

POS 460 - Seminar in American Politics

Seminar in American Politics. Detailed examination of a topic or set of topics in American politics.
Can be repeated for credit so long as it is a different seminar.

Core Curriculum/Core Requirements: [""] Prerequisites:
POS 100 or permission of the instructor.

Course Typically Offered:
Variable.

Credits: 3

POS 467 - African Politics

Analysis of the transition from colonialism to independence in selected countries of Sub-Saharan Africa. Discussion of nation-building, the one-party system, military intervention in politics, and neo-colonialism.

Core Curriculum/Core Requirements: [" Writing Intensive"] Prerequisites:
6 hours of Political Science.

Course Typically Offered:
Variable

Credits: 3

POS 470 - International Law

Examines international legal principles relating to state territory and jurisdiction, the oceans, human rights and war.

Core Curriculum/Core Requirements: [""] Prerequisites:
Junior Standing, POS 120 or POS 374 or POS 241

Course Typically Offered:
Variable

Credits: 3

POS 474 - Conduct of Foreign Policy

Examines the formulation and implementation of American foreign policy. Special focus will be placed on American Political culture; Presidential and congressional powers in foreign policy; government bureaucracies, such as the Departments of State, Defense and Treasury; and conceptual and theoretical approaches to policy making.

Prerequisites:

POS 100 or POS 120 and junior or senior standing.

Course Typically Offered:

Variable

Credits: 3

POS 475 - International Security

Examines national and international factors affecting the survival and security of states. Topics include components and use of military power, arms control and proliferation, the cause and resolution of conflict, negotiation and decision-making processes and structures.

Prerequisites:

POS 100 or POS 120 and junior or senior standing.

Course Typically Offered:

Variable

Credits: 3

POS 476 - Seminar in World Politics

A topical survey of conceptual and theoretical developments in the field of world politics. Examination of these developments in the context of contemporary issues and controversies will be emphasized. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

POS 100 or POS 120 and junior or senior standing.

Course Typically Offered:

Variable

Credits: 3

POS 484 - The American Constitution and Criminal Due Process

Examines the development of Supreme Court doctrines governing the jurisprudence of constitutional rights afforded the criminally accused. Areas examined include the 4th, 5th, 6th, and 8th Amendments to the Constitution and their applicability to the states via the 14th Amendment.

Prerequisites:

POS 100 or junior standing

Course Typically Offered:

Variable

Credits: 3

POS 493 - American Politics Internship

Provides students with the opportunity to gain experience in a department or agency at the national, state, or local level, or to conduct a major research project. Reports and a research paper are normally required for an agency internship.

Core Curriculum/Core Requirements: [""] Prerequisites:

Permission.

Course Typically Offered:

Fall, Spring, Summer

Credits: 3, 6 or 9

POS 495 - Congressional Internship

Assignment to the Washington, D.C. office of a member of Congress, normally from the Maine delegation, during the spring semester. Readings and reports are required in addition to performing staff work in a congressional office. The internship is open to juniors and seniors on a competitive basis; applications and interviews are conducted each fall to fill the spring internship positions.

Core Curriculum/Core Requirements: [""] Prerequisites:

Permission.

Course Typically Offered:
Spring

Credits: 6 or 9

POS 496 - International Affairs Internship

Provides students the opportunity to gain experience in a department or agency, either in the United States or abroad, that deals with international affairs. Students may not receive more than 9 credit hours for this internship.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Fall, Spring, and Summer

Credits: 3, 6 or 9

POS 498 - Independent Study in Political Science

Provides students the opportunity to work closely with an individual member of the faculty, either as a research assistant or as the author of a major independent study paper. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission.

Course Typically Offered:
Fall, Spring, Summer

Credits: 1-3

POS 499 - Senior Seminar in Political Science

Examines selected theoretical and empirical topics in Political Science. Assumes a knowledge of, and builds upon, a body of knowledge developed by students in the major and represents the culmination of majors' concentration of study within the major. Students can write an Honors thesis instead of taking the capstone course. This course may be repeated for credit as long as the topic for the section being taken is different from previously taken topics

Core Curriculum/Core Requirements: ["Writing Intensive and Capstone Experience"]

Prerequisites:
Senior standing and Political Science major or International Affairs major with a concentration in Political Science.

Course Typically Offered:
Fall & Spring

Credits: 3

Psychology

PSY 100 - General Psychology

Lecture on and discussions of basic psychological processes, including learning, perception, motivation and emotion, higher mental processes, individual differences, personality and additional selected topics.

Core Curriculum/Core Requirements: ["Social Context and Institutions"] Course Typically Offered:
Fall, Spring, Summer

Credits: 3

PSY 102 - Personal Growth

This course is designed to provide students with the opportunity to examine their life-space; to envision alternative possibilities in their personal and professional growth; and to foster the development of creative changes toward their future life-career. This course has two essential aspects. First, the theoretical and academic aspect in which the focus of the class and text is on major psychological theories and their applications for everyday life. Second, the experiential aspect in which the students are encouraged to participate in growthful exercises individually and in group situations. The course involves the various areas of life including relationships to family members, to friends and associates, and to professional colleagues. This course includes a Service-Learning and Community Engaged (SL/CE) component.

Course Typically Offered:
Fall and Summer

Credits: 3

PSY 105 - Psychology of Everyday Life

This course will review applications of clinical psychology and principles of behavior change in everyday life. Students will learn to

recognize commonalities between daily stressors or tasks and clinical psychology (e.g., procrastination vs anxiety). Students will consider how to apply core principles of clinical psychology interventions to practical daily tasks (e.g., getting started on that big project; interpersonal communication). Students will learn to approach material through the lens of a scholar-clinician and apply course material to everyday occurrences in a scientific and professional manner.

Course Typically Offered:
Variable

Credits: 3

PSY 201 - Lifespan Development

A systematic study of behavior and psychological development across the life span.

Prerequisites:
PSY 100 or permission of instructor

Course Typically Offered:
Every Spring, Alternate Summers

Credits: 3

PSY 208 - Theories of Personality

Examines the chief contemporary approaches to the study of personality including critical issues in personality. Also considers assessment techniques and research methods.

Core Curriculum/Core Requirements: [""] Prerequisites:
PSY 100.

Course Typically Offered:
Variable

Credits: 3

PSY 212 - Abnormal Psychology

Examines the origin, development, and manifestations of abnormal behavior with emphasis on the biological, social, and psychological determinants of deviant behavior.

Core Curriculum/Core Requirements: [""] Prerequisites:
PSY 100.

Course Typically Offered:
Fall, Spring, Summer

Credits: 3

PSY 214 - Psychology of Prejudice

The psychology of stereotypes, prejudice, discrimination and stigma, and methods to undermine these concepts, will be presented so that understanding and applications can be extended to various minority populations. Minority populations, which may be related more to influence than to size, may include African Americans, Native Americans, Roma, Middle Eastern Americans, Asian Americans, those individuals that may identify as LGBT, the impoverished, the elderly, the obese, those with physical or mental disabilities, and women. Ways to work to ameliorate prejudice will be explored.

Prerequisites:
PSY 100 or SOC 101 or permission of instructor.

Course Typically Offered:
Fall - Online; Alternate Spring - Onsite

Credits: 3

PSY 215 - Psychology of Gender

This course surveys psychological theory and research on gender while emphasizing cross-cultural and multicultural issues to demonstrate what is truly universal about gender. Major areas covered include: sex roles, theories and methods of studying gender, physiological systems and development, relationships, sexuality, social performance, education and work, physical and mental health and mass media and society.

Prerequisites:
PSY 100 or SOC 101 or permission of instructor.

Course Typically Offered:

Every Fall - in Winter Session

Credits: 3

PSY 217 - The Psychology of Sustainability

This course will acquaint the student with the reciprocal nature of the interplay between people and built and natural environments. Students will develop an appreciation for how physical environments influence human behavior. Additionally, students will use psychological principles to better understand environmental problems (i.e. climate change, pollution and energy efficiency) and to promote pro-environmental behaviors.

Prerequisites:

PSY 100 or permission of the instructor

Course Typically Offered:

Fall - Online; Spring - Onsite

Credits: 3

PSY 222 - Forensic Psychology

This course explores the interface of psychology and the legal system, with an emphasis on the role psychologists play in helping courts make informed decisions. The course covers landmark legal cases involving psychological science. Topics include criminal profiling, competence, the insanity defense, policy psychology, eyewitness testimony, expert testimony, jury selection, sentencing, and juvenile offending and rehabilitation.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Prerequisites:

PSY 100

Course Typically Offered:

Variable

Credits: 3

PSY 223 - Psychology of Childhood

A systematic study of childhood behavior and psychological development. Emphasis on principles underlying development, methods of child study and practical implications.

Core Curriculum/Core Requirements: [""] Prerequisites:

PSY 100 or EHD 203

Course Typically Offered:

Fall & Spring

Credits: 3

PSY 224 - Psychology of Adolescence

A study of adolescent development in the physical, intellectual, emotional, and social spheres. Adolescent personality and problems of adjustment considered in relation to the family, the school and the community, and the world of work. Covers delinquency and abnormality in adolescents.

Core Curriculum/Core Requirements: [""] Prerequisites:

PSY 100 or EHD 203

Course Typically Offered:

Fall, Spring, Summer

Credits: 3

PSY 230 - Social Psychology

An introduction to the study of social behavior from a psychological perspective. Representative topics include culture and personality, attitude formation and change, conformity, leadership and prejudice.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Prerequisites:

PSY 100.

Course Typically Offered:

Fall, Spring, Summer

Credits: 3

PSY 232 - Environmental Psychology

The study of the transactions between people and their physical environments. Representative topics include territoriality,

crowding, personal space, privacy, architectural design of space and self-control and development phenomena.

Core Curriculum/Core Requirements: [""] Prerequisites:
PSY 100

Course Typically Offered:
Variable

Credits: 3

PSY 241 - Statistics in Psychology

A survey of techniques used to obtain, display, analyze, and interpret data in psychology. The lecture section will emphasize the theoretical bases of the topics, while the recitation section will allow students to focus upon the computational procedures involved in the various statistical techniques.

Core Curriculum/Core Requirements: ["Quantitative Literacy"] Prerequisites:
PSY 100.

Course Typically Offered:
Fall, Spring, Summer

Credits: 4

PSY 245 - Principles of Psychological Research

Discussion of various research methods used in the scientific approach to the study of behavior. Laboratory will demonstrate these methods and develop skills in statistically analyzing data using computers. Students will learn to interpret the statistical analyses and write papers discussing the results of the experiments. Lec 2, Lab 2.

Core Curriculum/Core Requirements: [""] Prerequisites:
PSY 241.

Course Typically Offered:
Fall, & Spring

Credits: 4

PSY 251 - Psychology of Motivation

A survey of theory, research methodology and experimentally obtained facts related to the activation and direction of behavior.

Core Curriculum/Core Requirements: [""] Prerequisites:
PSY 100.

Course Typically Offered:
Variable

Credits: 3

PSY 299 - Special Topics in Applied Psychology

Courses designed to allow students to pursue study in an area within Psychology. Courses vary in content in response to student interest and demand. Some possible courses could include Conflict Analysis & Resolution, Ecological Psychology, Readings in Applied Psychology, Industrial & Organizational Psychology, Multicultural Psychology, Community Psychology, Stress Management, Human Factors Psychology, History of Psychology, Perception & Cognition, Psychology of Motivation or Psychology of the Family. Under this topics heading, other Mental Health & Rehabilitation Technician Certification courses could be offered, including Sexual Abuse, Trauma & Recovery; Case Management, Mental Health & Aging, Substance Abuse with a Dual Diagnosis Component; Group Process; or Vocational Aspects of Disability.

Prerequisites:
PSY 100 or permission of the instructor

Course Typically Offered:
Variable

Credits: 3

PSY 350 - Cognition

An introduction to the psychological study of human information processing and thinking. Representative topics included attention, pattern recognition, short and long-term memory, semantic memory, visual memory, mental imagery, problem solving and creativity.

Core Curriculum/Core Requirements: [""] Prerequisites:

PSY 245 or BIO 200.

Course Typically Offered:

Fall & Spring & Summer

Credits: 3

PSY 361 - Sensation and Perception

Principles and theories of the ways we make contact with our environment by seeing, hearing, smelling, tasting and feeling. Psychophysics is covered.

Core Curriculum/Core Requirements: [""] Prerequisites:

PSY 245 or BIO 200 and Neuroscience Minor or Permission of Instructor

Course Typically Offered:

Variable

Credits: 3

PSY 365 - Biopsychology and Behavioral Neuroscience

Explores the biological bases and brain mechanisms of human and animal behavior. Considers the neuroanatomical, neurophysiological, and neuropharmacological foundations of sensation and perception, sleep and arousal, sexual behavior, learning and memory, and psychiatric disorders.

Core Curriculum/Core Requirements: [""] Prerequisites:

PSY 245 or BIO 200 or SSC 205

Course Typically Offered:

Fall & Spring

Credits: 3

PSY 401 - Health Psychology

Presents a biopsychosocial approach to the study of lifestyles, behaviors, response styles and personality factors that may impact an individual's health. Research comes from the areas of psychology, neuroscience, public health and medicine. Topics will include the relationship of psychological and social factors on physical conditions and recent research in these areas.

Core Curriculum/Core Requirements: [""] Prerequisites:

PSY 212, PSY 241, PSY 245.

Course Typically Offered:

Fall & Spring

Credits: 3

PSY 412 - Foundations of Clinical Psychology

Provides an overview of clinical psychology. Topics include the helping professions, historical development of clinical psychology, approaches to psychological assessment and psychotherapy, controversies in the field, and new directions in the field.

Core Curriculum/Core Requirements: [""] Prerequisites:

PSY 212, PSY 241, PSY 245; junior or senior standing.

Course Typically Offered:

Variable

Credits: 3

PSY 420 - Learning and Memory

A study of experimental analyses of animal and human learning from various perspectives within psychology. Topics include conditioning; different types of learning; encoding, storage, and retrieval of memory; and neural mechanisms of learning and memory.

Prerequisites:

PSY 100 and PSY 241 or STS 132 or SSC 124

Course Typically Offered:

Spring

Credits: 3

PSY 424 - Abnormal Child Psychology

Examines the origin, development, and manifestation of abnormal child behavior with emphasis on the biological, emotional, social, and psychological determinants of deviant behavior.

Core Curriculum/Core Requirements: [""] Prerequisites:

PSY 223, PSY 241, PSY 245 or permission.

Course Typically Offered:

Variable

Credits: 3

PSY 425 - Social Issues in Developmental Psychology

An introduction to the research on current social issues in developmental psychology. Topic areas may include sex-role development, maternal employment, day care, mass media effects, the role of fathers, compensatory education, the effects of poverty, teacher expectancy effects.

Core Curriculum/Core Requirements: [""] Prerequisites:

PSY 223, PSY 241, PSY 245.

Course Typically Offered:

Variable

Credits: 3

PSY 430 - Current Topics in Social Psychology

An introduction to one of several current topics in social psychology. Topic areas may include applied social psychology, attitudes and persuasion, prejudice and stereotyping, social cognition, the self, and social influence. May be repeated for credit. (This course is identical to PSY 630.)

Core Curriculum/Core Requirements: [""] Prerequisites:

PSY 100 and PSY 230 or permission.

Course Typically Offered:

Variable

Credits: 3

PSY 465 - Hormones, Brain and Behavior

An introduction to behavioral neuroendocrinology: the study of hormonal effects on brain and behavior in both humans and animals. Topics include the role of hormones in gender differences, parental and aggressive behaviors, stress, and cognitive processes.

Core Curriculum/Core Requirements: [""] Prerequisites:

PSY 365 or BIO 200.

Course Typically Offered:

Variable

Credits: 3

PSY 466 - Cognitive Neuroscience

Current theory and research on brain mechanisms underlying higher cognitive processes, including perception, attention, memory, and language. Considers converging evidence from experimental studies with animals, cognitive deficits in brain-damaged humans, and recent findings based on functional imaging of the living human brain.

Core Curriculum/Core Requirements: [""] Prerequisites:

PSY 350 or BIO 200.

Course Typically Offered:

Variable

Credits: 3

PSY 491 - Senior Seminar in Psychology

One or more current topics in psychology, chosen by the instructor, will be discussed. Students will conduct library research, make oral presentations and write a comprehensive review paper on each topic.

Core Curriculum/Core Requirements: ["Writing Intensive and Capstone"] Prerequisites:

PSY 241 and PSY 245; senior standing.

Course Typically Offered:
Fall & Spring

Credits: 3

PSY 492 - Problems in Psychology

Provides the opportunity to carry out a particular research problem under supervision. Only 6 hours of credit will count toward the psychology major.

Core Curriculum/Core Requirements: [""] Prerequisites:
PSY 241, PSY 245 and permission.

Course Typically Offered:
Fall, Spring, Summer

Credits: Ar

PSY 493 - Field Experience in Psychology

Practical experiences in a wide variety of applied settings such as schools, psychological clinics, hospitals, and government and private agencies. Requirements include a written proposal outlining the experience planned, goals of the plan, relationship of the course to the student's program, periodic conferences with the faculty supervisor and a final written report. Three credit hours may fulfill major requirements and only 6 hours may count toward graduation.

Core Curriculum/Core Requirements: [""] Prerequisites:
PSY 241, PSY 245; nine hours in psychology and permission.

Course Typically Offered:
Fall, Spring, Summer

Credits: 1-3

PSY 494 - Senior Research Project

Students will develop a research project in consultation with the instructor. The student will do an extensive library search of background material, write a proposal, conduct the research and write an APA style report. May be repeated for credit but not more than 6 credit hours total will be allowed for degree credit.

Core Curriculum/Core Requirements: ["Writing Intensive and Capstone"] Prerequisites:
PSY 241, PSY 245 and permission.

Course Typically Offered:
Fall, Spring, Summer

Credits: 1-3

Pulp and Paper

PPA 264 - Introduction to the Pulp and Paper Industry

Considers the manufacture of paper from fibrous raw materials to the processing of finished products. Emphasis on papers produced from wood, non-wood, and secondary fibers. Recommended for CHE/BLE students taking the cooperative work experience within the Pulp and Paper industry. Lec 3. (Spring.)

Core Curriculum/Core Requirements: [""] Prerequisites:
Sophomore standing or greater.

Course Typically Offered:
Spring

Credits: 3

PPA 466 - Paper Technology

This course will focus on the application of engineering tools to processes that are found in the paper industry. Examples include the flow of suspensions in equipment, filtration during washing and papermaking, and the drying of a porous web. While the processes are related to the paper industry, the method to apply various aspects of engineering to actual processes should be of interest in a wide range of industries.

Core Curriculum/Core Requirements: [""] Prerequisites:
BEN 202, CHE 360 or MEE 360 or permission

Course Typically Offered:

Not Regularly Offered

Credits: 3

Recreation Management

REM 110 - Foundations of Recreation and Parks

This course provides students with an overview of the nature, scope, and significance of recreation, parks, and tourism in today's society, the theoretical foundations of the field, and the major leisure service institutions. Students will identify the key social, political, and cultural factors which affected the development and influence the future of these institutions; along with key people who played major roles in developing the various philosophies which guide them. Institutions studied include community recreation and the playground movement, state and municipal parks, federal lands and the conservation movement, organized camping, youth organizations, outdoor education, and selected sports. This course also provides students with an overview of career opportunities in the recreation industry including discussions of professionalism, exploration of career objectives, and personal interaction with working professionals from several different segments of the recreation industry.

Core Curriculum/Core Requirements: ["Western Cultural Tradition"] Course Typically Offered:
Fall

Credits: 3

REM 116 - Basic Camping Skills

This course focuses on developing basic camping skills; including equipment and clothing selection and use, tent and tarp set-up, campsite management, campstove safety, food storage and safety, backcountry cooking and clean-up, water purification, and expedition behavior. Students will participate in an overnight camping trip during which they will actively reflect on their skill levels, and outline goals for further development. May be offered pass/fail at instructor's option.

Credits: 1

REM 117 - Outdoor Recreation Activities

This is an introductory course with various topics of outdoor recreation activities. A choice of activities is available each semester, depending on the season and scheduling requirements. The selection may include canoeing, sea kayaking, navigation/map & compass skills, snowshoeing, cross-country skiing, or rock climbing. Students may elect a maximum of 3 activities in any one semester. May be repeated for credit as topics vary. May be offered pass/fail at instructor's option.

Credits: 1

REM 121 - Introduction to Outdoor Recreation Management

A survey of outdoor recreation activities that addresses personal motivation for participation as well as direct and indirect psychological, social and physical benefits derived from participation. Economic, technological, political and environmental impacts of outdoor recreation are examined. Historical perspectives, professional responsibilities, human and natural resource elements, and future trends are explored. The course includes active participation in outdoor activities such as lake canoeing, ocean kayaking, backpacking, camping, and map and compass skills. Emphasis is placed on outdoor leadership philosophies and techniques. Offered fall semester only.

Course Typically Offered:
Fall

Credits: 2

REM 125 - Sailing and Basic Seamanship

Designed to introduce students to sailing and basic boating safety. The course covers basic seamanship, sailing theory and techniques, boat handling, navigation, marine safety, and proper procedures for administering sailing programs. Students also have an opportunity to develop an awareness and appreciation of the Maine waterways.

Course Typically Offered:
Fall

Credits: 3

REM 201 - Activity Leadership and Facilitation

This course explores concepts of play, recreation, and leisure for all populations and in a variety of settings. Motivations, assessment of individual and group needs, and relationship between resources and experiences are explored. Appropriate leadership and facilitation techniques for all individuals and groups within society are analyzed. The development and practical application of leadership and facilitation skills are an integral part of the course.

Prerequisites:

REM 110, or permission of instructor.

Course Typically Offered:

Fall

Credits: 3

REM 205 - Recreation Safety and First Aid

Develops an awareness of safety in a variety of recreational settings. The course includes theoretical understandings and practical experiences directed toward prevention of hazardous conditions and emergency situations. The student may obtain Red Cross Emergency Response Certification.

Course Typically Offered:

Fall and Spring

Credits: 3

REM 210 - Nature-Based Tourism & Sustainable Development

This course will explore environmental, economic and social-cultural implications and challenges associated with the creation and management of nature-based tourism products and services. Students will meet with local stakeholders to develop an in-depth understanding of the complexities involved in nature-based and sustainable tourism development, including the challenges of managing an area for both conservation and sustainable development; issues pertaining to equitable distribution of economic benefits and social and cultural implications for indigenous cultures and local communities involved in or living near areas being developed for tourism.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Prospective"]

Prerequisites:

REM 121, or permission of instructor

Course Typically Offered:

Variable

Credits: 3

REM 211 - Wildlife Law

This course focus on fish and wildlife policy, law and law enforcement topics. It also familiarizes students with all the various forms of recreational hunting and fishing and the types of wildlife encountered in Maine. This course also focuses on the role that hunting and fishing play in conservation and wildlife management programs. Proper selection and use of equipment and current safety programs are addressed.

Course Typically Offered:

Fall - Alternate Years

Credits: 3

REM 219 - Introduction to Tourism

This course provides an introduction and overview of the tourism industry. Beginning with a broad perspective of the tourism industry, tourism organizations, tourism history, tourism sociology and tourism economics are explored. Narrowing in focus, students then learn about the impact of tourism on communities and strategies for sustainability. Students examine various sectors of the tourism industry and have the opportunity to explore their own special areas of interest.

Core Curriculum/Core Requirements: ["Population and the Environment"] Prerequisites:

ENG 101 or permission

Course Typically Offered:

Spring

Credits: 3

REM 221 - Fundamentals of Search and Rescue

Designed to prepare people to participate effectively in official search and/or rescue activities administered by local, state, or federal agencies either as a volunteer working on a search and rescue team or as an employee of a governmental agency with search and rescue responsibilities. A student who successfully completes this course may receive national certification. Students are encouraged to complete a navigation/map and compass skills course prior to taking this course.

Course Typically Offered:

Variable

Credits: 3

REM 222 - Rescue Diver

This PADI Rescue Diver course is designed to develop the necessary knowledge and skills for individuals to effectively perform diver rescues and assists, manage diving accident situations, render proper first aid, and qualify for the PADI Divemaster training. The course involves classroom activities, pool simulations, and open water dives. Before enrolling in this course students must have PADI Advanced Open Water Diver certification or equivalent rating.

Course Typically Offered:

Spring

Credits: 3

REM 226 - Recreation Program Planning

This course will provide students with the basic knowledge or programming principles and theories, assessing participant needs, the planning process, developing goals and objectives, program implementation and evaluation strategies. Students will concentrate on the role that programming plays in enabling leisure and in facilitating the recreational experience. This course emphasizes the practical application of the knowledge and skills gained through the course.

Prerequisites:

REM 201, or permission of instructor.

Credits: 3

REM 227 - Backcountry Expedition Skills

This course involves a multi-day expedition. Topics will vary depending on the season and scheduling requirements. Activity topics include, but are not limited to: backpacking, canoeing, and sea kayaking. Prior to the expedition, the course will focus on the planning and preparation process, minimal impact travel methods, physical training and the development of a solid risk management plan. During the expedition, students will keep a detailed journal including their challenges and peak experiences, their progress and the terrain, environmental stewardship, and leadership considerations for backcountry expeditions. Following the expedition, students will complete a self-assessment of their performance and a portfolio designed to be useful for future expeditions. May be repeated for credit as topics vary.

Prerequisites:

REM 116 or permission of instructor

Course Typically Offered:

Variable

Credits: 3

REM 230 - Outdoor Leadership

This course combines the practice of outdoor leadership with the study of leadership theory and group management. Students will improve their own outdoor leadership capacities through practice, feedback and reflection. Professional practice, theories of leadership and judgment and decision making will be explored through readings, discussions and self-reflective projects. The class will work together at developing their own skills, helping others understand their strengths and characteristics and gaining experience in working with groups. Students will participate in an extended field experience where they will gain practice in leadership positions in various situations.

Prerequisites:

REM 121 (as prerequisite or co-requisite) and REM 116 or permission

Course Typically Offered:

Variable

Credits: 3

REM 231 - SL: Leave No Trace Level I Instructor

This course provides an introduction to outdoor recreation impacts, and the foundational skills and knowledge related to minimum impact outdoor recreation through the lens of Leave No Trace outdoor ethics. Operated in part as an official Leave No Trace Center for Outdoor Ethics Level 1 Instructor Course, students will spend class time developing cognitive and affective skills as well as field time practicing ways to teach the seven principles of Leave No Trace to others. Upon successful completion, students will earn a Leave No Trace Level 1 Instructor certificate. Students will then apply their knowledge and skills by developing, implementing, and evaluating an outreach program for community youth.

*Overnight camping field trip required and mandatory.

*Participation in outreach program required and mandatory.

Credits: 3

REM 245 - Personal Fitness Training

A study of the scientific foundations of exercise, techniques of exercise, client consultation and assessment, program planning, and safety/emergency procedures. Course prepares students to take a certification exam for personal trainers.

Course Typically Offered:

Variable

Credits: 3

REM 311 - Inclusive Recreation

Course provides students with an understanding of how to plan and implement recreation activities so they can be inclusive of all members of society. Topics include legislation, concepts and attitudes, categories of needs, adapting for inclusive participation, barriers and trends.

Prerequisites:

REM 226 or permission of instructor.

Course Typically Offered:

Spring

Credits: 3

REM 314 - Facility Operations and Design

This course deals with the operation, maintenance and design of park and recreational facliities. Both indoor and outdoor, man-made and natural, users and facilities themselves will be discussed. This course will familiarize students with the planning, design and construction of natural and man-made recreational resources. Topics will include planning theory and practice, design theory and special orientation, design techniques and construction plans.

Prerequisites:

Junior standing, or permission of instructor.

Course Typically Offered:

Spring

Credits: 3

REM 317 - Principles of Experiential Education

This course will provide the student with an understanding of the foundations, theories and principles of experiential education, as well as the techniques utilized in experiential learning programs.

Prerequisites:

REM 201, or permission of instructor.

Course Typically Offered:

Fall - Alternate Years

Credits: 3

REM 323 - Principles of Strength and Conditioning

An advanced course designed to explore principles and techniques of conditioning and strength training. Testing and evaluation, exercise techniques, and program design are covered. Prepares students to be eligible for the Certified Strength and Conditioning Specialist exam.

Course Typically Offered:

Variable

Credits: 3

REM 327 - SL: Recreation Behavior & the Environment

This course is about recreational landscapes and how they are experienced by people. From Wilderness areas to tourism developments, we will look at the settings where people recreate, the psychological and social experiences they seek related to the environment, and their social and ecological impact on the landscape. This course explores characteristics of a landscape that are important in motivating recreation participation, and the experiences sought by outdoor recreationists. Visitor expectations and satisfaction related to the environment will be covered. This course considers approaches to fostering environmental ethics and

communicating strategies regarding minimal impact travel, as well as methods of analyzing and measuring the ecological and social impacts of recreation in a variety of settings.

Prerequisites:
REM 121 and REM 231, or permission of instructor

Course Typically Offered:
Variable

Credits: 3

REM 411 - Recreation and Wilderness Resources
A study of managing natural resources for the purpose of outdoor recreation. Natural areas that range from manicured parks to pristine wilderness areas are examined in light of the different management philosophies, policies, and techniques needed to maintain them.

Prerequisites:
Junior standing or permission of instructor

Course Typically Offered:
Variable

Credits: 3

REM 412 - Interpretation of Natural & Cultural Resources
A specialized course in preparing interpretive programs for recreational/park facilities and historic places. Selective media are discussed and used in the development of interpretive services. Examples of existing efforts in interpretation are explored. Prerequisite: Junior standing or permission of instructor.

Prerequisites:
Junior standing, or permission of instructor.

Course Typically Offered:
Variable

Credits: 3

REM 431 - Visitor Management in Conservation Areas
This course is for students studying Recreation & Tourism Management or Environmental Studies, and for any student who is interested in working for federal, state or non-profit agencies where managing recreational visitors is part of their work. Students will examine various avenues for managing recreational use in conservation areas. Visitor education, recommendations for types of use and regulation will be examined as options for managing recreational use. Strategies for modifying visitor behavior, based on social psychological models, will be studied to help students understand the diversity of approaches they may take in designing signage, in locating rangers and in working with volunteers. The course will include fieldwork which allows students to explore ways to control use with physical structures, trail design for screening and the use of physical barriers for visitor redirection.

Prerequisites:
REM 121, and junior standing, or permission of instructor.

Course Typically Offered:
Fall

Credits: 3

REM 442 - Recreation Seminar
A seminar to integrate previous course and field experiences. Emphasis is placed on problem-solving procedures using case studies. Studies of current issues, status, trends, and future directions in leisure and recreation are included.

Core Curriculum/Core Requirements: ["Capstone and Writing Intensive"] Prerequisites:
Senior standing or permission of instructor.

Credits: 3

REM 443 - Recreation Leadership Practicum
Allows qualified students to gain personal experience teaching and leading recreation/fitness activities at the college level under supervised conditions. Students enrolled in this course will actually teach a .5-1.0 college credit course under the direct supervision of a UMM faculty member. Students must have current certifications and/or licenses to teach/lead the activity and must be approved by a supervising UMM faculty member before registering for the course.

Course Typically Offered:
Variable

Credits: 1 - 3

School of Forest Resources

SFR 100 - Introduction to Forest Biology

Introductory concepts related to forest plants, animals, environment and ecology. Lec 3.

Core Curriculum/Core Requirements: ["Lab in the Basic or Applied Sciences requirement when taken with SFR 102."] Course Typically Offered:
Spring

Credits: 3

SFR 101 - Introduction to Forest Resources

A week-long field course designed to introduce students to the forest and its components, its ecology, and its use by society.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Fall

Credits: 1

SFR 102 - Structure and Function of Woody Plants Laboratory

Introductory concepts on the anatomy and structure of woody plants with an emphasis on the relationship between form and function.

Core Curriculum/Core Requirements: ["Lab in the Basic or Applied Sciences when taken with SFR 100."] Prerequisites:
Pre or Corequisites: SFR 100 or PSE 100 or BIO 100

Course Typically Offered:
Spring

Credits: 1

SFR 103 - Introduction to Forest Resource Professions

Introduction and overview of global, North American, and Maine forest resources, current and historical use by humans, history of forest regulation and policy, forest stewardship and land ethics, measurement and economics of forest resources, history and development of forest resource professions, and career options and professional societies in forest resources. Course may have field trips during class times.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Fall

Credits: 1

SFR 106 - Introduction to Forest Land Navigation and Technology

A hands on, in the field introduction to the basics of working with forest land navigation and technology. This course stresses the use of topographic maps and imagery commonly used by natural resource professionals, and how to use them in conjunction with compasses, recreational-grade GPS receivers, and smartphone/tablet applications. Use of computers and software to manage, analyze, and use data are covered, such as basic skills in Excel and ArcGIS.

Core Curriculum/Core Requirements: [""] Prerequisites:
Co-requisite: SFR 101 or Permission

Course Typically Offered:
Fall

Credits: 2

SFR 107 - Forest Vegetation

An introduction to the identification, distribution, taxonomy, silvics and utilization of North American tree species. Emphasis on the dominant forest cover types typical of each region of the U.S. together with their associated shrub and herbaceous communities. Site affiliations and the relationships to selected vertebrate wildlife species are included. Course may include field work during and outside of the course's scheduled times.

Core Curriculum/Core Requirements: [""] Prerequisites:

Majors in Forest Operations, Bioproducts, & Bioenergy; Forestry; Parks, Recreation and Tourism; and Ecology & Environmental Science with a concentration in Forest Ecosystem Science

Course Typically Offered:
Fall

Credits: 3

SFR 108 - Introduction to Arboriculture and Community Forestry

Introductory course in arboriculture (study of trees on an individual basis) and community forestry (management of trees in a community/urban setting). The student studies the management of the urban/community forests, the people interaction/dynamics when dealing with community trees, and the development and purpose of a community forestry management plan. The course includes identifying valuable features, growth habits, and cultural requirements of urban trees and shrubs.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Fall

Credits: 3

SFR 109 - Introduction to Arboriculture Lab

The principles of tree care, pruning, repair and maintenance are covered. Preparation to become a licensed Maine arborist and/or ISC Certified Arborist is provided.

Core Curriculum/Core Requirements: [""] Corequisites:
SFR 108

Course Typically Offered:
Fall

Credits: 1

SFR 120 - Understanding Wood

Laboratory based hands-on course provides experience in the selection, planning, and implementation of woodworking projects. Students learn principles of safe operation of power and hand tools, basic wood material properties related to machining, and the fundamentals of wood gluing and finishing. Student projects will require additional time during scheduled woodshop hours.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Fall

Credits: 1

SFR 150 - Introduction to Tourism

Introduction to tourism is designed to help students of all disciplines understand one of the largest industries in the world. This course will introduce the nature, structure and complexity of travel and tourism with special emphasis on nature-based tourism-how it's defined, how it evolved, and its magnitude globally. Students will examine types and functions of various stakeholders in the creation and delivery of tourism including governments, private sector and communities. Finally this course will explore the motivations for travel affecting demand for tourism.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Spring

Credits: 3

SFR 201 - Wildland Firefighter Preliminary Training

Prepares students for wildland firefighter basic training needed for the Firefighter Red Card which is recognized nationally by the U.S. Forest Service, the National Park Service, the Bureau of Land Management and many state and local fire agencies.

Core Curriculum/Core Requirements: [""] Prerequisites:
Major in Forestry, Forest Operations, Bioproducts & Bioengineering, Parks, Recreation, and Tourism, or Ecology and Environmental Sciences.

Course Typically Offered:
Spring

Credits: 0-1

SFR 205 - Forest Measurements and Statistics

Encompasses methods used to measure log, tree, stand and forest-level attributes. Principles of summarizing individual tree data and of using statistics in forest management are presented. Course may have field trips during class times.

Core Curriculum/Core Requirements: ["Quantitative Literacy."] Prerequisites:
SFR 107 or permission

Course Typically Offered:
Spring

Credits: 3

SFR 207 - Forest Field Skills and Management

Field course designed to provide professional, hands-on training for all forest resource students in field safety, field measurement techniques, wildlife monitoring, best management practices for harvest-roads and stream crossings, chainsaw operation, fire suppression training, lumber grading, and situational awareness around active forest equipment.
Students need to have completed First Aid and CPR training for loggers within the past 10 months.

Core Curriculum/Core Requirements: [""] Prerequisites:
SFR 201 and SFR 205

Course Typically Offered:
Summer

Credits: 2

SFR 213 - Forest Operations Field Tour

Will observe different timber harvesting operations and machines through field visits and assess at multiple scales with application to integrated management of forest trees, wildlife, water, and soil. Planning and implementation of forest operations systems for various forest stand conditions will be examined. This course intends to introduce associated ecological, social, policy, and ethical issues in forestry, thereby, preparing future forest resource professionals for operational management under varying objectives and site conditions.

Core Curriculum/Core Requirements: [""] Prerequisites:
Sophomore standing

Course Typically Offered:
Spring

Credits: 1

SFR 214 - Forest Products Harvesting & Transportation

Introduction to the principles of planning industrial forest operations involving different types of products, harvesting, and transportation.

Prerequisites:
SFR 205

Credits: 3

SFR 215 - Introduction to Sustainable Materials and Technology

Introduction to sustainable materials and products (including energy) derived from the forests and other renewable resources as well as processes and technology to produce, process and convert such materials into useful products.. The fundamentals of production systems will be described through required raw material forms and processing systems. The attributes and use of these products will be described from physical, chemical, mechanical, biological, and lifecycle perspectives.

Core Curriculum/Core Requirements: ["Applications of Scientific Knowledge and Population and Environmental Requirement"] Course Typically Offered:
Spring

Credits: 3

SFR 216 - Wood Identification

Provides basic knowledge and hands-on skills in identifying commercial wood species commonly grown in North America. The gross and minute anatomical features of hardwood and softwood species will be observed by means of a hand lens and microscope. The keys to identification for hardwood and softwood species in terms of gross and minute features will be introduced. The effects of the anatomical features on the physical, mechanical and machining properties of different wood species will be discussed. The applications of the commercial wood species will be introduced.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Fall

Credits: 1

SFR 220 - Environment and Society

Introduces the concepts and principles necessary to understand the connections between human behavior and environmental conditions. The course includes a review of the conservation and environmental movements in the United States, tracing changing American values towards forests and other natural resources over time. Students learn how to critically analyze the social, economic, and environmental aspects of various case studies concerning society-environment connections by evaluating diverse information sources.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Population and the Environment"] Course Typically Offered:

Fall

Credits: 3

SFR 222 - Environmental Communication Skills

The nature and problems of environmental communication, with opportunities to practice communication through a range of exercises.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Course Typically Offered:

Spring

Credits: 3

SFR 226 - Park Systems of the World

An examination of national parks as cultural identity. Topics include the genesis and rate of spread of the national parks idea, the cultural/political/economic environment of national parks, parks and the natural environment, comparative park system administration, and the trend and condition of the world's park systems. Lec 3.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"] Course Typically Offered:

Fall, odd years

Credits: 3

SFR 228 - Forest Recreation Management

A broad yet comprehensive study of the theories, problems and techniques of managing recreation systems in both the public and private sectors. Emphasis given to current recreation management issues. Rec 3.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall

Credits: 3

SFR 301 - Field Course in Parks, Recreation and Tourism

Principles and techniques used to manage recreation opportunities in natural resource settings. Field trips are organized to reveal a diversity of recreation sites and associated planning and management by private businesses and public agencies to provide quality recreation experiences while also preserving environmental resource conditions.

Core Curriculum/Core Requirements: [""] Prerequisites:

Sophomore standing and permission

Course Typically Offered:

Summer

Credits: 1

SFR 345 - Special Problems in Forestry

Original investigation and/or readings on forest resources problems, the subject to be chosen after consultation with staff.

Core Curriculum/Core Requirements: [""] Prerequisites:

Open to high-ranking juniors and seniors and departmental consent required.

Course Typically Offered:

Fall, Spring, and Summer

Credits: Ar

SFR 346 - Special Problems in Sustainable Materials and Technology

Original investigation in forest engineering, the subject to be chosen after consultation with the staff. Open to high-ranking juniors and seniors.

Core Curriculum/Core Requirements: [""] Prerequisites:

Department consent

Course Typically Offered:

Fall, Spring, Summer

Credits: Ar

SFR 347 - Special Problems in Parks, Recreation, and Tourism

Original investigation in Recreation Resources, the subject to be chosen after consultation with the staff. Open to high-ranking juniors and seniors.

Core Curriculum/Core Requirements: [""] Prerequisites:

Department consent

Course Typically Offered:

Fall, Spring, Summer

Credits: Ar

SFR 349 - Applied Forest Ecology and Silviculture

A survey of forest ecosystem management designed for students majoring in related fields. Lectures apply concepts in forest ecology, biology, silviculture, harvesting, wood products utilization, and economics to the protection and management of public and private forest land. Emerging concepts and technologies relating to forest ecosystem management and sustainability are presented relative to defining and achieving land management goals and objectives. Laboratories reinforce practical field skills in locating, inventorying, and assessing stands and forests. Lec 3 Lab 3. Course may have field trips during class times.

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior standing in EES, PRT, or WLE

Course Typically Offered:

Fall

Credits: 4

SFR 391 - Cooperative Education in Forestry

Practical experience for the undergraduate student, combining work in a business firm or public agency with academic courses and supervision. Opportunity for student to gain experience, to integrate classroom learning with job performance, and to develop future placement possibilities.
(Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior standing and permission of the Forestry Curriculum Committee.

Course Typically Offered:

Fall, Spring, Summer

Credits: Ar

SFR 392 - Cooperative Education in Sustainable Materials and Technology

Practical experience for the undergraduate student, combining work in a business firm or public agency with academic courses and supervision. Opportunity for student to gain experience, to integrate classroom learning with job performance, and to develop future placement possibilities.
(Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior standing and permission.

Course Typically Offered:

Fall & Summer

Credits: 1 - 16

SFR 393 - Cooperative Education in Parks, Recreation, and Tourism

Practical experience for the undergraduate student, combining work in a business firm or public agency with academic courses and

supervision. Opportunity for student to gain experience, to integrate classroom learning with job performance, and to develop future placement possibilities.
(Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Prerequisites:
Junior standing and permission.

Course Typically Offered:
Summer

Credits: 1-16

SFR 395 - Internship for Sustainable Materials and Technology

A professional activity under the general supervision of an experienced professional with a high degree of responsibility placed on the student. Learning objectives are pre-established and agreed upon between the faculty coordinator and the placement supervisor. Not normally repeated.

Core Curriculum/Core Requirements: [""] Prerequisites:
Department consent

Course Typically Offered:
Fall, Spring, Summer

Credits: Ar

SFR 396 - Internship in Parks, Recreation and Tourism

A professional activity under the general supervision of an experienced professional with a high degree of responsibility placed on the student. Learning objectives are pre-established and agreed upon between the faculty coordinator and the placement supervisor. Not normally repeated.

Core Curriculum/Core Requirements: [""] Prerequisites:
Department consent

Course Typically Offered:
Fall, Spring, Summer

Credits: Ar

SFR 397 - Field Experience in Forestry

A field experience is a professional activity participated in by students under the supervision of a practicing professional in the field. A high degree of responsibility is placed on the student for developing a study plan including learning objectives and their assessment. The study plan must be approved by a faculty member prior to the field experience. May be repeated. Can be taken for 0 credit as a Pass/Fail Grade only.

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission.

Course Typically Offered:
Fall, Spring, Summer

Credits: 0-6

SFR 398 - Field Experience in Sustainable Materials and Technology

A field experience is a professional activity participated in by students under the supervision of a practicing professional in the field. A high degree of responsibility is placed on the student for developing learning objectives and securing the approval of a faculty member for academic credit for the learning involved. May be repeated.

Core Curriculum/Core Requirements: [""] Prerequisites:
Department consent

Course Typically Offered:
Fall, Spring, Summer

Credits: Ar

SFR 399 - Field Experience in Parks, Recreation and Tourism

A field experience is a professional activity participated in by students under the supervision of a practicing professional in the field. A high degree of responsibility is placed on the student for developing learning objectives and securing the approval of a faculty

member for academic credit for the learning involved. May be repeated.

Core Curriculum/Core Requirements: [""] Prerequisites:
Department consent

Course Typically Offered:
Fall, Spring, Summer

Credits: Ar

SFR 400 - Applied Geographic Information Systems

An introduction to the methods and processes for the application of geographic information systems to natural resource management. Emphasis is placed on project planning and hands-on experience in systems operation. Course may include field work outside of the course's scheduled times.

Core Curriculum/Core Requirements: [""] Prerequisites:
MAT 116 or MAT 122 or a passing score on UM Math Placement Exam #3.

Course Typically Offered:
Fall and Spring

Credits: 4

SFR 401 - Timber Harvesting

Examine and analyze timber harvesting practices in the United States and Canada with special emphasis on Maine. Discussion of harvest methods and systems, production, and regulation. Because of the overlap, SFR 401 and SFR 502 cannot both be taken for degree credit.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Fall

Credits: 3

SFR 402 - Advanced Forest Measurements and Models

A continuation of the topics introduced in SFR 205 including methods used to measure log, tree, stand, and forest-level attributes. Students will also learn how to sample and analyze forest resources data including use of spreadsheets, databases, and stand projection models. Because of overlap, SFR 402 and SFR 503 cannot both be taken for degree credit, Lec 2 Lab 2. Course may have field trips during class times.

Core Curriculum/Core Requirements: [""] Prerequisites:
SFR 205 or Graduate Standing.

Course Typically Offered:
Spring

Credits: 3

SFR 403 - Forest Roads

Design, construction, and maintenance of forest road systems and bridges, examination of road-vehicle interactions, and analysis of forest products transportation.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Fall

Credits: 2

SFR 406 - Remote Sensing of the Forest Environment

In this course, students will learn the key concepts and rationale underlying the acquisition, interpretation, processing and presentation of remote sensing imagery for forestry and natural resources applications. Students are introduced to remote sensing technology, methods and applications including airphoto interpretation; digital photogrammetry; satellite image analysis; and LIDAR forest inventory. With an emphasis on hands-on demonstrations and laboratory exercises, students will gain proficiency in working with digital imagery and other geospatial data using ArcGIS, including vegetation indices, forest classifications, land cover change maps and three-dimensional point clouds.

Core Curriculum/Core Requirements: [""] Prerequisites:
SFR 400 or permission; SFR 100, PSE 100, or BIO 200 recommended but not required.

Course Typically Offered:
Fall

Credits: 3

SFR 407 - Forest Ecology

Biological principles and environmental factors governing the natural establishment and development of forest trees and stands. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:

SFR 107 or BIO 464 or permission.

Course Typically Offered:

Fall

Credits: 3

SFR 408 - Silviculture

Theory and practice of controlling the composition, growth, quality and regeneration of forest stands for human benefit. NOTE: Because of overlap, SFR 408 and SFR 509 cannot both be taken for degree credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

Pre/Corequisite: SFR407

Course Typically Offered:

Fall

Credits: 3

SFR 409 - Forest Ecology and Silviculture Field Laboratory

Measurement, assessment and analysis of forest vegetation from a biological and silvicultural perspective. Designed to develop understanding and proficiency in: silvical properties of northeastern tree species; forest regeneration, succession and stand dynamics; prescribing silvicultural treatments; and formulating silvicultural systems. Weekly labs and several one-day field trips.

Core Curriculum/Core Requirements: [""] Prerequisites:

WLE 200 or concurrent enrollment in SFR 407.

Corequisites:

SFR 408

Course Typically Offered:

Fall

Credits: 2

SFR 411 - Forestry Rules of Maine

Introductory course designed to prepare those who wish to become licensed foresters in the State of Maine for the examination required as a part of that process.

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior or Senior standing or permission

Course Typically Offered:

Spring

Credits: 1

SFR 413 - Forest Forensics

Introduction to the basics of identifying property monuments and other landmarks used in locating landowner property/boundary lines, and the techniques used in conducting a title/deed search.

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior standing or higher in Forestry or Parks, Recreation & Tourism; or Master of Forestry; or permission

Course Typically Offered:

Fall

Credits: 1

SFR 414 - Introduction to Third-Party Forest Certification

An in-depth coverage of third-party forest certification systems focusing on Maine with additional exposure to national and international applications. Topics will include how forests are certified using standards that ensure sustainability of forest management, the mechanics of forest certification and how third-party audits are conducted. The course may include a full day

field trip outside of class time.

Core Curriculum/Core Requirements: [""] Prerequisites:
SFR 408 or SFR 446 or permission.

Course Typically Offered:
Spring

Credits: 1

SFR 434 - Recreation Site Planning and Management

Principles and techniques are examined to manage recreation opportunities in natural resource settings. Course may have field trips during class times. The field trips are organized to reveal a diversity of recreation sites and associated planning and management by entities to provide quality recreation experiences while also preserving environmental resources conditions.

Core Curriculum/Core Requirements: [""] Prerequisites:
SFR 228 or permission

Course Typically Offered:
Fall

Credits: 3

SFR 437 - Ecotourism: Principles, Trends, and Issues

Examines ecotourism as a growing and important sector of the tourism industry due to its focus on sustainability issues. This course covers the principles and fundamental concepts of ecotourism, and how the concept differs from other forms of alternative tourism. Contemporary issues such as marketing, governance, certification, and community engagement in both US and international contexts will be discussed via the use of case studies.

Core Curriculum/Core Requirements: [""] Prerequisites:
SFR 150 or permission.

Course Typically Offered:
Variable

Credits: 3

SFR 439 - Biology of Woody Plants

Advanced topics in woody plant biology including growth, development, and reproduction. Emphasis on forest tree biology and tree responses to abiotic stressors. (Because of overlap, SFR 439 and SFR 349 cannot both be taken for degree credit.)

Core Curriculum/Core Requirements: [""] Prerequisites:
BIO 200 or SFR 100 or PSE 100

Course Typically Offered:
Fall, Even Years

Credits: 3

SFR 444 - Forest Resources Economics

Economics of domestic and international forest resources production, processing and distribution. Contributions of forest resources to local, regional, and national economies. Fundamentals of financial analysis. Evaluation of priced and unpriced forest resources for acquisition, taxation, management, and disposal. Because of overlap SFR 444 and SFR 544 cannot both be taken for degree credit.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Prerequisites:
ECO 120 or ECO 121

Course Typically Offered:
Fall

Credits: 3

SFR 446 - Forest Resources Policy

Mechanisms involved in, and influences on the evolution of national, state and private forest policies in the United States and other nations. Development of professional codes of ethics in Forestry and examination of professional, private business, environmental, and public sector ethical challenges, particularly in the formation of forest policies. Lec 3.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions and Ethics"] Course

Typically Offered:
Spring

Credits: 3

SFR 450 - Processing of Biomaterials

Understanding how the resources of the forests are used and processed is important. This course provides an overview of the machinery and processes used for manufacturing bioproducts including lumber, wood-based composites, veneer, lumber, pulp and paper and other forest products. The laws and standards under which production and evaluation of bioproducts occur are an important part of the course. The commercial measurement of forest resources is detailed as are the effects of timber defects on finished product quality. In addition to classroom lectures and discussions, the course includes field trips, during scheduled class periods, to various forest products manufacturing operations and laboratory exercises related to quality control techniques used in industry. Students enrolling in the course should have passed at least one course meeting the general education requirement for a science with lab or application of science.

Core Curriculum/Core Requirements: [""] Prerequisites:
Junior or Senior Standing

Course Typically Offered:
Fall, Even Years

Credits: 4

SFR 452 - Environmental Interpretation

A mid-level course in the principles and techniques of environmental interpretation, with special reference to parkland settings. Interpretive planning, interpretation of complex subjects and controversy, ethics, special populations and research are discussed. Students are required to demonstrate their understanding and application of interpretive principles using examples from their field. Course may include field work during and outside of the course's scheduled times.

Core Curriculum/Core Requirements: [""] Prerequisites:
Junior Standing or permission of instructor

Course Typically Offered:
Fall

Credits: 4

SFR 453 - Biocomposite Materials

A comprehensive analysis of the influence of materials and processing parameters on the chemical, physical and mechanical properties of biocomposite materials. Principles of adhesion and adhesives technology and their impact on biocomposite manufacture and performance will be addressed. Laboratories will provide practical experience in the manufacture and evaluation of a variety of biocomposites produced using hot pressing, cold pressing, extrusion, and injection molding. Lec 3, Lab 3

Core Curriculum/Core Requirements: [""] Prerequisites:
CHY 121 and CHY 123; SFR 215, SFR 450 and PHY 107 or PHY 111.

Course Typically Offered:
Spring, Even Years

Credits: 4

SFR 455 - Bioenergy Sources, Systems and Environmental Effects

A detailed introduction to the use of biomass for bioenergy and includes a broad review of biomass sources, processing systems, human health effects, potential environmental damage, pollution abatement, energy generating systems and the general effects of using renewable and non-renewable sources of energy on the human population. Common definitions, units and the basic thermodynamics of biomass use are discussed. Environmental issues including greenhouse gas emissions are examined along with the benefits and environmental concerns related to using renewable sources of bioenergy. Specific examples, volatile organic chemical release and energy use in drying forest resources are included. Scheduled labs involve field trips. Students enrolling in the course should have passed at least one course meeting the general requirement for science with lab or application of science.

Core Curriculum/Core Requirements: ["Population and Environment"] Prerequisites:
Junior or Senior Standing

Course Typically Offered:
Spring

Credits: 3

SFR 456 - Physical and Mechanical Properties of Sustainable Materials

The physical and mechanical properties of plant-based materials, including wood and wood composites, as related to basic processing techniques and their use in structural, packaging, and other applications are described.
The objectives of the course are to develop a sound understanding of the physical and mechanical properties of plant-based materials in relation to ultrastructure, environmental effects, and their application to simple structural systems. Topics related to the physical properties of wood include moisture content, moisture sorption, swelling/shrinkage of hygroscopic materials, density, porosity, thermal properties, friction, electrical properties, etc. Topics related to the mechanical properties covered include axial, flexural, shear, and impact performance, the influence of moisture, temperature, biological agents, and time on mechanical properties. Laboratory demonstrations are arranged to conduct the measurement of these properties according to ASTM standards.
SFR 456 and SFR 556 cannot both be taken for degree credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

PHY 107 or CIE 110 or Permission of Instructors

Course Typically Offered:

Fall, Alternating years

Credits: 4

SFR 457 - Tree Pests and Disease

Applies concepts of tree disease and its development to their roles in forest dynamics and management. Relevant characteristics of tree pests are covered. Concepts are applied to common disease complexes found in Maine and other regions of North America. (Because of overlap SFR 457 and SFR 557 cannot both be taken for degree credit)

Core Curriculum/Core Requirements: [""] Prerequisites:

BIO 100 or SFR 100

Course Typically Offered:

Spring

Credits: 3

SFR 458 - Tree Pests and Disease Lab

Identification of tree health problems and their management options. Course may include field work during and outside of the course's scheduled times.

Core Curriculum/Core Requirements: [""] Prerequisites:

BIO 100 or SFR 100 or permission

Course Typically Offered:

Spring

Credits: 1

SFR 460 - Sustainable Materials and Technology Manufacturing Tour

One-week inspection trip to representative manufacturers of bioproducts selected for demonstration of typical plant and forest operations. A written report is required.

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior Standing and Forestry or Parks, Recreation and Tourism or Sustainable Materials and Technology major

Course Typically Offered:

Spring

Credits: 1

SFR 464 - Forest Resources Business, Marketing and Entrepreneurship

This is a broadly based course with multiple facets related to the business aspects of forest resource transactions between buyers and sellers; the marketing of forest resources and the development and management of a forest resource related business. The course includes the principles of contractual agreements, detailed information about the markets for forest resources both local and international, the basic tenets of entrepreneurship and the fundamentals of business ownership, planning and management. In addition to basic lectures and projects, practitioners discuss their experiences and share information about business management, contracts, the ethics of the buyer-seller interactions, and the marketing of products. A semester project requires at least one field visit outside of scheduled times. Students enrolling in the course should have passed at least one course meeting the general

education requirement for science with lab or application of science. Course may have field trips during class times.

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior or Senior standing

Course Typically Offered:

Spring

Credits: 3

SFR 477 - Forest Landscape Management and Planning

Integration of biophysical and socioeconomic sciences for the multiple use management to achieve desired products, services and conditions of forest lands. Application of modern analytical procedures for strategic, tactical and operational forest planning up to the landscape level. Because of overlap SFR 477 and SFR 577 cannot both be taken for degree credit. Course may have field trips during class times.

Core Curriculum/Core Requirements: [""] Prerequisites:

SFR 349 or Pre/Co-requisite of SFR 409 or SFR 509 and Pre or Co-requisite of SFR 444 or SFR 544

Course Typically Offered:

Spring

Credits: 3

SFR 479 - Environmental Attitudes and Behaviors

Explores the relationship between human behavior and the natural environment through a variety of social and environmental psychology constructs including: intrinsic and instrumental values, beliefs, attitudes, perceptions of control, and social norms.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Spring, Even Years

Credits: 3

SFR 480 - Wilderness and Protected Areas Management

Historical overview of wilderness and protected area management in the United States involving western cultural influences such as Beowulf, Christianity, and Romanticism. Basic concepts of the unique management problems and opportunities associated with wilderness and wild and scenic river systems. Ideas will be explored on how to deal with the complexities of wilderness subsystems, their values, and their uses in the United States as well as international context.

Core Curriculum/Core Requirements: ["Western Cultural Tradition"] Prerequisites:

SFR 228

Course Typically Offered:

Spring, odd years

Credits: 3

SFR 489 - Tools for Consulting Foresters

Hands-on experience with software applications and field techniques useful for creating small woodlot forest management plans including: mapping, forest inventories, resource evaluation and assessments, growth and yield programs, spreadsheets and other office software. SFR 489 and SFR 589 cannot both be taken for degree credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

SFR 400, SFR 402 and SFR 409

Course Typically Offered:

Fall

Credits: 1

SFR 490 - Small Woodlot Management

The course provides students with the experience of creating a small woodlot management plan for a forested property. The plan will incorporate state and federal guidelines. This capstone course will integrate and apply topics from across the undergraduate program.

Core Curriculum/Core Requirements: ["Writing Intensive and Capstone"] Prerequisites:

SFR 489 and permission

Course Typically Offered:

Spring

Credits: 3-4

SFR 491 - Senior Capstone in Parks, Recreation and Tourism

Selected issues and trends facing the recreation and parks profession today. Serves as the capstone experience, integrating all of the course work for Parks, Recreation and Tourism students.

Core Curriculum/Core Requirements: ["Writing Intensive and Capstone"] Prerequisites:

Senior standing and permission.

Course Typically Offered:

Spring

Credits: 3

SFR 492 - Capstone Directed Study

One student or a group of students select a problem in natural resource utilization, management, or policy, and prepare a prospectus and ultimately a detailed technical report on the topic. Each student or group will work closely with one or more faculty who agree to serve as mentors. Capstone projects are highly integrative of topics covered in the undergraduate program and involve applying knowledge to field- or lab-based activities. Study results are presented in an oral presentation and a final technical report. (May be repeated for credit until a total of 3-4 credits have been earned.)

Core Curriculum/Core Requirements: ["Writing Intensive and Capstone"] Prerequisites:

Department consent and Senior Standing in FBB, FTY, or PRT

Course Typically Offered:

Fall & Spring

Credits: 1-4

SFR 493 - Sustainable Tourism Planning

The course provides a basis for a tourism destination service learning project involving natural and cultural attractions. The project will involve developing, facilitating, evaluating and documenting the tourism destination planning process. Specific topics include tourism potential evaluation, tourism sociocultural and environmental impacts, community-based tourism planning, tourism regional and site planning, and strategic tourism planning. The course requires field trips within and outside of scheduled class periods. (Because of overlap SFR 493 and SFR 593 cannot both be taken for degree credit).

Core Curriculum/Core Requirements: ["Writing Intensive and Capstone"] Prerequisites:

Senior Standing in PRT or permission.

Course Typically Offered:

Fall

Credits: 3

SFR 498 - Senior Research I

An original investigation of a problem in Forest Ecosystem Science, under the guidance of a faculty member. Students will select an area of study, perform a literature search and prepare a written study plan for their research.

Core Curriculum/Core Requirements: ["Together with SFR 499' , 'this course satisfies both the General Education Writing Intensive requirement and the General Education Capstone Experience requirement."] Prerequisites:

Permission and junior standing in Forest Ecosystem Science and Conservation.

Course Typically Offered:

Fall & Spring

Credits: 2

SFR 499 - Senior Research II

Students will complete the research initiated in SFR 498 and prepare a written final report. The completed project should demonstrate the student's ability to understand and apply scientific principles in research.

Core Curriculum/Core Requirements: ["Together with SFR 498' , 'this course satisfies both the General Education Writing Intensive requirement and the General Education Capstone Experience requirement."] Prerequisites:

SFR 498 and senior standing.

Course Typically Offered:
Fall & Spring

Credits: 2

Social Sciences

SSC 124 - Statistics for the Social Sciences

Statistics play a crucial role in understanding and developing new knowledge within the social sciences. This course introduces statistical concepts and procedures to social science students who will use statistics in their future coursework and/or career. In this course, students will learn a variety of descriptive and inferential techniques for analyzing continuous and categorical data. Students will learn how to interpret and present the results of statistical analyses in APA format and will be able to communicate the meaning of these statistical analyses to non-academic audiences. Students will leave the course with an understanding of how and why social scientists use statistics.

Core Curriculum/Core Requirements: ["Quantitative Literacy"] Prerequisites:
At least one of the following: ANT 102, CMY 101, PSY 100 or SOC 101

Course Typically Offered:
Fall: Even Years-Online; Odd Years - Onsite

Credits: 3

SSC 205 - Social Science Research Methods

A course designed to nurture an appreciation and understanding for the manner in which social scientists conduct research. Students learn how to find information, read journal articles, pose research questions, select appropriate methods, select participants, select appropriate designs and statistical analyses, report research findings, and do all of the above ethically.

Prerequisites:
PSY 100 and SSC 124

Course Typically Offered:
Fall

Credits: 3

SSC 420 - Real World Research & Inquiry

This course is required for students in Psychology & Community Studies and welcomes others interested in gaining further expertise in social science methodology. It is designed to provide learners with an understanding and experience using methodological approaches commonly thought of as qualitative, which may include interview-based research, focus groups, case studies, naturalistic observation, mixed method research, grounded theory, and Indigenous approaches to inquiry. Learners build on previous coursework in finding relevant information, reading journal articles, developing research questions, and selecting appropriate methods, participants, designs and analyses, reporting research findings, and doing this in the most ethical manner. The primary goals in this course are for learners to gain experience with project management, conducting preliminary research for a community partner and presenting their findings. During the semester, students are expected to make periodic progress reports on their projects and maintain professional communications with work teams and community partners. The research projects conclude with formal (convention-style) presentations. This course includes a Service-Learning and Community Engaged (SL/CE) component.

Prerequisites:
SSC 124, or PSY 214, or SSC 205, Jr. Standing, or permission of the instructor

Course Typically Offered:
Fall and Spring

Credits: 3

SSC 450 - Senior Project

An opportunity for students to apply and expand what they have learned in the Psychology & Community Studies program by pursuing local problems and issues. In this culminating service learning/community engagement course, students will work with a community partner to design and implement an independent research project or develop and run a program that serves the community partner's needs. Independent inquiry and formal presentations to the class are important components of this course for both peers and the community. This course includes a Service-Learning and Community Engaged (SL/CE) component.

Core Curriculum/Core Requirements: ["Capstone and Service Learning and Writing Intensive"]

Prerequisites:
Senior standing, SSC 205 and COE 313

Course Typically Offered:
Every Spring

Credits: 3

Social Work

SWK 101 - Opportunities for the Social Work Major

Introduces first-year and transfer students who have declared a major in social work to the general resources of the University of Maine and to the specific resources of the School of Social Work. Topics include overview of library and computer facilities, degree and graduation requirements, volunteer opportunities, internships, and future career opportunities.
(Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Prerequisites:
Social Work major.

Course Typically Offered:
Fall

Credits: 1

SWK 220 - Introduction to Social Work

Focuses on the history and development of social welfare and social work, the basic values and concepts of social work practice and the major fields of social work practice. Second semester students or sophomore level.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Course Typically Offered:
Fall & Spring

Credits: 3

SWK 230 - Contemporary Issues in Diversity and Pluralism

Examines plurality and diversity from a standpoint of difference created by culture, race, social structure, religious affiliation, gender, age, sexual orientation and ability. Issues of prejudice and discrimination examined on an individual and societal level.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"] Course Typically Offered:
Spring

Credits: 3

SWK 350 - Human Behavior and the Social Environment I

Examines normative development, behavior, values and attitudes as influenced by age, cohort, gender, culture, social class, social structures, oppression and other environmental factors. Addresses the life span and attendant concerns from multiple theoretical perspectives within a systems person-in-environment framework. Considers implications for social work practice and social welfare policy.

Core Curriculum/Core Requirements: [""] Prerequisites:
PSY 100 and SOC 101 or permission.

Course Typically Offered:
Fall

Credits: 3

SWK 351 - Human Behavior in the Social Environment II

Examines research and traditional/alternative theories related to normative development of families, small groups and communities. Explores the impact of age, gender, social class, oppression and other environmental factors on that development. Examines the physical environment (nature and built), social structure and contexts of organizations and institutions in interaction with families, groups and communities. Considers implications for social work practice and social welfare policy.

Core Curriculum/Core Requirements: [""] Prerequisites:
SWK 350 or permission.

Course Typically Offered:
Spring

Credits: 3

SWK 361 - Generalist Social Work Practice I

Explores the functions and roles of the social worker, the value base of social work practice, and the processes of providing service. Social Work majors only.

Core Curriculum/Core Requirements: [""] Prerequisites:

SWK 350 or permission.

Course Typically Offered:

Spring

Credits: 3

SWK 380 - The Biological Person and the Environment

The biological person as viewed from a biopsychosocial-spiritual model requires that social workers develop an appreciation and understanding of the reciprocal impact of behavior and biology on one another. For social workers, understanding the biological systems means closely examining the human body and all of the intricate, interdependent systems and their actions that are necessary to maintain life.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall

Credits: 3

SWK 395 - Junior Internship Experience

Preparation for field practicum, exploration of interest in professional social work and introduction to social welfare agency milieux through volunteer experience. Students must register for both fall and spring semesters.

Core Curriculum/Core Requirements: [""] Prerequisites:

Social Work major

Course Typically Offered:

Fall & Spring

Credits: 3

SWK 440 - Social Welfare Policy and Issues

Provides an analytic perspective on the provision of social services and the interrelatedness of practice and policy analysis. The dimensions of choice in social welfare policy and major issues in provision of services are examined.

Core Curriculum/Core Requirements: [" Writing Intensive"] Prerequisites:

SWK 220

Course Typically Offered:

Spring

Credits: 3

SWK 462 - Generalist Social Work Practice II

Develops knowledge, values and skills necessary for provision of social services to individuals, families and small groups. Includes knowledge and skill building in interpersonal communication, planning and carrying out interventions, and evaluating interventions within the context of generalist social work practice. Integrates classroom and field instruction experiences. Limited to senior social work majors.

Core Curriculum/Core Requirements: [""] Prerequisites:

SWK 361.

Course Typically Offered:

Fall

Credits: 3

SWK 463 - Generalist Social Work Practice III

Explores the theory and practice of purposive social change in social agencies and communities, participation of social workers in politics, and social worker roles of advocate, resource mobilizer, program planner, and organizer. Integrates the classroom and field instruction experience. Limited to senior social work majors.

Core Curriculum/Core Requirements: [""] Prerequisites:

SWK 462.

Course Typically Offered:
Spring

Credits: 3

SWK 485 - Mental Health and Work in Social Work Practice

This course will examine work as the basis for human meaning, analyze the barriers to gainful employment experienced by people with psychiatric disability, and then apply informed knowledge and skill of social service personnel to supporting successful work activity for persons with psychiatric disability.

Course Typically Offered:
Fall

Credits: 3

SWK 491 - Methods of Social Work Research

Beginning methods of social work research. Strategies and methods of developing knowledge in the context of social work practice and social welfare. The place of theory in research, problem formulation, ethical concerns, research designs, including practice research and evaluation, methods of data collection, sampling, introduction to program evaluation, and basic procedures in data analysis and statistics.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Fall

Credits: 3

SWK 495 - BSW Generalist Internship

Generalist social work practice in community agencies provides opportunities to apply social work knowledge and skills directed toward planned intervention and change efforts. Limited to social work majors who have completed at least 75 course credit hours. 12 credit hours of Field Practicum required, 6 per semester. Variable credit by permission.

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:
SWK 361 and SWK 440.

Corequisites:
SWK 462 (fall semester) and SWK 463 (spring semester.)

Course Typically Offered:
Fall & Spring

Credits: 6

SWK 497 - Special Topics in Social Work

Content varies to suit needs of individual students or small groups. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission.

Course Typically Offered:
Fall, Spring, Summer

Credits: 1-3

Sociology

SOC 101 - Introduction to Sociology

Introduces the fundamental concepts, principles, and methods of sociology, analyzes the influence of social and cultural factors upon human behavior and evaluates effect of group processes, social classes, stratification, and basic institutions on contemporary society.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Course Typically Offered:
Fall & Spring

Credits: 3

SOC 201 - Social Inequality

Structural analysis of social inequality within American society and the global community. Emphasis on the causes, extent and social consequences of inequality, especially those based on race, gender, social class and the level of economic development.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions and Cultural Diversity and

International Perspectives"] Prerequisites:
SOC 101 or or CRJ 114 or permission.

Course Typically Offered:
Variable

Credits: 3

SOC 220 - Sociology of Deviance

The study of deviant behaviors, individuals and groups, with emphasis on social order, power and identity. Use of the sociological perspective to explore definitions of deviance, theories of deviance, processes by which individuals become labeled as deviant, the nature of deviant identities and societal consequences of constructions of deviance.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Prerequisites:
SOC 101 or permission.

Course Typically Offered:
Variable

Credits: 3

SOC 240 - Topics in Sociology

A second-level study of topics such as "Sociology of Youth." "Sociology of Countercultures," "Sociology of Sport," and "Urban Sociology." May be repeated for credit if the topics differ.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions"] Prerequisites:
SOC 101 or permission.

Course Typically Offered:
Variable

Credits: 1-3

SOC 290 - Research Foundations in Sociology

This course introduces students to essential techniques of research design in sociology, including identifying research puzzles, using theory in empirical research, selecting methodological approaches, reviewing scholarly literature, and engaging with research ethics. Students will survey the diversity of research approaches in sociology and will develop individualized research proposals. Credit cannot be earned for both SOC 290 and CRJ 290.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
SOC 101 or CRJ 114 or permission

Course Typically Offered:
Fall

Credits: 3

SOC 291 - Qualitative Reasoning in Sociology

Exploration of the use of qualitative methods of data collection and analysis in sociological research. Topics include field research, interviewing, and qualitative research design. Special emphasis on hands-on exercises.

SOC 291 and CRJ 291 cannot both be taken for creidt.

Core Curriculum/Core Requirements: [""] Prerequisites:
SOC 101 and SOC 290 or permission

Course Typically Offered:
Variable

Credits: 3

SOC 293 - Statistical Reasoning in Sociology

The use of statistical methods in sociological research. Topics include descriptive and inferential statistics and hypothesis testing. Special emphasis place on sociological applications of statistical techniques, an understanding of when they are appropriate to use, and the information they yield.

Core Curriculum/Core Requirements: ["Quantitative Literacy "] Prerequisites:
SOC 101 or permission

Course Typically Offered:
Variable

Credits: 3

SOC 308 - Problems of Violence and Terrorism

This course examines terrorism-related violence, activities, and organizations in the United States and abroad. Students will learn about the historical context for understanding domestic and homegrown violent extremism, emerging trends in violent extremism and terrorism, recruitment and radicalization, and the institutional and behavioral responses to terrorism. By the end of this course, students will understand how terrorism and violent extremist organizations are the result of unique historical and cultural forces, and how they are more dynamic and complex than previously understood. SOC 308 and CRJ 308 cannot both be taken for credit.

Prerequisites:
SOC 101 or CRJ 114; Junior or Senior standing; or with permission

Course Typically Offered:
Variable

Credits: 3

SOC 310 - Food Systems and Social Change

This course investigates food systems as social institutions, considering both how they meet human needs and how they reflect and reproduce social and environmental inequalities. It focuses on systemic causes of and responses to food insecurity and malnutrition and considers critiques of food systems developed from perspectives of food democracy, food justice, and food sovereignty. Learning in this course concentrates on (1) understanding historical and social contexts of food systems, (2) exploring values and positions involved in contemporary debates about food systems, and (3) gaining knowledge of food as an arena for practical, change-oriented activism.

Prerequisites:
SOC 101 and Junior or Senior; or with permission

Course Typically Offered:
Spring

Credits: 3

SOC 311 - Rural Sociology: Sociology Beyond the City

This class examines key theories, concepts, and data relevant to the field of rural sociology. In this course, we will explore a range of sociological topics and how they are relevant to rural people and places, including social institutions, stereotypes, depictions of rural people/places in media, criminal justice, the economy and work, inequality/poverty, race, class, gender, and sexuality. Through this course, we will engage our sociological imaginations to understand the importance of space and place and how and why rural and urban places are similar and different from each other. In this class, through assignments that apply place-based frameworks, students will develop a sociological toolkit that enables them to critically examine and understand rural-urban dynamics as well as apply these insights to their own personal experiences of rural-urban differences.

Core Curriculum/Core Requirements: ["Writing Intensive "] Prerequisites:
Junior Standing and SOC 101 or permission

Course Typically Offered:
Variable

Credits: 3

SOC 314 - Law and Society

Presents a sociological perspective on law and the legal system in the United States and other societies. Topics include problems in defining law, sociological theories of the origins and consequences of law, international differences in modes of dispute resolution, the relation between law and social change, studies of the legal profession and legal discretion in the criminal justice system. Credit cannot be earned for both CRJ 314 and SOC 314.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions and Cultural Diversity"]

Prerequisites:
SOC 101 or CRJ 11 or permission

Course Typically Offered:

Spring

Credits: 3

SOC 315 - Environmental Sociology

Analysis of causes and impacts of and societal responses to environmental problems, with attention to institutional arrangements, social inequalities, and collective action. Introduction to theoretical perspectives and research approaches in the subfield of environmental sociology. Investigation of how environmental sociology can inform public understanding and environmental policy and activism.

Prerequisites:

SOC 101 and Junior or Senior; or with permission

Course Typically Offered:

Variable

Credits: 3

SOC 320 - Sociology of Poverty

This course will provide an overview of international and national trends in wealth distribution, with a focus on poverty in rural Maine. Theories of poverty, its definition, nature and causes will be reviewed from a sociological perspective, exploring the intersections of gender, race, ethnicity and class as they impact those in poverty. Students will engage in a self-reflective process, identifying their own class status and the ways in which class has enhanced or constrained personal development. In this course, poverty is viewed as a socially structured phenomenon, influenced by social, economic and political forces in historical context.

Prerequisites:

SOC 101 and sophomore standing, or permission of instructor

Course Typically Offered:

Variable

Credits: 3

SOC 323 - Social Movements, Protest and Policing

This course examines policing and activism in the United States. Specifically, the course will consider police-protestor interactions in historically important social movements and will investigate contemporary issues, such as police militarization, digital activism and surveillance, and movements for police accountability. Attention will be placed on the complex relationship between civil liberties and public order in democratic society.

Credit cannot be earned for both SOC 323 and CRJ 323

Prerequisites:

Six credits of SOC and/or CRJ courses or instructor permission.

Credits: 3

SOC 324 - Domestic Violence

This class focuses on the extent, nature, causes, and consequences of domestic violence in the United States. Specifically, the course focuses on intimate partner violence, child abuse, child-to-parent abuse, elder abuse, and related topics. This course revolves around three themes: 1) gaining knowledge and insight about domestic violence, 2) understanding the social context of domestic violence, 3) evaluating criminal justice responses to domestic violence.
SOC 324 and CRJ 324 cannot both be taken for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

SOC 101 or CRJ 114 and Junior or Senior; or with permission

Course Typically Offered:

Variable

Credits: 3

SOC 329 - Sociology of Gender

Analysis of contemporary constructions of gender. Emphasis on the interpersonal and institutional dimensions of sexism and the prospects of social change.

Prerequisites:

6 hours of sociology or WGS 101 or permission.

Course Typically Offered:
Variable

Credits: 3

SOC 338 - Race and Ethnicity

Explores dominant/subordinate relations nationally and internationally with emphasis on socially defined racial and ethnic groups. Origins, nature, and consequences of racial/ethnic oppression and inequality; historical and social contexts of intergroup relations and conflicts; implications of changing racial/ethnic diversity.

Prerequisites:
SOC 101 and SOC 201 or permission.

Course Typically Offered:
Variable

Credits: 3

SOC 340 - Intermediate Topics in Sociology

An intermediate-level study of topics such as "Sociology of Emotions," "Sociology of Science and Technology," and "Modern Sociological Theory." May be repeated for credit if the topics differ.

Core Curriculum/Core Requirements: [""] Prerequisites:
6 hours of sociology or permission.

Course Typically Offered:
Fall & Spring

Credits: 3

SOC 360 - Major Ideas in Sociology

The sociological theories of Marx, Weber, Durkheim, Mead and others. Developments in sociological theory as related to methodology, social issues, and current trends in contemporary sociology.

Core Curriculum/Core Requirements: [""] Prerequisites:
SOC 101 and SOC 290 or permission

Course Typically Offered:
Spring

Credits: 3

SOC 493 - Senior Thesis

The completion of a senior thesis on a topic of the student's choice under the supervision of a sociology faculty member. While senior students will typically complete SOC 499 as their capstone experience, in rare circumstances students may conduct a significant piece of sociological research with a faculty mentor.. Students who take this course may choose to substitute it for SOC 499-Senior Capstone to satisfy both the Sociology and General Education capstone requirements.

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission; Sociology major with senior standing and a minimum GPA in sociology courses of 3.5; SOC 290, SOC 460 and statistics.

Course Typically Offered:
Fall & Spring

Credits: 3

SOC 495 - Internship in Sociology

A supervised internship providing practical experience in a field placement and requiring parallel readings and study. Emphasis on the guided application of concepts and principles from related courses and structured readings to applied situations in the field. Students may take 3-9 credits. Not more than 6 credit hours may be used toward the departmental major.

Core Curriculum/Core Requirements: [""] Prerequisites:
Sociology major with senior standing; GPA of at least 3.0 and permission of instructor.

Course Typically Offered:
Fall & Spring

Credits: 3 - 9

SOC 497 - Departmental Projects I

No description available.

Core Curriculum/Core Requirements: [""] Prerequisites:

permission.

Course Typically Offered:

Variable

Credits: 1-3

SOC 498 - Departmental Projects II

No description available.

Core Curriculum/Core Requirements: [""] Prerequisites:

permission.

Course Typically Offered:

Variable

Credits: 1-3

SOC 499 - Senior Capstone

Selected theoretical and empirical topics in Sociology. Serves as the capstone course for Sociology majors and will assume a knowledge of and will build upon, the material presented in the other required courses in the major. The intent of the course is to help students integrate their Sociology knowledge and to apply it in dealing with fundamental questions of social life and social theory.

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:

Sociology major with senior standing; SOC 290 and SOC 460 or permission.

Course Typically Offered:

Spring

Credits: 3

Spanish

SPA 101 - Elementary Spanish I

A systematic study of the basics of the Spanish language. Equal emphasis on developing reading, comprehension, speaking and writing skills. For students with no previous study of Spanish or fewer than two years in high school.
Students cannot take both SPA 101 and SPA 109 for credit.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"] Course Typically Offered:

Fall & Summer

Credits: 3

SPA 102 - Elementary Spanish II

A continued study of the basics of the Spanish language. Equal emphasis is placed on developing reading, comprehension, speaking and writing skills. For students with no previous study of Spanish or fewer than two years in high school.

Credit cannot be earned for both SPA 102 and SPA 110

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"] Prerequisites:

SPA 101 or SPA 109 or equivalent.

Course Typically Offered:

Spring, Summer

Credits: 3

SPA 109 - Spanish for the Medical Professions

In response to the ever-growing Spanish-speaking population in the United States, this course will address the specific Spanish communications skills required by those students who intend to pursue careers in medical or health-care fields. This course will focus on medical situations with Spanish-speaking patients and/or family members with limited English. It will emphasize technical

vocabulary, idiomatic expressions, and grammar, as well as cultural awareness. This course is the equivalent to SPA 101. SPA 101 and SPA 109 cannot both be taken for credit

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"] Course Typically Offered:

Fall

Credits: 3

SPA 110 - Spanish for Medical Professions II

SPA 110 Spanish for the Medical Profession II is the sequel to SPA 109 Spanish for the Medical Professions I. For that reason, the course description is similar. Students will improve the specific Spanish communications skills required to pursue careers in medical or healthcare fields working with Spanish-speaking patients and/or family members with limited English. The course is parallel to SPA 102 Elementary Spanish II, so it teaches basic grammar but with an emphasize on technical vocabulary, idiomatic expressions, and cultural awareness appropriate for working with Hispanic patients. Credit cannot be earned for both SPA 110 and SPA 102.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"]

Prerequisites:

SPA 101 or SPA 109, or placement test.

Course Typically Offered:

Spring

Credits: 3

SPA 203 - Intermediate Spanish I

An integrated approach using audio-visual materials and reading texts of a literary and/or cultural nature to strengthen comprehension, reading, writing, and speaking. Includes a systematic but gradual review of the essentials of Spanish grammar.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"]

Prerequisites:

SPA 102 or equivalent.

Course Typically Offered:

Fall

Credits: 3

SPA 204 - Intermediate Spanish II

An integrated approach using audio-visual materials and reading texts of a literary and/or cultural nature to strengthen comprehension, reading, writing, and speaking. Includes a systematic but gradual review of the essentials of Spanish grammar.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"]

Prerequisites:

SPA 203 or equivalent.

Course Typically Offered:

Spring

Credits: 3

SPA 305 - Applied Spanish

Intensive oral and written practice in real-life situations. Development of confidence, accuracy, fluency and communicative strategies in formal and informal modes of expression. Guided development of idiomatic expression and structures; development of self-correct in speech and writing. Reinforcement through interactive situations.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

SPA 204 or SPA 217 or SPA 300 level or higher course

Course Typically Offered:

Fall

Credits: 3

SPA 306 - Workshop in Speaking and Writing Spanish

Develops fluency and accuracy in written and oral Spanish. Students help design course content through projects, performances,

and problem-solving.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
SPA 204 or SPA 217 or SPA 300 level or higher course

Course Typically Offered:
Spring

Credits: 3

SPA 308 - Readings in Hispanic Literatures

Provides practice in reading and analyzing culturally important works from across the Hispanic world. Includes a selection of genres and periods, from medieval Iberia to colonial Latin America to the global present. Emphasis on changes in the cultural phenomena, styles, themes, and ideological positions of literary texts.

Prerequisites:
Any SPA 300 level or higher course

Course Typically Offered:
Variable

Credits: 3

SPA 309 - Spanish for the Professions

Designed to provide students who have an intermediate-level knowledge of Spanish familiarity with specialized language and conventions in professional situations. Emphasis will be given to vocabulary and writing skills for professional use as well as awareness of Hispanic culture, cross-cultural communications and applications in Spanish speaking countries. Authentic up-to-date information will require regular use of the Internet as a source of reading. All classes are conducted in Spanish.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
SPA 204 or SPA 217 or SPA 300 level or higher course

Course Typically Offered:
Variable

Credits: 3

SPA 310 - Contemporary Latin American Cultures

This course will show students the contrasting and diverse cultures of Latin America. Students will learn about Latin American peoples' knowledge, technological development, modern life, and traditional cultures. The themes for reading and discussion will be about patrimony (what a people has from their past), art, enterprises, products, market, personalities, syncretism (mixing of cultures), migrations, history, science and society. Students will improve listening, speaking, reading and writing in Spanish.

Prerequisites:
SPA 204 or SPA 217 or SPA 300 level or higher course

Course Typically Offered:
Variable

Credits: 3

SPA 311 - Latinos in the U.S.

Hispanics are the fastest growing segment of the U.S. population, and much of that growth is driven by immigration. In this course we cover: the definition of immigration, the Latino experience in the United States, and Latinos in Maine. We approach these topics through different types of authentic material: literature (stories, poems, and excerpts from novels), newspaper and magazine articles, blogs, songs, plays, movies, television, radio, video clips, audio clips (podcasts) and art (graffiti, mural, painting, digital art, cartoon, and photo). We also talk with Latino immigrants from different countries of origin. Students will improve listening, speaking, reading, and writing in Spanish.
The course will be taught entirely in Spanish and the readings will be in the target language.

Prerequisites:
SPA 204 or SPA 217 or SPA 300 level or higher course

Course Typically Offered:
Alternate years.

Credits: 3

SPA 390 - Topics in Spanish

May include the study of literature, culture, cinema, the arts and media as expressed in Spanish-speaking countries. Topics vary. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:

Any SPA 300 Level course

Course Typically Offered:

Variable

Credits: 1-3

SPA 409 - Contemporary Latin-American Short Story

A study of Latin-American short story writers including discussion of such significant contemporary concerns as poverty, politics and religion, and such themes as the interplay of fantasy and reality and the relativity of madness.

Prerequisites:

SPA 307 or SPA 308 or permission.

Course Typically Offered:

Variable

Credits: 3

SPA 410 - Latin American Novel

The contemporary novel in Spanish America, with special attention on some of the novelists of the "Boom."

Prerequisites:

SPA 307 or SPA 308 or permission

Course Typically Offered:

Variable

Credits: 3

SPA 414 - History of the Spanish Language

An historical panorama of the development of Spanish from late Latin on the Iberian Peninsula to the globally dynamic language of our present. Students will study the modern Spanish language in Europe, Africa, the Americas, and around the world, how this language came to be, and how it continues to change. Linguistic notions gleaned in this course have relevance to other modern languages, including English, as well as to the idiosyncrasies and common points of confusion in Spanish.

Core Curriculum/Core Requirements: [" Writing Intensive"] Prerequisites:

SPA 307 or SPA 308 or permission; INT 410 suggested

Course Typically Offered:

Spring

Credits: 3

SPA 415 - Feminism and Literature

Feminism is one of the most consequential intellectual traditions of the West. This course will examine this far-reaching current of thought in the global literature of the Spanish language, from medieval precursors to twenty-first-century texts.

Prerequisites:

SPA 307 or SPA 308 or permission

Course Typically Offered:

Fall

Credits: 3

SPA 416 - Modernism(o) and Avant-Garde

Across the Hispanic world, writers like Cesar Vallejo, Federico Garcia Lorca, Ruben Dario, Rosa Chacel, and Jorge Luis Borges, along with visual artists like Salvador Dali, Maruja Mallo, and Pablo Picasso define what it means to be modern at the beginning of the twentieth century. This course examines and explores the complicated topic of modernity by surveying Hispanic art and literature from about 1898 to 1945.

Prerequisites:

SPA 307 or SPA 308 or permission

Course Typically Offered:

Spring, alternating years

Credits: 3

SPA 419 - Rebels & Realists in 19th-Century Literature

This course analyzes a broad selection of literary texts from the 19th century, a period of revolutions, rapid industrialization, and radical politics. A particular emphasis is placed on Romanticism and Realism and their legacies in contemporary culture.

Prerequisites:

SPA 307 or 308

Course Typically Offered:

Fall, Alternating

Credits: 3

SPA 420 - Spanish Film

Areas covered may vary and could include the following topics: national cinemas; director of note; the social, political, historic and economic factors that influence both the creation and content of films; and an analysis of the components of cinematography. May be repeated for credit.

Prerequisites:

SPA 307 or SPA 308 or permission

Course Typically Offered:

Variable

Credits: 3

SPA 430 - Seminar in Advanced Grammar

SPA 430 is a grammar composition and revision course whose purpose is to help students solve written expression problems and prepare them for other advanced courses of the Spanish program. Students are expected to enroll in this course with a strong basic knowledge of the grammatical structures of Spanish and a desire to polish their expression, resolve doubts, and explore the idiosyncrasies of the language. Various grammatical structures and writing strategies will be covered.

Prerequisites:

SPA 307 or SPA 308

Course Typically Offered:

Fall, Alternating years

Credits: 3

SPA 444 - Theory and Techniques of Translation

Designed to develop awareness of linguistic styles and structures and emphasize the complex relationship between a language and its context. Taught as workshop, with regular assignments of texts for translation, comparison and evaluation. Selections from literature and general topics, although this is not a literature course. Attention given to theories of translation both past and present and how these theories respond to cultural and ideological perspectives; and relate to Spanish translation.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

SPA 307 or SPA 308 or permission

Course Typically Offered:

Fall, Even Years

Credits: 3

SPA 490 - Topics and Individual Authors in Spanish

Specific topic varies semester to semester. May be repeated for credit.

Prerequisites:

SPA 307 or SPA 308 or permission

Course Typically Offered:

Fall, Spring, Summer

Credits: 1-3

SPA 495 - Senior Project in Spanish

Capstone Experience in which majors in Spanish and in International Affairs with a concentration in Spanish, or in Cultures, Languages and the Humanities, apply language skills and knowledge gained from all prior language study. Students work closely

with a faculty advisor on an approved project and give a public presentation of the project in Spanish. When taken as a stand-alone course, the coursework will reflect the work of three credit hours, regardless of number of credits taken. When taken in conjunction with another Spanish course at the 400 level, the course will carry no credit and will be graded Pass/Fail only.

Core Curriculum/Core Requirements: ["Capstone Experience"] Prerequisites:
Senior standing and permission.

Course Typically Offered:
Fall, Spring, and Summer

Credits: 0-3

SPA 498 - Projects in Spanish II

Independent study on topics selected by student and instructor.

Prerequisites:
Permission.

Course Typically Offered:
Spring

Credits: 1-3

Sports Management

SPT 250 - Introduction to Sport Management

The course is industry centered providing an overview of all facets of sports management and the sports industry. The course will cover major industry segments including youth, amateur, intercollegiate and professional sport as well as ancillary areas specific to the sport industry such as sport agencies, gambling, esports, sports retail, etc. Sport concentration areas covered in this course are event management, marketing, communications, law, facility management, esports, sport tourism, sales, analytics, PR, finance, and economics.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
A grade of C- or better in MGT 101

Course Typically Offered:
Fall & Spring

Credits: 3

SPT 290 - Introduction to Topics in Sports Management

Introduces student to aspects of the Sports Management discipline. Special topics may include areas relevant to any aspect of management at an introductory level. This course may be repeated for credits.

Prerequisites:
Any Business Major or Minor

Course Typically Offered:
Variable

Credits: 1-3

SPT 355 - Sport Marketing

Sports are uniquely creative and there are many aspects that cause them to behave differently from other brands, businesses, and organizations. This course is intended to introduce students to the world of sports business from a strategic marketing perspective. An historical perspective of the industry will provide the necessary framework to gain insight into the present and future sports marketing environment. The basic principles of marketing and marketing management as applied to the sports industry will be emphasized. Specific topics include segmentation, product, distribution, and pricing decisions, marketing through sport sponsorships, endorsements, licensing, sport media, marketing communications, and emerging issues in sports marketing.

Prerequisites:
C- in MKT 270

Course Typically Offered:
Spring & Fall

Credits: 3

SPT 485 - Sport Management Practicum

This course applies management, marketing, finance, and laws to a broadly-defined sport field. Through hands-on learning,

students are given the opportunity to study, analyze, and practice management in for-profit and non-profit sport and recreation organizations and relevant industries in the form of a semester-long team project.

Core Curriculum/Core Requirements: [""] Prerequisites:

SPT 355 and SPT 250; Sports Management Major

Course Typically Offered:

Fall & Spring

Credits: 3

SPT 490 - Special Topics in Sports Management

Study of various aspects of functional areas of sports management. Topics vary depending on faculty and student interests. May be repeated for credit if the topics differ.

Prerequisites:

Junior Standing

Course Typically Offered:

Variable

Credits: 1-3

Statistics

STS 132 - Principles of Statistical Inference

Intended for students who will use statistics as an aid to the comprehension of quantitative work done by others and for students who will follow this course by an intermediate level applied statistics course. An introduction to the language and methods of statistical analysis, probability, graphic and numeric descriptive methods and inference from sample data.
Due to overlapping content, course repeat rules are applicable for STS 215 and STS 132.

Core Curriculum/Core Requirements: ["Quantitative Literacy"] Prerequisites:

Two years of high school math required.

Course Typically Offered:

Fall, Spring, Summer

Credits: 3

STS 235 - Introduction to Statistical Methods

Introductory applied statistics for students with a background in single-variable calculus. Topics include descriptive statistics and graphical methods, probability and probability functions, discrete and continuous probability distributions, linear regression, fitting of models to real data sets, and statistical inference. Various applications to science and engineering will be given. Students will also gain some experience in using software to implement statistical methods.
Students may earn credit for both STS 235 and STS 435 only if STS 235 is completed first. If a student completes STS 235 after or concurrently with STS 435, the credit for STS 435 will be removed. In this case, both grades will appear on the transcript and will be utilized in GPA calculations.

Core Curriculum/Core Requirements: ["Quantitative Literacy"] Prerequisites:

Grade of C- or higher in MAT 127 or permission

Course Typically Offered:

Fall and Spring

Credits: 3

STS 400 - Topics in Statistics

Topics in statistics not regularly covered in other courses. Content varies to suit current needs. May be repeated for credit.

Prerequisites:

Departmental Consent

Course Typically Offered:

Variable

Credits: 1-3

STS 434 - Probability Theory

A first course in calculus-based probability theory. Topics include counting techniques, discrete and continuous random variables, expected value and standard deviation, independence, conditional probability, important discrete and continuous distributions, limit

laws such as the central limit theorem, and multivariate distributions.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C or better in MAT 228.

Course Typically Offered:

Fall

Credits: 3

STS 435 - Introduction to Mathematical Statistics

An introduction to the theory and methods of statistical inference. Topics include point and interval estimation, hypothesis testing, linear regression and correlation, and analysis of variance.

Students may earn credit for both STS 235 and STS 435 only if STS 235 is completed first. If a student completes STS 235 after or concurrently with STS 435, the credit for STS 435 will be removed. In this case, both grades will appear on the transcript and will be utilized in GPA calculations.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C or better in STS 434.

Course Typically Offered:

Spring

Credits: 3

STS 437 - Statistical Methods in Research

An introduction to analysis of variance and regression analysis using a unifying approach to theory; applications and illustrations from many fields will be included.

Core Curriculum/Core Requirements: [""] Prerequisites:

A grade of C or better in STS 132, STS 235, STS 332, or STS 434 or permission.

Course Typically Offered:

Fall

Credits: 3

Surveying Engineering Technology

SVT 100 - Introduction to Surveying Technology

Discussion of the major topics in surveying engineering technology professional practice including measurement science, boundary surveying and mapping science. Professionalism and licensure in surveying practice will also be discussed in depth. Guest lectures by industry leaders and occasional field trips are utilized in course instruction.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall

Credits: 1

SVT 101 - Basic Surveying Field and Office Processes

A beginning course studying surveying instruments and their use in the measurement of angles, distances and elevations. Also includes mathematics, computational methods, adjustments and measurement analysis used in plane surveying. RTK GNSS and creating ground surfaces is included.

Core Curriculum/Core Requirements: [""] Corequisites:

MAT 122 or 76 or higher on the math placement exam (ALEKS)

Course Typically Offered:

Fall and Spring

Credits: 3

SVT 102 - Surveying Principles for Civil Engineers

The course is a study of surveying instruments, procedures and computations. The course will cover grade, cross-section, construction stakeout, the mathematics of horizontal and vertical curves, area computations, volume computations, mapping, introduction to geographic information systems, and introduction to GNSS/GPS.

Core Curriculum/Core Requirements: [""] Prerequisites:

MAT 122 or 76 or higher on the math placement exam (ALEKS)

Course Typically Offered:

Fall and spring

Credits: 3

SVT 110 - Instrumentation and Data Collectors

Introduction to survey instrumentation, total stations, levels, GNSS receivers and data collectors, used in plane surveying applications of surveying engineering. Elementary plane surveying calculation topics will be introduced including coordinates, directions, angles, distances, elevations, and height of instruments. Methods for processing, display, and presentation of survey observations will also be demonstrated. Basic concepts of photogrammetry and lidar data collection will be introduced as an alternative to traditional field methods.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall

Credits: 1

SVT 121 - AutoCAD and Cartography for Surveyors I

Introduces 2D computer aided drafting and design using AutoCAD. Covers user interface, drawing setup, layers, attributes, file management, coordinate systems, view, draw and modify commands, display control, text styles, and dimensioning. Also includes instruction in key elements of cartography essential to the clear communication of surveying and mapping information. Students who take SVT 121 after CIE 101 will only receive credit and grade for SVT 121.

Must have a PC (not Mac) laptop that will run Autodesk software.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall and spring

Credits: 3

SVT 122 - AutoCAD for Surveyors II

Using Carlson Software, land surveying applications will be studied, including terrain modeling, surface boundaries, breaklines and contours; horizontal alignment and vertical alignment design; route surveying including road sections using templates; construction surveying including grading and volume calculations; downloading, creating, and analyzing survey data and performing data adjustments, and dynamic engineering models.

Core Curriculum/Core Requirements: [""] Prerequisites:

SVT 121.

Course Typically Offered:

Fall and spring

Credits: 3

SVT 201 - Adjustment Computations

Basic statistics as applied to surveying, error estimation, error propagation, basic matrix algebra, level network analysis, 3-D traverse analysis, GPS vector network analysis, combined traditional total station and GPS network analysis, blunder detection, positional tolerance, hypothesis testing.

Core Curriculum/Core Requirements: [""] Prerequisites:

SVT202 and a statistics course

Course Typically Offered:

Spring and Fall

Credits: 3

SVT 202 - Route & Site Surveying

Study of surveying procedures in horizontal construction. Explanation of profile and cross section plans. Course work includes computations for horizontal coordinate layout, surface grading layout, cross section layout, horizontal curve layout, and vertical curve layout. Material includes geometry of vertical and horizontal curves, including horizontal compound and reverse curves. Volume computations and surface modeling are introduced.

Core Curriculum/Core Requirements: [""] Prerequisites:

SVT 101 or CET 101 and MAT 122 or a 76 on the Math Placement Exam

Course Typically Offered:
Fall and Spring

Credits: 3

SVT 221 - Boundary Law

Covers historical to present United States land title conveyancing, historical surveying procedures, colonial and pre-colonial land grants, the United States public land survey system, rules of construction and procedures for boundary retracement, recording systems, interpretation of property descriptions, and professional responsibility.

Core Curriculum/Core Requirements: ["Western Cultural Tradition and Writing Intensive"]

Prerequisites:
SVT 202 or two years of surveying practice with instructor permission

Course Typically Offered:
Spring

Credits: 3

SVT 322 - Preparing Effective Property Descriptions

Covers principles of interpretation, techniques and forms for descriptions and preparation of land descriptions. Layout, content, and display of plats and descriptions will be covered.

Core Curriculum/Core Requirements: [""] Prerequisites:
SVT 221; Corequisite: SVT 122; or permission of instructor.

Course Typically Offered:
Fall & Spring

Credits: 3

SVT 331 - Photogrammetry

Includes procedures and methods used for deriving metric information from photographs, analog analytical and digital processes for using serial photographs in production of digital maps, flight planning and cost estimation in aerial mapping work. Introduction to photo-coordinate measurement devices and their calibration. Image matching/Structure from Motion, aerotriangulation, UAV principles, Lidar.

Core Curriculum/Core Requirements: [""] Prerequisites:
SVT 101 or CET 101; and MAT 122 or 76 or higher on the math placement exam (ALEKS)

Course Typically Offered:
Spring

Credits: 3

SVT 332 - Engineering for Surveyors

The study of topics related to engineering site work, highway design, drainage, hydrology, hydraulics, on-site sewer design, water system design, erosion control, sedimentation control, conduits, wetlands delineation, soil mapping, and flood plain mapping.

Core Curriculum/Core Requirements: [""] Prerequisites:
CET 101 or SVT 101

Course Typically Offered:
Spring

Credits: 3

SVT 333 - Team Workflows in Surveying Practice

Through weekly readings, videos, case studies, teamwork exercises and reflective essay writing students will demonstrate their understanding of teamwork in surveying. Focus is on unique surveying team issues: shrinking sizes of field teams, individual remote field and office work, mentoring in professional licensure and multidisciplinary professional projects.

Prerequisites:
SVT 202 and SVT 221

Course Typically Offered:
Spring

Credits: 1

SVT 341 - Advanced Surveying

Geodetic horizontal and vertical datums, plane projection systems, localization of projection coordinates, datum transformations, astronomic observations, cadastral surveying as applied to the U.S. Public Land Survey System, complex coordinate geometry computations.

Core Curriculum/Core Requirements: [""] Prerequisites:

SVT 202 and MAT 122 or 76 or higher on the math placement exam (ALEKS)

Course Typically Offered:

Fall and spring

Credits: 3

SVT 352 - Practical Field Operations

Study of managing survey instrumentation and project requirements to make optimal use of instrumentation and methods for a survey project. Includes suitable use of total station, levels, and GNSS receivers for survey observations. Overview of survey regulations, standards, contract survey specification documents, and instrument specifications. Data collection field techniques to automate office linework, optimizing feature coding and descriptive abilities. Optimization of data collection and layout. Survey documentation and reporting.

Core Curriculum/Core Requirements: [""] Prerequisites:

CET 101 or SVT202 and MAT 122 or MAT 126 or MAT 127 or Math Placement Examination score of 76 or higher

Course Typically Offered:

Spring

Credits: 3

SVT 418 - Fundamentals of Surveying Exam Overview

This course is a review of the survey elements of the NCEES Fundamental of Surveying (FS) nationwide examination which leads to licensure as a professional land surveyor. Course format is practice examinations on FS survey topics for students to assess their FS exam preparedness and for developing their personal study planning. This course is not a substitute for instruction and academic coursework in the covered topics.

Core Curriculum/Core Requirements: [""] Prerequisites:

Surveying Engineering Technology major and Junior standing or permission of instructor.

Course Typically Offered:

Fall

Credits: 1

SVT 437 - Practical GNSS

Presentation of all types of survey grade GNSS equipment with their uses and limitations, GNSS observation planning based on satellite geometry and obstructions, review of geodetic coordinate systems and datums, the geoid and how it relates to the production of elevations from GNSS, execution of all components (planning, field collection, downloading, processing, and adjustment) of a GNSS survey where raw data is collected or real time kinematic (RTK) GNSS vectors are processed in a network adjustment for control work, use of RTK GNSS in collection of a topographic survey.

Core Curriculum/Core Requirements: [""] Prerequisites:

SVT 341 or equivalent and MAT 122 or MAT 126 or MAT 127 or 76 or higher on the math placement exam (ALEKS)

Course Typically Offered:

Fall & Spring

Credits: 3

SVT 451 - Survey Business Law

Studies the fundamental legal concepts and the development and application of law on society, business, engineering and surveying. Covers legal structure, business entities, agency, mechanics liens, torts, bonding, contract administration, contracts, contract formation, contract codification, liability, indemnification, warranties, remedies, damages, the uniform commercial code, alternate dispute resolution, international law, legal research, and land use restrictions.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions and Writing Intensive"]

Prerequisites:

Junior Standing

Course Typically Offered:
Fall & Spring

Credits: 3

SVT 475 - Small Business Management

Provides a broad overview of the skills necessary to operate a small business. Focuses on teaching basic marketing, accounting and management skills with an emphasis on topics that impact the small business owner. Lec 3. (Fall.)

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
Sophomore Standing

Course Typically Offered:
Fall & Spring

Credits: 3

SVT 490 - SL: Surveying Capstone

A long-term professional project-based course which integrates all components of previous surveying coursework. The project will be developed from an initial project description, through project planning, field collection, office processing, computer-aided drafting, final product preparation, through an oral presentation of results.

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:
BS SVT only. Senior standing

Course Typically Offered:
Spring

Credits: 3

SVT 498 - Selected Topics in Surveying Engineering Technology

Topics that are not regularly covered in other courses. Content varies to suit individual needs. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:
Junior standing and Department consent.

Course Typically Offered:
Variable

Credits: Ar

Theatre

THE 111 - Introduction to Theatre

A basic appreciation course for the general student as well as prospective theatre majors that explores the process of theatrical expression throughout history and its relationship to culture.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:
Fall, Spring, Summer

Credits: 3

THE 112 - Dramatic Literature

The role of "the play" as literature and as theatre. Stress on dramatic form and content and on the uniqueness of the drama to reflect the philosophical, social and political environment.

Core Curriculum/Core Requirements: ["Western Cultural Tradition"] Course Typically Offered:
Fall, Spring, Summer

Credits: 3

THE 117 - Fundamentals of Acting

Focus on the basic skills of acting, including internal preparation for playing a role, character analysis, vocal and physical development and techniques for projecting to an audience.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:
Fall & Spring

Credits: 3

THE 120 - Fundamentals of Stagecraft

Designed to provide a foundation in the practice of technical theatre and preparation for work in scenery, lighting and sound. Emphasis is placed on procedures, practice and nomenclature. The required lab, that accompanies this course, provides hands-on experience, through special projects, designed to reinforce specific technical skills discussed and demonstrated in class.

Core Curriculum/Core Requirements: [""] Corequisites:

THE 121

Course Typically Offered:

Fall

Credits: 3

THE 121 - Stagecraft Laboratory

Provides hands-on experience, through special projects, designed to reinforce specific technical skills discussed and demonstrated in THE 120.

Core Curriculum/Core Requirements: [""] Corequisites:

THE 120

Course Typically Offered:

Fall

Credits: 1

THE 122 - Introduction to Stagecraft Laboratory II

Provides hands-on experience, through special projects, designed to reinforce specific technical skills discussed and demonstrated in THE 120.

Core Curriculum/Core Requirements: [""] Prerequisites:

THE 120 and THE 121

Course Typically Offered:

Fall

Credits: 1

THE 130 - Introduction to Costume Construction

Basic processes of theatre costume construction. Includes measuring, building and fitting techniques, safety in the costume studio and fabric properties and selection. Skills are developed through construction of a personal project and participation in building costumes for productions.

Core Curriculum/Core Requirements: [""] Corequisites:

THE 131

Course Typically Offered:

Spring

Credits: 3

THE 131 - Introduction to Costume Construction Laboratory

Laboratory in costume production work.

Core Curriculum/Core Requirements: [""] Prerequisites:

Required for theatre majors.

Corequisites:

THE 130

Course Typically Offered:

Spring

Credits: 1

THE 200 - Fundamentals of Design

This course explores the practice of theatrical design, and prepares the student for continued coursework in scenery, lighting, and costume design. Emphasis is placed on the design process, including visual research, script analysis, and communication through

sketches, renderings, and/or scale models. The course includes discussion, demonstrations, and a series of hands-on design projects.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Prerequisites:
THE 120

Course Typically Offered:
Fall

Credits: 3

THE 201 - Fundamentals of Characterization

Designed to help student actors develop a methodology and technique for analyzing character and performing scenes from the modern theatre repertoire.

Core Curriculum/Core Requirements: [""] Prerequisites:
THE 117 or permission.

Course Typically Offered:
Fall & Spring

Credits: 3

THE 212 - Script Analysis

This course explored techniques, strategies, and methods for reading and interpreting dramatic literature for the purpose of creative and theatrical goals of play production. Students practice close reading of a range of scripts in order to identify structural, narrative, contextual, and creative elements that inspire artistic choices in the field of theatre.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Fall

Credits: 3

THE 216 - Fundamentals of Directing

Covers basic principles of stage directing including, conceiving a theatre production, choosing and interpreting performance texts, creating and conveying vision, collaborating with designers/crew, working with actors, leading rehearsals, staging action, and crafting a performance. Consequently, this is a "hands-on" course, in which students choose, possibly write, cast work, with actors, and direct their own small stage production.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Prerequisites:
THE 117

Course Typically Offered:
Fall

Credits: 3

THE 218 - Stage Makeup

This course will teach students the skills required for success as a stage makeup artist and designer. Through lecture, discussion, and demonstration, students will be introduced to the basic principles of the art and craft of theatrical makeup. This will include but is not limited to facial anatomy, color mixing, modeling with highlight and shadow, altering the features of the face, corrective makeup, the aging process, and three-dimensional techniques. The student will learn basic research skills by compiling an image file. Students will demonstrate observational skills and their ability to develop stage makeup designs by creating the file. Students must also fulfill a practical application of makeup techniques for a live performance. Course cannot taken if previously taken as THE 310 with the topic of Stage Makeup.

Course Typically Offered:
Fall

Credits: 3

THE 268 - Theatre Practicum, Technical

Supervised experience in Theatre and Dance Division productions in the areas of stage managing, publicity, scenery, lighting, costumes and makeup. May be repeated for a maximum of six hours.

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission of instructor.

Course Typically Offered:

Variable

Credits: 1-3

THE 269 - Theatre Practicum in Acting

Laboratory work in acting. Credit assigned by agreement of advisor and show director, based on learning opportunities of role. May be repeated for a maximum of three hours.

Core Curriculum/Core Requirements: [""] Prerequisites:

Permission of instructor.

Course Typically Offered:

Variable

Credits: 1-3

THE 300 - Introduction to Performance Studies

This course takes the broad spectrum approach to the study of performance, examining all of human behavior and events through a social-scientific approach that employs various means of cultural analyses. Through an intercultural, intergeneric, and interdisciplinary approach, all of human behavior is viewed as performance and the impulses and agendas behind it are examined on an individual as well as cultural level. Ultimately, this course focuses upon the many ways in which "performativity" is evident in human transactions in the arts, business, technology, politics, and religion. Lecture and discussion format.

Prerequisites:

Junior Standing or permission.

Course Typically Offered:

Spring

Credits: 3

THE 310 - Topics in Theatre Technology

An advanced study in specific areas of technical theatre. Subjects vary from year to year but may include lighting technology, sound, scenic painting and properties, costume pattern drafting, costume crafts or stage management. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Spring

Credits: 3

THE 311 - Drafting for the Theatre

This class is designed as an introduction to theatrical drafting. Topics covered will include hand and computer drafting for scenery and lights. Students will gain the ability to communicate in the theatre through proper vocabulary and with an understanding of standardized drafting techniques. They will also have the ability to read, understand and work from draftings and translate a design into a shop drafting.

Core Curriculum/Core Requirements: [""] Prerequisites:

None.

Course Typically Offered:

Alternate Years.

Credits: 3

THE 313 - Stage Management

This class is designed to provide a student with the fundamental knowledge to pursue stage management at the University of Maine and to understand the basic small group dynamics and diplomacy tactics necessary for a successful stage manager. Students will gain a practical working knowledge of theatre and its relationship to stage management as well as a general understanding of what a stage manager does and why.

Core Curriculum/Core Requirements: [""] Prerequisites:

None.

Course Typically Offered:

Alternate Years

Credits: 3

THE 320 - Topics in Theatre Design

Study of the theatre design process in a specific area, including costume, lighting, scenic or sound design. Encompasses research,

drafting or drawing, script analysis, budgeting and organizational skills required to design in the specified field. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission of instructor.

Course Typically Offered:
Fall & Spring

Credits: 3

THE 321 - Lighting Design

This course explores the principles and theory of elements related to theatrical lighting design. It includes demonstrations, and practical application of ideas, techniques and methods employed in the theatre production process.

Core Curriculum/Core Requirements: [""] Prerequisites:
None.

Course Typically Offered:
Alternate years

Credits: 3

THE 322 - Scene Painting

This course explores the craft of the theatre scenic artist. It includes lectures, demonstrations, and practical application of ideas, techniques, and methods used to paint scenery for the stage. Properties of light, color, texture, and line will be discussed as well as techniques in antiquing, wood graining, and marbling.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Alternate years

Credits: 3

THE 360 - Global Theatre History

The development of performance and its relation to culture, from the ancient world to contemporary theatre and performance, including Asian, and African theatre. Examines the evolution of styles and modes of production through the major theatrical figures, performance, events and institutions of each period.

Core Curriculum/Core Requirements: [" Writing Intensive"] Prerequisites:
THE 212

Course Typically Offered:
Spring

Credits: 3

THE 400 - Voice and Speech for the Actor

A studio course in the principles of voice production and speech for the stage. Focus is on the development of the actor's voice and speech through exercises that heighten awareness of breath, encourage freer expression and expand vocal range and clarity.

Core Curriculum/Core Requirements: [""] Prerequisites:
THE 117 or permission.

Course Typically Offered:
Fall

Credits: 3

THE 402 - Movement Training for Actors

A studio course in movement training and development for actors. Focus is on the use of the elements of movement and Laban's effort-shapes to explore text and its expression and to expand the movement vocabulary of the actor.

Core Curriculum/Core Requirements: [""] Prerequisites:
THE 117 and two credits in DAN or permission

Course Typically Offered:
Spring

Credits: 3

THE 415 - Capstone Experience in Theatre

A synthesis of the major's knowledge in a selected area of interest within theatre. Students will create a professional portfolio based on their cumulative experiences, and will develop a Capstone Project, for completion in THE 416.

Core Curriculum/Core Requirements: ["Capstone Experience"] Prerequisites:

Senior standing.

Course Typically Offered:

Fall & Spring

Credits: 3

THE 416 - Theatre Capstone Project

Students will be able to practically apply skills in their area of specialty to a culminating thesis project, devised and planned during the THE 415 Capstone Seminar.

Core Curriculum/Core Requirements: ["Capstone Experience"] Prerequisites:

THE 415

Course Typically Offered:

Spring

Credits: 1

THE 460 - Topics in Global Theatre

This course will investigate specific themes and topics in global theatre and performance, adapting its lens to an ever-shifting landscape of global current events. Students will engage with diverse creative, transcultural, and transhistorical responses to historical global theatrical forms and performance practices. The course will examine a range of socio-political, historical, and aesthetic aspects of global performance practices through the ages, and culminate in student-driven written Praxis as Research projects. Topics will vary.

This course may be repeated for credit as long as the topic for the section being taken is different from previously taken topics.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:

Junior Standing

Course Typically Offered:

Fall

Credits: 3

THE 466 - Stage Directing

Studies the task of all aspects of the theatre production into an artistic unity with emphasis on theatre aesthetics. Provides practice in the directing of short plays, with particular attention to working with actors.

Core Curriculum/Core Requirements: [""] Prerequisites:

THE 216.

Course Typically Offered:

Spring

Credits: 3

THE 480 - Topics in Theatre

Advanced study of selected topics in Theatre. Explores the particular approaches, thematic content or contemporary issues related to acting, performance theory, genre, directing, costume and make-up design, set and lighting design or other areas of technical theatre. Specific topics will vary from semester to semester. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Course Typically Offered:

Fall & Spring

Credits: 3

THE 497 - Independent Study in Theatre I

No description available.

Core Curriculum/Core Requirements: [""] Prerequisites:

permission.

Course Typically Offered:

Fall & Summer

Credits: 1-3

THE 498 - Independent Study in Theatre II

No description available.

Core Curriculum/Core Requirements: [""] Prerequisites:

permission.

Course Typically Offered:

Spring, Summer

Credits: 1-3

Theatre Practicum

THP 101 - Theatre Practicum, Acting

THP 101 is designed to give the student supervised practical experience in acting. Students taking this course will collaborate in the rehearsal process to develop and perform an acting role in a Division of Theatre/Dance theatrical production.
Course note: May be repeated for credit for a total of 4 completions and 4 total credits.

Prerequisites:

Department consent

Course Typically Offered:

Fall and Spring

Credits: 0-3

THP 102 - Theatre Practicum, Design

THP 102 is designed to give the student supervised practical experience in theatrical design. Students taking this course will collaborate in the design process to develop a design for a Division of Theatre/Dance theatrical production. Possible design areas include scenic design, lighting design, costume design, hair and makeup design, sound design, and projection design.
Course note: May be repeated for credit with 4 total completions and 4 total credits.

Prerequisites:

THE 200 and Department consent

Course Typically Offered:

Fall and Spring

Credits: 0-3

THP 103 - Theatre Practicum, Technical

THP 103 is designed to give the student supervised practical experience in a technical theatre role. Students taking this course will collaborate in the build and tech process for a Division of Theatre/Dance theatrical production. Possible technical theatre roles include technical director, master electrician, stage manager, assistant stage manager, props master, scenic charge artist, scenic artist, scene shop crew, board op, run crew, wardrobe, and costume shop crew.
Course note: May be repeated for credits with 6 total completions and 6 total credits.

Prerequisites:

Department consent

Credits: 0-3

THP 104 - Theatre Practicum, Directing

THP 104 is designed to give the student supervised practical experience in directing. Students taking this course will direct or assistant direct a Division of Theatre/Dance theatrical production.
Course note: May be repeated for credit for a total of 4 completions and 4 total credits.

Prerequisites:

THE 216 and department consent

Course Typically Offered:

Fall and Spring

Credits: 0-3

THP 105 - Theatre Practicum, Dramaturgy/Playwriting

THP 105 is designed to give the student supervised practical experience in Dramaturgy/Playwriting. Students taking this course

will be a dramaturg or playwright for a Division of Theatre/Dance theatrical production.
Course note: Course may be repeated for credit with 4 total completions and 4 total credits.

Prerequisites:
Department consent

Course Typically Offered:
Fall and Spring

Credits: 0-3

University Studies

UST 100 - Introduction to the Bachelor of University Studies

Introduces the student to the nature of higher education as a learning community. Particular emphasis given to academic resources, the learning process, academic skills, developmental advising and career counseling. Students participate in extensive reading and writing assignments relevant to their college transition and degree goals.

Core Curriculum/Core Requirements: [""] Prerequisites:
Bachelor of University Studies major; others by permission.

Course Typically Offered:
Fall & Spring & Summer

Credits: 1 (strongly recommended, but not required for internal or external transfers)

UST 300 - Core Course in University Studies

Provides understanding and insight into skills in critical thinking, analysis, and writing across disciplines. Emphasis on research analysis and integrative thinking.

Core Curriculum/Core Requirements: ["Writing Intensive"] Course Typically Offered:
Fall & Spring & Summer

Credits: 3

UST 400 - Advance Topics in University Studies

This independent study course allows students enrolled in the Bachelor of University Studies Program to focus more deeply in an area of their choice. May be repeated for credit.

Core Curriculum/Core Requirements: [""] Prerequisites:
Bachelor of University Studies Majors and permission.

Course Typically Offered:
Variable

Credits: 1-6.

UST 499 - Senior Capstone

Interdisciplinary senior research project. Senior students will use their areas of foci to build on their knowledge and apply it to a specific senior project or internship. Students will integrate program knowledge and demonstrate synthesis, analysis and critical evaluation of their specific project.

Core Curriculum/Core Requirements: ["Capstone"] Prerequisites:
senior standing, Bachelor of University Studies major.

Course Typically Offered:
Fall & Spring & Summer

Credits: 3

Wildlife Ecology

WLE 100 - Introduction to Wildlife Resources

A seminar introducing the opportunities, concerns, and professional responsibilities of the wildlife profession. Intended for first-year and transfer students interested in wildlife management. Lec 1. Course will include field trips during class hours and on weekends. (Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Prerequisites:
Wildlife Ecology major or permission

Course Typically Offered:
Fall

Credits: 1

WLE 150 - Wildlife Field Trip

A field-based course designed to introduce wildlife ecology students to various aspects of fish and wildlife management. (Pass/Fail Grade Only.)

Core Curriculum/Core Requirements: [""] Prerequisites:
WLE 100; first-year Wildlife Ecology major.

Course Typically Offered:
Spring

Credits: 1

WLE 200 - Ecology

Ecology is the study of how distribution and abundances of organisms over time and space relate to major physical, chemical, geological, historical, biological, evolutionary, and energetic factors. This course provides students with a sound and relevant ecological framework through which they can better understand and explain the past and present, and prepare for the future, on a complex and rapidly changing planet whose productivity and life-support capacity is increasingly eroded by the industrialized human economy. WLE 200 is required for undergraduates majoring in Wildlife, Fisheries, and Conservation Biology but is suitable for students in most majors.

Core Curriculum/Core Requirements: ["Satisfies the General Education Applications of Scientific Knowledge requirement when taken without WLE 201. Together with WLE 201, this course satisfies the General Education Lab in the Basic or Applied Sciences requirement."] Prerequisites:
Minimum grade of C- in BIO 100 and BIO 200 or SMS 201, or instructor's permission.

Course Typically Offered:
Fall

Credits: 3

WLE 201 - Ecology Laboratory

A course emphasizing field and laboratory studies of plants and animals and their environments. A diversity of organisms and ecosystems will be investigated.

Core Curriculum/Core Requirements: ["Together with WLE 200, this course satisfies the General Education Lab in the Basic or Applied Sciences Requirement. WLE 201 alone satisfies the General Education Writing Intensive Requirement."] Prerequisites:
Biology,Wildlife Ecology, or Zoology major or permission; an ecology lecture course (i.e. WLE 200) may be taken concurrently.

Course Typically Offered:
Fall

Credits: 3

WLE 220 - Introduction to Ecological Statistics

An introduction to the use of quantitative statistical methods for the purpose of answering ecological questions that provides information and techniques useful for advanced courses in wildlife ecology and other environmental sciences, with emphasis on presenting and interpreting results verbally and in writing.

Core Curriculum/Core Requirements: ["Quantitative Literacy "] Prerequisites:
A minimum grade of C or better in MAT 122 or in MAT 116, or C- in MAT 126, and Grade of C- in WLE 200 and WLE 201 or SMS 300 or BIO 219.

Course Typically Offered:
Spring

Credits: 4

WLE 230 - Introduction to Wildlife Conservation

Basic principles of wildlife ecology and conservation are illustrated with examples from Maine and around the world.

Core Curriculum/Core Requirements: ["Population and the Environment"] Course Typically

Offered:
Spring

Credits: 3

WLE 235 - Introduction to Fisheries & Wildlife Management

Fisheries and Wildlife Management is a many-faceted field. There is no single class that will provide students with all they need to become a professional. This course is a combination of lectures, discussions, literature review and external activities that represent different aspects of the field. Topics include defining Fish & Wildlife Management, a historical perspective, demographics and population growth, "decimating/welfare factors" and specific case studies. Students will appreciate the breadth of the field, the coursework necessary to become a fisheries or wildlife biologist and acquire a basic conceptual fluency. While the course includes foundation-building content, the need for professional training will be emphasized.

Prerequisites:
BIO 117, BIO 118, BIO 114 and MAT 111, or permission of instructor.

Course Typically Offered:
Variable

Credits: 3

WLE 250 - Wildlife Field Survey

Two week field course stressing the use and application of wildlife research and management techniques, collection and analysis of biological data and the recognition of wildlife species and their habitats.

Core Curriculum/Core Requirements: [""] Prerequisites:
Department Consent and student must meet these requirements: WLE 100 and a C- or better in WLE 200, WLE 201, and WLE 220. Wildlife Ecology major.

Course Typically Offered:
Summer

Credits: 3

WLE 323 - Introduction to Conservation Biology

Maintaining the diversity of life forms in the face of environmental degradation involves the study of population ecology, population genetics, and ecosystem ecology plus the socioeconomic and political matrix in which conservation problems must be solved. Independent field work required.

Core Curriculum/Core Requirements: ["Population and the Environment"] Prerequisites:
BIO 100

Course Typically Offered:
Spring

Credits: 3

WLE 340 - Freshwater Fisheries Ecology and Management

An ecological approach in studying freshwater fisheries and evaluating management tactics. Topics include general fish ecology, population dynamics, bioenergetics, stock-recruitment, habitat quality, biotic interactions, anthropogenic effects, recreational fisheries, management tools, assessment methods, nongame species, and human dimensions. Field-intensive, with emphasis on Maine fisheries and interaction with fishery professionals.

Core Curriculum/Core Requirements: [""] Prerequisites:
BIO 329 and BIO 219 or SFR 407 or SMS 300 or WLE 200.

Course Typically Offered:
Fall, Odd Years

Credits: 3

WLE 341 - Freshwater Fisheries Laboratory

If taken with WLE 340, will be considered a Field Intensive course in WLE curriculum and will satisfy a requirement for WLE's Fisheries Concentration.
Course Note: Occasionally, field trips will extend past 5:00 pm and one-weekend field trip is required

Core Curriculum/Core Requirements: [""] Prerequisites:
WLE 340 or concurrently

Course Typically Offered:
Fall, Odd Years

Credits: 1

WLE 410 - Wildlife Population Dynamics and Conservation

Characteristics of wildlife populations, including principles of population dynamics and population interactions, with application in wildlife population conservation. Lec 3.

Core Curriculum/Core Requirements: [""] Prerequisites:
WLE 200 or SMS 300 or BIO 219, or permission.

Course Typically Offered:
Fall

Credits: 3

WLE 411 - Wildlife Population Dynamics Lab

Focuses on field and quantitative techniques used to evaluate components of wildlife population ecology. Students will gain experience in methods commonly used to estimate animal occupancy, abundance, survival, reproduction, and rate of population growth through time. Students will collect data in the field, analyze data in a computer laboratory setting, and interpret and present results in formal reports and presentations. Course may have field trips during class times.

Core Curriculum/Core Requirements: [""] Corequisites:
WLE 410

Course Typically Offered:
Fall

Credits: 1

WLE 423 - Wetland Ecology and Conservation

Focuses on major concepts in wetland ecology, classification, policy and regulation and issues in wetland conservation. Lecture material focuses on wetland communities associated with hydric soils (forested, shrub and emergent ecosystems). Lecture and field studies. Lec 3, Lab 3. (Fall - even.)

Prerequisites:
WLE 200 or equivalent or permission.

Course Typically Offered:
Fall

Credits: 4

WLE 431 - Wildlife Management in Forestry

Students apply knowledge of silviculture and forestry practices to management of habitat for forest wildlife species. This course covers concepts of wildlife ecology, biological diversity, ecological forestry, and wildlife habitat management. Science-based applications will focus on management practices, comparison of management options, and government guidance for managing forest wildlife habitat at varying spatial and temporal scales. Time in class is divided between two lectures (2 hr) and one lab (3 hr) period each week. Course may include field trips during class time.

Core Curriculum/Core Requirements: [""] Prerequisites:
SFR 408 or SFR 349 or Permission

Course Typically Offered:
Spring

Credits: 3

WLE 435 - Field Experience

A field experience in wildlife is a professional activity participated in by students under the supervision of a practicing professional in the field. A high degree of responsibility is placed on the student for developing learning objectives and securing the approval of a faculty member for academic credit for the learning involved in the experience. It may be paid or unpaid, it may last any length of time, and it may be repeated.

Core Curriculum/Core Requirements: [""] Prerequisites:

Permission.

Course Typically Offered:
Fall and Spring

Credits: Ar

WLE 450 - Wildlife-Habitat Relationships

A study of the interrelationships among wildlife species and their habitats stressing application to conservation of biological diversity and management of harvested species. Focuses on a review and critique of habitat objectives, an assessment of habitat components, a discussion of the influence of spatial scales and landscape pattern on habitat quality, a survey of procedures for evaluating habitat quality, a synopsis of inter-specific interactions as they influence habitat relationships, and discussions of the influence of natural and human-caused disturbances on habitat. Lec 3. Course will include field trips on weekends.

Core Curriculum/Core Requirements: ["Together with WLE 455' , 'this course satisfies the General Education Capstone Experience requirement."] Prerequisites:
WLE 250 and WLE 410 or permission.

Corequisites:
WLE 455

Course Typically Offered:
Spring

Credits: 3

WLE 455 - Wildlife-Habitat Evaluation

Focuses on field, analytical and laboratory techniques for evaluating habitat for wildlife. Students will be introduced to the applied approaches and techniques for evaluating habitats. Material is presented via lectures, reading, fieldwork and laboratory experience.

Core Curriculum/Core Requirements: ["Writing Intensive. Together with WLE 450, this course also satisfies the General Education Capstone Experience requirement."] Prerequisites:
WLE 250, WLE 410 or permission.

Corequisites:
WLE 450

Course Typically Offered:
Spring

Credits: 2

WLE 457 - Ecology and Management of Game Birds

This course provides a broad survey of topics relevant to the ecology and management of the ducks, geese, grouse, quail, and woodcock that are native to North America - species we typically consider "Game Birds" because of their popularity for human harvest. We'll place particular emphasis on species that regularly occur in Maine. In doing so we will cover a number of areas related to avian biology in general, including taxonomy, physiology, behavior, and species' conservation, and will synthesize across subjects that are relevant to wildlife ecology as a whole. The course content will include a mix of lectures, class discussions, group and independent projects, and field trips. This class is designed to meet the University requirement as a writing intensive general elective, and will means that you will required to complete a major written project as a component of the course and will receive feedback on your writing and have the opportunity to revise your work. One weekend field trip will be required.

Core Curriculum/Core Requirements: ["Capstone Experience and Writing Intensive"]

Prerequisites:
WLE Major; Senior Standing or instructor permission

Course Typically Offered:
Spring, Even years

Credits: 3

WLE 461 - Human Dimensions of Fisheries and Wildlife Conservation

This course is a mix of lectures, invited presentations, hands-on group activities, and peer to peer exercises that provide students with the theoretical knowledge and practical skills necessary to effectively engage and communicate with diverse stakeholders in collaborative management. The course covers such topics as governance of wildlife, sense of place and community, trust and capacity development, wildlife management as a systems process, collective behavior, engagement of stakeholders, collaborative

planning and decision-making, adaptive management and adaptive impact management, identity-based conflict resolution, communication planning, and human dimensions research methodology. Participating in one Saturday or Sunday workshop (TBD) is required. Course may have field trips during class times.

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior, Senior or Graduate Standing

Course Typically Offered:

Fall

Credits: 3

WLE 470 - Wildlife Policy and Administration

Development and state and federal wildlife policy in the United States. Procedures for establishing and implementing policy and current policy issues. Rec 3. Course may have field trips during class times.

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior Standing or permission.

Course Typically Offered:

Spring

Credits: 3

WLE 479 - Wildlife Conservation in a Changing World

The course will focus on the main drivers of global change (e.g. land-use change, climate change) and how they impact the behavior, ecology and population dynamics of wild animals. Each driver will be analyzed for both the causes (e.g., what are the effects of land-use change) and the mitigation (e.g. habitat restoration). The course will contain a mix of lectures, class/home exercises, discussions of relevant journal articles, student presentations and production of a short video.

Core Curriculum/Core Requirements: [""] Prerequisites:

WLE 220

Course Typically Offered:

Spring, Odd Years

Credits: 3

WLE 490 - Special Problems

Original investigation in wildlife work, the subject to be chosen after consultation with the staff.

Core Curriculum/Core Requirements: [""] Prerequisites:

Junior standing and a 3.0 GPA or higher and permission.

Course Typically Offered:

Fall, Spring, Summer

Credits: Ar

Women's, Gender, and Sexuality Studies

WGS 101 - Introduction to Women's, Gender, and Sexuality Studies

An introduction to Women's, Gender, and Sexuality Studies and to its perspectives. The course will use interdisciplinary perspectives to begin to examine the categories of gender and sexuality, as they intersect with race, ethnicity, class, nationality, disability and other sites of social inequality.

Core Curriculum/Core Requirements: ["Ethics' , 'Social Contexts and Institutions' , 'and Cultural Diversity and International Perspectives"] Course Typically Offered:

Fall, Spring and Summer

Credits: 3

WGS 102 - Introduction to Activism and Community Projects

An exploration of Women's, Gender, and Sexuality Studies methods, histories, and perspectives for enrolled RLE learners. This course will apply interdisciplinary scholarship to consider matters grounded in Women's Studies, Gender Studies, and Sexuality Studies or relating to positive social change. Particular attention is given to activating feminist theories, namely Brown's Emergent Strategy. Brown, and assigned texts, detail nuanced relationships of identity, care networks, and power to build an empirical feminist praxis.

Prerequisites:
WGS 101

Course Typically Offered:
Variable

Credits: 3

WGS 103 - Introduction to Lesbian, Gay, Bisexual, Transgender, and Queer Studies

Introduces the major perspectives and issues in lesbian, gay, bisexual, transgender and queer studies, including histories and institutions, identities and representations, and cultures and subcultures.

Core Curriculum/Core Requirements: ["Social Contexts and Institutions' , 'and Cultural Diversity and International Perspectives"] Course Typically Offered:
Variable

Credits: 3

WGS 201 - Topics in Women's, Gender, and Sexuality Studies

An interdisciplinary, second-level study of topics relevant to women, gender, and sexuality. May be taken more than once for credit if the topics differs. WGS 101 is recommended as a prerequisite.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Variable

Credits: 3

WGS 203 - Men and Masculinities

This course examines the social construction of masculinity in Western culture, exploring men's experiences in our society from multiple vantage points and examining the ways in which masculinity is understood, represented, and constructed in Western society. If this course was taken under as a topics course in WGS 201, it cannot be repeated for credit. It is recommended that students take WGS 101 before taking this course.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives and Social Context & Institutions"] Course Typically Offered:
Variable

Credits: 3

WGS 205 - Introduction to Feminist and Critical Data Analysis

The course will feature a certain tension as we learn how to leverage software and mathematical methods to analyze publicly available data to investigate the history and present of marginalized groups and social inequities. Alongside this technical and quantitative work, we will consider various critiques of quantitative methods and Western knowledge in general. WGS 101 - Intro to WGS is a recommended prerequisite.

Core Curriculum/Core Requirements: ["Quantitative Literacy and Social Context and Institutions"] Course Typically Offered:
Fall, Spring ans Summer

Credits: 3

WGS 206 - Investigating Equity

This course explores the ways in which equitable practices and mindsets result in inclusion, and whether and when inclusivity leads to diversity. After identifying the privileges at work in historical and contemporary contexts, students construct multimodal projects to represent the way/s that their everyday choices might shape their own and other's experience of equity.
Course Note: WGS 101 recommended but not required

Core Curriculum/Core Requirements: ["Artistic and Creative Expression and Ethics"] Course Typically Offered:
Fall

Credits: 3

WGS 230 - Women, Health, and the Environment

This course examines the impact of man-made contaminants and constructs on human health. Using both standard scientific approaches and feminist analysis, we explore the connections between health issues such as cancer, autoimmune disease,

infertility and gender transition, and substances in the environment and body that impact health. Students will consider possibilities for conscious change and are encouraged to engage intransformative work.

Core Curriculum/Core Requirements: ["Ethics and Population and the Environment"]

Prerequisites:

WGS 101 or permission.

Course Typically Offered:

Variable

Credits: 3

WGS 250 - Women and Music

Explores the contributions and roles of women as composers, performers, teachers, conductors and patrons in Western Art music, non-Western art music and popular music. A wide spectrum of musical compositions by women in various styles will be studied, through recordings and live performances.
WGS 101 is recommended before taking this course.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression' , 'and Cultural Diversity and International Perspectives"] Course Typically Offered:

Variable

Credits: 3

WGS 260 - Gardening as Social Justice

This course provides an introductory look into the detailed study of gardening as both a site of social justice and as an amateur or professional practice. The practice of gardening is rooted in the histories of feminism, Native American studies, class and food insecurity, racial (in)justice, and more. This class will engage with the history and practice of gardening through an intersectional lens, to see how marginalized populations have reclaimed gardening to meet their needs. Students will also learn some of the scientific and ecological practices behind gardening. Students will work to design their own garden space, modifying and adapting their design as each week goes on, and will end the semester with a garden design of their own that has taken issues of social and environmental justice in mind.
Course Note: WGS 101 recommended but not required.

Core Curriculum/Core Requirements: ["Artistic and Creative Expression"] Course Typically Offered:

Variable

Credits: 3

WGS 270 - Gender in Native American Cultures

This course explores the concept of gender in indigenous communities of North America. Course materials will explore historical and contemporary perspectives of gender and sexual orientation to better understand how Native communities define and practice gender. NAS 101 or WGS 101 is a recommended prerequisite. (WGS 270 and NAS 270 are identical courses.)

Core Curriculum/Core Requirements: ["Social Context and Institutions and Cultural Diversity and International Perspectives"] Course Typically Offered:

Variable

Credits: 3

WGS 280 - Intersectionality and Social Movements

A bridge between introductory WGS courses and more focused WGS courses, WGS 280 explores topics from WGS 101 and WGS 103 such as transnational feminisms, queer theory, and ecology through intersectional perspectives which reveal the interconnected and overlapping nature of social categories such as gender, class, and race. Through close examination of a variety of texts dealing with equity and diversity, students connect pedagogies and theories to activism, self-reflection and social movements.

Core Curriculum/Core Requirements: ["Cultural Diversity and International Perspectives"]

Prerequisites:

6 hours of WGS courses, WGS 101 required or permission from instructor.

Corequisites:

N/A

Course Typically Offered:
Variable

Credits: 3

WGS 298 - Directed Study in Women's, Gender, and Sexuality Studies

Individual study, research, field experience and writing projects in Women's, Gender, and Sexuality Studies and related areas, conducted under the guidance of a faculty member associated with the Women's, Gender, and Sexuality Studies Program, arranged on request. (Contact the program office for an information sheet.)

Core Curriculum/Core Requirements: [""] Prerequisites:
WGS 101 and Permission.

Course Typically Offered:
Variable

Credits: Ar

WGS 301 - Intermediate Topics in Women's, Gender, and Sexuality Studies

An interdisciplinary, intermediate study of topics relevant to women, gender, and sexuality. May be taken more than once for credit if the topics differ. WGS 101 is a recommended prerequisite.

Core Curriculum/Core Requirements: [""] Course Typically Offered:
Variable

Credits: 3

WGS 303 - Social Movements, Media and Change

This course considers the roles of gender, race/ethnicity, sexuality, age, religion, and nationality in relation to an understanding of social movements and social change in the Modern Middle East from the 19th century to the present. The course will also assess different varieties of feminism and women's movements, so as to identify and interrogate presumptions in the west about what constitutes feminism. Alongside secondary sources, students will examine primary sources produced by social movements - pamphlets, posters, memoirs, and even YouTube videos and Instagram posts. No prior knowledge of Middle Eastern history is required and all course materials will be available in English.

Course Typically Offered:
Variable

Credits: 3

WGS 340 - Transnational Feminisms

Constraints of geography on social and cultural arrangements are receding, a process with implications for the world's women. Diverse transnational feminists provide different lenses on women's work in factories, immigration, sex tourism, etc.

Course Typically Offered:
Variable

Credits: 3

WGS 351 - Authorizing Women's Sexualities

This course explores how 21st century women (trans and cis) in both the US and abroad use fiction, memoir, and other literary forms to resist, revise, and even reinvent heterosexist narratives about gender identity, love, sexuality, marriage and family life. How might writers use literary forms to author (and authorize) diverse ideas about women's sexualities? Multiple lenses will be used to address this question-from the interpretative practices of narrative theory to the questions that arise from gender, feminist and queer theories, to research on publishing and the literary marketplace. Students cannot receive credit for WGS 451 after passing WGS/WST 401 with a topic of Women's Sexuality.

Prerequisites:
Junior Standing; WGS 101 or CHF 351 or permission.

Course Typically Offered:
Variable

Credits: 3

WGS 360 - Gender and Cinema

This course examines the connections between gender and cinema by examining gender theory, film criticism, and the history of the opposed as well as recent activist movements around production, inclusion, and representation. The course also serves as an

introduction to major developments in feminist film theory since its emergence in the 1970s. WGS 101 is a recommended prerequisite.

Course Typically Offered:
Variable

Credits: 3

WGS 371 - Border-crossing: Gendered Perspectives on Modern Migration

In response to ongoing global crises of displacement and migration, writers and artists are constantly inventing ways to circumvent, challenge and soften contested borders of nation, culture, and language. Through the lens of border studies theory, and by examining diverse writing on and about borders, displacement and diaspora, this course investigates literary modes of international and intercultural border crossing and facilitates a range of multi-genre written explorations of different intercultural crossings.

Course Typically Offered:
Variable

Credits: 3

WGS 401 - Advanced Topics in Women's, Gender, and Sexuality Studies

An advanced, interdisciplinary study of topics such as "Interpersonal Violence" or "Global Feminism". May be taken more than once if the topics differ.

Core Curriculum/Core Requirements: [""] Prerequisites:
Junior standing and WGS 101.

Course Typically Offered:
Variable

Credits: 3

WGS 410 - Feminist, Gender and Queer Theory

An introduction to the overlapping but sometimes conflicting traditions of feminist, gender, and queer theories.

Core Curriculum/Core Requirements: ["Writing Intensive"] Prerequisites:
6 hours of WGS courses, including WGS 101 or permission.

Course Typically Offered:
Variable

Credits: 3

WGS 411 - Internship in Women's, Gender, and Sexuality Studies

Students pursue internships in workplaces such as businesses, non-profits, and other organizations. Course meetings provide students with faculty mentorship, opportunities to troubleshoot their internship work with peers, and related course content. Topics covered may include diversity/equity/justice in the workplace, social justice in the community, correlation between academic courses and the workplace, and career-exploration/preparation. For each topic, strategies for improving workplace communication are also covered. Each student will design their internship in consultation with their host organization and the course instructor such that it meets their specific interests/goals. Internship work will vary, but typically includes activities such as research, ideation, communication, writing, public relations, editing, content development, community organizing, and other related activities.

Core Curriculum/Core Requirements: [""] Prerequisites:
Permission

Course Typically Offered:
Fall

Credits: 3

WGS 498 - Directed Study in Women's, Gender, and Sexuality Studies

Advanced, individual study, field experience, research and writing projects in Women's, Gender, and Sexuality Studies and related areas, conducted under the guidance of a faculty member associated with the Women's, Gender, and Sexuality Studies Program, arranged on request. (Contact the program office for an information sheet.)

Core Curriculum/Core Requirements: [""] Prerequisites:
WST 101; junior or senior standing and permission.

Course Typically Offered:
Variable

Credits: Ar

WGS 499 - Capstone

Capstone requirement: fulfilled by either WGS 410 or WGS 411, to be taken with a 0-credit WGS 499

Core Curriculum/Core Requirements: ["Capstone"] Corequisites:

WGS 410 or WGS 411

Course Typically Offered:

Fall & Spring

Credits: 0

Academic Programs

Each undergraduate student's degree plan includes, at minimum, the Core Curriculum (general education) requirements and at least one major field of study. Students may add to their degree plans by officially declaring additional majors, concentrations within their major(s), and/or minors. Students admitted to the Honors College will have coding equivalent to an additional major added to their record as well. A student's transcript will show all declared majors, concentrations, and minors. Upon graduation, the transcript will list all that were completed as part of the final degree entry.

Individual colleges (e.g Liberal Arts and Sciences, Maine Business School, etc.) may have specific requirements for students completing their majors, concentrations, or minors, as outlined in this Catalog. Some majors require the addition of a concentration or a minor. To learn more about these requirements, refer to the catalog for your college. Students' degree plans and their progress in meeting the requirements are tracked in MaineStreet, the University's student information system. The degree progress report is available on MaineStreet for students and advisors.

Catalog of Record

The academic requirements and policies listed in the Catalog are updated on a regular basis. These changes are updated in the next published Catalog. A student's degree requirements for graduation are determined by the Undergraduate Catalog in effect for the year when they began the program. Students may, in consultation with their academic advisor(s), select graduation requirements from a newer Catalog published after their
admission. No student may select requirements from any Catalog that was published prior to their term of admission.

Students who change to a different major or are absent from the university for two or more years must meet the academic requirements outlined in the Catalog in effect at the time of the change or of their return to the university. The Associate Dean of the college offering a student's major may request that a returning student be permitted to resume their former Catalog.

Majors

Majors are the core of each student's degree plan, designed to develop in-depth knowledge and skills in a specific discipline. Each student must declare and complete the requirements for at least one major to earn their degree.

Concentrations

Concentrations are sets of courses designed to allow students to focus on a specific topic within a particular major and are available only to students who have declared that major. The courses for the concentration are completed in addition to the core courses for the major and are usually upper-level (300-400) level courses. Concentrations are awarded when a degree is conferred and may not be awarded later than the
degree conferral date.

Minors

Minors are sets of courses, typically 18 credits or more, designed to provide students with substantial knowledge of a subject area outside of their major course of study. Minors are independent of any specific major and generally available to be declared by any degree-seeking student. As noted in this Catalog, certain majors and minors may not be declared together due to significant overlap in content, courses, or other reasons as stated by the relevant academic units. Students may normally apply no more than one third of the credit hour requirements for the minor to meet the requirements of their major.

Minors are awarded at the same time a degree is conferred. Students who complete their associate degree program but not their minor(s) requirements by graduation may complete their minor(s) as part of a subsequent baccalaureate degree program. Students who complete their baccalaureate but not their minor(s) requirements by graduation will not be allowed to return to the university to complete declared minors. If a student begins work on a minor but fails to meet all of the requirements, there is no penalty unless completion of the minor is required by their major and/or College.

Students must complete a minimum of nine credit hours toward their minor requirements in residence at UMaine. Individual programs may require higher minimum residency requirements for specific minors, as noted in the program text in this catalog.

Non-Degree Certificates

Certificate programs are non-degree programs composed of sets of courses, typically 12 or more credit hours, designed to provide individuals with substantial knowledge of a subject area or prepare for employment in a field. Certificate programs may be enrolled in and completed by any individual enrolled as a non-degree student. Degree-seeking students may declare and pursue certificate programs, and complete them at any time, independent of their degree programs. If a degree-seeking student seeks to continue working toward a certificate after graduation from their degree program, their remaining enrollment toward the certificate will be as a non-degree student.

Students must generally satisfy all requirements for certificate programs in residence at UMaine, as non-degree programs are ineligible for transfer credit. In cases where a formal agreement (e.g. MOU, articulation) with another institution permits the inclusion of transfer credits in a specific certificate program, students must complete a minimum of nine credit hours toward their certificate program requirements in residence. Individual programs may require higher minimum residency requirements for specific certificates, as noted in the program text in this catalog. All certificate programs require a minimum 2.00 GPA in all relevant coursework for completion. Once the certificate requirements have been completed, students must apply to have their certificate reviewed and awarded following the same process described in the Baccalaureate and Associate Degree Requirements section of this Catalog.

Change of Major

Students planning to change majors should contact the academic unit (e.g. college, department, school, etc.) offering the desired new major to discuss the requirements and expectations of the program, and how their existing credits may apply. Students who have a 2.0 or better cumulative GPA are normally admitted to the major they are seeking to enter, but certain majors have special admission criteria. The unit makes the final decision on whether each student is admitted. Students who have less than a 2.0 cumulative GPA may be admitted to their major of choice contingent on previous coursework and related factors. Students may also be referred to alternative pathways to completing a degree, such as the Undergraduate Advising Center in the College of Liberal Arts and Sciences, the Bachelor of University Studies (BUS) through the Division of Lifelong Learning, or the Bachelor of College Studies (BCS) through UMaine Machias.

Programs Leading to Licensure

Certain programs may lead to licensure. Students who declare or change to a program leading to licensure, or those enrolled in such a program online who move to a new state, should visit the UMS State Authorization & Licensure page to learn more about their specific program and the licensure requirements in other states and territories, in addition to the contact information needed to inquire further into the licensure requirements associated with the program.

Double Majors

Double majors are possible within a single baccalaureate degree. Both majors may be within the same college, or they may be in different colleges. Students may complete two different majors simultaneously with no prescribed increase in total credits beyond those required to satisfy both majors. Students intending to complete the requirements of more than one major are required to declare their intent in writing to the dean of their college (or to the deans of both colleges, if the majors are in different colleges) no later than the first semester of the senior year. At this time the student must declare a primary major. The baccalaureate degree granted will be associated with the primary major, and the student is required to satisfy all of the requirements imposed by that college. To complete the second major, the student need only complete the specific requirements established for that major.

The primary and secondary majors will be noted both on the diploma and on the transcript, worded according to the following example: Bachelor of Science in Biology, with a second major in Art, or Bachelor of Art in Studio Art, with a second major in Biology (depending upon which is designated the primary major). Students who drop their second major at the time of graduation may return later to complete it as an additional baccalaureate degree. Readmission will follow the guidelines outlined in the Dual Degree policy if the relevant criteria are met, or the Readmission policy if they are not.

Dual Degrees

Students may earn two baccalaureate degrees with distinct majors at the same time. To do so, they must complete:

- at least 30 credits beyond the number required for the degree with the lesser number of credit hours, typically a minimum of 150 total credits,
- the UMaine Core Curriculum requirements,
- unique writing in the major and capstone courses for the second degree program, in addition to those completed for the first degree and Core Curriculum,
- all requirements of each major and any associated concentrations,
- all requirements of any declared minors, and
- all requirements of each college.

In cases where both programs involved in a dual degree allow the Honors Thesis course (HON 498/499) to fulfill the capstone

requirement, or list a common course option in their catalog text, students may request to satisfy both capstone and writing in the major requirements by completing a single course. Such a request must be approved by both degree program coordinators.
Students intending to complete more than one degree are required to declare their intent to the dean of their college (or to the deans of both colleges, if the degree programs are in different colleges). Students who complete a dual degree will have two degree entries on their transcript, and receive two diplomas, upon graduation.
Students may also complete a second degree subsequent to graduation. Students selecting this option must be readmitted by the college where the new major resides*, complete at least 30 credits beyond the minimum required for the first degree, and complete all college and major requirements for the second degree. Students may apply any credits previously earned in excess of the minimum number required for the first degree.
The GPA for the second baccalaureate degree program is based on a student's entire undergraduate career, including courses completed before graduation with their first degree and during enrollment toward the second degree. The GPA for the original degree is fixed at graduation and will not be adjusted subsequently. Students in pursuit of a second baccalaureate degree under this policy are eligible for Federal financial aid only in the form of unsubsidized loans.
* The readmission requirement is waived in cases where a student both:
1) Declared the dual degree (or double major) prior to graduating with only one degree, and
2) Enrolls in coursework for the second degree in the immediately following academic year
semester (i.e. fall or spring)

College of Earth, Life and Health Sciences

The College of Earth, Life and Health Sciences at the University of Maine is a hub for discovery, education and collaboration in the social, health, life and environmental sciences. Our students develop real-world perspectives with hands-on opportunities in Maine's forests, farms, fisheries, hospitals, schools, communities and businesses.
ACADEMIC PROGRAMS:
Bachelor of Arts in:
Biology
Botany
Communication Sciences and Disorders
Earth and Climate Sciences
Economics
Financial Economics
Zoology

Bachelor of Science in:
Animal and Veterinary Sciences
Biochemistry
Biology
Botany
Earth and Climate Sciences
Ecology and Environmental Sciences
Economics
Environmental Horticulture
Financial Economics
Food Science and Human Nutrition
Forestry
Marine Science
Microbiology
Molecular and Biomedical Sciences

Nursing
Parks, Recreation, and Tourism
Social Work
Sustainable Agriculture
Sustainable Food Systems
Sustainable Materials and Technology
Wildlife Ecology
Zoology

Minors:

Animal and Veterinary Sciences
Aquaculture
Biochemistry
Biology
Botany
Climate Sciences
Communication Sciences and Disorders
Earth Sciences
Ecology and Environmental Sciences
Economics
Entomology
Environmental Horticulture
Equine Studies
Fisheries
Food Science
Forest Ecosystem Science
Forest Products
Forest Recreation Management
Human Nutrition
Microbiology
Molecular and Cellular Biology
Neuroscience
Pre-Medical Studies
Renewable Energy Economics and Policy
Renewable Energy Sciences and Technology
Resource and Agribusiness Management
Soil Science
Sustainability
Sustainable Agriculture
Sustainable Food Systems
Zoology

College of Earth, Life and Health Sciences Graduation Requirements:

The college offers both Bachelor of Science and Bachelor of Arts degrees. To obtain a Bachelor of Arts degree:

1a. Students must complete an academic minor or a second academic major outside of their primary discipline. Appropriate minors and majors shall be determined by the academic unit of the student's primary major to ensure breadth of study.
or
1b. Alternatively, a student may complete, within their program of study, 27 credits in courses meeting the human values and social context general education requirements of the university. At least 12 credits of these must be at the 200 level or above.
and
2. Students must complete a minimum of 60 credits outside their major. (If a particular major requires courses in another discipline, either within the same department or in another department, those credits may still count toward the 60 credits.) Degrees will require 120 or 121 total credits for graduation. In addition, each student must achieve a GPA of 2.0. Some programs may also require minimum GPA for courses within the major.

College of Earth, Life and Health Sciences Notes:

Within the college, students find an environment small enough to feel that they are more than just a number, but large enough to provide the modern facilities necessary for a comprehensive education that prepares them for the challenges of tomorrow.
Students typically select a degree program upon joining the college. In addition to the major, students have the option of selecting one of more than 80 minors offered by the university. Choosing a minor enables students to strengthen their preparation in the major by selecting supporting courses from a related discipline.
The college has a student-oriented academic advising system. Each student has an advisor who assists in program planning and career development. Throughout the undergraduate years, the student's capabilities, aspirations, and goals are the primary concerns governing the advising process.

The college also provides support through the Academic Support Center . This one-stop resource is designed to help students thrive during their time at UMaine. Students receive personalized support and are connected to campus services and resources, while the knowledgeable staff can help students navigate obstacles, set goals, and meet regularly to keep them on track.

Admission Requirements:

Entrance requirements for the college include the following high school units: four years of English, three years of mathematics with completion up to at least Algebra 2 is required (selected programs require four years of mathematics and it is encouraged for all programs), two years of social science, and a minimum of two years of laboratory sciences (selected programs require three years of laboratory sciences). One year of fine arts and one year of computer science are highly recommended. Two years of a single foreign language or American Sign Language (ASL) are required for BA programs. The School of Nursing has separate entrance requirements.
The deadline for readmission applications is August 15 for the fall semester and January 4 for the spring semester. Exceptions to this deadline may be requested if extenuating circumstances are present. For additional information, please see the "Admission" section in the Undergraduate Catalog.
Questions regarding specific degree programs in the College of Earth, Life, and Health Sciences should be directed to the Program Coordinator for that program.

Animal and Veterinary Sciences

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: C- or higher is required for all AVS courses.
Other GPA requirements to graduate: None.
Required Course(s) for fulfilling Capstone Experience: AVS 401 and AVS 402
Contact Information: Dr. Tim Bowden, 237 Hitchner Hall, (207)581-2772, timothy.bowden@maine.edu

The School of Food and Agriculture offers the Bachelor of Science degree in Animal and Veterinary Sciences. The animal sciences curriculum is designed to provide a solid understanding of biological sciences along with specific expertise in the diseases,

breeding, nutrition, and physiology of domestic and laboratory animals. Because a basic knowledge in animal sciences is fundamental to successful work in many job situations, the curriculum offers a wide choice of electives so students may adapt their course of study to meet special professional interests or needs. Through the proper use of options, students can prepare for admission to a college of veterinary medicine or graduate school, to teach science in secondary schools, to pursue technical sales and service work in agriculture, for careers in animal-related research, or to develop animal production enterprises such as dairy, livestock or equine farms.

Program Overview

The degree in Animal and Veterinary Sciences is recommended for students who wish to pursue careers in animal agriculture, including the dairy, livestock, or equine industries or the other aspects of animal-related research. Students may also consider continuing their studies at the graduate level after the completion of an undergraduate degree. The school offers the Master of Science degree in Animal Science for programs of study in animal nutrition, pathology, and reproductive physiology. The Doctor of Philosophy degree may be earned in Food and Nutritional Sciences, Biological Sciences, Biochemistry and Molecular Biology, or through the Individualized PhD Program.

Equine Science Concentration

This degree includes an undergraduate concentration in Equine Science, which is recommended for careers in a variety of equine-related disciplines, including equine nutrition, equine policy, breeding/boarding farm management, training horses for performance/racing events, and in preparation for graduate studies in Equine Science.

Pre-Veterinary Science Concentration

This degree includes an undergraduate concentration in Pre-Veterinary Science, which is recommended for superior students who seek admission to veterinary college. Obtaining admission to U.S. Colleges of Veterinary Medicine is a competitive process, and minimum GPA's of 3.2 overall and 3.5 in science and math courses are generally needed to be considered for admission to most DVM programs. Completing coursework at the University of Maine does not guarantee acceptance in any Doctor of Veterinary Medicine degree program. The suggested courses beyond the basic degree requirements in Animal and Veterinary Sciences are those that are required or recommended for admission to Colleges of Veterinary Medicine in North America. To declare the Pre-Veterinary Science concentration, the student is required to have earned grades of C- or better in BIO 100 and CHY 121, courses which are prerequisites for many of the upper level courses required by colleges of veterinary medicine.

Pre-Veterinary/Bioscience Medical Microbiology

This degree meets the growing demand for professionals with an expertise that combines animal health, biology, and microbiology, and who are able to perform a variety of laboratory protocols and understand the connections among humans, animals, and the environment. This concentration, a collaboration between animal and veterinary sciences and molecular and biomedical sciences, allows students to meet the requirements for veterinary college, while providing a hands-on laboratory emphasis. This concentration can lead to a career as an animal biotechnologists, pharmaceutical researcher, or animal geneticist, among many others

Hands-on Experience

An important aspect of the degree in Animal and Veterinary Sciences (AVS) is the requirement for hands-on experience with economically important domestic species. At the University's Witter Teaching and Research Farm, AVS majors are given numerous opportunities to increase their competency with, and eventually manage, dairy cattle, and Standardbred horses. We consider the experiential learning at the Witter Center to be a vital part of our students' education, because it allows them to use their knowledge to solve practical problems on a working farm.

BS in Animal and Veterinary Sciences (120 credits)

Required Animal and Veterinary Science Courses (44 credits)

Student-selected AVS Courses (13 credits)

Science and Mathematics Courses (25 credits)

Economic Course (6 credits)

English/Communication Courses (9 credits)

Human Values and Social Context Courses (9 credits)

Ethics Course (3 credits)

ELH 117 - First-Year Success Seminar (1 credit) (Waived for Transfer Students)

BS in Animal and Veterinary Sciences with Equine Science concentration (120 credits)

Required Animal and Veterinary Science Courses (58 credits)

Student-selected AVS Courses (6 credits)

Science and Mathematics Courses (25 credits)
Business Course (3 credits)
Economic Course (6 credits)
English/Communication Courses (9 credits)
Human Values and Social Context Courses (9 credits)
Ethics Course (3 credits)
ELH 117 - First-Year Success Seminar (1 credit) (Waived for Transfer Students)

BS in Animal and Veterinary Sciences with Pre-Veterinary Science concentration (120 credits)
Required Animal and Veterinary Science Courses (39 credits)
Student-selected AVS (3 credits)
Science and Mathematics Courses, including Vet School requirements (53 credits)
Medical Terminology course (1 credit)
Economic Course (3 credits)
English/Communication Courses (9 credits)
Human Values and Social Context Courses (9 credits)
Ethics Course (3 credits)
ELH 117 - First-Year Success Seminar (1 credit) (Waived for Transfer Students)

BS in Animal and Veterinary Sciences with Pre-Veterinary/Bioscience Medical Microbiology concentration (120 credits)
Required Animal and Veterinary Science Courses (18-25 credits)
Required Molecular and Biomedical Science Courses (16-23)
Science and Mathematics Courses, including Vet School requirements (53 credits)
Economic Course (3 credits)
English/Communication Courses (9 credits)
Human Values and Social Context Courses (9 credits)
Ethics Course (3 credits)
ELH 117 - First-Year Success Seminar (1 credit)

Molecular and Biomedical Sciences

OVERVIEW OF DEGREE REQUIREMENTS
Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0.
Minimum Grade requirements for courses to count toward major: For the Molecular and Biomedical Sciences major, a "C or better" is required in BMB 280 - Introduction to Molecular and Cellular Biology to continue in the required, upper-level BMB courses.
Other GPA requirements to graduate: The Molecular and Biomedical Sciences major requires a minimum GPA of 2.0 for all required BMB courses and Program Electives.
Required Course(s) for fulfilling Capstone Experience: BMB 491
Contact Information: Melody Neely, Chair, Hitchner Hall Room 117, (207) 581-2810, melody.neely@maine.edu or Ed Bernard, Undergraduate Coordinator, Hitchner Hall, Room 284, (207) 581-2804, edward.bernard@maine.edu

The Molecular and and Biomedical Sciences program is designed to provide the student with a broad background in the biological

and physical sciences and an opportunity for in depth concentration in one of the most active disciplines in the biological sciences.

Departmental Requirements

Cumulative grade point average of 2.0 in the major and a minimum grade of C in BMB 280 .

Hands-on Experience

An important aspect of the Molecular and Biomedical Sciences program is the requirement for hands-on experience in the laboratory. Laboratory courses are offered in fundamental aspects of molecular biology, cellular as well as biochemistry and microbiology. Laboratory courses in some of these topics are not generally available at smaller institutions without graduate and research programs or at many larger research universities where student numbers are too large to accommodate numerous laboratory courses in such specialized areas. At the University of Maine, however, we are large enough to have faculty with expertise in most sub disciplines but small enough in terms of students to be able to provide a wide variety of laboratory courses. We also take pride in the fact that all of our advanced laboratory courses are taught by professors, not by graduate students or part-time instructors. We believe strongly that such close interactions between students and faculty in small groups typical of most laboratory courses are important and mutually beneficial to the student and the faculty. Because the Department also offers M.S. and Ph.D. programs in the areas of biochemistry, microbiology, and molecular and cellular biology, we provide a variety of opportunities for undergraduate students to engage in independent study and research with individual faculty. In fact, we believe that this is one of the most important aspects of our undergraduate programs. In the required senior year research course, you will be part of a research team of faculty, postdoctoral research associates, technicians, and graduate and undergraduate students who are actively engaged in ongoing research projects that are both publicly and privately funded. Opportunities to earn academic credits while working off-campus in industry, hospitals, and research institutes also exist.

Facilities

The departmental facilities for teaching and research are located in Hitchner Hall. The building contains a modern facility for teaching and research in microbiology, including specialized equipment and laboratories for teaching molecular biology, virology, pathogenic microbiology, and animal cell culture. The University's Automated DNA Sequencing Facility and the department's Zebrafish Facility are located in Hitchner Hall. Close proximity to research laboratories enables students to participate in independent study and undergraduate research projects using state-of-the-art equipment and methods.

Career Opportunities

Rewarding career opportunities for molecular biologists are exceptionally numerous and varied. A career in Molecular Biology is not just a job, but an opportunity to explore new phenomena, participate at the frontiers of the most actively expanding areas of science today, and make significant contributions to human beings, our society and our world. These disciplines are at the core of the rapidly expanding fields of biotechnology and the allied health professions. Graduates of these programs work in: public health laboratories, medical, dental, veterinary, and university research laboratories; pharmaceutical, food, and chemical industries; environmental research and monitoring laboratories; colleges and universities; and a variety of existing as well as emerging genetic engineering and biotechnology industries.

Health Professions

Majoring in Molecular and Biomedical Sciences provides an ideal preparation for further study in medical, dental, veterinary and other health-related professional schools. Students interested in these careers should register with the Health Professions Office in their first year, which provides information and assistance in selecting proper supporting courses and the application process.

Molecular and Biomedical Sciences

Molecular and Biomedical Sciences has evolved in recent years as a response to the increased ability to study organisms at the molecular level. This discipline involves the systematic study of the molecular and structural basis for the organization, transmission and expression of genetic information, in addition to the general study of macromolecular systems involved in the structure and function of cellular components. Recent years have seen explosive advances in the study of DNA and molecular genetics including gene cloning, sequencing and mapping. Developments in recombinant DNA technology have opened up entirely new areas of study and provided powerful techniques that are revolutionizing the pharmaceutical, health and agricultural industries and have spawned new industries in biotechnology.

Biology

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: A C or higher is required in BIO 100 and BIO 200 .
Other GPA requirements to graduate: A minimum cumulative GPA of 2.0 in all courses in Biological Sciences Areas, and chemistry, organic chemistry, physics, calculus, and statistics combined.
Required Course(s) for fulfilling Capstone Experience: BIO 388 or BIO 392 or BIO 402 or BIO 431 or BIO 438 or BIO 439 or BIO 450 or BIO 463 or BIO 476 , or HON 498 & HON 499 * or BIO 480 and BIO 483 . For specific requirements, see the curricula for individual concentrations.
*The thesis topic must be in Biology and the thesis advisor should be in the School of Biology and Ecology.
Contact Information: Peg Killian, Academic Advisor, 100 Murray Hall, (207)581-2540, um.biology@maine.edu

A major in biology allows students to explore various aspects of our natural world. Tremendous advances in biotechnology, medicine, environmental studies, and related areas make biology an important and fascinating field of study. Biology seeks to understand living organisms - from animals and plants to fungi and microbes. Biologists help find cures for diseases, become doctors, save endangered species, and more. A diverse set of courses allows students to learn evolutionary principles, biodiversity, and how organisms interact with each other and their physical environment. Biology majors are exposed to a variety of research opportunities. Research in the field of biology increases knowledge about living organisms in order to tackle problems we face in fields such as medicine, agriculture, and ecology.
Graduates of our Biology program pursue various careers, depending on their interest, level of educational attainment, and subsequent professional education. Among the more typical career areas are human and veterinary medicine, scientific research and development, teaching at the high-school and college levels, environmental monitoring and regulation at state and federal levels, and private design and consulting.
The Biology major offers students many choices and allows them to tailor their programs to their interests. Students can choose from a wide range of courses covering all major areas of biology including cells and molecules, genetics, evolution, physiology, anatomy, biodiversity, ecology, and behavior. Students enrolled in the Honors College will find the program complementary to their degree studies. Each student works with an academic advisor to develop a curriculum that best meets the student's goals and allows for exploration or specialization as desired. Students in their third and fourth years of study, who intend to pursue advanced degrees, are strongly encouraged to include independent research under the guidance of a faculty member in their program. Students wishing to spend a semester studying abroad are advised to discuss this option with their advisor early in their program.
The B.S. and B.A. degrees in Biology are offered by the School of Biology and Ecology. For information about areas of specialization and for an overview of our facilities, cooperative programs, and list of faculty in the School of Biology and Ecology, visit https://sbe.umaine.edu.
Students choosing Biology as a second major are not required to complete a Biology capstone, provided the student completes a capstone for their first major. Biology is not allowable as a second major for students whose first major is Animal & Veterinary Science with Pre-Veterinary concentration because of substantial overlap between requirements.
Students majoring in Biology are not eligible for a second major in Botany or Zoology because of extensive overlap in the requirements for these degrees.
Students wishing to transfer from other institutions or from another program within the University of Maine must have completed BIO 100 - Basic Biology with a grade of C or better, have a cumulative GPA of 2.0 or better, and a grade of C or better in MAT 111 or no grade record in MAT 111 and a score of 30 or higher on the Math Placement Exam.
Bachelor of Science or Bachelor of Arts
The School of Biology and Ecology offers both B.S. and B.A. degrees in Biology. Both degrees provide a strong background in biological sciences. They have the same requirements in biological sciences and differ only in the level of chemistry, mathematics, physics, and social sciences required. The B.S. requires more in-depth study of chemistry, math, and physics while the B.A. requires a minor or more in-depth study of social sciences and humanities. The B.S. provides preparation for the health professions, while the B.A. ensures a broad liberal arts education and allows more flexibility for minors and double majors, allowing students to build career-enhancing skills.
Expertise in Biology is essential to ensure that sound science is the foundation for public policy, laws, regulations, business decisions, natural resource management, and communication about scientific ideas and issues. Educators, artists, writers, lawyers, economists, public policy makers and politicians, and business people in green industries, pharmaceuticals, biotechnology, and agribusiness greatly benefit from a strong background in science. Pairing a BA with a second major or minor builds strength for careers in education, communication, policy, law, or business. In addition, the critical thinking, reading, and writing skills gained through humanities and social sciences courses can significantly contribute to a career in science.
BA students are required to declare a minor or 2nd major in an approved subject outside of botany, biology, or zoology or complete

additional General Education requirements as noted below. BA students are encouraged to explore career options through the University of Maine Career Center and with their academic advisor to select a minor or 2nd major that adds breadth to the academic program by developing skills and knowledge outside of the primary major.

Concentrations in the B.S. and B.A. Degrees in Biology

The Ecology Concentration is open to students in either the B.S. or B.A. degree program. This concentration is intended for students interested in exposure to ecological principles within the context of a rigorous biological sciences curriculum.

The Entomology Concentration is open to students in either the B.S. or the B.A. degree program. The concentration is intended to provide students with a broad understanding of the form and function of insects, their interactions with people and society, the study of insect conservation, and management in natural and human-derived systems.

The Pre-medical Studies Concentration is open to students in the B.S. degree program only, not the B.A. This concentration is intended for students preparing for a career in medicine or one of the other health professions (dentistry, optometry, osteopathy, physician assistant, pharmacy, podiatry, veterinary medicine, and other health-related fields). Students completing this concentration will be fully prepared for advanced studies in these fields. In addition to the required science and mathematics courses, the concentration also includes general education courses that are desired by many medical schools. The concentration allows for considerable choice in courses and provides valuable guidance to students and their advisors with regard to course selection in their major and in general education requirements.

From the Ocean to Orono: an SBE Research Learning Experience

Incoming first-year students in Biology, Botany, and Zoology majors move onto campus one week early and participate in a week of activities prior to the start of the regular semester. "From the Ocean to Orono" is part of the School of Biology and Ecology's orientation and research learning experience (RLE) that helps you explore different aspects of biological sciences. The week is split evenly between activities on campus in Orono and at the Schoodic Institute, part of Acadia National Park, located on the Maine coast. Students then continue their RLE in the fall semester ELH 117 course, where they will conduct research with an SBE faculty member throughout the semester.

Adventure Semester

The School of Biology and Ecology cooperates with the UMaine Study Abroad program and CIS Abroad to offer *Adventure Semester*, a semester at Costa Rica's Universidad Veritas for Biology, Botany, Zoology, Ecology and Environmental Science, Wildlife Ecology, and Marine Science majors. Students have numerous course choices and will work with an advisor to select courses best suited for their interests and to complete requirements for their major. *Adventure Semester* is optional, and only one of many Study Abroad opportunities that work well with the Biology major.

Biology Club

Students majoring in Biology, Botany, and Zoology are encouraged to join the Biology Club, a student organization that promotes an interest in the biological sciences and in biological research with invited speakers, panel discussions, debates, trips, social functions, and service projects. The club also supports a local chapter of the national honor society, Beta Beta Beta.

Accelerated and Special Programs

The University of Maine, New England College of Optometry (NECO) cooperate in providing an accelerated undergraduate curriculum leading to consideration for early admission to NECO. Students complete three years at the University of Maine and are awarded the B.S. in Biology upon the successful completion of the first year curriculum at NECO. Contact the Career Center's Health Professions Career Counselor (207) 581-2587 for complete program details and a curriculum for the first three years.

Tufts University School of Medicine additionally offers a "Maine Track" MD program, in partnership with Maine Medical Center (MMC) in Portland Maine, for applicants who are interested in a unique, innovative curriculum that will offer clinical training experiences in Maine and expose medical students to the unique aspects of rural practice as well as training in a major tertiary medical center. Tufts requires "Maine Track" students to have taken the SAT or ACT prior to entering University of Maine.

Honors College

Students enrolled in the Honors College will find that the program works well with their major, replacing General Education and capstone requirements. Honors students should work with their advisor to adapt the suggested course sequences below to accommodate their Honors courses.

Environmental Horticulture Studies Certificate

OVERVIEW OF REQUIREMENTS

Minimum number of credits required to earn certificate: 14
Minimum Cumulative GPA required to earn certificate: None

Minimum Grade requirements for courses to count toward certificate: C- or higher is required for all PSE courses.
Other GPA requirements to earn certificate: None.
Contact Information: Mary Fernandez, Student Academic Services Coordinator, 201A Rogers Hall (207) 581-2938, fern@maine.edu

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The Environmental Horticulture Studies Certificate program at the University of Maine offers students the opportunity to pursue the study of environmental horticulture through a series of Core courses (Plant Materials). In addition to the Core, there are two areas of focus that allow students to specialize in an area of their choice by choosing Plant Production and/or Garden Design.
The market potential for the certificate program is mainly the non-traditional student who is looking for opportunities to take specific courses in an area of horticulture. This certificate program is based on the premise that potential students will only take one course per semester. Therefore, the Core can be finished in five sequential semesters. The Core program will begin in the Fall semester with PSE 100 Plant Science.
The two areas of focus can be started upon completion of the Core.

Communication Sciences and Disorders

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: None.
Other GPA requirements to graduate: CSD majors require a cumulative 2.0 in all CSD courses taken.
Required Course(s) for fulfilling Capstone Experience: CSD 490
Contact Information: Jane Puhlman, Undergraduate Program Coordinator, Office 308 Dunn Hall, Telephone (207) 581-2008, Email: jane.puhlman@maine.edu; Michelle Moore, Program Chair, Office 310, Dunn Hall, Telephone (207) 581-2404, Email: michelle.moore@maine.edu

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The study of Communication Sciences and Disorders (CSD) encompasses the examination of human communication, its development and disorders. Communication is a fundamental aspect of what makes us human, and is essential to learning, work, and social interaction. Communication disorders can impact the way individuals hear, speak, and use language. These disorders range from simple sound substitutions to total impairment of the ability to communicate with others. A speech, language, or hearing disorder can affect every aspect of a person's life.
A major or minor in CSD is ideal for students who want to make a profound impact on how people communicate and connect with others. This field is particularly well-suited for those with interests in areas like life science, cognitive science, psychology, linguistics, education, or healthcare. Students who study CSD gain a comprehensive foundation in speech, language, and hearing sciences that prepares them for careers or further graduate study in audiology, speech-language pathology, education, and health care, among others. For information about CSD professions and programs at UMaine, visit the Department website: https://umaine.edu/comscidis/.
The Bachelor of Arts in Communication Sciences and Disorders
In addition to courses within the Department of CSD, students in the CSD major must complete coursework in biological and physical sciences, statistics, and behavioral and/or social sciences. To provide CSD majors with foundational knowledge across the lifespan, students will complete coursework focused on both child development and aging. An additional ethics course is also required, preparing students to work ethically and effectively with a wide range of individuals across the lifespan and with varied abilities.
The Department offers numerous experiential learning, service, and research opportunities both in and outside the classroom. Students are encouraged to take advantage of these chances to work closely with our faculty and engage in diverse hands-on experiences. To learn more about the opportunities available and recommended courses, please visit our website or contact the undergraduate program coordinator or your academic advisor.

Earth and Climate Sciences

OVERVIEW OF DEGREE REQUIREMENTS - Earth and Climate Sciences B.A.

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0.
Minimum Grade requirements for courses to count toward major: all B.S. and B.A. students in the School of Earth and Climate Sciences must achieve at least a grade of "C-" in all required courses and ERS electives.
Other GPA requirements to graduate: None.
Required Course(s) for fulfilling Capstone Experience: ERS 410 or ERS 499
Contact Information: Dr. Alice Bernosky, Undergraduate Coordinator, 217 Bryand Global Sciences Center, 207-581-2159, alice.bernosky@maine.edu

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A major in Earth and Climate Sciences (ECS) allows students to explore the atmosphere, hydrosphere, geosphere, and cryosphere. Advances in remote sensing, geoengineering, environmental studies, and related areas make ECS an important and fascinating field of study. Geology seeks to understand the Earth - from the Earth's interior and plate tectonics to climate change and surface processes. Earth scientists help find solutions to problems related to natural disasters and resources, become experts in understanding dynamic environmental systems, predict how different components of the Earth will change over time, and more. Core requirements include Earth systems, environmental change, geochemistry, geophysics, structural geology, mineralogy, sedimentology and stratigraphy, and geomorphology. ECS majors are exposed to a variety of research opportunities inside and outside the classroom.
B.A. or B.S. Earth and Climate Sciences graduates from this program pursue various careers, depending on their interest, level of educational attainment, and subsequent professional education. Among the more typical career areas are geologic industry and mining, scientific research and development, teaching at the high-school and college levels, environmental monitoring and regulation at state and federal levels, and private design and consulting.
The many choices for Earth (ERS) electives allows majors to tailor their programs to their interests. Students can choose from a wide range of courses covering all major areas of geology including geohazards, marine geology, petrology, fresh-water flow, glaciology, extreme weather, glacial geology, hydrology, and paleoceanography. Students enrolled in the Honors College will find the program complementary to their degree studies. Each student works with an academic advisor to develop a curriculum that best meets the student's goals and allows for exploration or specialization as desired. Students are strongly encouraged to become laboratory, field, and research assistants for projects led by faculty, staff, and graduate students in the program. Students wishing to spend a semester studying abroad are advised to discuss this option with their advisor early in their program.
The School of Earth and Climate Sciences offers a B.A. degree in Earth and Climate Sciences and a B.S. degree in Earth and Climate Sciences with an Earth Sciences or Climate Sciences concentration. We also offer an Earth, Environmental, and Climate Sciences Concentration through the B.S. in the Ecology and Environmental Sciences program. For information about the program, faculty, staff, and facilities, visit https://umaine.edu/earthclimate/.

Ecology and Environmental Sciences

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: EES 489 requires minimum grade of C. All Concentration courses require a minimum grade of C.
Other GPA requirements to graduate: None.
Required Course(s) for fulfilling Capstone Experience: EES 489 .
Contact Information: Dr. Kate Ruskin, Program Coordinator, 111 Bryand Global Sciences Center, (207) 581-3177, ees@maine.edu

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Transfer Policy: Currently enrolled students who wish to change their major to EES must first meet with the Undergraduate Program Coordinator and demonstrate success in a 100 level Math and/or Science course.
The Bachelor of Science in Ecology and Environmental Sciences is an interdisciplinary program offered cooperatively by the faculties of the Department of Anthropology; Department of Wildlife, Fisheries and Conservation Biology; School of Earth and

Climate Sciences; School of Food and Agriculture; School of Biology and Ecology; School of Economics; and School of Forest Resources. Students majoring in the program are advised by over thirty-five faculty from these units. The program is designed for students who wish to pursue a professional career in ecology and environmental sciences in one of many applications: management, administration, planning, education, research or graduate school.

The BS in Ecology and Environmental Sciences is designed to acquaint students with the scope and characteristics of our natural resources and to introduce the scientific and economic principles that govern resource use, sustainability, and conservation.

The Ecology and Environmental Sciences curriculum is composed of eight requirement areas, amounting to at least 96 credits (depending upon selections), plus up to 24 credits reserved for unstructured electives. The requirement areas are as follows:

I. Ecology and Environmental Sciences;
II. Biological and Ecological Sciences;
III. Social Sciences;
IV. Physical and Chemical Sciences;
V. Quantitative and Information Skills;
VI. Communication Skills;
VII. General Education;
VIII. Concentrations Courses;

The requirements are designed so that Ecology and Environmental Sciences graduates will be well grounded in both the natural and social sciences, and will possess the skills necessary for a successful career. The program is also designed to allow students ample flexibility to pursue individual interests in preparing for careers or postgraduate study.

Six Ecology and Environmental Sciences concentrations allow a student to pursue a particular aspect of natural resources in depth with an eye toward future employment or postgraduate study. Students should decide on their area of concentration early in their programs so that course choices in the first and sophomore years will include the prerequisites for courses in their chosen concentration.

Economics

Overview of Degree Requirements - B.A.

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: A "C-" or better is required in all Economic Core Courses. A "C" or better is required in the capstone courses (ECO 470 , ECO 475 , ECO 489 , HON 498 /HON 499 or equivalent).
Other GPA requirements to graduate: Economics (ECO) coursework must be completed with a 2.0 or better cumulative average.
Required Course(s) for fulfilling Capstone Experience: ECO 470 , ECO 475 , ECO 489 , HON 498 /HON 499 or equivalent
Contact Information: School of Economics, 206 Winslow Hall, (207) 581-3150.

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Economics majors build strong analytical and problem-solving skills. The Economics B.A. degree provides a broad coverage of economic concepts and methods, and it is flexible for students with double majors in other disciplines. This program is available as a fully online degree.

Environmental Horticulture

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: C- or higher is required for EES 140 and EES 141 and all

PSE courses.
Other GPA requirements to graduate: None.
Required Course(s) for fulfilling Capstone Experience: PSE 430 .
Contact Information: Bryan Peterson, School of Food and Agriculture Director, 201A Rogers Hall, (207)581-2918, bryan.j.peterson@maine.edu

The School of Food and Agriculture is the home of the Environmental Horticulture Program. This program combines theoretical knowledge and hands-on experience working with plants. Students will study a variety of course materials including landscape design, nursery and landscape management, sustainable plant production and maintenance, greenhouse management, plant and soil sciences, business management, and other related areas. It provides excellent training for a wide range of professional opportunities in the green industry and provides a strong background for students interested in pursuing graduate education in horticulture and plant science.

BS in Environmental Horticulture (120 credits)

Required Plant, Soil, and Environmental Science Courses (38 credits)
Plant, Soil, and Environmental Science Electives (20 credits)
Science and Mathematics Courses (14 credits)
Economic Courses (6 credits)
English/Communication Courses (6 credits)
Human Values and Social Context Courses (9 credits)
Ethics Course (3 credits)
ELH 117 - First Year Success Seminar (1 credit) (Waived for Transfer Students)
Minor Credits and/or General Elective Courses (23 credits)

Program Requirements:

Courses are arranged in the recommended sequence. Each semester serves as a prerequisite for the following semester. PSE courses with a grade below a C- will not count towards graduation credits. Students who wish to transfer into the undergraduate program in Environmental Horticulture from other programs or institutions must have a 2.0 grade point average or above.

Financial Economics

OVERVIEW OF DEGREE REQUIREMENTS - B.A.

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: A "C-" or better is required in all Economic Core Courses. A "C" or better is required in the capstone (ECO 470 , ECO 475 , ECO 489 , HON 498 /HON 499 or equivalent)
Other GPA requirements to graduate: Economics (ECO) coursework must be completed with a 2.0 or better cumulative average.
Required Course(s) for fulfilling Capstone Experience: ECO 470 , ECO 475 , ECO 489 , HON 498 /HON 499 or equivalent
Contact Information: School of Economics, 206 Winslow Hall, (207) 581-3150.

Financial Economics majors build strong analytical and problem-solving skills, with an emphasis on topics at the intersection of Economics and Finance.

Food Science and Human Nutrition

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: Students in the Human Nutrition and Dietetics concentration must have a C or higher in all required FSN courses. Students in the Food Management and Food Science concentrations must have a C- or higher in all required FSN courses.
Other GPA requirements to graduate: None.
Required Course(s) for fulfilling Capstone Experience: FSN 401 or FSN 520.
Graduate Courses: 500-600 level course descriptions can be found in the University of Maine Graduate Catalog
Contact Information: Eileen Molloy, Undergraduate Program Coordinator, 111 Hitchner Hall, (207) 581-3121, eileen.molloy@maine.edu

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Bachelor of Science in Food Science and Human Nutrition with three concentrations -
Food Science, Food Management, or Human Nutrition and Dietetics.

A Bachelor of Science degree in these concentrations prepares students for professional work in either food science, food management, or human nutrition and dietetics. Each concentration can lead to a variety of careers within the broad field of food science and human nutrition.

Food Science Concentration

The Food Science concentration is the application of the principles of the basic sciences including chemistry, biology, and biochemistry to food systems. This approved program through the Institute of Food Technologists is a challenging and rewarding program and requires a strong background in mathematics and science. Students in Food Science with a grade point average of 3.0 or above may apply for the Food Science Five-Year Combined BS/MS degree program in their junior year. For this five-year program, nine credits of graduate courses are taken as part of the undergraduate degree (first four years), and the remainder of graduate courses can be completed in one additional year. A sample curriculum is outlined below and more information about this option can be found in the Graduate Catalog.

Human Nutrition and Dietetics Concentration

The Human Nutrition and Dietetics concentration focuses on the study of the effect of food, food behavior and nutrients on people's health, and the role of diet in prevention or treatment of chronic diseases. It is a diverse, rewarding and growing field that requires a strong background in science. This concentration is an accredited Didactic Program in Nutrition and Dietetics (DPD) by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) and is the only accredited program in the state of Maine. Students in this concentration are eligible for continuing education and internship to become a Registered Dietitian Nutritionist (RDN). Or, they can pursue careers in wellness nutrition, health or research.

Students in the Human Nutrition and Dietetics concentration with a grade point average of 3.0 or above may apply for the MS in Human Nutrition, Dietetic internship Concentration in their junior year as an accelerated program. For this program, nine credits of graduate courses are taken as part of the undergraduate degree, and the remainder of graduate courses and dietetic internship can be completed in 16 to 18 months (non-thesis vs thesis). This provides an expediated pathway for credentialing as an RDN. A sample curriculum is outlined below and more information about this option can be found in the Graduate Catalog.

Food Management Concentration

Food management provides a unique combination of food and business courses to prepare students for a wide variety of career opportunities in management of food and food resources. This concentration provides flexibility in planning a curriculum to suit an individual's needs. Students are encouraged to add a minor to complement the studies of the major. Examples include Business Administration, Marketing, Sustainable Food Systems or other minors of interest.

Foundation for higher education

The requirements in Food Science and Human Nutrition will be sufficient for admission to the graduate schools in each program and the combined MS/Dietetic Internship program. The Food Science or Human Nutrition and Dietetics concentrations can easily meet the entrance requirements for medical, pharmacy, and physical therapy with advising on some additional courses. Students in the Food Management concentration would be prepared for graduate school in business if they take the appropriate business courses at the undergraduate level.

Transfer criteria

Students who wish to transfer into the undergraduate program in Food Science and Human Nutrition from other programs or institutions must have a 2.0 grade point average or above. Those wishing to transfer into the concentration in Human Nutrition and Dietetics must have a grade point average of 2.5 or above. Contact the Undergraduate Program Coordinator to meet to discuss your interest in these programs.

Graduation Requirements

To obtain this degree students must meet the requirements of the University, those requirements specific to the major and the requirements for the concentration.

Food Science and Human Nutrition Major

1. Satisfy general education requirements
2. Satisfy bachelor of science requirements
3. ELH 117 - First-Year Success Seminar
4. Biology requirement: BIO 100
5. Minimum Food Science and Human Nutrition requirements: FSN 101 , FSN 103 , FSN 104 , FSN 270 , FSN 330 , and FSN 340
6. Communications requirements: ENG 101 and CMJ 103
7. Psychology requirement: PSY 100

Food Management Concentration

1. Satisfy the core requirements of the degree program
2. Satisfy the bachelor of science requirements
3. Chemistry requirements: BMB 207 and BMB 209
4. Communications requirements: ENG 317
5. Food Science and Human Nutrition requirements: FSN 101 , FSN 103 , FSN 104 , FSN 202 , FSN 236 , FSN 265 , FSN 270 , FSN 305 , FSN 330 , FSN 340 , FSN 396 , FSN 415 , FSN 425 , FSN 436 , FSN 440 and FSN 520
6. Mathematics requirement: MAT 115 and STS 132
7. Business requirements: ACC 201 , BIS 235 , and MGT 225
8. Economics requirements: ECO 120 , ECO 121 , and ECO 154
9. Other requirements: COS 103 , INV 121 , and PSE 105
10. Students will be encouraged to declare a minor in either Business Administration or in Sustainable Food Systems.
11. Grades of C- or higher in all FSN required courses and courses substituting for FSN required courses.

Food Science Concentration

1. Satisfy the core requirements of the degree program
2. Satisfy the bachelor of science requirements
3. Biology requirements: BIO 200 or BIO 208
4. Biochemistry and Microbiology Requirements: BMB 300 , BMB 305 , BMB 322 and BMB 323
5. Chemistry requirements: CHY 121 , CHY 122 , CHY 123 , CHY 124 , BMB 221 and BMB 222 or CHY 251 and CHY 253
6. Communications requirement: ENG 317
7. Food Science and Human Nutrition requirements: FSN 101 , FSN 103 , FSN 104 , FSN 236 , FSN 270 , FSN 330 , FSN 340 , FSN 396 , FSN 415 , FSN 425 , FSN 436 , FSN 438 , FSN 439 , FSN 475 , FSN 482 , FSN 483 , FSN 485 , FSN 486 , FSN 502, FSN 520, FSN 585, and FSN 587
8. Mathematics requirement: MAT 126 and STS 132
9. Physics requirement: PHY 111 or PHY 121
10. Grades of C- or higher in all FSN required courses and courses substituting for FSN required

courses.

Human Nutrition and Dietetics Concentration

1. Satisfy core requirements of the degree program
2. Satisfy the bachelor of science requirements
3. Biology requirement:BIO 208
4. Chemistry requirements: BMB 207 , BMB 209 , BMB 221 , BMB 222 , BMB 240 , and BMB 322
5. Communications requirement: ENG 201
6. Food Science and Human Nutrition requirements:FSN 101 , FSN 103 , FSN 104 , FSN 230 , FSN 265 , FSN 270 , FSN 290 , FSN 301 , FSN 305 , FSN 330 , FSN 340 , FSN 396 , FSN 401 , FSN 406 , FSN 412 , FSN 420 and FSN 430
7. Mathematics requirement: MAT 116 (MAT 122 or MAT 126 also accepted)
8. Statistics requirement: PSY 241 or STS 132
9. Economics requirements: ECO 154
10. Pathophysiology requirement: NUR 303
11. Grades of C or higher in all FSN required courses and courses substituting for FSN required courses.

Sustainable Materials and Technology

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: Students must earn a minimum grade of "C-" in all required courses having the SFR designator.
Other GPA requirements to graduate: None.
Required Course(s) for fulfilling Capstone Experience: SFR 492
Contact Information: Candice Goyette, Student Academic Services Coordinator, 201B Nutting Hall, 581-4737, candice.goyette@maine.edu

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The Bachelor of Science in Sustainable Materials and Technology (SMT) involves multiple aca-demic disciplines and aims to produce professionals with strong abilities to assess and communi-cate the technical foundations of how forest and other plant-based materials can be sustainably produced and converted for a variety of applications ranging from traditional wood products to emerging sustainable materials and bioenergy systems throughout the entire life-cycle of the products.

Renewable and sustainable feed stocks will increasingly be used to meet societal demands for materials ranging from traditional applications in construction and paper to packaging, compos-ites, electronics, textiles, plastics, and bioenergy development. This change is rooted in benefits of using sustainably grown renewable materials, which can replace non-renewable materials produced from petroleum and mining sources. Benefits of this rapidly emerging 21st century circular bioeconomy include positive contribution to climate change mitigation attributable to the take-up of CO2 from the atmosphere inherent in the growing of trees and plants, lower embodied energy attained from the production of bio-based products, less dependency on fossil fuel-based energy due to the supplementary bioenergy and the co-location of manufacturing enterprises with human communities which provide local jobs and a beneficial environment.

The SMT program outcomes provide a holistic approach to the understanding and application of concepts necessary for product design and the conversion of renewable feed stocks to a wide variety of materials and products. Graduates of the program will gain a mastery of a broad set of skills necessary for success in this broad and rapidly evolving field. The skill areas include fundamentals of wood and plant growth and properties, quantification of sustainability and certification, supply-chain analysis,

fundamentals of materials science and technology, principles of converting wood and other renewable materials to building materials, composites, packaging materials, and bioplastics as well as bioenergy, business concepts including market awareness, techno-economics, and statistics, along with key "soft-skills" in communications, team-building, critical think-ing, and innovation.
The SMT program combines rigorous academic content with a focus on experiential learning through a series of directed laboratory experiences in world-class facilities such as UMaine's world-famous Advanced Structures and Composites Center (ASCC), the Forest Bioproducts Research Institute (FBRI), several cutting-edge research laboratories at the School of Forest Resources, internship requirements, involvement of industry, governmental, and non-governmental organization (NGO) partners, as well as field activities.
The Sustainable Materials and Technology (SMT) program is accredited by the Society of Wood Science and Technology (SWST).
The Sustainable Materials and Technology (SMT) program at the University of Maine has been developed in response to the need to educate and train necessary workforce for the state and beyond and builds upon the long-lasting reputation of the University of Maine in sustainability- related disciplines. Maine's vibrant sustainable materials industry in combination with large areas of forestland near the University provide additional opportunities for a field-based and industry- oriented education. Students are strongly encouraged to take advantage of the numerous - opportunities for summer employment with the bioproducts industry.
Students in the Sustainable Materi-als and Technology (SMT) program have an opportunity to study, interact, and often work with the large number and diverse group of graduate students from around the world who have been attracted to sustainable materials-related studies at the University of Maine. The SMT faculty have active externally funded research programs, and they are involved in various outreach activ-ities for their professions. Students learn from faculty who continually explore and extend the lat-est knowledge in their areas of expertise, and students meet directly with these faculty for academic advising.
Graduates of the SMT program are prepared for careers in the administration and supervision of sustainable material processing facilities. Specific career areas include: mill supervision and qual-ity control; sustainable material business/marketing, new product development, life-cycle analysis, and sustainable material procurement. Opportunities also exist for graduate education at both the M.S. and Ph.D. levels in the newly developed graduate concentration in Bioproducts Engineering.
The SMT program is part of the School of Forest Resources. The School of Forest Resources has the largest scholarship endowment fund on campus for an academic unit, where the School awarded over $500,000 for the 2020-2021 academic year to help support undergraduate studies. Some scholarships are specifically available for students in the Sustainable Materials and Technology (SMT) program.
Under the New England Regional Student Program, administered through the New England Board of Higher Education, the Bachelor of Science in Sustainable Materials and Technology (SMT) is open to applicants who reside in Connecticut, Massachusetts, Rhode Island, New Hampshire, or Vermont for reduced tuition.
The BS in Sustainable Materials and Technology (SMT) curriculum requires completion of 120 credits of coursework. Recognizing the significance of the sustainable materials industries to society, as well as the opportunities for professional employment of highly trained and broadly educated college graduates, the SMT program is designed to provide students with relevant and marketable knowledge and proficiencies in subject areas essential to the conduct of sustainable materials production and applications.

Forestry

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: Students must earn a minimum grade of "C-" in all required courses having the SFR course designator.
Other GPA requirements to graduate: None.
Required Course(s) for fulfilling Capstone Experience: SFR 490 **,** SFR 492 or SFR 498 /SFR 499
Contact Information: Candice Goyette, Student Academic Services Coordinator, 201B Nutting Hall, 581-4737, candice.goyette@maine.edu

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Forestry is an applied science that involves conserving and managing forest ecosystems within increasingly complex social environments. It combines forest ecosystem sciences, management sciences, and communications skills for managing forest resources to meet society's ever-increasing needs for desired products, services, and forest conditions.
A forester is a professional who must understand the many different aspects of managing natural and human elements of forest

systems. Forestry requires a broad education. Biological and physical sciences deal with the complex interactions of forest ecosystems. Social sciences provide understanding of how humans value forest conditions and forest-based products and services. Computer tools, field skills, and quantitative methods provide the information necessary for foresters to make management decisions. Knowledge of forest operations and markets is another key element of sustainable forestry. Overall, a forestry student faces a challenging and stimulating education that matches human needs and desires with the sustainable capabilities of forests.

The University of Maine has the longest, continuously accredited professional forestry program in the United States. We celebrated the 100th Anniversary of the program in 2003. The B.S. in Forestry is accredited by the Society of American Foresters as a first degree in professional forestry. The goals of the degree are to combine instruction in 1) basic sciences and liberal arts that are fundamental to a college education, 2) practical forestry skills that will allow a graduate to compete for entry-level positions, and 3) fundamentals of applied forest resources and management sciences which graduates can build upon throughout their careers.

The Forestry program at the University of Maine retains a strong field orientation. Training in a forest setting begins with the first semester and continues throughout the curriculum. The program utilizes the University's 1,750-acre Dwight B. Demeritt Forest located next to the campus. In addition, the nearby Penobscot Experimental Forest and other properties owned and managed by the University, provide nearly 13,500 acres of living laboratories for forestry education and research. Large areas of public and private, industrial and non-industrial forestland near the University provide additional opportunities for a field-based education. Students are strongly encouraged to take advantage of the numerous opportunities for summer employment with public and private land-management organizations.

Students in the Forestry program have an opportunity to study, interact, and often work with the large number of graduate students from around the world who have been attracted to forest-related studies at the University of Maine. The forestry faculty members have active research programs, and they are involved in various outreach activities for the profession. Students learn from faculty who continually explore and extend the latest knowledge in their areas of forest science, and students meet directly with these faculty for academic advising.

The Forestry program provides a very broad education that allows foresters to seek employment in a wide range of positions, but most graduates work with some aspect of forest resources management. In Maine, organizations that manage large private land holdings, are a major employer of foresters. An increasing number of forestry graduates become independent consultants, serving mostly non-industrial private forestland owners such as the thousands who own more than half of Maine's timberland. Federal agencies, such as the United States Forest Service, the Bureau of Land Management, and the National Park Service employ many foresters. State natural resources agencies hire foresters to manage state forestlands and to provide advice to owners of small woodland properties. Non-governmental conservation organizations employ foresters to further the interests of their programs.

The Forestry program is part of the School of Forest Resources which has over $16 million in endowments and gifts to help support undergraduate studies.

Under the New England Regional Student Program, administered through the New England Board of Higher Education, the Bachelor of Science in Forestry is open to applicants who reside in Connecticut, Massachusetts, or Rhode Island for reduced tuition.

The BS in Forestry curriculum requires completion of 120 credits of coursework. Students need to complete 30 credits in 400 level SFR courses at UMaine in order to earn the degree. In addition to the University's general education requirements in science, human values, communications, mathematics, and ethics, the curriculum includes forest-oriented courses in ecology, silviculture, forest growth, biology, soil science, economics, policy, operations, administration, GIS and mapping, and protection. These are combined into an integrated approach to the management of forests for desired, sustainable conditions that respond to society's demands for a healthy forest environment, wood-based products, wildlife habitat, recreational opportunities, and water resources.

Marine Science

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: Marine Science Majors must have a 2.0 GPA overall in all required classes. Required classes include the core curriculum and upper-level electives.
Other GPA requirements to graduate: None.
Required Course(s) for fulfilling Capstone Experience: SMS 400 and SMS 404
Field Experience Requirement: All students must complete 42 hours of field experience (these hours are clock hours, not credit

hours). This requirement can be met by our Semester-by-the-Sea program, field-based courses, internships and/or study-abroad programs. Contact the School of Marine Sciences for details.
Contact Information: William Ellis, Associate Professor of Oceanography and Associate Director, 360 Aubert Hall, 207-581-4360, william.ellis@maine.edu

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Marine science is a rich discipline that combines studies from a variety of subjects in order to understand the marine environment, marine life, and their interactions. Basic knowledge in biology, chemistry, geology, mathematics, and physics is essential for students to analyze the workings of marine systems and to appreciate the processes affecting marine life. Studies in marine biology are broad, spanning organisms from bacteria to whales, and spanning perspectives from entire marine communities to the biochemistry of molecules. Marine science plays a pivotal role in the continuing quest to understand our world and to manage its resources. The interdisciplinary nature of the Marine Science curriculum will prepare students to analyze critically such contemporary issues as environmental change, human impacts on the ocean, and biodiversity.
Students seeking the BS degree in Marine Science can complete the degree without a concentration, or they may select one of three concentrations: marine biology, oceanography, or aquaculture. The biological concentration emphasizes ecology, behavior, physiology, genetics, and population and community structure of marine animals, plants, and microbes. The oceanography concentration is oriented toward physical, chemical, and geological ocean science. The aquaculture concentration focuses on the biology, nutrition, and production of finfish and shellfish. Students also learn about aquaculture engineering and the economic issues related to aquaculture. Students in each concentration learn to appreciate the oceanographic perspective, that is, the oceans as systems of interacting components. Each concentration shares common courses designed to provide an interdisciplinary science background. Where appropriate, courses take advantage of the many ecological and oceanographic regimes found along the Maine coast. Students are encouraged to spend a fall or spring Semester-by-the-Sea taking hands-on courses in residence at the University's Darling Marine Center. Students are counseled to seek opportunities for independent research, internships, and part-time employment with marine faculty. Students in the Marine Science program are provided with a strong general foundation in the sciences suitable for advanced study in one of the marine sciences or in other scientific fields. The BS in Marine Science also provides a solid preparation for immediate employment in marine-related industries, governmental agencies, education, and the nonprofit sector. Students may consult with their academic advisors to achieve specific goals, such as professional certification as an Associate Fisheries Scientist by the American Fisheries Society. More information about Marine Science can be found on our web site.
The School of Marine Sciences has administrative offices in Aubert Hall on the Orono campus. Faculty offices and research laboratories are located on the Orono campus and at the Darling Marine Center. The approximately 40 faculty that comprise the School have expertise in numerous marine fields, and they teach and conduct research and outreach in both basic and applied sciences, such as aquaculture. Most have teaching and research interests of relevance to the State of Maine, e.g. population biology and culture of important marine species, and also of relevance to other geographic areas and scientific questions, e.g. the biology and oceanography of the Arctic Ocean.
Facilities for teaching and research in marine science on the Orono campus are numerous and diverse. They are found in several buildings that house School faculty. Special instrumentation and facilities include: a scanning and electron microscopy laboratory; instrumentation for molecular biology and microbiology, including a central DNA sequencing facility; aquatic holding and recirculation systems; an oceanographic satellite receiving laboratory; and comprehensive computing support. The Orono campus also houses the Sustainable Aquaculture Workforce and Innovation Center (SAWIC), which contains several salt-water recirculation systems for rearing marine organisms and a wave-generation tank.
The Darling Marine Center is the marine laboratory of the University of Maine and functions as a research and teaching facility for University of Maine students and faculty and for visiting investigators from throughout the world. The Center is located near the mouth of the Damariscotta Estuary about 100 miles south of Orono. Facilities include modern laboratories, classrooms, conference rooms, a marine library, flowing seawater laboratories a dormitory and dining hall, and cottage housing. A fleet of boats up to 42 feet long provides access to nearby estuarine and coastal waters. Several undergraduate and graduate courses are offered at the Darling Center each year, in addition to the Semester-by-the-Sea program.

Bachelor of Science in Marine Science
Requirements of the Marine Science major

1. Satisfy university-wide Core Curriculum requirements
2. Earn at least 120 credits
3. College: ELH 117 (marine emphasis)
4. Biology: BIO 100 , BMB 280 (or SMS 430)

5. Chemistry: CHY 121 /CHY 122 , CHY 123 /CHY 124
6. Mathematics: MAT 126 (or MAT 116) and STS 132
7. Physics: PHY 111 , PHY 112 , or PHY 121 , PHY 122
8. Earth Science: SMS 108 or ERS 101 or ERS 102
9. Marine Policy: SMS 230
10. Core SMS marine science courses: SMS 100 , SMS 201 , SMS 203 , SMS 302 (or SMS 484 or SMS 487)
11. Senior Capstone Experience: SMS 400 and SMS 404 (Senior Capstone seminar) for a total of 4 credits taken either or both semesters of the senior year.
12. Plus three Marine Science Practicum (MSP) courses, one from each of the following three categories: a. Observational and Experimental Methods, b. Data Analysis, Interpretation and Modeling, c. Synthesis and Communication (see below for a listing of classes in each category).
13. Plus 6 additional credits of upper-level SMS electives (300-level or higher).

Group A: Observational and experimental methods. Students completing these courses will develop and reinforce their skills in collecting and documenting field and laboratory measurements, and operating laboratory equipment. In these courses, students will also be introduced to concepts of sampling and experimental design.

Taught in Orono:

SMS 304 (IMS IV: Comparative Physiology, Cell & Molecular Biology)
SMS 416 (Marine Engineering Literacy)

Taught at the Darling Marine Center:

SMS 479 (SBS: Microbial Ecology)
SMS 480 (SBS: Biology of Marine Invertebrates)
SMS 484 (SBS Estuarine Oceanography)
SMS 487 (SBS: Marine Environmental Change)
SMS 491 (SBS: Marine Fisheries Ecology)
SMS 491 (SBS: Coastal and Estuarine Oceanography)

Group B: Data analysis, interpretation and modeling. Students completing these courses will develop quantitative and logical skills for the analysis and interpretation of data. Areas of emphasis could include data mining and working with databases, computer programming, and development and operation of models that simulate marine systems.

Taught in Orono:

SMS 304 (IMS IV: Comparative Physiology, Cell & Molecular Biology)
SMS 321 (Intro. to Fisheries Science)
SMS 354 (The Arctic Ocean)
SMS 375 (Intro to Marine Science Data Analysis and Computer Programming)
SMS 416 (Marine Engineering Literacy)
SMS 430 (Microbes in the Marine Environment) Currently can be used a core course
SMS 491 (Contemporary Issues in Marine Policy)

Taught at the Darling Marine Center:

SMS 479 (SBS: Microbial Ecology)
SMS 484 (SMS: Estuarine Oceanography)
SMS 487 (SMB: Marine Environmental Change)
SMS 491 (SBS: Marine Fisheries Ecology)
SMS 491 (SBS: Coastal and Estuarine Oceanography)

Group C: Synthesis and Communication. Students completing these courses will develop and reinforce skills related to understanding, synthesizing, and communicating scientific knowledge in written and oral formats.

Taught in Orono:

SMS 304 (IMS IV: Comparative Physiology, Cell & Molecular Biology)
SMS 354 (The Arctic Ocean)
SMS 375 (Intro to Marine Science Data Analysis and Computer Programming)
SMS 430 (Microbes in the Marine Environment) Currently can be used a core course

SMS 491 (Contemporary Issues in Marine Policy)

Taught at the Darling Marine Center:

SMS 479 (SBS: Microbial Ecology)

SMS 484 (SMS: Estuarine Oceanography)

SMS 491 (SBS: Marine Fisheries Ecology)

Concentration in Marine Biology:

Students who wish to declare a concentration in marine biology must meet the requirements of the Marine Science major (above) in addition to the following:

1. The 6 credits of upper-level SMS electives (mentioned above) should be chosen from the list of SMS Marine Biology electives* (see below). It is strongly recommended that students take at least 3 credits of marine ecology and include courses that cover primary producers, vertebrate and invertebrate organisms.
2. Organic chemistry or biochemistry: BMB 221 /BMB 222 or CHY 251 / CHY 253
3. Complete an additional 6 credits at the 300+ level either from the SMS Marine Biology elective list below or selected from the following list of courses:BIO 336 , BIO 250 , BIO 353 , BIO 265 , BIO 452 , BIO 453 , BIO 480 , BMB 300 /BMB 305 , BMB 322 , BMB 490

* SMS Marine Biology electives include:

SMS 300 , SMS 306 , SMS 308 ,SMS 311 , SMS 321 , SMS 322 , SMS 350 , SMS 354 , SMS 375 , SMS 422 , SMS 423 , SMS 425 , SMS 480 , SMS 484 , SMS 487

Concentration in Oceanography :

Students who wish to declare a concentration in Oceanography must meet the requirements for the Marine Science major (above) in addition to the following:

1. Mathematics: MAT 127
2. Physics: PHY 121 , PHY 122
3. The 6 credits of upper-level SMS electives (mentioned above) should be chosen from the list of SMS Oceanography electives* (see below).

* SMS Oceanography electives include:

SMS 300 , SMS 350 , SMS 375 , SMS 430 , SMS 460 , SMS 479 , SMS 484 , SMS 487 , SMS 491 , SMS 520

4. Complete an additional 6 credits either from the SMS Oceanography electives list or selected from the following list of courses: CHY 342 , CHY 251 , CHY 252 , CHY 461 , ERS 315 , ERS 534, MAT 228 , MAT 258 , STS 434 , STS 437 , PHY 451

Concentration in Aquaculture:

Students who wish to declare a concentration in aquaculture must meet the requirements of the Marine Science major (above) in addition to the following courses:

AVS 411 , SMS 211 , SMS 422 , SMS 425 , SMS 449

Animal and Veterinary Sciences Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18

GPA requirements to earn minor: None

Minimum Grade requirements for courses to count toward minor: C- or higher is required for all AVS courses

Contact Information: Julie Milan, Director of Academic Services, 210B Rogers Hall, 581-3315, julie.milan@maine.edu

Residency requirement: The 11 credits of required courses and 3 of the elective credits must be taken at the University of Maine

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This minor is intended for students from various backgrounds who wish to supplement their education with animals: dairy, livestock,

or equine. Prior to enrolling in the minor, students must consult with the Student Academic Services Coordinator in the School of Food and Agriculture to select the courses most appropriate to their background and career goals, and to discuss any course substitutions which may be appropriate. Students who wish to emphasize equine classes including equitation classes should consider the Equine Studies minor rather than the Animal and Veterinary Science minor.

Please note:

- Be sure to consider the prerequisites for the courses below when planning for this minor.
- Some of the courses below may be offered in alternate years. Be sure to check the course descriptions in the online Undergraduate Catalog.

Aquaculture Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: 2.0

Minimum Grade requirements for courses to count toward minor: A C- or higher is required in any course that counts for the minor.
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.

Contact Information: William Ellis, Associate Professor of Oceanography and Associate Director, 360 Aubert Hall, (207) 581-4360, william.ellis@maine.edu

The minor in aquaculture is designed for students in the College of Earth, Life and Health Sciences who wish to apply the knowledge and skills developed through their major programs to the field of aquaculture, i.e. the science and business of producing aquatic animals and plants useful to humans. The minor consists of a common core plus electives from a recommended group:

Biochemistry Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: 2.0

Minimum Grade requirements for courses to count toward minor: None
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Robert Gundersen, Chair, Hitchner Hall Room 117, (207) 581-2802, gundersn@maine.edu or Ed Bernard, Undergraduate Coordinator, Hitchner Hall, Room 284, (207) 581-2804, edward.bernard@maine.edu

Biology Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 22

GPA requirements to earn minor: Biology minors require a cumulative 2.0 GPA in all courses taken in the minor.
Minimum Grade requirements for courses to count toward minor: Biology minors must have a "C" or better in BIO 100 and BIO 200 .
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: Peg Killian, Academic Advisor, School of Biology and Ecology, (207)581-2540, um.biology@maine.edu

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The minor in Biology is designed for students in other fields who would like to develop a basic understanding of modern biology. The requirements for the minor in Biology include the courses listed below. Students must complete a minimum of 12 credits for this minor with courses that are not otherwise used to fulfill a requirement for their major, another minor, or a concentration. Students must obtain a minimum grade of C in BIO 100 and BIO 200 and a minimum GPA for the minor of 2.0.

Botany Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 22
GPA requirements to earn minor: Students must obtain a minimum grade of C in BIO 100 or BIO 117 and BIO 200 or BIO 118 and BIO 119 , and a minimum GPA for the minor of 2.0.

Minimum Grade requirements for courses to count toward minor: Botany minors must have a "C" or better in BIO 100 /BIO 117 and BIO 200 /BIO 118 and BIO 119
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: Peg Killan, Academic Advisor, School of Biology and Ecology (UMaine), 100 Murray Hall, (207)581-2540, um.biology@maine.edu; Eric Jones; Chair, Division of Integrative and Marine Sciences (UMM); 125 Science; (207) 255-1267; eric.jones1@maine.edu

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The minor in Botany is designed for students in other fields who would like to develop a basic understanding of modern plant biology. Students must complete a minimum of 12 credits for this minor with courses that are not otherwise used to fulfill a requirement for their major, another minor, or a concentration. The requirements for the minor in Botany include the courses listed below. **Note: Credit will NOT be awarded for both the UM and the UMM version of courses.**

Earth Sciences Minor

OVERVIEW OF DEGREE REQUIREMENTS
Minimum number of credits required to earn minor: 18 (At least 9 credits must be earned at the University of Maine)
GPA requirements to earn minor: None.
Minimum Grade requirements for courses to count toward minor: C-
Contact Information: Dr. Alice Bernosky, Undergraduate Coordinator, 217 Bryand Global Science Center, 207-581-2159, alice.bernosky@maine.edu

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A minor in Earth Sciences consists of a minimum of 18 credits of courses in the School of Earth and Climate Sciences, no more than two courses at the 1xx level. No grade below a C- will be accepted toward these requirements. At least 9 credits must be earned at the University of Maine.

Ecology and Environmental Sciences Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 19

GPA requirements to earn minor: None.
Minimum Grade requirements for courses to count toward minor: None
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: Dr. Kate Ruskin, Program Coordinator, 111 Bryand Global Science Center, (207) 581-3177, katharine.ruskin@maine.edu

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The minor in Ecology and Environmental Sciences is designed to expose students to the basic issues in the physical, biological, and social sciences associated with understanding natural resource and environmental issues in the modern world. The minor will be awarded to students who complete the required credit hours, as outlined below.

Economics Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: 2.0

Minimum Grade requirements for courses to count toward minor: None.
Contact Information: School of Economics, 206 Winslow Hall, (207) 581-3150.

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Students must obtain a minimum 2.0 grade point average in ECO courses taken pursuant to requirements of the minor. Also, at least 9 of the required 18 credits must be taken at UMaine.

Environmental Horticulture Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 21
GPA requirements to earn minor: None
Minimum Grade requirements for courses to count toward minor: C- or higher is required for EES 140 /EES 141 and all PSE courses.
Contact Information: Julie Milan, Director of Academic Services, 210B Rogers Hall, 581-3315, julie.milan@maine.edu
Residency Requirement: The 15 credits of required courses must be taken at the University of Maine

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This minor provides students with foundational skills in horticulture through introductory coursework in plant and soil science and plant identification. Elective courses build on this foundation by offering advanced training in topics related to plant production or landscape horticulture. Courses provide hands-on experience in horticultural facilities, including the Roger Clapp Greenhouses, the Lyle E. Littlefield Garden, and the Landscape Design Studio.
Please note:

- Be sure to consider the prerequisites for the course below when planning for this minor.
- The following courses are not acceptable course choices toward the minor for Sustainable Agriculture majors: PSE 403 , PSE 410 , PSE 415 , PSE 440 , and PSE 457 .
- Some of the courses below may be offered in alternate years. Be sure to check the course descriptions in the online Undergraduate Catalog.

Equine Studies Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: None
Minimum Grade requirements for courses to count toward minor: C- or higher is required for all AVS courses.
Contact Information: Julie Milan, Director of Academic Services, 210B Rogers Hall, 581-3315, julie.milan@maine.edu
Residency Requirement: The 8 credits of required courses and 6 of the elective credits must be taken at the University of Maine.

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This minor is intended for students from various backgrounds who wish to supplement their education with horses. Prior to enrolling in the minor, students must consult with the Student Academic Services Coordinator in the School of Food and Agriculture to select courses most appropriate to their background and career goals, and to discuss any course substitutions which may be appropriate.
Please note:

- Be sure to consider the prerequisites for the courses below when planning for this minor.
- For Animal and Veterinary Sciences majors, the only two courses that can be used for both this minor and the AVS major are AVS 303 and AVS 353 .
- Some of the courses below may be offered in alternate years. Be sure to check the course descriptions in the online Undergraduate Catalog.

Fisheries Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 21

GPA requirements to earn minor: 2.0

Minimum Grade requirements for courses to count toward minor: None
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine

Contact Information: William Ellis, Associate Professor of Oceanography and Associate Director, 360 Aubert Hall, 207-581-4360, william.ellis@maine.edu

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The Fisheries minor is designed for students in the College of Earth, Life and Health Sciences who would like an emphasis in fisheries or students in other programs who have an interest in fisheries or natural resource management. Students enrolled in Wildlife Ecology are not eligible for the Fisheries minor, but instead should pursue a concentration in Fisheries. The Fisheries Minor is designed to partially fulfill certification requirements of the American Fisheries Society for fishery biologists. Current certification requirements can be found on our website.

Food Science Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: None
Minimum Grade requirements for courses to count toward minor: C- or higher
Contact Information: Julie Milan, Director of Academic Services, 210B Rogers Hall, 581-3315, julie.milan@maine.edu
Residency Requirement: 15 of the 18 credits for this minor must be taken at the University of Maine

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This minor allows students with basic science degrees to have some training in food science and to be more competitive in the job market. It may be of interest to science or business majors who wish to seek employment in the food industry or with government agencies associated with food. Food companies will hire graduates with degrees in basic sciences and engineering.
Completion of the Food Science minor does not satisfy the reduced professional time required to sit for the Certified Food Scientist examination. A person with a B.S. degree in Food Science or the Food Science concentration may take the CFS exam after 3 years of professional employment; persons with a bachelor's degree in a related science may not take the exam until 6 years of employment in food science. The certification examination covers product development, quality assurance and control, food engineering, food chemistry and food analysis, food law, food microbiology, food safety, food engineering and sensory evaluation and consumer testing. This breadth of knowledge is not possible with this minor.

Please note:

- Be sure to consider the prerequisites for the courses below when planning for this minor.
- No more than 3 credits of FSN 396 Field Experience in Food Science and Human Nutrition may be counted towards the 18-credit total.
- No more than 3 credits of FSN 397 Independent Study in Food Science and Human Nutrition may be counted towards the 18-credit total.
- Seniors may take the 500-level graduate classes, if they meet the prerequisite.
- Some of the courses below may be offered in alternate years. Be sure to check the course descriptions in the online Undergraduate Catalog.

Forest Ecosystem Science Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18

GPA requirements to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: None
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: William H. Livingston, Associate Professor of Forest Resources, 219 Nutting Hall, 581-2805, williaml@maine.edu

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Students minoring in Forest Ecosystems Science must be assigned an advisor from the School of Forest Resources faculty.

Forest Products Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 19
GPA requirements to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: None
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: William H. Livingston, Associate Professor of Forest Resources, 219 Nutting Hall, 581-2805, WilliamL@maine.edu

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Students minoring in Forest Products must be assigned an academic advisor from the faculty of Wood Science and Technology in the School of Forest Resources and must obtain that advisor's signature when registering for SFR courses.

Parks, Recreation and Tourism Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: None.
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: William H. Livingston, Associate Professor of Forest Resources, 219 Nutting Hall, 581-2805, williaml@maine.edu

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Students minoring in Parks, Recreation and Tourism must be assigned an advisor from the Faculty of Parks, Recreation and Tourism in the School of Forest Resources and must obtain the advisor's signature when registering for SFR courses.

Human Nutrition Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: None
Minimum Grade requirements for courses to count toward minor: C- or higher
Contact Information: Julie Milan, Director of Academic Services, 210B Rogers Hall, 581-3315, julie.milan@maine.edu
Residency Requirement: 15 of the 18 credits for this minor must be taken at the University of Maine

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This minor is intended for students in other fields of study who have an interest in obtaining a basic understanding of human nutrition. Students should choose courses that will complement their academic background and further their individual career goals.
Please note:

- Be sure to consider the prerequisites for the courses below when planning for this minor.
- The minor does not lead to credentialing in the field of dietetics without further study.
- Some of the courses below may be offered in alternate years. Be sure to check the course descriptions in the online Undergraduate Catalog.
- FSN graduate-level courses may be acceptable for the minor with permission from the Undergraduate Program Coordinator.

Microbiology Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: None
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: Robert Gundersen, Chair, Hitchner Hall Room 117, (207) 581-2802, gundersn@maine.edu
or Ed Bernard, Undergraduate Coordinator, Hitchner Hall, Room 284, (207) 581-2804, edward.bernard@maine.edu

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Molecular and Biomedical Sciences Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: A "C or better" is required in "Introduction to Molecular and Cellular Biology" (BMB 280) to continue in the required, upper-level BMB courses.
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: Melody Neely, Chair, Hitchner Hall Room 117, (207) 581-2810, melody.neely@maine.edu or Ed Bernard, Program Coordinator, Hitchner Hall Room 284 (207) 581-2804, edward.bernard@maine.edu

Neuroscience Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Neuroscience minors require a cumulative 2.0 GPA in all courses taken in the minor.
Minimum Grade requirements for courses to count toward minor: None
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: Peg Killian, Academic Advisor, School of Biology and Ecology, (207)581-2540, um.biology@maine.edu

The minor in Neuroscience is designed for students who would like to develop a basic understanding of modern neuroscience. The requirements for the minor include the courses listed below. All students must obtain a minimum GPA of 2.0 in the minor. Students majoring in Biology, Botany, or Zoology must include 12 PSY course credits from the list below. Students majoring in Psychology must include 12 BIO credits from the list below. Students majoring in other fields must include at least 9 hours of BIO and 9 hours of PSY course credits from the list below. Introductory Chemistry is strongly advised.

Pre-Medical Studies Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 43
GPA requirements to earn minor: Pre-Medical minors require a cumulative 2.0 GPA in all courses taken in the minor.
Minimum grade requirements for courses to count toward minor: None
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: Peg Killian, Academic Advisor, School of Biology and Ecology, 100 Murray Hall, (207)581-2540, um.biology@maine.edu

The courses outlined below meet the entrance requirements of the majority of professional schools and colleges offering post-baccalaureate programs in the health professions. Students should plan these courses in addition to the specific requirements of their academic major. The Health Professions Career Counselor in the Career Center can help students research the admission

requirements of specific schools.
Students in majors with extensive overlap with the minor in Pre-medical Studies are not eligible for this minor. These majors include, but are not limited to, Animal and Veterinary Sciences (Pre-Veterinary Concentration), Biochemistry, Bioengineering, Biology, Chemical Engineering, Food Science and Human Nutrition (Food Science Concentration), Microbiology, Molecular and Cellular Biology, and Zoology.

Resource and Agribusiness Management Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: None
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: School of Economics, 206 Winslow Hall, (207) 581-3150

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Soil Science Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: None
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: Kate Ruskin, Program Coordinator, 111 Bryand Global Science Center, (207) 581-3177, katharine.ruskin@maine.edu

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This minor is designed to provide students with a basic understanding of soil science that goes beyond the basic soil science course required for most natural resource and environmental science disciplines. The focus of the minor is to add depth to the student's understanding of the role of soils in supporting ecosystem services essential for society and the sustainability of our planet. The required courses build depth in the physical, biological and chemical form and function of soils, and elective courses allow the student to design their soil science minor curriculum to best address their disciplinary interests. It can be useful across a range of natural resource sectors including agriculture, horticulture, forestry, wetland ecology, and environmental science.

Please Note:
• PSE 440 - Environmental Soil Chemistry and Plant Nutrition is offered Spring - even years.

Sustainable Agriculture Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 22
GPA requirements to earn minor: None
Minimum Grade requirements for courses to count toward minor: C- or higher is required for EES 140 /EES 141 and all PSE courses
Contact Information: Julie Milan, Director of Academic Services, 210B Rogers Hall, 581-3315, julie.milan@maine.edu
Residency Requirement: The 15 credits of required courses must be taken at the University of Maine

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This minor provides students foundational introductory content related to plant and soil science, and an overview of modern agricultural production systems, focusing on environmental and economic sustainability. Advanced coursework encourages more in depth study in selected areas of production and food systems.

Please note:

- Be sure to consider the prerequisites for the courses below when planning for this minor.
- The following courses are not acceptable course choices toward the minor for Environmental Horticulture majors: PSE 403 and PSE 415 .
- Some of the courses below may be offered in alternate years. Be sure to check the course descriptions in the online Undergraduate Catalog.

Zoology Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 22
GPA requirements to earn minor: Zoology minors require a cumulative 2.0 GPA in all courses taken in the minor.
Minimum grade requirements for courses to count toward minor: Zoology minors must have a "C" or better in BIO 100 /BIO 117 and BIO 200 /BIO 118 and BIO 119
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: Peg Killian, Academic Advisor, School of Biology and Ecology (UMaine), (207)581-2540, um.biology@maine.edu; Eric Jones: Chair, Division of Integrative and Marine Sciences (UMM), 125 Science; (207) 255-1267; eric.jones1@maine.edu

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The minor in Zoology is designed for students in other fields who would like to develop a basic understanding of modern animal biology. Students must complete a minimum of 12 credits for this minor with courses that are not otherwise used to fulfill a requirement for their major, another minor, or a concentration. For a Biology or Botany majors, a total of 39 credits from the BIO areas are necessary to fill the requirements of both the major and the Zoology minor, and must include the labs, capstone, and plant and animal requirements of the major as well as the specific requirements of the Zoology minor. Overlap for these requirements is acceptable as long as the BIO area credit total is 39. The requirements for the minor in Zoology include the courses listed below. Students must obtain a minimum grade of C in BIO 100 or BIO 117 and BIO 200 or BIO 118 and BIO 119 , and a minimum GPA for the minor of 2.0.

Nursing

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 121
Minimum Cumulative GPA required to graduate: 3.0
Minimum Grade requirements for courses to count toward major: Pre-requisite and General Education courses must be passed with a minimum grade of "C" or better. All Nursing courses (NUR) must be passed at a minimum level of 77% to be given a passing grade of "C."
Other GPA requirements to graduate: This includes BIO 100 , BIO 208 , BMB 207 /BMB 209 or CHY 121 /CHY 123 , and BMB 240 /BMB 241 or BMB 300 / BMB 305 .
Required Course(s) for fulfilling Capstone Experience: NUR 455
Contact Information: Dr. Mary Tedesco-Schneck, Interim Director, 5724 Dunn Hall, 207-581-3427

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The School of Nursing baccalaureate curriculum provides study in the nursing major as well as in liberal arts, and sciences. The

goal of this program is to prepare a professional generalist practitioner of nursing who can assist individuals, families and groups to achieve and maintain optimal health. The program provides a foundation for lifelong intellectual and professional development. Upon completion of the program, graduates are qualified to take the Registered Nurse licensing exam (NCLEX-RN). The baccalaureate nursing program is accredited by the Commission on Collegiate Nursing Education (CCNE) and approved by the Maine State Board of Nursing.

The practice of professional nursing demands a substantial knowledge of the social, behavioral and biological sciences as a theoretical base. During the first two years of the program, students take courses from a variety of disciplines, thus contributing to the development of the broadly educated professional nurse. Nursing courses, which begin in the second semester, focus on health promotion and disease prevention through the lifespan, preparing students to provide evidence-based, safe, effective nursing care in a variety of settings.

The University of Maine School of Nursing faculty are highly capable educators, clinicians, and scholars. Through their mentorship, students learn not only the skills to be a nurse, but also what it means to be a member of the profession with its inherent responsibilities for safe, ethical practice.

Nursing majors are required to have a health examination and certain immunizations completed with a report on file at the School of Nursing before enrolling in clinical courses. In addition, cardiopulmonary resuscitation (CPR) for professional rescuers must be documented. Nursing majors must purchase jackets in the first semester of the program. They also must purchase uniforms before entry to NUR 201, the first clinical setting. Because clinical learning experiences take place in a variety of settings and locales, it is the student's responsibility to provide transportation to sophomore, junior and senior clinical experiences. Clinical experiences may be Professional liability and health insurance is strongly recommended for all nursing students.

Prior to beginning the first clinical course and before the start of the 4th semester in a hospital or other healthcare agency, all students are required to undergo a criminal background check (CBC) to enhance patient safety and protection. This is a requirement placed on the healthcare agencies by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO). Criminal background checks (CBC) are conducted by a private company approved or licensed to perform this service. Students are responsible for initiating the procedure to obtain the background check and assume all costs. A student whose CBC reveals concerns may be denied clinical placement by the assigned healthcare facility. Areas of concern may include any felony, crimes against individuals (assault, battery, sexual assault, and other related crimes), crimes involving theft, crimes involving drugs, and misdemeanors that could compromise the care and safety of patients. The healthcare agency makes the determination of the student's suitability for clinical placement.

The School of Nursing has contracted with Kaplan Integrated Testing and NCLEX-RN Review to provide UMaine nursing students with access to resources that support success in nursing school. Kaplan Integrated testing is embedded into NUR courses. Students also gain access to a comprehensive NCLEX-RN course and practice questions at the end of the program. The total cost of the product for 8 semesters of use is $660. Starting in fall 2020, students will receive a Kaplan fee based on the schedule posted below.

RN Cohorts scheduled to graduate in 8 semesters: $82.50 per semester
RN Cohorts scheduled to graduate in 7 semesters: $94.29 per semester
RN Cohorts scheduled to graduate in 6 semesters: $110.00 per semester
RN Cohorts scheduled to graduate in 5 semesters $132.00 per semester
RN Cohorts scheduled to graduate in 4 semesters $165.00 per semester

In addition to purchasing course textbooks, students are required to buy lab kits for NUR 106 , NUR 200 and NUR 302 ; the lab kits are available in the UMaine bookstore. Course fee: Course fee of $50.00 per credit hour is assessed on clinical and lab nursing courses. Additional labs costs may be required for each lab course.

The School of Nursing hosts a recognition ceremony on campus for graduating seniors each May and December. The cost of the event is paid for by the graduating class through fundraising and generous donors. Cost varies according to the scope and detail of the plans, and average approximately $2000.00. Graduating seniors may wish to purchase the UMaine School of Nursing pin. The cost of the ceremony and the pin vary each year; students will be informed of current costs as they enter their final semester.

Students accepted in the nursing program must maintain a minimum science GPA of 3.0 and a cumulative GPA of 3.0 in order to progress to 200- and 300-level nursing courses. Once matriculated, students must take prerequisites and nursing courses from The University of Maine, unless students are part of the University of Maine at Machias and UMaine Nursing Pathway. Nursing students must earn a minimum grade of "C" in all nursing courses. A student who earns a grade lower than "C" in any required course in the nursing program may repeat that course one time only. A grade of less than "C" in a second nursing course will result in dismissal from the nursing program. Nursing (NUR) courses are sequential and must be passed with a grade of "C" before progression to the next NUR courses. Refer to the School of Nursing Undergraduatt Student Handbook for additional grading and progression policies.

Nursing transfer students:

Internal transfer: In order to be considered for admission by internal transfer to the School of Nursing program, applicants must

have completed (or be in-progress at the time of submitting an application) with the following courses:BIO 100 , BIO 208 or FSN 101 , BMB 207 , BMB 209 , andENG 101 . A grade of 77.0% (C) or higher in each course is required for admission. Please see our website for more details.

A minimum of a 3.0 science grade point average and a cumulative GPA of 3.0 are required at the time of applying. All prerequisites of the course must have a "C" or better. Students may have no more than 2 repeated STEM courses (this includes withdrawal on their transcript(s).) Students complete the courses that are listed as prerequisites prior to applying to ensure an accurate GPA for cumulative and science. Students are also required to submit an essay. Please refer to the Essay Prompts for submitting a required essay.

Students interested in the nursing major can find more information on how to apply on the School of Nursing web page. Due to a high degree of interest in the program, the process is competitive and students with the highest likelihood of success in the program are selected. Academic performance is demonstrated by the GPA; motivation, maturity, and values essential to the professional role which are assessed via the essay. Writing ability is also a consideration. Preference will be given to students who demonstrate that they will be on track toward a timely December graduation.

External transfer: Transfer Nursing applicants are required to submit official transcripts from all colleges and universities they have attended. Applicants with less than 60 transferable college credits must also submit their final High School transcript. Prior to applying, applicants must have completed the following courses, with a grade of C (77% equivalent) or better, that have been evaluated as transfer equivalents for the following UMaine courses.

- BIO 100 - Basic Biology - 4 credits
- *BMB 207 - Fundamentals of Chemistry - 3 credits
- *BMB 209 - Fundamentals of Chemistry Laboratory - 1 credit
- BIO 208 - Anatomy and Physiology - 4 credits or FFSN 101 - Introduction to Food and Nutrition - 3 credits
- ENG 101 - College Composition - 3 credits

*Please note that CHY 121 and CHY 123 can be used in place of BMB 207 /BMB 209 .

Prerequisite courses are preferred to have been completed within 5 years of application to the Nursing program. After 5 years, it is at the discretion of the School of Nursing whether to accept the pre-requisite courses. Nursing applicants will be considered ineligible to apply if they have more than 2 repeated Science, Technology, Engineering or Mathematics (STEM) courses, including withdrawals or if they have attended more than one prior Nursing program and did not meet the Nursing Program's benchmarks for progression. To apply as an external transfer student, please visith the UMaine Admissions page here. Please refer to the Essay Prompts for submitting a required essay.

International Students: If the international student is a first-year prospective student, their application will follow the traditional UMaine holistic admissions process through the Admissions Department page. Please refer to the First Year Nursing Application and Essay Prompts for instructions on how to apply.

- All international students are required to complete an English Proficiency Test to be uploaded with their application.
- Prospective students may take either of these three tests and will be accepted along with their application.
- Duolingo Cumulative Score 115
- TOEFL 82 - 86
- IELTS 6.0

Due to the constraints of clinical placements, entry into nursing classes as either an internal or external transfer student may be delayed to the next available semester. When admitted, students will be told the semester and year for their entry into nursing courses. If a student accepts admission, the time of entry will be guaranteed. Students who have completed all prerequisite courses will be given preference for earlier placement if clinical space is available. Any interruption in the planned program of study may result in delayed placement or dismissal. A student's program of study for the nursing major will reflect the curriculum and policies in place at the time of the start of nursing courses, not the time of initial admission. Students will be given the most recent School of Nursing Handbook at the time of admission but are responsible to check the on-line version for changes in policies and curriculum.

Pinning

The pinning ceremony is a celebration of our graduating BSN students that is separate from commencement. Students may choose to purchase a University of Maine School of Nursing pin that is emblematic of the program. The cost of the pin varies based on the market values of gold and silver but typically ranges from $60-$150 depending on which precious metal and customization a student selects. Participation in the pinning ceremony is encouraged but is not mandatory. Students who choose to participate are charged a $40 fee to cover the cost of facility rental and programs. Each graduating cohort has the opportunity to fundraise as a means of offsetting the cost to students.

Differential Tuition

A small differential tuition fee per semester is applied to matriculated nursing student's bills to cover clinical, laboratory, national licensure preparation, and simulation costs. Differential tuition replaces numerous program, course, and laboratory fees. For more information, see costs at UMaine page https://umaine.edu/stuaid/aid-basics/costs-at-umaine/

For more information go to the following website: https://umaine.edu/nursing/undergraduate/admissions/

Parks, Recreation and Tourism

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: Students must earn a minimum grade of "C-" in all required courses having the SFR designator
Other GPA requirements to graduate: None.
Required Course(s) for fulfilling Capstone Experience: SFR 491 , SFR 492 , or SFR 493
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: Candice Goyette, Student Academic Services Coordinator, 201B Nutting Hall, 581-4737, candice.goyette@maine.edu

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Outdoor recreation is one of the world's most diverse and fastest -growing industries. It is often intertwined within another worldwide growth industry, tourism.

The Parks, Recreation and Tourism (PRT) program and its concentrations are designed to provide students with training that will qualify them to work in a variety of work settings such as parks and protected natural areas, the public and private tourism sectors, nonprofit environmental organizations, conservation law enforcement agencies, as well as state and federal natural resource agencies. The PRT program emphasis on the integration of natural, social, and management sciences reflecting the interdisciplinary context in which recreation, tourism, natural resource planning, and environmental concerns are addressed.

Students interested in the study of Parks, Recreation and Tourism will find the program ideally situated in Orono, Maine, where you have easy access to the rocky coasts, and western mountains, to Acadia National Park, and Baxter State Park, to the Appalachian Trail, and to Maine's nature-based tourism community. Visits to these sites afford students unique and exciting opportunities to observe and participate in on-going operations relevant to the profession. We frequently have guest lectures from the public sector and commercial recreational enterprises to acquaint students with the diversity of professional management issues and practices.

Our faculty, both full-time and cooperating, are unique in their extensive experience in the field as well as their national and international reputations. A wide array of academic experiences is available to students for enhancing education and employability including field experiences, study abroad programs, and working on research projects. Field experiences are readily available in the region through many summer intern and cooperative education opportunities for valuable on-the-job-training experiences.

Small class sizes ensure student/professor interaction and a more personal learning experience. A faculty advisor works closely with students to assist in choosing a program of study, providing career counseling, and in providing a better understanding of the profession.

As with all programs in the School of Forest Resources, the PRT curriculum provides students with a solid grounding in natural resource management training.

Bachelor of Science in Parks, Recreation and Tourism

The program emphasizes the integration of natural and social sciences as an interdisciplinary context in which complex recreation, tourism, natural resource management, and environmental concerns must be addressed.

Parks, Recreation and Tourism is part of the School of Forest Resources which has the largest scholarship endowment fund on campus for an academic unit. These funds are available to help support academic studies in Forest Resources.

Under the New England Regional Student Program, administered through the New England Board of Higher Education, the Bachelor of Science degree in Parks, Recreation and Tourism is open to applicants who reside in Connecticut, Massachusetts, or Rhode Island for reduced tuition.

Social Work

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: Grade of C or better in required Social Work courses. Grade of C- or better in required prerequisite courses.
Other GPA requirements to graduate: None.
Required Course(s) for fulfilling Capstone Experience: 12 credits of SWK 495 over 2 semesters
Contact Information: Kelly Jaksa, Program Coordinator, Dunn Hall Room 430, 581-2405

The social work major is designed to prepare students for beginning-level generalist professional social work practice in a broad range of social work settings. The program is accredited by the Council on Social Work Education. Completion of the Bachelor of Science in Social Work qualifies graduates to sit for the Licensed Social Worker examination in the State of Maine and in many other states.
Social workers help people cope with complex interpersonal and social problems, obtain the resources they need to live with dignity, and work for the social changes necessary to make society more responsive to people's needs. Based on a strong liberal arts foundation, social work majors acquire the knowledge, skills and values necessary for the professional practice of social work. Graduates of the program are employed in public and voluntary social agencies in settings such as child and adult protective services, hospitals, mental health centers, schools, correctional institutions, nursing homes and many others. Bachelor of Science in Social Work graduates are eligible to apply for Advanced Standing in many graduate programs in social work. Advanced standing gives graduate course credit for work completed in the undergraduate social work program, thus shortening the time needed to complete the requirements for the Master of Social Work degree.
The undergraduate curriculum in Social Work builds upon a solid liberal arts foundation with courses in human behavior and the social environment, social welfare policies and issues, social work research, social work practice and Internship instruction. During the junior and senior years, students complete internships in programs such as child protective services, medical social work, school social work, social work with older adults, community mental health services, and community organization. Sequencing of courses which are a prerequisite for enrollment into the Junior Year Internship Experience is important.

Requirements:

The School of Social Work requires a 2.0 overall GPA.

Sustainable Agriculture

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: C- or higher is required for EES 140 /EES 141 and all required PSE courses.
Other GPA requirements to graduate: None.
Required Course(s) for fulfilling Capstone Experience: PSE 430
Contact Information: Bryan Peterson, School of Food and Agriculture Director, 201A Rogers Hall, (207)581-2918,

bryan.j.peterson@maine.edu

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The Bachelor of Science in Sustainable Agriculture, offered by the School of Food and Agriculture, is built upon fundamental knowledge of ecological and biological systems as applied to agricultural production. The program is designed for students interested in working in the growing field of ecologically-based agriculture in areas of production, research, and education. The BS degree in Sustainable Agriculture can also be used as preparation for postgraduate study in a variety of disciplines.
The Sustainable Agriculture degree program emphasizes how to build soil health and fertility through rotations, multiple cropping, and nutrient recycling; how to protect water quality and human health by decreasing the need to use synthetic agrochemicals; how to manage crop pests and livestock diseases with integrated, ecologically sound strategies; and how to create profitable, agricultural systems that are stable through market and weather fluctuations.

BS in Sustainable Agriculture (120 credits)

Required Plant, Soil, and Environmental Science Courses (48 credits)

Science and Mathematics Courses (35 credits)

Economic Courses (3 credits)

English/Communication Courses (9 credits)

Human Values and Social Context Courses (9 credits)

Ethics Course (3 credits)

ELH 117 - First-Year Success Seminar (1 credit) (Waived for Transfer Students)

General Elective Courses (12 credits)

Program Requirements

Courses are arranged in the recommended sequence. Each semester serves as a prerequisite for the following semester. PSE courses with a grade below a C- will not count towards graduation credits. Students who wish to transfer into the undergraduate program in Sustainable Agriculture from other programs or institutions must have a 2.0 grade point average or above.

Wildlife Ecology

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: Grade of C or better in MAT 122 or MAT 116 , or a C- in MAT 126 , and Grade of C- in WLE 200 and WLE 201 or SMS 300 or BIO 219 needed to progress to WLE 220 . Grade of C- or better in WLE 220 to progress to WLE 250 .
Other GPA requirements to graduate: None
Required Course(s) for fulfilling Capstone Experience: Complete one of the following courses meeting general education requirements for a Capstone course: WLE 455 (Wildlife Habitat Evaluation, must be taken concurrently to WLE 450), WLE 457 (Ecology and Management of Game Birds), or HON 499 (Honors Thesis Research).
or
Students may enroll in 3 credits of WLE 490 (Special Problems) with a faculty mentor and complete an independent research project. The requirements of the independent study (e.g. written paper, presentations) should be agreed upon between the student and faculty mentor, and approval from the student's academic advisor and undergraduate coordinator should be secured during the semester prior to the capstone being completed (e.g. during fall semester for a spring graduation). With this alternative, a degree exception form will need to be completed and submitted by the student's academic adviser.
Contact Information: Lindsay C. N. Seward, Undergraduate Coordinator, 238 Nutting Hall, (207) 581-2847, wildeco@maine.edu

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The Department of Wildlife, Fisheries, and Conservation Biology offers an education with an emphasis on basic sciences and principles of wildlife ecology and resource management, with the goal for students to develop responsible citizenship and a sound training as a professional wildlife biologist, a professional fisheries biologist, or a conservation biologist. A minor in Fisheries is available to non-majors interested in a fisheries career. Students are exposed to wildlife issues in a diversity of ecological systems, in national parks, wildlife refuges, state management areas, and on private land. Maine offers diverse opportunities to

study wildlife in a variety of natural environments ranging from the coast with its sea birds, marine mammals and eagles, to the more mountainous Northern Boreal Forest occupied by moose, black bears, loons, red-backed salamanders, brook trout, and salmon. Maine also has thousands of lakes and ponds and 30,000 miles of rivers and streams.
An active Wildlife Ecology graduate program, offering both M. S. and Ph.D. degrees, enables undergraduates to interact with graduate students conducting research in wildlife and fish ecology and conservation. Students have the opportunity to work with federal wildlife and fisheries biologists who are faculty in the Department and are employed through the USGS Maine Cooperative Fish and Wildlife Research Unit.
The curriculum in Wildlife Ecology is designed to train the student to adapt to the changing requirements of the Wildlife profession. The curriculum has solid science and conservation foundations, coupled with experiences in wildlife policy, human dimensions of wildlife conservation, communications, and the humanities. Students can also meet the requirements to become a Certified Wildlife Biologist or a Certified Fisheries Biologist through the professional societies associated with our discipline. The curriculum for the B.S. degree in Wildlife Ecology plus a concentration in Fisheries allows students to meet certification requirements of the American Fisheries Society. The Wildlife Ecology curriculum plus a concentration in Wildlife Science and Management qualifies students to meet professional certification requirements of The Wildlife Society.

Requirements for BS in Wildlife Ecology
Graduates must complete 120 credits including:

1. Satisfy general education requirements.
2. Complete all courses listed in the curriculum for the B.S. in Wildlife Ecology.
3. Complete a Concentration or an alternative approved area of specialization (see below)

Requirements for internal transfer students to Wildlife Ecology
For internal transfer students from other academic programs at UMaine, students must have a minimum of a 2.5 cumulative GPA and demonstrated success of a "C" or better in BIO 100 and a "C" or better in MAT 122 or MAT 116 , or a C- in MAT 126 .
Also Recommended
Field Experience in the profession, either through a paid or volunteer position or internship.

Communication Sciences and Disorders Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: None.

Minimum Grade requirements for courses to count toward minor: Students must earn a minimum of "C" in each course applied to the minor.

Contact Information: 5724 Dunn Hall, Orono, ME 04469, 581-2403

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The Department of Communication Sciences and Disorders offers an undergraduate minor. The opportunity to complete minor studies in CSD may appeal to students majoring in English, Education, Biology, Human Development, Music, Anthropology, Foreign Languages, Theatre, Social Work, Nursing, and other disciplines. In addition to providing students with the opportunity to engage in concentrated study in the field of Communication Sciences and Disorders, a minor in CSD may provide the student with the necessary coursework to pursue graduate study in the fields of speech-language pathology and/or audiology.
For specific current contact information, please contact the department office at 581-2403.

Renewable Energy Economics and Policy Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18

GPA requirements to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: None
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: School of Economics, Room 206 Winslow Hall, (207)581-3150

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The Renewable Energy Economics and Policy minor provides students an introduction to the wide-ranging issues concerning the production, distribution, consumption, and impacts of energy. This program complements degree programs in the social sciences, engineering, and humanities. At minimum, the minor includes 18 credit hours of coursework, 9 of which are required core courses.

Equine Studies Certificate

OVERVIEW OF REQUIREMENTS

Minimum number of credits required to earn certificate: 12
Minimum Cumulative GPA required to earn certificate: 2.5
Minimum Grade requirements for courses to count toward certificate: None.
Other GPA requirements to earn certificate: None.
Contact Information: Robert Causey, Associate Professor of Animal and Veterinary Sciences, 207 Rogers Hall, (207) 922-7475, rcausey@maine.edu

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The Certificate in Equine Studies is designed for individuals from various backgrounds who wish to improve their knowledge of equine management and reproduction. The program is designed to cater to the needs of each individual, from beginners with no horse experience, to equine professionals who wish to strengthen their equine credentials.
Currently there is no program providing further education about equine management and reproduction available to the horse-owning public in Maine. As a result of this lack of information, horses, and their owners, frequently suffer unnecessary economic and physical hardship. The University of Maine now has the expertise available to correct this deficiency by offering this Certificate in Equine Studies through Animal and Veterinary Sciences and the Division of Lifelong Learning.

Sustainable Food Systems Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 21
GPA requirements to earn minor: None
Minimum Grade requirements for courses to count toward minor: C- or higher is required for all PSE courses
Contact Information: Julie Milan, Director of Academic Services, 210B Rogers Hall, 581-3315, julie.milan@maine.edu
Residency Requirement: The 9 credits of required courses and 6 of the elective credits must be taken at the University of Maine

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This minor provides students with an understanding of the sustainability of U.S. and global food systems, including factors such as production, processing, safety, distribution, and consumption of food. It complements degree programs in natural and social science, as well as business.

Please note:

- Be sure to consider the prerequisites for the courses below when planning for this minor.
- This minor is not an option for Sustainable Agriculture majors.
- No more than 9 total credits may be from 100-level classes.
- Some of the courses below may be offered in alternate years. Be sure to check the course descriptions in the online Undergraduate Catalog.

Biochemistry

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: A C or higher is required in BMB 280 .
Other GPA requirements to graduate: A minimum cumulative GPA of 2.0 for all required BMB courses and science electives.
Required Course(s) for fulfilling Capstone Experience: BMB 491
Contact Information: Melody Neely, Chair, Hitchner Hall Room 360, (207) 581-1513, melody.neely@maine.edu or Ed Bernard, Undergraduate Coordinator, Hitchner Hall, Room 284, (207) 581-2804, edward.bernard@maine.edu

The Department of Molecular and Biomedical Sciences offers a Bachelor of Science (BS) degree program in Biochemistry. The program is designed to provide the student with a broad background in the biological and physical sciences and an opportunity for in depth concentration in biochemistry, one of the most active disciplines in the biological sciences.

Departmental Requirements:
Cumulative grade point average of 2.0 in the major and a minimum grade of C in BMB 280 .

Hands-on Experience:
An important aspect of the Biochemistry undergraduate program is the requirement for hands-on experience in the laboratory. Laboratory courses are offered in fundamental aspects of biochemistry and microbiology as well as specialized topics such as recombinant DNA techniques, virology, cell culture, immunology, pathogenic microbiology and microbial genetics. Laboratory courses in these topics are not generally available at smaller institutions without graduate and research programs or at many larger research universities where student numbers are too large to accommodate numerous laboratory courses in such specialized areas. At the University of Maine, however, we are large enough to have faculty with expertise in most sub disciplines but small enough in terms of students to be able to provide a wide variety of laboratory courses. We also take pride in the fact that all of our advanced laboratory courses are taught by professors, not by graduate students or part-time instructors. We believe strongly that such close interactions between students and faculty in small groups typical of most laboratory courses are important and mutually beneficial to the student and the faculty. Because the Department also offers M.S. and Ph.D. programs in the areas of biochemistry, microbiology, and molecular and cellular biology, we provide a variety of opportunities for undergraduate students to engage in independent study and research with individual faculty. In fact, we believe that this is one of the most important aspects of our undergraduate programs. In the required senior year research course, you will be part of a research team of faculty, postdoctoral research associates, technicians, and graduate and undergraduate students who are actively engaged in ongoing research projects that are both publicly and privately funded. Opportunities to earn academic credits while working off-campus in industry, hospitals, and research institutes also exist.

Facilities:
The departmental facilities for teaching and research are located in Hitchner Hall. The building

contains a modern facility for teaching and research in biochemistry, including specialized equipment and laboratories for teaching molecular biology, virology, pathogenic microbiology, and animal cell culture. The University's Automated DNA Sequencing Facility and the department's Zebrafish Facility are also located in Hitchner Hall. Close proximity to research laboratories enables students to participate in independent study and undergraduate research projects using state-of-the-art equipment and methods.

Career Opportunities:

Rewarding career opportunities for biochemists are exceptionally numerous and varied. A career in biochemistry is not just a job, but an opportunity to explore new phenomena, participate at the frontiers of the most actively expanding areas of science today, and make significant contributions to human beings, our society and our world. Biochemistry is at the core of the rapidly expanding fields of biotechnology, molecular biology and the allied health professions. Graduates of this program work in: public health laboratories, medical, dental, veterinary, and university research laboratories; pharmaceutical, food, and chemical industries; environmental research and monitoring laboratories; colleges and universities; and a variety of existing as well as emerging genetic engineering and biotechnology industries.

Health Professions:

Majoring in biochemistry provides an ideal preparation for further study in medical, dental, veterinary and other health-related professional schools. Students interested in these careers are encouraged to register with the Health Professions Office in their first year. The office provides information and assistance in selecting proper supporting courses and the application process.

Biochemistry

Biochemistry is concerned with the study of all living systems at the cellular and molecular level and is, therefore, fundamental to all life sciences. The field is broad in its disciplinary subjects and applications. It emphasizes the use of chemistry and other physical sciences to understand basic life processes and the products of such processes. In addition to traditional study of the structure and function of biological molecules and understanding of metabolism, the field has come to encompass aspects of molecular biology, molecular genetics, and many areas of biotechnology. It forms a major component of modern medical research and practice, bioengineering and contemporary agriculture and environmental research.

Pre-Pharmacy Concentration

This degree includes an undergraduate concentration in Pre-Pharmacy. This concentration is recommended for students who intend to pursue an advanced degree program in Pharmacy or Pharmaceutical Sciences. Pharmacy programs accredited by the Accreditation Council for Pharmacy Education (ACPE) have competitive admissions processes and require substantial specialized disciplinary coursework for applicants to be considered. Most of these programs require a minimum GPA of 3.0 and a preferred GPA of greater than 3.5. Completing coursework at the University of Maine does not guarantee admission in any Doctor of Pharmacy degree programs.

Microbiology

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0.
Minimum Grade requirements for courses to count toward major: For the Microbiology major, a "C or better" is required in "Introduction to Molecular and Cellular Biology" (BMB 280) to continue in the required, upper-level BMB courses.
Other GPA requirements to graduate: The Microbiology major requires a minimum GPA of 2.0 in all required BMB courses and science electives.
Required Course(s) for fulfilling Capstone Experience: BMB 491
Contact Information: Melody Neely, Chair, Hitchner Hall Room 360, (207) 581-1513, melody.neely@maine.edu or Ed Bernard, Undergraduate Coordinator, Hitchner Hall, Room 284, (207) 581-2804, edward.bernard@maine.edu

The Microbiology program is designed to provide the student with a broad background in the biological and physical sciences and an opportunity for in depth concentration in one of the most active disciplines in the biological sciences.
Departmental Requirements:
Cumulative grade point average of 2.0 in the major and a minimum grade of C in BMB 280 .
Hands-on Experience:
An important aspect of the Microbiology program is the requirement for hands-on experience in the laboratory. Laboratory courses are offered in fundamental aspects of biochemistry and microbiology as well as specialized topics such as recombinant DNA techniques, virology, cell culture, immunology, pathogenic microbiology and microbial genetics. Laboratory courses in these topics are not generally available at smaller institutions without graduate and research programs or at many larger research universities where student numbers are too large to accommodate numerous laboratory courses in such specialized areas. At the University of Maine, however, we are large enough to have faculty with expertise in most sub disciplines but small enough in terms of students to be able to provide a wide variety of laboratory courses. We also take pride in the fact that all of our advanced laboratory courses are taught by professors, not by graduate students or part-time instructors. We believe strongly that such close interactions between students and faculty in small groups typical of most laboratory courses are important and mutually beneficial to the student and the faculty. Because the Department also offers M.S. and Ph.D. programs in the areas of biochemistry, microbiology, and molecular and cellular biology, we provide a variety of opportunities for undergraduate students to engage in independent study and research with individual faculty. In fact, we believe that this is one of the most important aspects of our undergraduate programs. In the required senior year research course, you will be part of a research team of faculty, postdoctoral research associates, technicians, and graduate and undergraduate students who are actively engaged in ongoing research projects that are both publicly and privately funded. Opportunities to earn academic credits while working off-campus in industry, hospitals, and research institutes also exist.
Facilities:
The departmental facilities for teaching and research are located in Hitchner Hall. The building contains a modern facility for teaching and research in microbiology, including specialized equipment and laboratories for teaching molecular biology, virology, pathogenic microbiology, and animal cell culture. The University's Automated DNA Sequencing Facility and the department's Zebrafish Facility are located in Hitchner Hall. Close proximity to research laboratories enables students to participate in independent study and undergraduate research projects using state-of-the-art equipment and methods.
Career Opportunities:
Rewarding career opportunities for microbiologists are exceptionally numerous and varied. A career in Microbiology is not just a job, but an opportunity to explore new phenomena, participate at the frontiers of the most actively expanding areas of science today, and make significant contributions to human beings, our society and our world. These disciplines are at the core of the rapidly expanding fields of biotechnology, molecular biology and the allied health professions. Graduates of these programs work in: public health laboratories, medical, dental, veterinary, and university research laboratories; pharmaceutical, food, and chemical industries; environmental research and monitoring laboratories; colleges and universities; and a variety of existing as well as emerging genetic engineering and biotechnology industries.
Health Professions:
Majoring in microbiology provides an ideal preparation for further study in medical, dental, veterinary and other health-related

professional schools. Students interested in these careers should register with the Health Professions Office in their first year, which provides information and assistance in selecting proper supporting courses and the application process.

Accelerated UM/UNECOM Binary Degree Program with a B.S. in Microbiology

The University of Maine and the University of New England College of Osteopathic Medicine (UNECOM) cooperate to offer an Accelerated Binary Degree Program (3+4 program), which allows qualifying students majoring in Microbiology at UMaine to be admitted to the College of Osteopathic Medicine at UNE after three years at UMaine rather than the customary four. Upon successful completion of the first year of medical school at UNE, students participating in this program will receive a bachelor's degree in Microbiology from UMaine. The intent of this program is to facilitate an increase in the number of primary care physicians practicing in the State of Maine. This agreement is specifically between the University of Maine and the University of New England College of Osteopathic Medicine. Consult the Health Professions Office for qualifications and curriculum requirements.

Microbiology

Microbiology is the study of microscopic forms of life such as bacteria and viruses and the immune response to these microorganisms. It is a broad, multidisciplinary field using techniques of genetics, chemistry, biochemistry, physiology, ecology, and pathology to study the biology of microorganisms from gene expression at the molecular level to the composition of populations of microorganisms. Exciting discoveries involving microorganisms have important and far-reaching implications for biotechnology, molecular biology, medicine, public health and the environment. AIDS and other important diseases present new and exciting challenges for microbiologists in the public health field. Advances in recombinant DNA technology, immunology, and the ability to manipulate the biology of microbial cells have revolutionized science and thrust microbiology into the center of the rapidly expanding arena of biotechnology.

Botany

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: A C or higher is required in BIO 100 and BIO 200 .
Other GPA requirements to graduate: A minimum cumulative GPA of 2.0 in all courses in Biological Sciences Areas, affiliated science, and math courses combined.
Required Course(s) for fulfilling Capstone Experience: BIO 388 or BIO 392 or BIO 402 or BIO 439 or BIO 463 or BIO 476 or HON 498 & HON 499 * or both BIO 480 and BIO 483 For specific requirements see the curricula for individual concentrations.
*The thesis topic must be in Botany and the thesis advisor should be in the School of Biology and Ecology.
Contact Information: Peg Killian, Academic Advisor, (207)581-2540, um.biology@maine.edu

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Plants are of critical importance to the world and in human society. They are sources of useful materials, such as human and animal foods, fibers, building materials, medicines, and horticultural specimens. They are major primary producers, the foundation of terrestrial ecosystems, and an essential matrix for other organisms in forests, savannas, marshes, and many other habitats. Tremendous advances in biotechnology, environmental studies, and related areas make botany an important and fascinating field of study. Graduates of our Botany program pursue various careers, depending on their interest, level of educational attainment, and subsequent professional education. Among the more typical career areas are environmental monitoring and regulation at state and federal levels, scientific research and development, education at the high-school and college levels, and private design and consulting.

The Botany major offers students many choices and allows them to tailor their programs to their interests. Students can choose from a wide range of courses covering all major areas of biology including cells and molecules, genetics, evolution, physiology, anatomy, evolution and biodiversity, and ecology. Students enrolled in the Honors College will find the program complementary to their degree studies. Each student works with an academic advisor to develop a curriculum that best meets the student's goals and allows for exploration or specialization as desired. Students in their third and fourth years of study who intend to pursue post-baccalaureate studies leading to advanced degrees are strongly encouraged to include independent research under the guidance of a faculty member in their programs. Students wishing to spend a semester studying abroad are advised to discuss this option with their
advisor early in their program.

The B.S. and B.A. degrees in Botany are offered by the School of Biology and Ecology. For information about areas of specialization and for an overview of our facilities, cooperative programs, and list of faculty in the School of Biology and Ecology,

visit sbe.umaine.edu.

Students choosing Botany as a second major are not required to complete a Botany capstone, provided the student completes a capstone for their first major.

Students majoring in Botany are not eligible for a second major in Biology or Zoology because of extensive overlap in the requirements for these degrees.

Students must complete a minimum of 12 credits originating from the University of Maine in Biological Sciences Areas I-V.

Students wishing to transfer from other institutions or from another program within the University of Maine must have completed BIO 100 with a grade of C or better, have a cumulative GPA of 2.0 or better, and a grade of C or better in MAT 111 or no grade record in MAT 111 and a score of 30 or higher on the Math Placement Exam.

Bachelor of Science or Bachelor of Arts

The School of Biology and Ecology offers both B.S. and B.A. degrees in Botany. Both degrees provide a strong background in biological sciences. They differ only in the level of chemistry, mathematics, physics, and social sciences required. The B.S. requires more in-depth study of chemistry, math, and physics, while the B.A. requires a minor or more social sciences and humanities. The B.S. provides preparation for laboratory or field scientists, while the B.A. ensures a broad liberal arts education and allows more flexibility for minors and double majors, allowing students to build career-enhancing skills.

Expertise in Botany is essential to ensure that sound science is the foundation for public policy, laws, regulations, business decisions, natural resource management, and communication about scientific ideas and issues. Educators, artists, writers, lawyers, economists, public policy makers and politicians, and business people in green industries, pharmaceuticals, biotechnology, and agribusiness greatly benefit from a strong background in science. Pairing a B.A. with a second major or minor builds strength for careers in education, communication, policy, law, or business. In addition, the critical thinking, reading, and writing skills gained through humanities and social sciences courses can significantly contribute to a career in science.

B.A. students are required to declare a minor or 2 nd major in an approved subject outside of botany or biology or zoology, or complete additional General Education requirements as noted below. B.A. students are encouraged to explore career options through the University of Maine Career Center and with their academic advisor to select a minor or 2nd major that adds breadth to the academic program by developing skills and knowledge outside of the primary major.

Concentrations in the B.S and B.A. Degree in Botany

The Ecology Concentration is open to students in either the B.S. or B.A. degree program. This concentration is intended for students interested in exposure to ecological principles within the context of a rigorous biological sciences curriculum.

The Entomology Concentration is open to students in either the B.S. or the B.A. degree program. The concentration is intended to provide students with a broad understanding of the form and function of insects, their interactions with people and society, the study of insect conservation, and management in natural and human-derived systems.

From the Ocean to Orono: an SBE Research Learning Experience

Incoming first-year students in Biology, Botany, and Zoology majors move onto campus one week early and participate in a week of activities prior to the start of the regular semester. "From the Ocean to Orono" is part of the School of Biology and Ecology's orientation and research learning experience (RLE) that helps you explore different aspects of biological sciences. The week is split evenly between activities on campus in Orono and at the Schoodic Institute, part of Acadia National Park, located on the Maine coast. Students then continue their RLE in the fall semester ELH 117 course, where they will conduct research with an SBE faculty member throughout the semester.

Adventure Semester

The School of Biology and Ecology cooperates with the UMaine Study Abroad program and CIS Abroad to offer Adventure Semester, a semester at Costa Rica's Universidad Veritas for Biology, Botany, Zoology, Ecology and Environmental Science, Wildlife Ecology, and Marine Science majors. Students have numerous course choices and will work with an advisor to select courses best suited for their interests and to complete requirements for their major. Adventure Semester is optional, and only one of many Study Abroad opportunities that work well with the Biology major.

Biology Club

Students majoring in Biology, Botany, and Zoology are encouraged to join the Biology Club, a student organization that promotes an interest in the biological sciences and in biological research with invited speakers, panel discussions, debates, trips, social functions, and service projects. The club also supports a local chapter of the national honor society, Beta Beta Beta.

Honors College

Students enrolled in the Honors College will find that the program works well with their major, replacing General Education and capstone requirements. Honors students should work with their advisor to adapt the suggested course sequences below to accommodate their Honors courses.

Zoology

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: Zoology majors must have a "C" or better in BIO 100 and BIO 200 .
Other GPA requirements to graduate: Zoology Majors require a cumulative 2.0 GPA in all courses in Biological Sciences Areas I-V, affiliated science, and math courses combined.
Required Course(s) for fulfilling Capstone Experience: BIO 388 or BIO 392 or BIO 402 or BIO 431 or BIO 438 , BIO 439 or BIO 450 or BIO 463 or BIO 476 or HON 498 and HON 499 * or BIO 480 andBIO 483 . For specific requirements, see the curricula for individual concentrations.
*The thesis topic must be in Zoology and the thesis advisor should be in the School of Biology and Ecology.
Contact Information: Peg Killian, Academic Advisor, (207)581-2540, um.biology@maine.edu

The study of zoology increases our knowledge of human and animal biology. As in other fields of biology, recent developments in environmental studies, biotechnological research techniques, medicine, and related areas make the study of zoology important and fascinating. These areas are expected to continue growing and to affect our society in many ways and at many levels. Graduates of our Zoology program pursue various careers, depending on their interest, level of educational attainment, and subsequent professional education. Among the more typical career areas are scientific research and development, human and veterinary medicine, environmental monitoring and regulation at state and federal levels, and private design and consulting.
The Zoology major offers students many choices and allows them to tailor their programs to their interests. Students can choose from a wide range of courses covering all major areas of biology, including cells and molecules, genetics, evolution, physiology, anatomy, biodiversity, ecology, and behavior. Students enrolled in the Honors College will find the program complementary to their degree studies. Each student works with an academic advisor to develop a curriculum that best meets the student's goals and allows for exploration or specialization as desired. Students in their third and fourth years of study who intend to pursue post-baccalaureate studies leading to advanced degrees, are strongly encouraged to include independent research under the guidance of a faculty member in their programs. Students wishing to spend a semester studying abroad are advised to discuss this option with their advisor early in their program.
The B.S. and B.A. degrees in Zoology are offered by the School of Biology and Ecology. For information about areas of specialization and for an overview of our facilities, cooperative programs, and list of faculty in the School of Biology and Ecology, visit https://sbe.umaine.edu.
Students choosing Zoology as a second major are not required to complete a Zoology capstone provided the student completes a capstone for their first major. Zoology is not allowable as a second major for students whose first major is Animal & Veterinary Science with Pre-Veterinary concentration because of substantial overlap between requirements.
Students majoring in Zoology are not eligible for a minor in Biology or second major in Biology or Botany because of extensive overlap in the requirements for these degrees.
Students must complete a minimum of 12 credits originating from the University of Maine in Biological Sciences Areas I-V.
Students wishing to transfer from other institutions or from another program within the University of Maine must have completed BIO 100 - Basic Biology with a grade of C or better, have a cumulative GPA of 2.0 or better, and a grade of C or better in MAT 111 or no grade record in MAT 111 and a score of 30 or higher on the Math Placement Exam.

Bachelor of Science or Bachelor of Arts

The School of Biology and Ecology offers both B.S. and B.A. degrees in Zoology. Both degrees provide a strong background in biological sciences. They have the same requirements in biological sciences and differ only in the level of chemistry, mathematics, physics, and social sciences required. The B.S. requires more in-depth study of chemistry, math, and physics while the B.A. requires a minor or more in-depth study of social sciences and humanities. The B.S. provides preparation for the health professions, while the B.A. ensures a broad liberal arts education and allows more flexibility for minors and double majors, allowing students to build career-enhancing skills.
Expertise in Zoology is essential to ensure that sound science is the foundation for public policy, laws, regulations, business decisions, natural resource management, and communication about scientific ideas and issues. Educators, artists, writers, lawyers, economists, public policy makers and politicians, and business people in green industries, pharmaceuticals,

biotechnology, and agribusiness greatly benefit from a strong background in science. Pairing a BA with a second major or minor builds strength for careers in education, communication, policy, law, or business. In addition, the critical thinking, reading, and writing skills gained through humanities and social sciences courses can significantly contribute to a career in science.
BA students are required to declare a minor or 2nd major in an approved subject outside of botany, biology, or zoology, or complete additional Core Curriculum requirements as noted below. BA students are encouraged to explore career options through the University of Maine Career Center and with their academic advisor to select a minor or 2nd major that adds breadth to the academic program by developing skills and knowledge outside of the primary major.

Concentrations in the B.S. and B.A. Degrees in Zoology

The Ecology Concentration is open to students in either the B.S. or B.A. degree program. This concentration is intended for students interested in exposure to ecological principles within the context of a rigorous biological sciences curriculum.
The Entomology Concentration is open to students in either the B.S. or the B.A. degree program. The concentration is intended to provide students with a broad understanding of the form and function of insects, their interactions with people and society, the study of insect conservation, and management in natural and human-derived systems.
The Pre-Medical Studies Concentration is open to students in the B.S. degree program only, not the B.A. This concentration is intended for students preparing for a career in medicine or one of the other health professions (dentistry, optometry, osteopathy, physician assistant, pharmacy, podiatry, veterinary medicine, and other health-related fields). Students completing this concentration will be fully prepared for advanced studies in these fields. In addition to the required science and mathematics courses, the concentration also includes Core Curriculum courses that are desired by many medical schools. The concentration allows for considerable choice in courses and provides valuable guidance to students and their advisors with regard to course selection in their major and in Core Curriculum requirements.

From the Ocean to Orono: an SBE Research Learning Experience

Incoming first-year students in Biology, Botany, and Zoology majors move onto campus one week early and participate in a week of activities prior to the start of the regular semester. "From the Ocean to Orono" is part of the School of Biology and Ecology's orientation and research learning experience (RLE) that helps you explore different aspects of biological sciences. The week is split evenly between activities on campus in Orono and at the Schoodic Institute, part of Acadia National Park, located on the Maine coast. Students then continue their RLE in the fall semester ELH 117 course, where they will conduct research with an SBE faculty member throughout the semester.

Adventure Semester

The School of Biology and Ecology cooperates with the UMaine Study Abroad program and CIS Abroad to offer *Adventure Semester*, a semester at Costa Rica's Universidad Veritas for Biology, Botany, Zoology, Ecology and Environmental Science, Wildlife Ecology, and Marine Science majors. Students have numerous course choices and will work with an advisor to select courses best suited for their interests and to complete requirements for their major. *Adventure Semester* is optional, and only one of many Study Abroad opportunities that work well with the Biology major.

Biology Club

Students majoring in Biology, Botany, and Zoology are encouraged to join the Biology Club, a student organization that promotes an interest in the biological sciences and in biological research with invited speakers, panel discussions, debates, trips, social functions, and service projects. The club also supports a local chapter of the national honor society, Beta Beta Beta.

Accelerated and Special Programs

The University of Maine and New England College of Optometry (NECO) cooperate in providing accelerated undergraduate curricula leading to consideration for early admission to the cooperating colleges. Students complete three years at the University of Maine and are awarded the B.S. in Zoology upon the successful completion of the first year curriculum at NECO. Contact the Career Center's Health Professions Career Consultant (207) 581-2587 for complete program details and a curriculum for the first three years.
Tufts University School of Medicine additionally offers a "Maine Track" MD program, in partnership with Maine Medical Center (MMC) in Portland Maine, for applicants who are interested in a unique, innovative curriculum that will offer clinical training experiences in Maine and expose medical students to the unique aspects of rural practice as well as training in a major tertiary medical center. Tufts requires "Maine Track" students to have taken the SAT or ACT prior to entering University of Maine.

Honors College

Students enrolled in the Honors College will find that the program works well with their major, replacing Core Curriculum and capstone requirements. Honors students should work with their advisor to adapt the suggested course sequences below to accommodate their Honors courses.

Climate Sciences Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18 (at least 9 credits must be earned at the University of Maine)
GPA requirements to earn the minor: None
Minimum Grade requirements for courses to count toward minor: C-
Contact Information: Dr. Alice Bernosky, Undergraduate Coordinator, 217 Bryand Global Science Center, 207-581-2159, alice.bernosky@maine.edu

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A minor in Climate Sciences consists of a minimum of 18 credits of courses in the School of Earth and Climate Sciences, with no more than two courses at the 100 level. No grade below a C- will be accepted toward these requirements. At least 9 credits must be earned at the University of Maine.

Sustainability Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
Minimum Grade requirements for courses to count toward minor: C- or higher is required for required courses
Residence Requirement: 9 credits of required courses must be taken at the University of Maine
Contact Information: Dr. Kate Ruskin, Program Coordinator, 111 Bryand Global Science Center, (207) 581-3177, katharine.ruskin@maine.edu

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From business to education to engineering to health sciences, there is growing need to incorporate sustainability practices into all sectors, which requires that professionals throughout the workforce are conversant in sustainability science and can apply its principles to real-world problems. The minor in Sustainability grounds students with a foundational understanding of 1) how our environment works, 2) sustainability sciences, and 3) problem-solving in an interdisciplinary context. Spanning many fields, electives then encourage students to apply the principles of sustainability to their own disciplines, training them to apply sustainability practices in their future professions.
Please Note:

- Be sure to consider the prerequisites for the courses below when planning for this minor.
- The University of Maine limits overlap between a minor and a major to no more than one third of the minor's credit hours.
- New courses are always being created, particularly surrounding emerging topics such as sustainability. Please contact us to inquire about a substitution if you would like to take a course that is related to sustainability but is not yet included on this elective list.

Entomology Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Entomology minors require a cumulative 2.0 GPA in all courses taken in the minor
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine

Contact Information: Peg Killian, Academic Advisor, School of Biology and Ecology, (207)581-2540, um.biology@maine.edu

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The minor in Entomology is designed for students who would like to develop a basic understanding of entomology and is particularly useful for students of agriculture, horticulture, forestry, forensics, anthropology, wildlife ecology, or premedical studies. Students in majors other than Biology, Botany, and Zoology must complete a minimum of 12 credits for their minor with courses that are not otherwise used to fulfill a requirement for their major, another minor, or a concentration.

For a Biology, Botany, or Zoology major, a total of 39 credits from the BIO areas are necessary to fill the requirements of both the major and the Entomology minor, and must include the labs, capstone, and plant and animal requirements of the major as well as the specific requirements of the Entomology minor. Overlap for these requirements is acceptable as long as the BIO area credit total is at least 39.

Students will need to take either BIO 100 or PSE 100 or SFR 101 as a prerequisite for the entomology minor.

Sustainable Food Systems

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: At least a C- in each of the courses required for the major and in all concentration courses.
Other GPA requirements to graduate: None.
Courses satisfying the writing intensive requirement within the major: FSN 425
Required Course(s) for fulfilling Capstone Experience: PSE 430 - SL: Community Engagement and Sustainability Capstone or Honors thesis
Contact Information: Eileen Molloy, Undergraduate Program Coordinator, 111 Hitchner Hall, (207) 581-3121, eileen.molloy@maine.edu.

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Climate Change and Food Systems Concentration

Climate change poses significant and urgent challenges to food systems. The *Climate Change and Food Systems* concentration focuses on how climate change affects and is affected by food systems, and how we can both use agriculture to mitigate environmental change while simultaneously adapting to it. Students who complete this concentration will learn about the primary and secondary effects of climate change, and will become well-versed in adaptation and risk-mitigation frameworks. These bodies of knowledge will prepare them to succeed in a wide variety of food system related careers. Because climate change affects all parts of the food system, these skills will be highly sought after in a range of sectors including agricultural production, processing, distribution, municipal and community planning and advocacy, policy and program development, and more.

Food Processing and Innovation Concentration

How we eat and develop new and healthful foods is a career trajectory with the potential to positively affect people across the country and the globe. In this interdisciplinary concentration, students will become well-versed in the skills needed to pursue careers in food processing and innovation. A science-based curriculum will encompass the technical aspects of food science, while sociological courses will address the policy and cultural environments in which food science is practiced. Graduates can look forward to careers in the food industry with a focus on new food product development and marketing.

Justice, Equity, and Community Development Concentration

Pervasive inequality in society demands that new professionals in food systems careers are knowledgeable and proficient when it comes to justice and equity. Community programs developed through these lenses are in high demand. Students enrolled in this concentration will become well versed in elements of policy, economics, and culture that lead to unequal and unjust social outcomes, and will develop the skills they need to change these outcomes in their communities and future organizations. Career options in community development can include directing programs that impact food security in the U.S. Examples abound, such as the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), the National School Lunch Program, or the Supplemental Nutrition Assistance Program (SNAP)

Leadership and Management Concentration

Food is at the center of society, and this program will train students who will become the future leaders in food system organizations, businesses, and movements. Through this concentration, students will become well-versed in the ethics of leadership and management, and learn how to apply these ethical standards to business and community development as they

pertain to food systems. Coursework will train students to be communicators, to be knowledgeable about world cultures, and aware of policies that affect food domestically and internationally. The U.S. Department of Agriculture, the Food and Drug Administration, or the Department of Health and Human Services are examples of organizations where graduates can assume leadership roles.

Plant and Animal Production Systems Concentration

Food production is at the heart of food systems. In this concentration, students will learn about integrated crop and livestock systems at local, regional, national, and global scales. Critical analysis of these agricultural systems will instruct students about the most promising methods to decrease the ecological harm while contributing to vibrant food production. This concentration provides the opportunity to study both animal and crop production, and equips students for future careers in farming, agricultural advising, research, and policy.

Individualized Concentration in Sustainable Food Systems

Students may also opt to develop their own individualized concentration in Sustainable Food Systems. Working with a faculty mentor, the student will be able to choose within the broad selection of courses available within the degree. Students who wish to pursue this option will have a specific set of skills unique for their chosen career path. Working with a faculty mentor, the student will prepare a narrative explaining the organizing concept for the concentration, name, and required classes.

Summary of Graduation Requirements

To obtain this degree students must meet the requirements of the University, those requirements specific to the major and the requirements for the concentration.

Sustainable Food Systems Major

1. Satisfy General Education requirements
2. Satisfy Bachelor of Science requirements
3. ELH 117 - First-Year Success Seminar
4. Biology requirement: BIO 100
5. Sustainable Food Systems core class requirements:ECO 190 ; FSN 101 , FSN 270 , FSN 425 , FSN 436 ; PSE 105 , PSE 312 , PSE 430
6. Social Sciences requirements: ANT 212 , ANT 225 , ECO 120 , and SOC 101
7. Quantitative requirements: MAT 115 and STS 132 or STS 215 [Inactive]
8. Communication and Leadership Skills: ENG 101 , LBR 200 , LDR 100 and two of the following CMJ 102 , CMJ 103 , CMJ 107

Climate Change and Food Systems Concentration

1. Satisfy the core requirement of the degree program
2. Satisfy Bachelor of Science requirements
3. Plant, Soil, and Environmental Sciences requirements: PSE 105 , PSE 312 , PSE 360
4. Ecology and Environmental Sciences/Earth and Climate Sciences requirements: ERS 121 , ERS 201 and EES 140
5. Other requirements: ANT 410 ,ECO 105 and ECO 180
6. Electives: Choose at least 12 credits in this section with at least 9 credits from the 300+ level

Food Processing and Innovation Concentration

1. Satisfy the core requirement of the degree program
2. Satisfy Bachelor of Science requirements
3. Food Science and Human Nutrition requirements: FSN 103 , FSN 104 , FSN 236 , FSN 330 , FSN 340 , FSN 415
4. Chemistry requirement: BMB 207
5. Other requirements: INV 121
6. Electives: Choose at least 18 credits in this section, with at least 9 credits from the 300+ level

Justice, Equity, and Community Development Concentration

1. Satisfy the core requirement of the degree program
2. Satisfy Bachelor of Science requirements

3. Social Sciences requirements: ANT 102 , PHI 100 , PSY 100 , PSY 230 ,SWK 220 , SWK 440 , WGS 101
4. Electives: Choose at least 18 credits in this section, with at least 9 credits from the 300+ level

Leadership and Management Concentration

1. Satisfy the core requirement of the degree program
2. Satisfy Bachelor of Science requirements
3. Leadership skills and Management requirements: LDR 200 , LDR 220 , LDR 330 ; MGT 225
4. Other requirements: MGT 326 and PSY 100
5. Electives: Choose at least 18 credits in this section, with at least 9 credits from the 300+ level:

Plant and Animal Production Systems Concentration

1. Satisfy the core requirement of the degree program
2. Satisfy Bachelor of Science requirements
3. Chemistry requirements: CHY 121 and CHY 123
4. Animal and Veterinary requirements:AVS 145 , AVS 146 and AVS 211
5. Plant, Soil, and Environmental Sciences requirements: PSE 100 , PSE 105 and PSE 360
6. Other requirements: EES 140 and EES 141
7. Electives; Choose at least 12 credits in this section, with at least 9 credits from the 300+ level

Individualized Concentration in Sustainable Food Systems

1. Satisfy the core requirement of the degree program
2. Satisfy Bachelor of Science requirements
3. Grades of C- or higher in all of the courses required for the major and in all concentration courses
4. Individualized concentrations must be distinct from an established concentration and all other degree programs at UMaine. Individualized concentrations must include at least 36 credit hours of coursework, at least 18 of which are at the 300 or 400 course level. An individualized concentration must be approved by the student's academic advisor, the SFS Undergraduate Coordinator, and the SFA Associate Director.

College of Education & Human Development

The College of Education and Human Development provides leadership, professional development and research to advance education at all levels and addresses the changing needs of schools, children and families.

Undergraduate majors are offered in Elementary Education; Secondary Education, Kinesiology and Physical Education with academic specialization options of pre-Athletic Training, Exercise Science, Outdoor Leadership and Health and Physical Education; and Child Development and Family Relations with an academic specialization options in Early Childhood Education and Individual & Family Studies. All majors emphasize a diverse liberal arts background and highly relevant professional practicums and internships.

Educator preparation programs are currently accredited by the Council for Accreditation of Educator Preparation (CAEP). The programs are also approved by the Maine Department of Education. Partnerships with area PreK-12 schools provide a Professional Development School model and realistic teaching and learning settings for students and faculty, beginning in the first year of study. In addition, a campus preschool serves as a lab school where Early Childhood Education students have classes and internship opportunities.

All external transfer students for any College of Education and Human Development program must have a minimum G.P.A. of 2.5 (minimum G.P.A. of 2.75 in some licensure programs) from an accredited institution. Transfer students wishing to enroll in any of the teaching certification programs must demonstrate content area competency through either the successful completion of one or more Praxis exams or the completion of specific content area coursework with a G.P.A. therein of at least 3.0. Since these

requirements vary by program and the strategies available may vary depending on a student's prior institution, transfer students should consult with the Advising Center to develop a plan for their specific circumstances.

ACADEMIC PROGRAMS:

Bachelor of Science in:

- **Child Development and Family Relations**
- Early Childhood Education (teacher certification option)
- Individual and Family Studies
- **Elementary Education**
- Concentration Areas:
- English
- French
- Child Development
- Life and Physical Sciences
- Mathematics
- Social Studies
- Spanish
- Special Education
- **Kinesiology and Physical Education**
- Concentration Areas:
- pre-Athletic Training
- Exercise Science/Science
- Outdoor Leadership
- Health and Physical Education (teacher certification option)
- **Secondary Education**
- Concentration Areas:
- English
- World Languages (Spanish and French)
- Mathematics
- Life Sciences
- Physical Sciences
- Social Studies

MINORS:

- Child Development and Family Relations
- Educational Studies
- Exercise Science
- Outdoor Leadership

College of Education and Human Development Notes:

Teacher Certification: The College of Education and Human Development's Elementary, Early Childhood, and Secondary Education programs and the teacher preparation program in Kinesiology and Physical Education have been approved by the Maine Department of Education. Upon successful completion of all program requirements students are recommended for Initial Maine Teacher Certification in their area of study. Teacher certification regulations are determined by the Maine Legislature and teacher certification is granted by the Maine Department of Education.

Ethics Requirement -The University's Ethic Requirement is fulfilled through a series of courses within the Education and Human Development degree programs

Note: The Maine Department of Education charges $100.00 for initial certification. Certification requirements are subject to change.

For updated information, please reach out to Erin Straine in the Office of Field Experience (erin.straine@maine.edu).

Undergraduate Program Contact

Faith A. Erhardt
112 Shibles Hall
(207) 581-3168
faith.erhardt@maine.edu

Graduate Program

The College offers a full range of graduate programs leading to the master's degree, Ed.S. (Education Specialist program) and the doctoral degree.

Graduate Program Contact

Jo-Ellen Carr
136 Shibles Hall
(207) 581-2444
joellen.carr@maine.edu

Child Development and Family Relations

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: A C or higher is required in CHF 200 and CHF 201 . Students in the Early Childhood Education concentration are required to earn a B or higher in CHF 200 , CHF 201 , CHF 203 , CHF 303 , CHF 321 , CHF 322 , CHF 329 , CHF 331 or EHD 203 , CHF 304 or EDU 400 , CHF 424 , CHF 450 , EDT 400 , EHD 101 , EHD 202 , EHD 204 , EHD 301 , ERL 217 , EDU 319 , and SED 302 .
Other GPA requirements to graduate: Students in Early Childhood Education need a 2.75 GPA to apply for teacher candidacy.
Required Course(s) for fulfilling Capstone Experience: CHF 423 (Individual and Family Studies Concentration, Early Childhood Professional Concentration, and Research Concentration) or CHF 424 (Early Childhood Education Concentration)
Contact Information: The Advising Center, 100 Shibles Hall (207) 581-2412 or email the Advising Center at: advisingcenter@maine.edu

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Transfer Policy

Students at the University of Maine wishing to transfer to this major should have a cumulative GPA of 2.75 for Early Childhood Education concentration or a 2.5 cumulative GPA for all other concentrations.

Elementary Education

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.00
Minimum Grade requirements for courses to count toward major: B or better in all professional education classes is required.
Other GPA requirements to graduate: Students must have a minimum cumulative GPA of 2.75 to be eligible to apply for teacher candidacy and to student teach.

Required Course(s) for fulfilling Capstone Experience: 12 credits of EDU 490 , and 3 credits of EHD 498 for students in the student teaching option or EHD 493 for students in the non-student teaching option.
Contact Information: The Advising Center, 102 Shibles Hall, (207) 581-2441 or email the Advising Center at:

advisingcenter@maine.edu

This program is offered at the main campus of the University of Maine in Orono

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The college's educator preparation programs emphasize a diverse liberal arts background and highly relevant professional training. The undergraduate teacher education programs are fully accredited by The Council for the Advancement of Educator Preparation (CAEP) and approved by the State of Maine. Students graduate from our programs and enter the teaching profession with experience, an authentic view of schools, and an understanding that teaching, learning, and professional development are lifetime endeavors.

In their second year of study students apply for teacher candidacy by submitting a portfolio that includes a transcript of their academic work to date which reflects a grade point average of at least 2.75, an analysis of one field experience in a K-8 classroom, a GPA of 3.0 in 6 credits of Mathematics, and a GPA of a 3.0 in ENG 101 and three credits of an additional English course. If the minimum GPA requirement is not met, a passing score for the state of Maine for the appropriate PRAXIS CORE subtest(s) is sufficient. **NOTE:** As a State of Maine approved program, we will adhere to state certification requirements and adapt our program to meet changing state regulations. For example, students are now required to pass PRAXIS II only if they are not earning a GPA of 3.0 or higher in each subtest area (social studies or science) prior to student teaching. For more information about the state required PRAXIS exam, visit https://praxis.ets.org/state-requirements/maine-tests.html

Students accepted to teacher candidacy at the end of their second year become immersed in the daily life and issues of public school during an intensive education curriculum, a prelude to student teaching. During student teaching, future teachers learn and teach along with veteran teachers and get involved in many efforts to address the needs of students and schools.

Areas of Specialization in the Elementary Education program are:

*English
*Life/Physical Sciences
*Social Studies
*Math
*Languages (Spanish and French)
*Child Development
*Inclusive Special Education

Kinesiology and Physical Education

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120

Minimum Cumulative GPA required to graduate: 2.0

Required Course(s) for fulfilling Capstone Experience: KPE 427 or EHD 493

Courses satisfying the writing intensive requirement within the major: Exercise Science - Science: KPE 425 ; Exercise Science-Outdoor Leadership: KPE 411 ; Health and Physical Education: KPE 425

Contact Information: Diane LeGrande, 103 Lengyel Hall, 581-2466, legrande@maine.edu

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Students in the Kinesiology and Physical Education (KPE) programs pursue a concentration in areas such as Health and Physical Education (leading to teacher certification), Exercise Science, or Outdoor Leadership. Students interested in completing the coursework necessary for admission to a graduate program in athletic training should consult their advisor. Upon graduation, students become teachers, coaches, fitness specialists/administrators, or pursue advanced degrees in allied health fields such as: physical therapy, chiropractic medicine, physician or physician's assistant.

Students in KPE use state-of-the-art metabolic and bio-mechanical analysis systems to develop their understanding of human work capacity and movement. They practice with the latest applications and modalities for injury evaluation and rehabilitation. In a number of applied settings, students work a wide variety of age groups and physical abilities gaining valuable hands-on experience.

Health and Physical Education Certification Concentration

Health and Physical Education Concentration emphasizes putting theory into practice. Even before they begin student teaching, students are active participants in pre-K-12 health and physical education programs. In learning effective strategies, students teach individual and small group lessons, videotape their sessions, and receive individual analysis and feedback from faculty and peers. This program is aligned with the Maine Department of Education's 512 Health and Physical Education endorsement.

Exercise Science Concentration

Within the Exercise Science Concentration program there are two options of study.

Science Option: The laboratory science-based option prepares students for post-graduate programs in allied health. Graduates from this option go on to attend schools of medicine, physical therapy, chiropractic medicine, nurse practitioner, physician assistant or other medically-based programs of study. This concentration requires an additional 12-15 hours, beyond the major requirements, of laboratory sciences. Within the concentration area some lab science hours may be substituted with specific 300-500 level KPE courses upon permission.
Outdoor Leadership Option: The Outdoor Leadership option prepares students for future careers in outdoor-based non-profits, businesses, and educational settings. Students in this program will take all of the core Outdoor Leadership courses, along with courses in exercise science, physical education, pedagogy, Maine studies, natural resources, and leadership studies. In addition, students in this concentration are required to pursue 12-15 credits of outdoor skills or field experience courses of their choice.

Child Development and Family Relations Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: 2.0

Minimum Grade requirements for courses to count toward minor: A grade of C or better in CHF 200 and CHF 201 .
Contact Information: The Advising Center, 102 Shibles Hall, (207) 581-2441 or email the Advising Center at: advisingcenter@maine.edu

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The minor in Child Development/Family Relations consists of CHF 200 , CHF 201 , and 12 additional credits of CHF courses, 9 of which must be taken at UMaine. Students must earn a minimum grade of C (2.0) in CHF 200 and CHF 201 , and the overall GPA for the 18 CHF credits must average a C (2.0). No more than three credits of CHF 409 Special Topics in Child Development/Family Relations and no more than three credits of CHF 496 Field Experience in Child Development/Family Life may be used toward the minor.

Educational Studies Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Must earn a minimum overall GPA of 2.0 in all courses in the minor.
Minimum Grade requirements for courses to count toward minor: Must earn a minimum of a C- in all required courses for the minor.
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: The Advising Center, 100 Shibles Hall, advisingcenter@maine.edu

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A 2.0 cumulative GPA is required at the time the student declares a minor in Educational Studies.
Students Seeking Teacher Certification
Students who wish to pursue teacher certification in Maine must be enrolled in the College of Education and Human Development either through an Education Major or by completing double majors in Education and in another College. For students wishing to become certified teachers, the double major is a better option than the minor. A minor in Educational Studies does not lead to initial certification. An alternative route to a teaching career is the Master of Arts in Teaching (MAT) Program that is sponsored by the College of Education and Human Development, or a transcript analysis through the Maine Department of Education (Pathway 2). The fifth year program is competitive and application to this program should be made by February 1. Please contact the Advising Center if you have interest or questions about this program or certification pathways.

Exercise Science Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: 2.5
Minimum Grade requirements for courses to count toward minor: None
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: Diane LeGrande, 103 Lengyel Hall, 581-2466, legrande@maine.edu

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The minor in Exercise Science (for non-KPE majors) has close ties to other areas including, but not limited to nutrition, biochemistry, and animal physiology. This minor offers students in these areas an opportunity to broaden their knowledge of their own fields of study. Academic prerequisites include BIO 100 - Basic Biology , BIO 208 - Anatomy and Physiology , and FSN 101 - Introduction to Food and Nutrition . Students must maintain a 2.5 in the minor.

Secondary Education

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: B or better in all professional education classes is required.
Other GPA requirements to graduate: Students must have a minimum cumulative GPA of 2.75 to be eligible to apply for teacher candidacy and to student teach.
Required Course(s) for fulfilling Capstone Experience: 12 credits of EHD 491 for students in the Teaching Option or a passing grade in EHD 493 for students in the non-teaching option.
Contact Information: The Advising Center, 102 Shibles Hall, (207) 581-2441 or email the Advising Center at: advisingcenter@maine.edu
This program is offered at the main campus of the University of Maine in Orono.

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The college's educator preparation programs emphasize a diverse liberal arts background and highly relevant professional training. The undergraduate teacher education programs are fully accredited by The Council for the Advancement of Educator Preparation (CAEP) and approved by the State of Maine. Students graduate from our programs and enter the teaching profession with experience, an authentic view of schools, and an understanding that teaching, learning, and professional development are lifetime endeavors.
In their second year of study students apply for teacher candidacy by submitting a portfolio that includes a transcript of their academic work to date which reflects a grade point average of at least 2.75, an analysis of one field experience in a 6-12 classroom, a minimum of B in ENG 101 , and minimum 3.0 GPA in 6 credits of Mathematics. If the minimum grade requirement is not met, a passing score for the state of Maine for the appropriate PRAXIS CORE subtest(s) is sufficient. **NOTE**: As a State of Maine approved program, we will adhere to state certification requirements and adapt our program to meet changing state regulations. For example, students are now required to have an average of B or higher in 45 credits of the content specialization area OR a passing score for Maine on the corresponding Praxis 2 exam (test code 5038 English, 5235 Life Science/Biology, 5161 Mathematics, 5245/5435/5265 Physical Science, 5081 Social Studies, 5174 French, 5195 Spanish) prior to student teaching. For more information about the state required PRAXIS exam, visit the EDHD website. Students accepted to teacher candidacy at the end of their second year become immersed in the daily life and issues of public school during an intensive Education curriculum, a prelude to student teaching. During student teaching, future teachers learn and teach along with veteran teachers and get involved in many efforts to address the needs of students and schools.
Areas of Specialization in the Secondary Education program are:
*English
*World Languages (French and Spanish)
*Life Sciences
*Physical Sciences
*Mathematics

*Social Studies

Outdoor Leadership Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 19
GPA requirements to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: None.
Other requirements: A minimum of 12 credit hours of the minor must be completed at the University of Maine or the University of Maine at Machias
Contact Information: Lauren Jacobs, 106 Lengyel Hall, 581-4930, lauren.jacobs@maine.edu

Tourism, Hospitality, and Outdoor Recreation (THOR) Minor

The Tourism, Hospitality, and Outdoor Recreation (THOR) 18 credit multicampus minor offers students a broader understanding of the state of Maine as a whole in the contexts of tourism, hospitality and outdoor recreation, through hands-on learning, connections with workforce leaders, and comprehensive exploration of the cultural, historical, scientific and economic framework of this unique world-class travel destination.
Through completion of the minor, students will:

- Identify how the tourism, hospitality, and outdoor recreation industries intersect to play a critical role in supporting Maine's economy
- Develop an understanding the diverse economic, environmental, and social challenges, opportunities, and trade-offs related to the THOR industries, particularly in Maine
- Understand the importance of how business environment, recreation opportunities, seasonality, hospitality and lodging infrastructure, and supply of other tourist attractions all contribute to the complexity of the THOR industries

Students have the opportunity to complete this minor by selecting classes across multiple institutions within the University of Maine System. More information on the THOR Minor can be found at this site: https://www.maine.edu/thor/home/thor-minor/

College of Liberal Arts & Sciences

The College of Liberal Arts and Sciences is dedicated to providing a sound education in the liberal arts and to imparting the specific knowledge and skills required for careers in one of its many representative disciplines. This education, both in its breadth and its approach to learning, leads students to an enlightened sense of themselves, their heritage, their world; prepares them for responsible and active citizenship; and prompts those habits of thought and expression crucial to a lifetime of active learning. A major goal of the college is to provide students with the ability to think independently, to analyze, and to solve problems creatively.
ACADEMIC PROGRAMS:
Bachelor of Arts in*:*

Anthropology
Art Education
Art History
Bachelor of University Studies, CLAS pathway
Chemistry
Communication

Computer Science
Criminal Justice
English
French
History
Human Dimensions of Climate Change
Human-Centered Technology Design
Interdisciplinary Studies in Multimodal Interaction
International Affairs
Journalism
Mathematics
Media Studies
Music
New Media
Philosophy
Physics
Political Science
Psychology
Romance Languages
Sociology
Spanish
Studio Art
Theatre
Women's, Gender, and Sexuality Studies

***Bachelor of Fine Arts in**:*

Studio Art

***Bachelor of Music in**:*

Music Education
Music Performance

***Bachelor of Science in**:*

Chemistry
Computer Science
Computer Science and Business
Human-Centered Technology Design
Mathematics
Physics

***Minors**:*

Anthropology
Archaeology
Art History
Astronomy
Canadian Studies

Chemistry
Classical Studies
Computer Science
Criminal Justice
Creative Writing
Dance
English
Environmental Ethics
Film and Video Studies
Folklore and Traditional Arts
Franco American Studies
French
Game Design and Development
Geography
Graphic Design
History
Human-Computer Interaction
Human Dimensions of Climate Change
International Affairs
Jazz Studies
Journalism
Judaic Studies
Leadership Studies
Legal Studies
Maine Studies
Mathematics
Media Studies
Medieval and Renaissance Studies
Mental Health and Rehabilitation
Music
Native American Studies
New Media
Philosophy
Physics
Political Science
Political Theory
Professional Languages
Professional Skills for the Liberal Arts Major
Psychology
Religious Studies
Sociology

Spanish
Sports Communication
Statistics
Studio Art
Technical and Professional Communication
Theatre
Women's, Gender, and Sexuality Studies

Certificates:
Certificate in Paralegal Studies (Note: one pathway to completion of the paralegal studies certificate is completion of the Legal Studies minor. In this option, 9 of the 18 credits for the legal studies minor must be comprised of CRJ 114 , MGT 220 , and POS 282 . For complete details see the entry for the Certificate in Paralegal Studies elsewhere in this catalog.

Institutional Credit Requirements:

All majors in the College of Liberal Arts & Sciences require a minimum of 15 institutional credits in the major, and all minors require a minimum of 9. For purposes of this requirement, institutional credit is defined as all courses offered by the University of Maine (Orono) or its regional campus, the University of Maine at Machias, regardless of delivery method.

Students participating in Education Abroad in a Direct Exchange Program (where the University of Maine partners with a university abroad) or a Recommended Program (run by a third-party organization and recommended by UMaine) may count up to 9 credits completed in their study-abroad program as institutional credit toward a major, or up to 6 credits toward a minor. No more than 9 study-abroad credits in total may be used as institutional credit without an approved exception from the CLAS associate dean for academics. For more information about Education Abroad programs, see https://umaine.edu/studyabroad/programs-new/#recommended-programs.

Please note that some CLAS majors and minors may have more restrictive institutional credit requirements. Some CLAS majors and minors may also have more restrictive Education Abroad institutional credit requirements. Students wishing to pursue a particular CLAS major or minor should review the catalog information pertaining to the specific major or minor of interest.

College of Liberal Arts and Sciences Graduation Requirements:

In order to graduate from the College of Liberal Arts and Sciences, the following must be satisfied:

1. Completion of all university-wide Core curriculum requirements.
2. Completion of all requirements for a specific academic major within the college. Double majors and double degrees in closely related disciplines are not permitted. Questions regarding double majors and/or degrees should be addressed to the associate dean of the college.
3. To complete their degree, students must earn a cumulative GPA of 2.0 or better in the courses in the major field that are credited toward completion of the major in the College of Liberal Arts and Sciences. Students graduating with a minor in a CLAS field must likewise earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
4. A minimum total of 120 credits. *(Please note that some majors require more than 120 credits).*
5. For Bachelor of Arts students only, satisfactory completion of the B.A. Distribution Requirements (see text below).

Bachelor of Arts Distribution Requirements:

In order to ensure depth as well as breadth of study, the following rules apply to students seeking a Bachelor of Arts degree in the College of Liberal Arts and Sciences:

1. All students pursuing a B.A. degree must complete a minimum of 60 credits outside of the academic major.
2. All students pursuing a B.A degree are subject to the following credit limitations:
   a. Students may count a maximum of 15 credits in military science (MSL) or naval science (NAV) toward the required 120. To count, credits must be at the upper (300-400) level, or if lower (100-200) level must be on the University's official list of approved general education courses. In no case may the combination of lower and upper level credits used toward the required 120 exceed the maximum allowance of 15.
   b. A maximum of 2 physical education (KPE) skills credits may be used toward the 120 required for the B.A. degree. Examples of skills credits include golf, tennis, racquetball, etc.
3. Students matriculating effective Fall 2011 must complete an academic minor or a second academic major.
4. Students in a CLAS major who complete the preparatory courses necessary to enter the 5-year MBA program (ACC 201 ; ACC 202 ; ECO 120; ECO 121; either MKT 270 , MGT 225 , or FIN 350 ; and a statistics course approved by CLAS), totaling at least 18 credit hours, will be considered to have met the minor requirement in 3A, although no minor will be listed on their transcript.

COLLEGE OF LIBERAL ARTS AND SCIENCES NOTES:

Academic Advising:

The College of Liberal Arts and Sciences is committed to fostering and maintaining a positive relationship between students and faculty. To help achieve this goal, all new students will be assigned to a faculty academic advisor in the discipline in which they intend to major. Undeclared students will be assigned to an advisor in the college's Advising and Academic Services Center. Contact information for advisors may be found on the student's Maine Street home page. The college urges students to make appointments to see their advisors (or an Assoc. Dean of the College) whenever they have academic concerns.

Advising and Academic Services Center:

The Advising and Academic Services Center (AASC) was established with the goal of increasing student access, connection, satisfaction, and retention in the College of Liberal Arts and Sciences. The AASC works to achieve this goal though a holistic advising approach, providing support for all students as well as directing them to additional academic resources on campus. The Explorations Program, which serves students undecided about an academic program and students who were not accepted into their first academic program of choice, is also part of the AASC. Academic Advisors and Success Instructors serve Explorations Program students during their first year at UMaine while assisting them with choosing a major and being academically successful.

Declaring the Academic Major:

Students in the College of Liberal Arts and Sciences are encouraged to explore a wide variety of academic options before declaring a major. Students must declare an academic major when they have accumulated 54 degree credits but may declare a major at any time prior to that.

Matriculated CLAS students who have completed at least one semester at UMaine and have accrued 54 (or more) degree credits without declaring a major will automatically be placed into the Bachelor of University Studies, CLAS Pathway program. Students will receive notification of this change and will meet with the CLAS BUS advisor to discuss their program of study and determine if they wish to remain in the BUS pathway or declare another major for which they are eligible.

Changing Colleges:

The College normally accepts all current University of Maine students from other baccalaureate programs who have a 2.0 cumulative grade point average and are in good academic standing on the effective date of change.

In unusual circumstances, students who have less than a 2.0 cumulative grade point average may be allowed to change colleges. Students in this situation should discuss their request for change with the college associate dean.

Foreign Language Requirements:

Some majors have special language requirements for BA degree students, as follows: NOTE: Intermediate level proficiency, here, means the equivalent of two semesters of an intermediate level language course; e.g. SPA 203, 204.

- ART: 6 credits in one foreign language is required for students who major in Art History.
- COMMUNICATION: 6 credits from French, German, Spanish, American Sign Language or other non-English language.
- ENGLISH: By the time of graduation, a student must complete an additional field requirement. Students may complete the additional field requirement with coursework in a language other than English: as a minor, a second major, or intermediate proficiency in a language other than English (to the 204 level in college courses, or the equivalent by examination).
- INTERNATIONAL AFFAIRS: Rating of "intermediate" on Oral Proficiency Interview (OPI). See International Affairs catalog copy for details.
- MUSIC: One year of a foreign language.

Language Competency and Placement Exams in Modern Languages:

Finding the appropriate level at which to take a language course is essential for success. To assist in this determination, the Department of Modern Languages and Classics offers both competency and placement examinations in French and Spanish. Students who studied French or Spanish in high school must take the online placement exam before enrolling in their first French or Spanish course at UMaine. (For information and access to the free placement exam, see https://umaine.edu/mlandc/placement-faqs/ Students with three or more years of study in high school may opt to attempt credit by examination at the intermediate level (competency exam). No credit is awarded for elementary language courses.

In order to obtain credit by examination the student should:

1. Complete at least one French or Spanish course at the 300 level or above with a grade of B or higher.
2. Take the online placement test, or login to retrieve previous results (for tests taken prior to June

2020). Print the results or save a copy as a PDF file.

3. Bring a copy of the printed placement test results and proof of the grade in the completed course to the chairperson at 201 Williams Hall, or email as PDF files to the department with a request for credit by examination.

Credit is awarded retroactively. Three to six credits at the intermediate level will be awarded upon successful completion of a course at the next higher level. For example, a student who places into Intermediate II is eligible to receive three (3) credits for Intermediate I upon successful completion (a grade of B or higher) of Intermediate II. A student who places into the 300 level and higher is also eligible for credit for Intermediate II if they successfully complete a second course at a higher level.

The chairperson will determine which credits are to be awarded and will write a letter to the Office of Student Records, which will post the credits to the student's academic transcript. No credit is awarded for a student's native language.

The Modern Languages and Classics Department accepts Advanced Placement Examinations in Foreign Languages and Literature, as well as the Seal of Biliteracy, for degree credit. Students may receieve up to 6 credits at the intermediate level. See the Advanced Placement Credit Table or the Seal of Biliteracy Credit Table in the Undergraduate Catalog for more information.

For further information, contact the Department of Modern Languages and Classics (207-581-2072), 5472 Williams Hall, Room 201, The University of Maine, Orono, ME 04469-5742.

Critical Languages Program:

The Department of Modern Languages and Classics offers beginning and some intermediate courses in a number of other languages in addition to French and Spanish, including American Sign Language, German, Hebrew, Latin, and Mandarin Chinese. In addition, Arabic, Irish Gaelic, Italian, Japanese, Korean, Brazilian Portuguese, Russian, Ukrainian, and Urdu classes are available through the Critical Languages Program.

The program follows a modified version of the self-instructional pedagogy advocated by NASILP (National Association of Self-Instructional Language Programs), a method loosely based on the one used by the Foreign Service Institute. It is effective because it requires active, committed learning by students through the study of appropriate materials, frequent practice, and the availability of accurate linguistic models provided by the native-speaker tutor-instructor. The program also includes three hours of drills/practice a week in small tutorials of 3 to 8 students. For more information, contact the coordinator of the Critical Languages Program at (207) 581-2093.

Dwell:

Launched in 2018, *dwell* is an undergraduate journal published and edited collaboratively by students with an interest in philosophy. It is released annually in print form.

The Open Field:

The Open Field, an undergraduate literary annual, is edited and published by students in the Department of English.

Program Contacts

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Sociology
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VEMI Lab

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Carnegie Hall
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Women's, Gender and Sexuality Studies

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Director of the Women's, Gender, and Sexuality Studies Program
207.581.3439
elizabeth.neiman@maine.edu

Anthropology

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum number of credits required to complete the major: 36 credits in ANT or GEO courses
Minimum Grade requirements for courses to count toward major: A grade of C- or higher is required for ANT 101 , ANT 102 , ANT 317 , ANT 400 . A grade of C or higher is required for ANT 493 .
Other GPA requirements to graduate: A minimum cumulative GPA of 2.0 in the major.
Required Course(s) for fulfilling Capstone Experience: ANT 493 . Alternatively, with approval, students may fulfill the capstone requirement with ANT 497 or the Honors thesis (HON 499). Double majors: If ANT is your secondary major, the capstone from your primary major may fulfill your ANT capstone requirement as long as there is an anthropological component to it (chair approval required). However, the earned credits of your primary capstone experience/course will not count toward the minimum number of credits required for the ANT major.
Courses satisfying the writing intensive requirement within the major: ANT 400 , ANT 464 , ANT 466 , and ANT 493
Residency Requirement: ANT 317 , ANT 400 , and ANT 493 and 9 other credits, must be taken at UMaine
Contact Information: Samuel Hanes, Chair, Associate Professor of Anthropology, 5773 S. Stevens Hall, (207) 581-1885, Fax: (207) 581-1823, samuel.hanes@maine.edu

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The requirements listed on this page are specific to this particular major. Students are also responsible for meeting any graduation requirements set out by their college. Students in the College of Liberal Arts and Sciences (CLAS) should make sure to review those requirements as stated on the College of Liberal Arts & Sciences page of the catalog.
For more information about our undergraduate and graduate programs, program learning outcomes, internships, special resources and programs, and research and career opportunities, see our web site at https://umaine.edu/anthropology/.

Art Education

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: A grade of C or higher is required in each course required for the major.
Other GPA requirements to graduate: A minimum cumulative GPA of 2.0 in the major.

Required Course(s) for fulfilling Capstone Experience: 12 credits of EHD 494 or 3-6 credits of Alternative Capstone
Courses satisfying the writing intensive requirement within the major: AED 372
Residency requirement: Majors in the College of Liberal Arts & Sciences require a minimum of 15 institutional credits in the major.
Contact Information: Justin Wolff, Professor & Chair, Department of Art, 107 Lord Hall, (207) 581-3245, justin.wolff@maine.edu

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The Department of Art offers the Bachelor of Arts degree in Art Education, which provides a liberal arts program of study while preparing students as teachers of the visual arts. Completion of this NASAD-accredited program leads to certification as an art teaching specialist in the State of Maine, grades K-12, as well as preparing students for employment in a variety of community-based sites where formalized art instruction occurs. Many students go on to further study at the graduate level.
The curriculum includes coursework in the social and behavioral sciences, arts and humanities, and natural sciences and mathematics, as well as in focus areas of the visual arts and education. Study in the visual arts includes 15 credits in Art Education, 40 credits in Studio Art (34 in required courses, 6 in electives); and 18 credits in Art History. In addition, students are required to complete 15-24 credits of professional education coursework, including the capstone experience. To complete the 120 total credits required for graduation, Art Education students may need to take 6-9 credits of overload coursework (e.g., over 15 credits during a semester or a course or courses during summer sessions). Students completing the BA in Art Education also receive minors in Studio Art and Art History.
The requirements listed on this page are specific to this particular major. Students are also responsible for meeting any graduation requirements set out by their college. Students in the College of Liberal Arts and Sciences (CLAS) should make sure to review those requirements as stated on the College of Liberal Arts and Sciences page of the catalog.

Art History

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum number of credits required to complete the major: 51 (39 credits in Art History, 6 credits in Studio Art, and 6 credits in Modern Languages)
Minimum Grade requirements for courses to count toward major: A C- or higher is required in all major (ARH) courses.
Other GPA requirements to graduate: Cumulative GPA of 2.0 or better in the courses in the major field that are credited toward the major.
Required Course(s) for fulfilling Capstone Experience: ARH 499 or HON 498 /HON 499 (Art History Thesis)
Courses satisfying the writing intensive requirement within the major: ARH 369 , ARH 451 , ARH 452 , ARH 460 , ARH 461 , ARH 466 [Inactive] , ARH 492 , ARH 493 , ARH 494 , and ARH 495
Residency requirement: Majors in the College of Liberal Arts & Sciences require a minimum of 15 institutional credits in the major.
Contact Information: Justin Wolff, Professor & Chair, Department of Art, 107 Lord Hall, (207) 581-3245, justin.wolff@maine.edu

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The Art History program emphasizes theory, diverse methodologies, and interdisciplinary research. Students learn valuable research skills and expand their aptitude for critical and visual thinking. The major requires 39 credits in Art History, 6 credits in Studio Art, and 6 credits in foreign language study. The major prepares students for our media-rich and symbolic world by emphasizing the analysis and critique of visual culture. The major opens up opportunities for graduate study and prepares students for careers in related fields, including anthropology, communications, museum studies, gallery work, arts administration, arts journalism, entertainment, and studio art.
The requirements listed on this page are specific to this particular major. Students are also responsible for meeting any graduation requirements set out by their college. Students in the College of Liberal Arts & Sciences (CLAS) should make sure to review those requirements as stated on the College of Liberal Arts & Sciences page of the catalog.
For more information about our undergraduate and graduate programs, program learning outcomes, internships, special resources and programs, and research and career opportunities, see our web site at https://umaine.edu/art/.
Information about the Art History Major

Chemistry

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum number of credits required to complete the major: BS 49; BS (ACS Certified) 58; BA 43
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: A C or higher is required in any course used toward the Chemistry major. A one-time exception may be made for a passing grade of C- or below as long as the overall GPA is met.
Other GPA requirements to graduate: Cumulative GPA of 2.0 or better in the courses in the major field that are credited toward the major.
Required Course(s) for fulfilling Capstone Experience: BS (ACS Certified): CHY 498 and CHY 499 ; BS: CHY 492 and CHY 498 ; BA: CHY 492 and one upper-level chemistry elective; orHON 498 /HON 499 on a topic in chemistry and advised by an appropriate faculty member will be accepted as a capstone experience for all students in Chemistry (BA, BS or BS ACS Certified). The thesis proposal form must be signed by the chair of the Department of Chemistry.
Courses satisfying the writing intensive requirement within the major: CHY 393 and CHY 491
Residency Requirement: 15 credits of upper-level Chemistry courses.
Recommended courses: Double Math major should take MAT 259 and MAT 262 in lieu of MAT 258
Contact Information: Alice Bruce, Chair, 154 Aubert Hall, 581-1168, abruce@maine.edu

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The requirements listed on this page are specific to this particular major. Students are also responsible for meeting any graduation requirements set out by their college. Students in the College of Liberal Arts and Sciences (CLAS) should make sure to review those requirements as stated on the College of Liberal Arts & Sciences page of the catalog.
For more information about our undergraduate and graduate programs, program learning outcomes, internships, special resources and programs, and career opportunities, see our web site at https://umaine.edu/chemistry/.
Information about the Chemistry major.
The Department of Chemistry offers programs of study leading to the degrees of Bachelor of Arts and Bachelor of Science in Chemistry in the College of Liberal Arts and Sciences.

Communication

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum number of credits required to complete the major: 30
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: A grade of C- or better is required for all other CMJ courses to fulfill a major requirement.
Other GPA requirements to graduate: Cumulative GPA of 2.0 or better in the courses in the major field that are credited toward the major.
Required Course(s) for fulfilling Capstone Experience: Any 400-level course except CMJ 495 - Internship
Residency Requirement: 18 credits of CMJ coursework at the University of Maine.
Contact Information: Judith Rosenbaum-Andre, Chair, 414 Dunn Hall, judith.rosenbaumandre@maine.edu

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For a complete description of our undergraduate and graduate programs, program learning ourcomes, internships, special resources and programs, and career opportunities, see our web site at https://cmj.umaine.edu/
The requirements listed on this page are specific to this particular major. Students are also responsible for meeting any graduation requirements set out by their college. Students in the College of Liberal Arts and Sciences (CLAS) should make sure to review those requirements as stated on the College of Liberal Arts & Sciences page of the catalog.

Majors in Communication must complete a minimum of thirty (30) credits of specific CMJ courses and additional coursework external to the major.
The external coursework must include at least 6 credits in Language. The Language area includes: French, German, Spanish, American Sign Language or other non-English languages.

Computer Science

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum number of credits required to complete the major: BS: 88; BA: 71
Minimum Grade requirements for courses to count toward major: C or better in COS 125 , COS 140 , COS 225 , ENG 101 , MAT 126
Other GPA requirements to graduate: Cumulative GPA of 2.0 in all COS courses credited toward the major.
Required Course(s) for fulfilling Capstone Experience: either the two-course sequence of COS 397 and COS 497 or the CIS Research Capstone sequence of COS 501, INT 601, COS 503, COS 504, followed by COS 505 and COS 506.
Courses satisfying the writing intensive requirement within the major: COS 490
Residency requirement: Majors in the College of Liberal Arts & Sciences require a minimum of 15 institutional credits in the major.
Contact Information: School of Computing and Information Science, Undergraduate Coordinators Christopher Dufour, 134 Boardman Hall, christopher.dufour@maine.edu and Roy Turner, 240 Boardman Hall, rturner@maine.edu

The requirements listed on this page are specific to this particular major. Students are also responsible for meeting any graduation requirements set out by their college. Students in the College of Liberal Arts and Sciences (CLAS) should make sure to review those requirements as stated on the College of Liberal Arts & Sciences page of the catalog.
For more information about our undergraduate and graduate programs, program learning outcomes, internships, special resources and programs, and research and career opportunities, see our web site at https://umaine.edu/cs/.
Information about the Computer Science major
The School of Computing and Information Science (SCIS) offers two degrees for our majors. The B.S. degree provides a comprehensive foundation in computer science and prepares the student for a rewarding career in industry, business, government, or anywhere else that computing knowledge and skill is needed. It also provides solid foundation for graduate work in computer science and computing-related fields. The B.S. degree is accredited by the Computing Accreditation Commission of ABET. The B.A. degree gives the student a strong foundation in computer science while providing more flexibility for coursework outside the major. Like the B.S., it also prepares the student for a rewarding career in computing or for graduate work. Note that the B.S. does not require a minor, but the B.A. does.

English

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Miminum number of credits required to complete the major: 39
Minimum Grade requirements for courses to count toward major: A "C-" or better in all courses counted toward the English Major.
Other GPA requirements to graduate: Cumulative GPA of 2.0 or better in the courses in the major field that are credited toward the major
Required Course(s) for fulfilling Capstone Experience: ENG 499 when taken with a variety of 400 level courses. ENG 490 and ENG 496 can only serve as capstone courses when they are accompanied by ENG 499 . HON 498 and HON 499 . Successful

completion of ENG 395 followed by at least one semester of tutoring in the Writing Center.
Courses satisfying the writing intensive requirement within the major: ENG 301 , ENG 307 , ENG 309 , ENG 309 , ENG 315 , ENG 317 , ENG 395 , ENG 402 , ENG 405 , ENG 415 , ENG 416 , ENG 418 , ENG 440 , ENG 445 , ENG 459 , ENG 460 , ENG 470 , ENG 471 and ENG 490
Residency Requirement: At least 18 credits in the major must be taken at UMaine
Contact Information: Steven Evans, Associate Professor, Department Chair, Department of English, 304 Neville Hall, 207.581.3822, steven.evans@maine.edu

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The requirements listed on this page are specific to this particular major. Students are also responsible for meeting any graduation requirements set out by their college. Students in the College of Liberal Arts and Sciences (CLAS) should make sure to review those requirements as stated on the College of Liberal Arts & Sciences page of the catalog.
For more information about our undergraduate and graduate programs, program learning outcomes, internships, special resources and programs, and career opportunities, see our web site at https://english.umaine.edu
Information about the English Major

French

OVERVIEW OF DEGREE REQUIREMENTS
Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minumum number of credits required to complete the major: 36
Minimum Grade requirements for courses to count toward major: None
Other GPA requirements to graduate: Cumulative GPA of 2.0 or better in the courses in the major field that are credited toward the major.
Required Course(s) for fulfilling Capstone Experience: FRE 495 and FRE 4XX, HON 498 /HON 499
Courses satisfying the writing intensive requirement within the major: FRE 305 , FRE 306 , FRE 401 and FRE 413
Residency requirement: Majors in the College of Liberal Arts & Sciences require a minimum of 15 institutional credits in the major.
Contact Information: Carlos Villacorta, Department Chair, Associate Professor of Spanish, 201 Williams Hall, (207) 581-2072, carlos.villacorta@maine.edu

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The requirements listed on this page are specific to this particular major. Students are also responsible for meeting any graduation requirements set out by their college. Students in the College of Liberal Arts and Sciences (CLAS) should make sure to review those requirements as stated on the College of Liberal Arts & Sciences page of the catalog.
For more information about our undergraduate and graduate programs, program learning outcomes, internships, special resources and programs, and research and career opportunities, see our web site at https://umaine.edu/mlandc/undergraduate-programs/bachelor-of-arts-programs/bachelor-of-arts-in-french/.
Information about the French major

- Demonstration of listening comprehension, oral, reading, and writing proficiency (students who have not received at least a "B" in FRE 305 or FRE 306 may be required to take a test in languages skills), and
- Demonstration of comprehensive coverage of literature and civilization through successful completion of appropriate course work, and
- A minimum of 36 credit hours, 30 of which must be beyond the intermediate level (300 or higher) and MLC 210 (FAS 120, FAS 140, and FAS 170 will count towards the minimum 36 credit hours)

History

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum number of credits required to complete the major: 36
Minimum Grade requirements for courses to count toward major: A "C" or better is required in all History (HTY) courses.
Other GPA requirements to graduate: Cumulative GPA of 2.0 or better in the courses in the major field that are credited toward the major.
Required Course(s) for fulfilling Capstone Experience: HTY 498
Courses satisfying the writing intensive requirement within the major: HTY 311 , HTY 405 , HTY 461 , and HTY 498
Department Residency Requirement: At least 18 credits must be earned from the History Department at the University of Maine. For purposes of this requirement, the residency credit is defined as all courses offered by the University of Maine (Orono) or its regional campus, the University of Maine at Machias, regardless of delivery method.
Contact Information: Liam Riordan, Chair, Department of History, 255 Stevens Hall, 581-1923, riordan@maine.edu or Wendy Morrill , Administrative Assistant II, Department of History, 255 Stevens, 581-1908

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The requirements listed on this page are specific to this particular major. Students are also responsible for meeting any graduation requirements set out by their college. Students in the College of Liberal Arts and Sciences (CLAS) should make sure to review those requirements as stated on the College of Liberal Arts & Sciences page of the catalog.
For more information about our undergraduate and graduate programs, program learning outcomes, internships, special resources and programs, and research and career opportunities, see our web site at https://umaine.edu/history/ .
Information about the History major
Majors must complete at least twelve three-credit courses in history, including:

1. At least 2 courses (1 must be upper level) from each of the following groups:
1. United States history
2. European history
3. The history of areas outside Europe and the United States or history with either a worldwide or a topical focus. Only one Canadian course may count.
2. Complete a minimum of twelve three-credit history courses, with a grade of "C" or better including:
1. Six intermediate/advanced level courses. (All 3XX or higher courses and no more than two 200 level courses).
2. HTY 311 , normally taken during the student's junior year.
3. At least four additional courses at any level to make up the minimum of 12. First and second year students are required to take 130.
4. HTY 498 , normally taken during the students final undergraduate year.

Interdisciplinary Studies in Multimodal Interaction

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Grade requirements for courses to count toward major: A grade of C- or better for any course counting toward the major. C or better in Capstone Experience courses and in Work Experience courses.
Required Course(s) for fulfilling Capstone Experience: HTI 490 (9 credits); HTI 499 (6 credits).
Courses satisfying the writing intensive requirement within the major: HTI 499

Other required course information: HTI 495 (18 CR.)
GPA requirements to graduate: 2.0.
Contact Information: Richard Corey, Director, VEMI Lab, Carnegie Hall, 207.581.2151, richard.r.corey@maine.edu

The Bachelor of Arts program in Interdisciplinary Studies allows students to integrate the problem solving and technological skills learned through hands-on research experience in the VEMI Lab with more traditional academic focus areas. The VEMI Lab coordinates the BA in Interdisciplinary Studies in Multimodal Interaction. The Lab is a multi-disciplinary environment where students learn and innovate to solve unmet challenges with technology. Students design an individualized major under the supervision of a Program Committee (see Requirements, below). The major requires a student integrate areas of interest (reflected in coursework) that, when combined with technology, creates a unique, personalized degree that meets individualized educational goals that cannot be achieved within any departmentally based major program.
Students who wish to pursue a BA in Interdisciplinary Studies in Multimodal Interaction must submit an application to the VEMI Director, in the form of video or written statement of intent and the areas of interest to the student. (See under Requirements, below.)
The unique feature of the major is its focus on working and learning in a laboratory, company or other approved facility that facilitates practical problem solving skills, hands on research experience, and direct experiential learning. Additionally, a rigorous capstone sequence of up to four semesters to prepare, execute, complete, and report results of an approved capstone project completes the integration of experiential learning and classroom study.
Normally at least three or four semesters at the University of Maine are needed to plan and complete these individualized programs of study, and it is recommended that students begin the process at the end of the sophomore year.
Upon completion of the major, a student will have a broad array of practical, professional skills. Students in the major will contribute to the economic and technological development of the state.
The requirements listed on this page are specific to this particular major. Students are also responsible for meeting any graduation requirements set out by their college. Students in the College of Liberal Arts and Sciences (CLAS) should make sure to review those requirements as stated on the College of Liberal Arts & Sciences page of the catalog.

REQUIREMENTS:
1. Students must submit a video (of no more than 3 minutes) or a written essay (of no more than 2 pages) to the Director of the VEMI Lab. Approval by the Director and the Associate Dean for Academics is required. The student may declare this major only after the proposal has been approved at the College level.
2. No more than 75 earned credit hours (including those transferred) by the student before the major is declared. Program proposals submitted after 75 credit hours have been earned will be considered only in extraordinary circumstances.
3. In consultation with the VEMI Lab Director, a student will compose a Program Committee of at least three faculty members, at least two of whom must be affiliated with the VEMI lab and have an appointment in the College of Liberal Arts and Sciences.
4. Completion of 33 credits as follows: HTI 495 , Work Experience 18 credits; and Capstone sequence, 15 credits (HTI 490 , 9 credits) and HTI 499 (6 credits).
5. Completion of at least 36 credits from at least two or three departments. If two departments, one must be in CLAS. If three departments, at least two must be in CLAS. At least 27 of these credits must be in upper-level courses (with prerequisites), and normally no more than 18 credits should be taken from any one department.
6. Minimum grade point average of 2.75
7. Before graduation, students will make a public presentation of the results of the capstone project, and submit a current resume and a Portfolio of work submitted.
8. Strong commitment to clear educational goals. Ability to work independently and to engage faculty members
The requirements listed on this page are specific to this particular major. Students are also responsible for meeting any graduation requirements set out by their college. Students in the College of Liberal Arts and Sciences (CLAS) should make sure to review those requirements as stated on the College of Liberal Arts & Sciences page of the catalog.

International Affairs

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0

Minimum number of credits required to complete the major: 39

Minimum Grade requirements for courses to count toward major: A "C" or better is required in all International Affairs courses counting towards the major, regardless of concentration.

Other GPA requirements to graduate: Cumulative GPA of 2.0 or better in the courses in the major field that are credited toward the major

Required Course(s) for fulfilling the Capstone Experience: Capstone course in major field of concentration on a topic in international affairs; or approved upper-level course in concentration modified to conform to capstone requirement; or directed research independent study in the major field of a concentration; or HON 498 /HON 499 on an appropriate topic.

Courses satisfying the writing intensive requirement within the major: Refer to the concentration listed below.

Residency Requirement: 18 credits (15 credits in the concentration plus capstone experience).

Contact Information: Timothy Cole, Associate Professor and Associate Dean for Academics, Director, 207.581.3844, tmcole@maine.edu.

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The requirements listed on this page are specific to this particular major. Students are also responsible for meeting any graduation requirements set out by their college. Students in the College of Liberal Arts and Sciences (CLAS) should make sure to review those requirements as stated on the College of Liberal Arts & Sciences page of the catalog.

For more information about our undergraduate and graduate programs, program learning outcomes, internships, special resources and programs, and research and career opportunities, see our web site at https://umaine.edu/internationalaffairs/

Information about the International Affair major

Course overlap: Students may only "double count" two courses (6 credits) to fulfill both IA and program requirements for a second major.

Journalism

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120

Minimum number of credits required to complete the major: 30

Minimum Cumulative GPA required to graduate: 2.0

Minimum Grade requirements for courses to count toward major: A grade of C- or better is required for all CMJ courses to fulfill a major requirement.

Other GPA requirements to graduate: Cumulative GPA of 2.0 or better in the courses in the major field that are credited toward the major.

Required Course(s) for fulfilling Capstone Experience: CMJ 489

Residency Requirement: 18 credits of CMJ courses must be taken at the University of Maine.

Contact Information: Judith Rosenbaum-Andre, Chair, 414 Dunn Hall, judith.rosenbaumandre@maine.edu

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The requirements listed on this page are specific to this particular major. Students are also responsible for meeting any graduation requirements set out by their college. Students in the College of Liberal Arts and Sciences (CLAS) should make sure to review those requirements as stated on the College of Liberal Arts & Sciences page of the catalog.

For more information about our undergraduate and graduate programs, program learning outcomes, internships, special resources and programs, and research and career opportunities, see our web site at https://cmj.umaine.edu/.

Information about the Journalism major

Students must earn a grade of C- or higher in CMJ 136 in order to continue in the Journalism major and to take the following CMJ courses:CMJ 237 , CMJ 332 , CMJ 351 ,CMJ 395 , CMJ 434 , CMJ 435 , CMJ 481 , CMJ 484 , and CMJ 489

Media Studies

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum number of credits to complete the major: 30
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: A grade of C- or better is required for all CMJ courses to fulfill a major requirement.
Other GPA requirements to graduate: A minimum accumulative GPA of 2.0 ("C") in the major.
Residency Requirement: 18 credits of CMJ courses at the University of Maine.
Required Course(s) for fulfilling Capstone Experience: CMJ 483
Contact Information: Judith Rosenbaum-Andre, Chair, 414 Dunn Hall, judith.rosenbaumandre@maine.edu

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The Department of Communication and Journalism offers three different B.A. degrees. These degrees are in: Communication, Journalism, and Media Studies.
Firmly grounded in the liberal arts, the B.A. degree in Media Studies provides students with a broad understanding of the roles of media in society. The degree prepares students for careers in the media and provides background in media studies theories and research issues necessary for graduate study in related communication fields, the humanities and social sciences.
Majors in Media Studies must complete a minimum of thirty (30) credits of required CMJ courses and additional coursework external to the major.
The external coursework must include at least 9 credits in the areas of Writing and Language.
The 9 credits of coursework in the areas of Writing and Language must include at least 3 credits in each of the two areas (6 credits from one area; 3 credits from the other). The Writing area includes the following courses: ENG 201 , ENG 205 , ENG 206 , ENG 301 , ENG 315 , ENG 317 , and ENG 415 . CMJ 136 can also be used to meet part of this requirement for Media Studies majors.
The Language area includes: French, German, Spanish, American Sign Language or other non-English languages.
The requirements listed on this page are specific to this particular major. Students are also responsible for meeting any graduation requirements set out by their college. Students in the College of Liberal Arts and Sciences (CLAS) should make sure to review those requirements as stated on the College of Liberal Arts & Sciences page of the catalog.

Mathematics

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum number of credits required to complete the major: BA 42; BS 54
Minimum Grade requirements for courses to count toward major: A "C" or better is required in any MAT or STS course to fulfill a major requirement.
Other GPA requirements to graduate: A minimum accumulative GPA of 2.0 ("C") in the major.
Required Course(s) for fulfilling Capstone Experience: MAT 401 or HON 498 and HON 499
Residency requirement: Majors in the College of Liberal Arts & Sciences require a minimum of 15 institutional credits in the major.
Contact Information: Andrew Knightly, Chair**,** Mathematics & Statistics, 237 Neville Hall, 581-3901, um.mathchair@maine.edu

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The BA and BS requirements listed on this page are specific to this particular major. Students are also responsible for meeting any graduation requirements set out by their college. Students in the College of Liberal Arts and Sciences (CLAS) should make sure to review those requirements as stated on the College of Liberal Arts & Sciences page of the catalog.
For more information about our undergraduate and graduate programs, program learning outcomes, internships, special resources and programs, and research and career opportunities, see our website at https://umaine.edu/mathematics/.
The Department of Mathematics maintains the Math Lab in 120 Neville Hall, where students enrolled in lower division mathematics courses can come to collaborate and get supplementary help with their homework assignments. Staffed by faculty and graduate assistants, the Math Lab is open during the academic year.
Information about the Mathematics major

Anthropology Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.

Minimum Grade requirements for courses to count toward minor: A C- or higher is required in ANT 101 and ANT 102 .
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine. A minimum of 9 credit hours must be at the 200-level or above.
Contact Information: Samuel Hanes, Chair, Associate Professor of Anthropology, 5773 S. Stevens Hall, (207) 581-1885, Fax: (207) 581-1823, samuel.hanes@maine.edu

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Anthropology is the study of human cultures, societies, and behavior in all parts of the world throughout all periods of history. There are four sub-disciplines: archaeology, the study of historic and prehistoric cultures and civilizations; socio-cultural anthropology, which is concerned with current cultures of all degrees of complexity; physical anthropology, the biological aspects of the human species; and anthropological linguistics, which is concerned with the scientific study of language and its relationship to thought and society. In the past, anthropologists tended to study people in small, tribal societies. In recent decades more attention has been given to peasantry and industrialized, urban societies and to the application of anthropology to understanding problems of these societies.
The Department of Anthropology focuses on archaeology and socio-cultural anthropology. Courses in biological/physical anthropology also are offered. In addition, the Department offers courses in folklore, oral history, and geography, which are closely related to anthropology.

Art History Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 21
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: C- or better in all ART & ARH required courses taken.
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Justin Wolff, Professor & Chair, Department of Art, 107 Lord Hall, (207) 581-3245, justin.wolff@maine.edu

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Chemistry Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 24
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: Chemistry minors must earn a C- or better.
Other requirements: A minimum of 14 credit hours must be completed at the University of Maine.
Contact Information: Alice E. Bruce, Professor and Chair, 5706 Aubert Hall, Room 154, (207) 581-1168, abruce@maine.edu

A minor in Chemistry is intended to broaden the academic base of students who already have a solid scientific background in areas such as biology, microbiology, biochemistry and engineering. The curriculum exposes students to the first two years of introductory chemistry and provides additional knowledge at a more advanced level in an area of the student's choice. Students must take a minimum of 24 credits from the following list, including at least one 400 level CHY course. At least 14 credits must be taken at the University of Maine.
A 500 level chemistry course can be used to fulfill the minor requirement by obtaining permission from the course instructor and academic advisor. No grade below a C- will be accepted toward these requirements.

Computer Science Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 19-23
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: A "C" or higher inCOS 125 , COS 140 , and COS 225
Other requirements: A minimum of 19 credit hours must be completed at the University of Maine.
Contact Information: Roy Turner and Christopher Dufour, Undergraduate Coordinators, School of Computing and Information Science, (207) 581-3909 and (207) 581-2951, rturner@maine.edu, christopher.dufour@maine.edu

A minor in Computer Science requires at least 19-23 credit hours of COS courses taken within the COS department at the University of Maine. The Computer Science minor will take at least two years to complete.

Dance Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: None.
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Philip Edelman, Associate Professor, Director of the School of Performing Arts, Class of 1944 Hall, Room 208, 207.581.1257, philip.edelman@maine.edu

The minor in dance is designed to provide the student with basic foundational courses in dance technique, as well as in choreography, history, and production, all with a focus toward performance. Students will receive dance technique training in ballet, modern, tap, and jazz. In addition, students will study composition and gain expertise in choreography. Students will study dance history and will be involved in the many aspects of creating a performance, from advertising to backstage and house management. All dance students are encouraged to participate in the annual dance concert as well as informal studio showings and the activities of the UMaine Dance Club. Production credits may be available for these efforts.

English Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18

GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: A "C-" or better is required in all English Minor courses.
Other requirements: A minimum of 12 credit hours must be completed at the University of Maine.
Contact Information: Steven Evans, Associate Professor, Department Chair, Department of English, 304 Neville Hall, 207.581.3822, steven.evans@maine.edu

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18 credits of English courses are required, **excluding ENG 100 and ENG 101**.

History Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: A "C" or better is required in all History (HTY) courses taken.
Department Residency Requirement: At least 9 credits must be earned from the History Department at the University of Maine.
Contact Information: Liam Riordan Chair, Department of History, Room 255 Stevens, (207) 581-1905, riordan@maine.edu or Wendy Morrill, Administrative Assistant, Department of History, Room 255 Stevens, (207) 581-1908

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A minor in History shall consist of at least 18 credits, of which at least 9 must be at the 300-level or above.
Students minoring in History must achieve a "C" or better and maintain an overall GPA of 2.0 in all History courses to be applied to the minor.
At least 9 credits must be earned from the History Department at the University of Maine. For purposes of this requirement, institutional credit is defined as all University of Maine (Orono) courses regardless of delivery of method (face-to-face, online, ITV, etc.).

Jazz Studies Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 19
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: None.
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Dan Barrett, Advisor, Minor in Jazz Studies, Class of 1944 Hall, 581-1238

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The Minor in Jazz Studies offers students an in-depth experience with jazz, which was designated an American National Treasure by the 100th U.S. Congress in 1987. The Objective is for the students to develop skills in jazz theory, composition, and performance, which will allow them to continue to be involved in this music throughout their musical lives.
The program is centered on the study of jazz through the art of improvisation, or spontaneous musical composition. Rather than simply learning about jazz and improvisation, students will spend their time practicing and developing listening skills and instrumental skills, so that they can comfortably improvise in various jazz styles in a solo or group setting. Multiple public performances are built into the required courses. In addition, highly specific arranging and keyboard skills are developed and used as part of the materials to be covered.
Students who elect this program must play a musical instrument pitched in C, Bb, or Eb, capable of single-note pitches and a full chromatic scale. Vocalists and percussionists will need to play an instrument that meets these criteria as well, although there are

also opportunities to sing and play drum set.

Legal Studies Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: A minimum grade of "C-" must be obtained in each course used to satisfy the minor requirements.
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Mark D. Brewer, Professor, 113A Boudreau Hall, (207) 581-1871, mark.brewer@maine.edu

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In antiquity, Socrates held that the laws were his "true parent." For then as now, laws help to constitute and regulate family, school, church, commercial, and governmental institutions. They therefore affect the lives of everyone throughout, although conversely human beings make the law. Legal foundations, developments, and effects are consequently of intrinsic interest and concern to many disciplines and their students. The Legal Studies curriculum is accordingly designed not so much for the pre-law student, as for any student whose liberal education seeks to understand the formative bases of human civilization and culture.
The campus advisor for the Legal Studies Minor is Professor Mark Brewer of the Political Science Department (113A Boudreau Hall). Questions about the Legal Studies Minor should be directed to him at (207) 581-1863 or mark.brewer@maine.edu
For information about general pre-law studies and/or advice for students interested in attending law school, contact Pre-Law advisor Lisa M. Carter (300 Memorial Union) at (207) 581-1359 or lisa.m.carter@maine.edu
Requirements:
A Minor in Legal Studies shall consist of 18 credit hours in courses that focus primarily on legal matters. A minimum grade of "C-" must be obtained in each course used to satisfy the minor requirements. A minimum of 9 Legal Studies credits must be taken at UMaine. A list of courses that count toward the minor appears below. Departments occasionally offer other courses on legal topics that may count as well. Students should contact the campus advisor for the Legal Studies Minor (Professor Mark Brewer) in order to determine if a particular course not listed below would count toward the minor.

Maine Studies Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: A grade of "C" or better is required in all Maine-related courses counting towards minor.
Other requirements: A minimum of 12 credit hours must be completed at the University of Maine.
Contact Information: Liam Riordan, Professor, Chair, Department of History, 207.581.1913, riordan@maine.edu

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The minor in Maine Studies explores Maine's cultural, historical, and physical landscapes. While of value to anyone interested in Maine, the minor is especially useful for those planning to work in fields such as education, tourism, social work, health care, business, and public policy. To complete the minor, students take a minimum of 18 credits in Maine-related courses, including MES 101, Introduction to Maine Studies, and MES 201, The Maine Coast. A minimum of 12 credits hours must be University of Maine courses. Courses can be on campus, online, or a combination.
Students interested in the Maine Studies minor should contact the Maine Studies office 207-581-1840 or at email: folklife@maine.edu

Mathematics Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 24
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: A "C" or better is required in all Math (MAT) and Statistics (STS) courses.
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Jack Buttcane, Department of Mathematics and Statistics, Room 237 Neville Hall, 581-3907, jack.buttcane@maine.edu

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The minor in mathematics consists of 24 credits: 12 credits from the three core calculus courses (MAT 126 , MAT 127 , and MAT 228) and 12 credits from a broad selection of approved elective mathematics courses. Elective courses must include at least one 3-credit MAT course at 400-level or above, and may include at most one approved 3 credit course without an MAT prefix (i.e. an approved STS course or an approved course from outside the the Department of Mathematics and Statistics).
Approved MAT elective courses at 200 or 300 level include:

- MAT 258 - Introduction to Differential Equations with Linear Algebra %credits:%
- MAT 259 - Differential Equations %credits:%
- MAT 261 - Introduction to Abstract Mathematics %credits:%
- MAT 262 - Linear Algebra %credits:%
- MAT 362 - Linear Algebra II %credits:%

Students who are interested in a Mathematics minor and for whom MAT 258 is required by their major programs are advised to take MAT 259 and MAT 262 (to replace MAT 258). If MAT 258 is selected, neither MAT 259 nor MAT 262 can be used because of overlapping material.
Approved elective MAT courses at upper-level include:

- Almost all MAT classes at 400 or 500 level

Approved non-MAT elective courses include:

- CHE 350 - Statistical Process Control and Analysis %credits:%
- CHE 352 - Process Control %credits:%
- COS 454 - Data Structures and Algorithms %credits:%
- ECE 314 - Signals and Systems %credits:%
- ECE 316 - Random Signal Analysis %credits:%
- ECE 351 - Fields and Waves %credits:%
- ECE 414 - Feedback Control Systems %credits:%
- ECE 486 - Digital Signal Processing %credits:%
- MEE 370 - System Dynamics and Introductory Control %credits:%
- MEE 444 - Robot Dynamics and Control %credits:%
- MEE 456 - Introduction to the Finite Element Method %credits:%
- MEE 459 - Engineering Optimization %credits:%
- PHY 472 - Geometrical and Fourier Optics %credits:%
- STS 235 - Introduction to Statistical Methods
- STS 434 - Probability Theory

• STS 437 - Statistical Methods in Research

To enquire whether a particular course is approved for the minor please contact the mathematics department at 581-3901.

Music Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18-19
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: C- or better.
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Anatole Wieck, Professor of Music, Class of 1944 Hall, 207.581.1260, wieck@maine.edu

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The minor in music is designed to give the student a significant educational experience in the musical arts. An audition is not required for admission, however auditions are required for some performing ensembles. Students must take a total of 18 credits.

Philosophy Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: Cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward the minor.
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Derek Michaud, Chair, Department of Philosophy, 109 The Maples, (207) 581-3890, derek.a.michaud@maine.edu

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Philosophy minors must take at least 18 credits in Philosophy. At least 9 of those credits must be taken at the University of Maine. At least 6 credits must be taken at the 300 level or higher.

Political Science Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: C-
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Mark Brewer, Professor and Chair, 113a Boudreau Hall, (207)581-1863, mark.brewer@maine.edu

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A minor in Political Science shall consist of at least 18 credits. Students are required to take POS 100 - American Government . The remaining 15 credits may be chosen by the student from our list of Political Science courses. A minimum of nine (9) POS

credits must be taken at UMaine. A maximum of 3 pre-approved internship/field experience credit hours can be used towards the minor. Students must earn grades of "C-" or better in POS courses to count towards the minor.

Technical and Professional Communication

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: A "C-" or better is required in all Technical and Professional Communication Minor courses.
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Department of English, 581-3822, english.chair@maine.edu

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Students from all fields of study can add a professional credential to a degree by studying the kinds of writing that will be important to their professions. Courses in the minor enable students to analyze audiences and writing situations and to write persuasively in professional contexts. Students learn to develop newsletters, to write reports and proposals, and to prepare other paper and electronic texts in corporate and nonprofit settings. Students also may learn to prepare operating manuals, instructions, specifications, and other technical documents.

Psychology Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: No courses for the Psychology minor may be taken Pass/Fail
Other requirements: A minimum of 9 psychology credit hours must be completed at the University of Maine.
Contact Information: Ben Guenther, Department of Psychology Undergradaute Coordinator, (207)581-2025, benjamin.guenther@maine.edu

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Any 18 credits of Psychology (PSY) courses constitute a minor in Psychology. No more than six credits total of PSY 492 and PSY 493 may be used toward the 18 credits. A minimum of 9 psychology credits must be taken at the University of Maine.

Sociology Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: No courses for the Sociology minor may be taken pass/fail.
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Karyn Sporer, Chair, Department of Sociology, Fernald Hall, Room 201G, 207.581.2361, karyn.sporer@maine.edu

Studio Art Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 21
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: Students must have a "C - "
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Justin Wolff, Professor & Chair, Department of Art, 107 Lord Hall, (207) 581-3245, justin.wolff@maine.edu

The minor in studio art is designed for non-majors who are interested in developing a basic understanding of art theory, processes, and media. A total of 21 credits is required. Transfer credit is subject to approval by the Department of Art studio faculty.

Theatre Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18-20
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: C
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Philip Edelman, Associate Professor, Director of the School of Performing Arts, Class of 1944 Hall, Room 208, 207.581.1257, philip.edelman@maine.edu

The minor in theatre is designed to provide the student with a basic knowledge and appreciation of theatre. Students take 18-20 credits, consisting of: 6-8 credits of fundamentals,
9 credits of theatre electives, and 3 credits of theatre practicum.

Women's, Gender, and Sexuality Studies Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Students graduating with a minor in a WGS must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine. At least six of the these 18 credits must be at the 300 level or higher.
Contact Information: Elizabeth Neiman, Director, 422 Chadbourne. Hall, 207.581.3439, elizabeth.neiman@maine.edu

The minor in Women's, Gender, and Sexuality Studies, approved in 1989, is an interdisciplinary program with faculty from a variety of academic units on campus. WGS minors will gain a more complete understanding of how the social construction of gender has influenced the roles, contributions, and experiences of all individuals. Students also explore how gender and sexuality interact with race, social class, dis/ability, nationality, ethnicity, and other sites of social inequality. In providing this robust critical framework, the

WGS minor complements and enhances student work in a wide range of disciplines, such as anthropology, biology, English, education, history, nursing, political science, psychology, social work, and sociology. A WGS minor helps prepare students for careers in law, education, business, social services, health services, and government at all levels. At least six of the eighteen credits must be at the 300 level or higher.

Music

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: None.
Minimum Grade requirements for courses to count toward major: A "C-" or better is required in all music courses required for the major, including electives taken to meet the music requirements. Any student who receives a semester grade lower than "C-" for applied lessons is automatically dropped from the program and must re-audition for re-admission.
Other GPA requirements to graduate: Cumulative GPA of 2.0 or better in the courses in the major field that are credited toward the major.
Required Course(s) for fulfilling Capstone Experience: MUS 498 ; HON 498 and HON 499 (BA only) may replace MUS 498 (Senior Capstone) if the student seeks permission from the BA in Music advisor prior to beginning thesis work; thesis work must be comparable to work done in MUS 498 in order to be approved. The thesis proposal form must be signed by the chair of the Division of Music.
Residency requirement: Majors in the College of Liberal Arts & Sciences require a minimum of 15 institutional credits in the major.
Contact Information: Philip Edelman, Associate Professor, Director of the School of Performing Arts, Class of 1944 Hall, Room 208, 207.581.1257, philip.edelman@maine.edu

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Entrance Requirements for all Music Degree Programs:
In addition to meeting the University's admission standards, applicants must demonstrate musical ability in performance on their major instruments or voice before a jury of the music faculty. Before the University can review your application for admission, applicants must pass an audition. Music Education majors must also submit an essay one week prior to their audition. (Consult the Music Division Undergraduate Handbook for details.) Space is limited in these majors and students need to apply and audition early. To ensure full consideration, please audition and apply no later than February 1st for Fall admission. Auditions are arranged through the Music Division office, where a listing of audition requirements for the various disciplines may be obtained. A student is considered a music major upon:

1. acceptance based upon audition and interview;
2. maintenance of grade point average consistent with college requirements, and;
3. enrollment for credit in courses appropriate to his/her level within music curriculum.

Because of the sequence of music courses and because of the extent of requirements for majors, it is necessary that in order for a student to "remain a music major in good standing," a student must be enrolled in all required courses, in consultation with their advisor. The expectation is that students "stay on track" and show consistency in preparation as well as attendance. Any student requesting "Special Student" status will warrant the fees associated with non-majors.
Applied Music Fees:
For music majors as well as non-majors a fee will be charged for private instruction. Private instruction for the non-music major is contingent on the student's level of performance as determined by audition, and on the availability of studio time of the instructor. Arrangements for such instruction and assignment of a teacher must be made through the office of the Music Division, School of Performing Arts. Practice facilities are provided in the Class of 1944 Hall. The University provides, so far as possible, practice

opportunities for students who take applied music for credit.

Courses in Applied Music

The Division of Music provides private instruction in instruments and voice:

- MUS 201 For Bachelor of Arts in Music and music minors, individual applied instrumental lessons or voice lessons. May be repeated for credit. Section number designates instrument or voice.
- MUS 210 For Music Education or Music Performance majors. Individual applied instrumental music lessons for the first four semesters. Repeated for credit until Junior Standing examination is passed. Section number designates instrument or voice.
- MUS 350 For Music Education majors. Individual applied instrumental or voice music lessons after having passed the Junior Standing examination. May be repeated for credit. Section number designates instrument or voice.
- MUS 450 For Music Performance majors. Individual applied instrumental or voice music lessons after having passed the Junior Standing examination. May be repeated for credit. Section number designated instrument or voice.

All music majors enrolled in applied music are required to enroll in MUS 100 (Recital Laboratory) each semester of study.

Bachelor of Arts in Music

Note: The BA in Music does not qualify the graduate for certification as a public school music teacher.

- Candidates for the degree must, before graduation, attain a level of performing ability equivalent to that required for the Junior Standing exam in the BM degree program. Requirements for this exam are set by each instrumental area.
- A senior project will be accomplished under the guidance of an assigned faculty member during the final semester of the senior year. This project (3 credits) will be chosen from one of the following areas: a research paper, an original composition, or a lecture/recital by special permission.

Music Education

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 130

Minimum Cumulative GPA required to graduate: 2.0

Minimum Grade requirements for courses to count toward major: A "B-" or higher is required for all MUE Courses that are credited toward the major. In addition, a "B-" or higher is required for SED 302, EHD 202, and EHD 203. A "C-" or better is required in all music courses required for the major, including electives taken to meet the music requirements. Any student who receives a semester grade lower than "C-" for applied lessons is automatically dropped from the program and must re-audition for re-admission.

Other GPA requirements to graduate: Cumulative GPA of 2.0 or better in the courses in the major field that are credited toward the major.

Required Course(s) for fulfilling Capstone Experience: 12 credits of EHD 494

Residency requirement: Majors in the College of Liberal Arts & Sciences require a minimum of 15 institutional credits in the major.

Contact Information: Philip Edelman, Associate Professor, Director of the School of Performing Arts, Class of 1944 Hall, Room 208, 207.581.1257, philip.edelman@maine.edu

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Information about the Music Education major

This is a four-year professional degree for students who intend to make music a career either as a public school teacher or supervisor of music. The degree provides for many professional opportunities and serves also as preparation for graduate study in music. Upon satisfactory completion of the music education course of study, the student is certified to teach music at both the elementary and secondary levels. A half hour recital is required in the junior year. All students elect an instrumental concentration or a vocal concentration, however, a double concentration (instrumental/vocal) is available, to be noted on student's transcript, for B.M. Education majors. All music education students must pass a piano proficiency examination before graduation. All students in the music education degree must successfully complete a comprehensive methods proficiency exam before the student teaching capstone experience.

Bachelor of Music in Music Education Ensemble Requirements

(8 credits required):

Instrumental Concentration:

1. Five credits in any large instrumental ensemble-credit in both the marching and jazz areas is strongly recommended.
2. Two credits in any vocal or instrumental ensemble-small ensemble credit is strongly recommended.
3. One credit in a large vocal ensemble.

Vocal Concentration:

1. Five credits in University Singers, Oratorio Society or Collegiate Chorale.
2. Two credits in any vocal or instrumental ensemble-- small ensemble credit is strongly recommended.
3. One credit in a large instrumental ensemble or lab band, MUE 403.

Guitar Students:

Follow requirements for either Vocal or Instrumental concentration.

Piano concentration:

Vocal Track: Follow requirements for Vocal concentration.
Instrumental Track: Follow requirements for Instrumental concentration. See Music Division Undergraduate Handbook for a list of large and small ensembles.

Music Performance

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0.
Minimum Grade requirements for courses to count toward major: A "C-" or better is required in all music courses required for the major, including electives taken to meet the music requirements. Any student who receives a semester grade lower than "C-" for applied lessons is automatically dropped from the program and must re-audition for re-admission.
Other GPA requirements to graduate: Cumulative GPA of 2.0 or better in the courses in the major field that are credited toward the major.
Required Course(s) for fulfilling Capstone Experience: Full hour recital required in Senior year.
Residency requirement: Majors in the College of Liberal Arts & Sciences require a minimum of 15 institutional credits in the major.
Contact Information: Philip Edelman, Associate Professor, Director of the School of Performing Arts,Class of 1944 Hall, Room 208, 207.581.1257, philip.edelman@maine.edu

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For more information about our undergraduate and graduate programs, program learning outcomes, internships, special resources and programs, and research and career opportunities, see our web site at https://umaine.edu/spa/
The Bachelor of Music in Performance is designed to assist the music student to prepare for a career in music performance. This degree is offered for the following applied areas: standard orchestral and band instruments, piano, voice and pipe organ. Emphasis is placed on performance; studies in music theory, music history, and the liberal arts are also included. Graduation requirements include appropriate proficiency in playing or singing a substantial and varied repertoire, and musicianship of a high order. A 45 minute recital is required in the junior year. A full hour recital, fulfilling the capstone requirement, is required in the senior year.

New Media

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum number of credits required to complete the major: 51-52
Minimum Grade requirements for courses to count toward major: New Media majors must have a "C-" or better in each course credited to the major.
Other GPA requirements to graduate: Cumulative GPA of 2.0 or better in the courses in the major field that are credited toward the major.
Required Course(s) for fulfilling Capstone Experience: NMD 498 and NMD 499
Residency Requirement: 24 credits
Course satisfying the writing intensive requirement within the major: NMD 498
Contact Information: Velma Figgins, Administrative Specialist, 5711 Boardman Hall, Room 348, 207-581-4358

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For more information about our undergraduate program, program learning outcomes, internships, and career opportunities see our web site for a complete description at https://umaine.edu/newmedia/
Information about the New Media major

Philosophy

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum number of credits required to complete the major: 30
Minimum Grade requirements for courses to count toward major: A cumulative grade of 2.0 or better is required in Philosophy courses counting towards major.
Other GPA requirements to graduate: Cumulative GPA of 2.0 or better in the courses in the major field that are credited toward the major; a grade of C- or higher must be achieved in PHI 475 Philosophy Capstone
Required Course(s) for fulfilling Capstone Experience: PHI 475 or HON 498 and HON 499 on an approved topic in Philosophy and advised (or co-advised) by a philosophy faculty member. Department approval is required. Contact the chair of the department of philosophy prior to pursuing this route to discuss this process and secure permission.
Courses satisfying the writing intensive requirement within the major: PHI 201 , and PHI 475
Residency requirement: Majors in the College of Liberal Arts & Sciences require a minimum of 15 institutional credits in the major.

Contact Information: Derek Michaud, Chair, Department of Philosophy, The Maples 109, 581-3890, derek.a.michaud@maine.edu

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For more information about our undergraduate program, program learning outcomes, internships, special resources and programs, and research and career opportunities, see our web site at https://umaine.edu/philosophy.
Completion of the College of Liberal Arts and Sciences requirement for the B.A. degree (for students admitted for Fall 2011 and after), including a minor outside the field of the major or a double major. For students admitted prior to Fall 2011, the old B.A. requirements remain in effect unless you choose to adopt the new B.A. requirements. If you have questions, please consult your advisor.

Physics

OVERVIEW OF DEGREE REQUIREMENTS - Bachelor of Arts and Bachelor of Science in Physics

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum number of credits required to complete the major: BA 38; BS 55 (plus requirements in related disciplines)
Minimum Grade requirements for courses to count toward major: Physics courses require a C- or better to satisfy a prerequisite.
Other GPA requirements to graduate: Cumulative GPA of 2.0 or better in the courses in the major field that are credited toward the major.
Required Course(s) for fulfilling Capstone Experience: PHY 400 and PHY 481 or PHY 400 and PHY 482 . HON 498 /HON 499 are exempt from taking PHY 481 (Project Laboratory in Physics I) and PHY 482 (Project Laboratory in Physics II) but do have to complete the project assignments in those courses. Honors thesis proposal form must have the signature of the chair of the Department of Physics and Astronomy.
Courses satisfying the writing intensive requirement within the major: PHY 364 and PHY 365
Residency requirement: Majors in the College of Liberal Arts & Sciences require a minimum of 15 institutional credits in the major.
Contact Information: John Thompson, Chair and Professor, Department of Physics and Astronomy, 120 Bennett Hall, 207.581.1016, physics@maine.edu

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For more information about our undergraduate and graduate programs, program learning outcomes, internships, special resources and programs, and research and career opportunities, see our web site at https://physics.umaine.edu/.
Information about the Physics major

- The Department also offers a Bachelor of Science in Engineering Physics in the Maine College of Engineering and Computing. This BS degree is designed for students who are interested in both a particular engineering field and the physics and mathematics that provide a foundation for that field. This program is described under Engineering Physics in the Maine College of Engineering and Computing section of this catalog.
- Physics and Cooperative Education
- Physics majors in good standing who have completed 18 credits in physics may participate in the Cooperative Education Program. Cooperative Education is the integration of practical work experience, obtained through specific periods of employment in industry, business, or

government, into the on-campus classroom and laboratory course curriculum. A student in the Cooperative Education Program works as a paid employee in a professional environment at a job selected by mutual agreement with the student, employer, and the Cooperative Education Coordinator in the Department of Physics and Astronomy. Academic credit is received through enrollment in PHY 496 - Field Experience in Physics .

Political Science

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum number of credits required to complete the major: 36
Minimum Grade requirements for courses to count toward major: A "C-" or better is required in all Political Science (POS) courses counting towards the major.
Other GPA requirements to graduate: Cumulative GPA of 2.0 or better in the courses in the major field that are credited toward the major.
Required Course(s) for fulfilling Capstone Experience: POS 499 or HON 498 /HON 499 on a topic in political science. The thesis proposal form must have signature of the chair of the Department of Political Science.
Courses satisfying the writing intensive requirement within the major: HON 499 , POS 301 , POS 303 , POS 304 , POS 308 , POS 453 , POS 467 , POS 499
Residency requirement: A minimum of 18 of the 36 POS credits required must be completed at the University of Maine
Contact Information: Mark Brewer, Professor and Chair, 113A Boudreau Hall (207) 581-1863, mark.brewer@maine.edu

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Information about the Political Science major
Major Requirements:

- POS 100 , American Government.
- The 36 credits minimum in POS courses must be distributed as follows and at least 21 of the 36 credits must be at the 300, 400, or 500-level:
- American Politics (6 cr.)
  International Relations (6 cr.)
  Comparative Politics (6 cr.)
  Political Theory (6 cr.)
  POS Electives (POS 100 may be used as an elective) (12 cr.)
- Majors within the department may not receive more than a total of 12 credits toward graduation for any combination of internships and field experience, and not more than 6 credits may be used toward the departmental major. A field supervisor normally participates in the evaluation of an internship or field experience course.

Psychology

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum number of Psychology credits required to complete the major: 38
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: major: A "C-" or better is required in all Psychology Foundations classes (PSY 100 , PSY 241 , and PSY 245) and in the Capstone Experience (PSY 491 or PSY 494 , or HON 499).
Other GPA requirements to graduate: Cumulative GPA of 2.0 or better in the courses in the major field that are credited toward the major.
Required Course(s) for fulfilling Capstone Experience and Writing Intensive Requirement within the Major: PSY 491 or 3 credits of PSY 494 with a C- or better or HON 498 and HON 499 . In addition, HON 499 will be accepted as a capstone experience for all students in Psychology if a Psychology Department faculty member serves as a committee member and approves the topic as related to psychology. The thesis proposal form must be signed by the chair of the Department of Psychology.
Residency Requirement: A minimum of 18 credits must be taken in the Psychology Department at the University of Maine
Contact Information: Thane Fremouw, Chair, Department of Psychology, 301 Williams Hall, thane.fremouw@maine.edu (207) 581-2033 or Benjamin Guenther, Undergraduate Coordinator, Department of Psychology, 356 Williams Hall, benjamin.guenther@maine.edu (207) 581-2025

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For more information about our undergraduate and graduate programs, program learning outcomes, internships, and special resources and programs see our web site at https://umaine.edu/psychology/.
Information about the Psychology major
The Department of Psychology offers students the opportunity to gain an understanding of the many diverse and fascinating aspects of human behavior through instruction that is designed to acquaint students with psychology as science. Students majoring in Psychology learn how behavior develops in childhood and in adolescence, how individuals perceive the world around them, how we think and remember, and how we interact with other people.
In addition to the classroom courses, students can take PSY 492 - Problems in Psychology , an individualized research experience, where they work closely with faculty on research projects in areas such as depression, anxiety, risk-taking, children's peer relationships, aging and creativity. Students may also take PSY 493 in Psychology, where they earn credit for on-the-job experience in the community, working in mental health, social services, and other settings involved in activities related to professional psychology.
General requirements for the Bachelor of Arts in Psychology

- A minimum of 38 credits in psychology courses (Note: 60 credits in psychology is the maximum number of credit hours that will count toward the 120 credits needed to graduate, if psychology is the primary major.)
- A "C-" or better is required in all Psychology foundation classes (PSY 100 , PSY 241 , PSY 245 and in the Capstone Experience (PSY 491 or PSY 494 , or HON 499).
- Majors must accumulate a minimum grade point average of 2.0 in PSY courses that are credited toward completion of the major.
- No more than 3 credits of PSY 492 - Problems in Psychology or PSY 493 - Field Experience in Psychology may count towards the 38 credits required for the major.
- No more than three credits of PSY 493 - Field Experience in Psychology may count toward the 35 credits required.
- Students who transfer from other institutions must take a minimum of 18 credits within the department and the department must approve all transfer courses applied to the major.
- Psychology majors planning on attending graduate school in psychology are encouraged to

consider the Research Intensive Track within the major. In addition to the regular major requirements, students in the Research Intensive Track are required to take the following courses :

A. 6 Credits of PSY 492 - Problems in Psychology . These credits should normally be taken with a single instructor and should be completed by the end of the junior year.

B. PSY 494 - Senior Research Project

C. At least one course not used to fulfill the 400 level course for the concentration from the following list of advanced courses: PSY 401 - Health Psychology ; PSY 412 - Foundations of Clinical Psychology ; PSY 424 - Abnormal Child Psychology ; PSY 425 - Social Issues in Developmental Psychology ; PSY 430 - Current Topics in Social Psychology ; PSY 466 - Cognitive Neuroscience ; or any 500-level course

Note: Courses numbered 500-599 are graduate courses that are open to both undergraduate and graduate students. Junior and/or senior psychology majors may enroll in one or more of these courses with permission from the instructor.

Romance Languages

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum number of credits required to complete the major: 30
Minimum Grade requirements for courses to count toward major: None.
Other GPA requirements to graduate: Cumulative GPA of 2.0 or better in the courses in the major field that are credited toward the major
Required Course(s) for fulfilling Capstone Experience: FRE 495 or SPA 495 ; HON 498 /HON 499 may be used as long as the student uses the languages in which he or she is majoring. The Honors thesis and/or presentation should be done in the language or the majority of the work should be done in the language. The thesis proposal form must be signed by the chair of the Department of Modern Languages and Classics.
Residency requirement: Majors in the College of Liberal Arts & Sciences require a minimum of 15 institutional credits in the major.
Contact Information: Carlos Villacorta, Department Chair, Associate Professor of Spanish, 201 Williams Hall, (207) 581-2072, carlos.villacorta@maine.edu

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Information about the Romance Languages major
General Requirements:

1. Demonstration of listening comprehension, oral, reading, and writing proficiency (students who have not received at least a "B" in FRE 305 or FRE 306 , and SPA 305 or SPA 306 may be required to take a test in language skills)
2. Demonstration of comprehensive coverage of literature and civilization through successful completion of appropriate course work

Special requirements:
Total number of credits: 36.

• A minimum of 6 credit-hours in the intermediate level in Spanish must be taken.
• A minimum of 6 credit-hours in the intermediate level in French must be taken.
• 9 credit-hours in French beyond the intermediate level.
• 9 credit-hours in Spanish beyond the intermediate level.
• MLC 210 - Introduction to Modern Languages (3 credits)
• At least one 400-level course in Spanish or French (3 credits)
• Or Capstone (3-6 credits).

Sociology

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum number of credits required to complete the major: 33
Minimum Grade requirements for courses to count toward major: At least a "C" in either ENG 201 , or ENG 315 , or ENG 317 ; at least a "C-" in a advanced methods course; at least a "C" in each of the Core Requirements except for SOC 101 .
Other GPA requirements to graduate: Cumulative GPA of 2.0 or better in the courses in the major field that are credited toward the major.
Required Course(s) for fulfilling Capstone Experience: SOC 499 or three credits of SOC 493 or successful completion of an Honors College thesis
Courses satisfying the writing intensive requirement within the major: SOC 290 and SOC 308
Residency Requirement: At least 15 credits of UM Courses (excluding SOC 101)
Contact Information: Karyn Sporer, Chair, Fernald Hall, Room 201G, 207.581.2361, karyn.sporer@maine.edu

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Core requirements (12 credits): (all core requirements except for SOC 101 must be passed with a "C" or better)
SOC 101 - Introduction to Sociology
SOC 290 - Research Foundations in Sociology
SOC 360 - Major Ideas in Sociology
SOC 499 - Senior Capstone
Sociology Electives (15 credits): (At least 6 of the 15 credits must be 300 or 400-level Sociology courses).
SOC majors are allowed to count up to two CRJ courses as electives
Advanced Methods Course (3 credits): (One of the following courses must be passed with a grade of "C- or better)
SOC 293 - Statistical Reasoning in Sociology
SOC 291 - Qualitative Reasoning in Sociology
ANT 448 - Ethnography Through Film
CMJ 402 - Communication Research
PHI 103 - Think!
PSY 241 - Statistics in Psychology
STS 215 Introduction to Statistics for Business and Economics [Inactive]
STS 132 - Principles of Statistical Inference
Introduction to Statistical Methods
STS 434 - Probability Theory
SWK 491 - Methods of Social Work Research
WGS 205 - Introduction to Feminist and Critical Data Analysis

Allowable Advanced Methods Courses on Other UMS Campuses:
USM's SOC 301- Qualitative Research Methods
UMM's ENV 226/326 - Undergraduate Research in Environmental Studies
UMPI's SWK 410 - Social Work Research
UMF's EPP 304 - Environmental GIS
English Proficiency (3 credits): (Not required for Honors Students who complete the Honors Program's four-semester Civilizations sequence.)
All Sociology majors must complete the English Proficiency requirement by the time they graduate. ENG 201 - Strategies for Writing Across Contexts or ENG 315 - Research Writing in the Disciplines or ENG 317 - Business and Technical Writing , fulfill this requirement (with a grade of "C" or better)
Transfer students declaring Sociology must take 15 credits of UM courses (excluding SOC 101 to acquire the BA in Sociology).
Sociology majors who complete HON 498 and HON 499 under the supervision of a sociology faculty member are exempted from taking SOC 499, provided that (1) sociology is the student's primary major and (2) the honors thesis research process involves substantial use of sociological research methods and engagement with sociological literature, as determined by the supervising sociology faculty member.

Spanish

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum number of credits required to complete the major: 36
Minimum Grade requirements for courses to count toward major: None.
Other GPA requirements to graduate: Cumulative GPA of 2.0 or better in the courses in the major field that are credited toward the major.
Required Course(s) for fulfilling Capstone Experience: SPA 495 and SPA 4XX; HON 498 /HON 499 may be used as a capstone course for the language major as long as the student uses the language in which he or she is majoring. The Honors thesis and/or presentation should be done in the language or the majority of the work should be done in the language. The thesis proposal form must be signed by the chair of the Department of Modern Languages and Classics.
Courses satisfying the writing intensive requirement within the major: SPA 305 , SPA 306 , SPA 309 , SPA 414 and SPA 444
Residency requirement: Majors in the College of Liberal Arts & Sciences require a minimum of 15 institutional credits in the major.
Contact Information: Carlos Villacorta, Department Chair, Associate Professor of Spanish, 201 Williams Hall, (207) 581-2072, carlos.villacorta@maine.edu

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For more information about our undergraduate and graduate programs, program learning outcomes, internships, special resources and programs, and research and career opportunities, see our web site at https://umaine.edu/mlandc.
Information about the Spanish major

- Demonstration of listening comprehension, oral, reading, and writing proficiency (students who have not received at least a "B" in SPA 305 or SPA 306 may be required to take a test in languages skills)
- Demonstration of comprehensive coverage of literature and civilization through successful completion of appropriate course work
- A minimum of 36 credit hours, 30 of which must be beyond the intermediate level (300 or higher) and MLC 210 .

Studio Art

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: Majors must have "C-" or better in all required ART and ARH courses.
Other GPA requirements to graduate: A minimum cumulative GPA of 2.0 in the major.
Courses satisfying the writing intensive requirement within the major: ART 499
Residency requirement: Majors in the College of Liberal Arts & Sciences require a minimum of 15 institutional credits in the major.
Contact Information: Justin Wolff, Professor & Chair, Department of Art, 107 Lord Hall, (207) 581-3245, justin.wolff@maine.edu

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Bachelor of Arts (BA)

Bachelor of Fine Arts (BFA)

The requirements listed on these pages are specific to that particular major. Students are also responsible for meeting any graduation requirements set out by their college. Students in the College of Liberal Arts and Sciences (CLAS) should make sure to review those requirements as stated on the College of Liberal Arts & Sciences page of the catalog.

Theatre

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum number of credits required to complete the major: 47
Minimum Grade requirements for courses to count toward major: Theatre majors must receive a grade of C or better in all theatre courses required for the major. If a student receives a grade of C- or lower they must repeat the course and raise the grade to receive degree credit.
Other GPA requirements to graduate: Cumulative GPA of 2.0 or better in the courses in the major field that are credited toward the major.
Required Course(s) for fulfilling Capstone Experience: THE 415 ; HON 498 /HON 499 on a topic in theatre and advised by a faculty member in the Division may be substituted for THE 415 . The thesis proposal form must be signed by the chair of the Division of Theatre/Dance.
Residency requirement: Majors in the College of Liberal Arts & Sciences require a minimum of 15 institutional credits in the major.
Contact Information: Philip Edelman, Associate Professor, Director of the School of Performing Arts, Class of 1944 Hall, Room 208, 207.581.1257, philip.edelman@maine.edu

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The requirements listed on this page are specific to this particular major. Students are also responsible for meeting any graduation requirements set out by their college. Students in the College of Liberal Arts and Sciences (CLAS) should make sure to review those requirements as stated on the College of Liberal Arts & Sciences page of the catalog.
For more information about our undergraduate and graduate programs, program learning outcomes, internships, special resources and programs, and research and career opportunities, see our web site at https://umaine.edu/spa/.
Information about the Theatre major

Women's, Gender, and Sexuality Studies

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: None.
Other GPA requirements to graduate: 2.0 for the 33 credits of required and elective courses.
Required Course(s) for fulfilling Capstone Experience: WGS 410 or WGS 411 to be taken with WGS 499
Courses satisfying the writing intensive requirement within the major: WGS 410
Residency requirement: Majors in the College of Liberal Arts & Sciences require a minimum of 15 institutional credits in the major.
Contact Information: Elizabeth Neiman, Director, 422 Chadbourne. Hall, 207.581.3439, elizabeth.neiman@maine.edu

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The Bachelor of Arts in Women's, Gender, and Sexuality (WGS) Studies is an interdisciplinary program with faculty from a variety of academic units on campus. Students who major in WGS are employed in law, education, business, social services, health services, and government at all levels. WGS is also an excellent second major or minor for students majoring in a wide variety of disciplines, such as anthropology, English, history, nursing, political science, psychology, social work, and sociology. Students can also major in International Affairs with a concentration in Global Women's, Gender, and Sexuality Issues.
WGS majors will gain a more complete understanding of how the social construction of gender has influenced the roles, contributions, and experiences of all individuals. This understanding is coupled with a complex understanding of how gender and sexuality interact with race, social class, dis/ability, nationality, ethnicity, and other sites of social inequality.
The requirements listed on this page are specific to this particular major. Students are also responsible for meeting any graduation requirements set by their college. Students in the College of Liberal Arts and Sciences (CLAS) should make sure to review those requirements as stated on the College of Liberal Arts and Sciences page of the catalog.
The major consists of 33 credits, with 18 credits in the core curriculum and 15 credits of electives chosen from a broad list of possible course options (of which at least 6 credits need to be at the 300 or 400 level).

Classical Studies Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: None.
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Carlos Villacorta, Chair, Associate Professor of Spanish, 201 Williams Hall, (207) 581-2072, carlos.villacorta@maine.edu

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The classical period in Western history, defined as the period from the Bronze Age to the fall of the Roman Empire in the 5th century CE, comprises the "roots" of modern society. In order to understand where we are and where we are going, it is necessary to know where we have been. European and American literature, philosophy, law, religion, politics, language, and art have all been either directly or indirectly formed in reaction to Classical culture. By examination and study of classical civilization, the student will develop a sense of how the ancients responded to the universal questions of human experience. Through an implicit comparison of the cultures of ancient Greece and Rome to our own, the student will also come to have a fuller understanding of the humanist and cultural impulses which have formed and which continue to form our own experience. This curriculum is particularly useful to the student with interests in ancient history, philosophy, art history, anthropology, literature and political science. It will also prove useful to the student preparing for a career in law.

A minimum of 18 credits or 6 courses is required. There are two tracks - Classical Studies, Ancient Language track and Classical Studies.
Classical Studies, Ancient Language Track: **At this time admission to the Ancient Language Track has been suspended.**

The student who elects the language track chooses Latin as a fulfillment of the language requirement. The advanced student may choose ancient Greek rather than Latin (as available), with permission of the instructor. The student will take either two semesters of Latin beyond the elementary level or two semesters of Greek at elementary level or above. In addition, the student will take a minimum of three courses in the CLA sequence, and may take the remaining credits from the list of CLA courses or from the list provided below.

Classical Studies:

The student who takes the general Classical Studies curriculum may wish to concentrate in offerings in Ancient History, Art History, Classical Philosophy, or Political Science. The student may elect to take all courses in the Classics curriculum (below) or the minimum four courses in the Classics curriculum and the remainder from the courses listed.
For more information about Classical Studies, please contact the Department of Modern Languages and Classics in 201 Williams Hall, (207)581-2072.

Spanish Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: None.
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Carlos Villacorta, Department Chair, Associate Professor of Spanish, 201 Williams Hall, (207) 581-2072, carlos.villacorta@maine.edu

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The requirements for a minor in Spanish are a minimum of 18 credits in the language, nine of which must be above the intermediate level. SPA 102 - Elementary Spanish II or three credits of SPA 117 - Accelerated Spanish I [Inactive] may be counted toward the minor. For more information and a list of available courses, please contact the Department of Modern Languages and Classics in 201 Williams Hall, (207) 581-2072 or (207) 581-2075.

French Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: None.
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Carlos Villacorta, Department Chair, Associate Professor of Spanish, 201 Williams Hall, (207) 581-2072, carlos.villacorta@maine.edu

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The requirements for a minor in French are a minimum of 18 credits in the language, nine of which must be above the intermediate level. FRE 102 - Elementary French II may be counted toward the minor. For more information and a list of available courses, please contact the Department of Modern Languages and Classics in 201 Williams Hall, (207) 581-2072 or (207) 581-2075.

International Affairs Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Mminimum Grade requirements for courses to count toward minor: C
Foreign Language requirements: Two semesters of a language or study abroad in immersion in a foreign language. For students who choose study abroad to satisfy this requirement, at least one course must be taught in the host language. Students whose first language is not English may meet the Foreign Language requirement (English) with their TOEFL score.
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Kristin Vekasi, Associate Professor, Director, 207.581.1871, kristin.vekasi@maine.edu

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Study in International Affairs benefits students as they prepare for their roles as national and global citizens, educating them to the dynamics behind a changing global society and introducing them to ways of enhancing international community. The minor in International Affairs offers an interdisciplinary curriculum that enables students from diverse disciplines to integrate an international perspective into their studies and future careers.

Astronomy Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 21
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: David Batuski, Department of Physics, Room 312 Bennett Hall, (207) 581-1039, batuski@maine.edu

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A minor in astronomy is a flexible program intended for students enrolled in any four-year degree at the University of Maine. It requires a minimum of 21 credits and nine of those credits must be taken at the University of Maine.

Canadian Studies Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Minimum GPA of 3.0 in six courses that count toward the minor.
Minimum Grade requirements for courses to count toward minor: C
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Frederic Rondeau, Associate Professor, Director of Canadian American Center, 154 College Avenue, 207.581.4020, frederic.rondeau@maine.edu.

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Ties between Maine and Canada are long-standing and varied. Geographically, the state is virtually surrounded by the Canadian provinces of Québec and New Brunswick. Almost half of the state's population has ancestral roots in Canada. Economic connections, from energy to tourism are close, and environmental issues frequently demand international cooperation. Growing

integration of the U.S. and Canadian economies aided by the North American Free Trade Agreement; common environmental concerns, particularly over-harvesting of natural resources and pollution of common waterways and airspace; and long-standing social and cultural ties are significant reasons for studying the Canadian-American relationship.
Canadian Studies is an interdisciplinary minor that offers students an opportunity to access courses from one of the largest and most comprehensive Canadian Studies programs in the country. The program is particularly strong in Anthropology, Archeology, Economics, French, History, and Political Science. In addition, there are course offerings in Art, Business Administration, English, Franco American Studies, Geography, Geology, and Native American Studies.
A student majoring in International Affairs may choose the Canadian Studies concentration.

Film and Video Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18

GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: C-
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Michael Grillo, Department of Art, 219 Lord Hall, 581-3252; grillo@maine.edu

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The Film and Video minor provides a critical focus for interdisciplinary studies of core cultural issues, including those addressing the diversity of modes of conceptualization, social identity, questions on the cultural implications of technology, aesthetic development, and conceptualization of history, among others. The minor draws courses from several departments, including Art, Communication and Journalism, English, History, Modern Language and Classics, New Media, Political Science, and Women's, Gender, and Sexuality Studies.
Students in the minor will have options of pursuing intersecting paths addressing history, theory, and practice, so that they could best focus the minor to their major and other studies. The minor requires a minimum of 18 credits, as follows:

Franco American Studies Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: None.
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Susan Pinette, Director of Franco American Studies, (207) 581-3791, spinette@maine.edu

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In New England, and particularly in Maine, citizens of French Canadian and Acadian descent comprise approximately 25 percent of the population. The long-neglected story of this ethnic community represents a crucial element in the history and the current social dynamic of Maine and the Northeast, and constitutes a cultural bridge to French Canada, particularly the neighboring provinces of Québec and the Maritimes.
Franco American Studies is an interdisciplinary program that explores the French cultures of the United States and Canada, emphasizing the people of Franco American heritage in Maine and the Northeast region. It studies Franco American culture within the broader context of American ethnic communities and other French-speaking people worldwide. The curriculum is designed to teach the Franco American past and present: topics of study include problems of identity, the politics of language, literature, historical struggles, women's issues and experience, economic structures, and the role of family.
The program offers a minor in Franco American Studies as well as courses at all levels. Students who wish to minor in Franco

American Studies complete eighteen credits, including at least 3 FAS courses, and at least three additional courses from the list below.
For complete information about Franco-American Studies, contact Susan Pinette, (207) 581-3791, francostudies@maine.edu.

Geography Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirement for courses to count towards minor: C- or higher.
Residency requirement: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Samuel Hanes, Chair, Associate Professor of Anthropology, 5773 S. Stevens Hall, (207) 581-1885, Fax: (207) 581-1823, samuel.hanes@maine.edu

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The discipline of geography is an inherently interdisciplinary field of study that incorporates domain interests, theory, and methods from the social sciences, humanities, and earth sciences. Geographers' common focus on place, human-environment interactions, and spatial relationships integrates these diverse perspectives. Mapping and spatial analysis are core methods that distinguish geography from many allied fields. Geographers pursue research and teaching in areas as diverse as urban planning, cultural ecology, tourism, geomorphology, and transportation. A particular strength in the UMaine Geography minor is its emphasis on historical geography, a subfield that explores the history of landscape and settlement, economic activity, resource exploitation, and the meaning of place and space.
The geography curriculum will appeal to undergraduates seeking a general yet practical University education. Geographers find employment in such careers as resource management, urban and regional planning, environmental assessment, and conservation, as well as K-12 education, journalism, and the non-profit sector. Students are urged to discuss and plan course selection with the Coordinator.

Medieval and Renaissance Studies Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: C-
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Michael Grillo, Department of Art, 219 Lord Hall, (207) 581-3252; grillo@maine.edu

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The Medieval and Renaissance Studies curriculum opens to students the diverse cultures of Europe, Western Asia, and Northern Africa that thrived within the period from the third century through the sixteenth. It incorporates offerings from the departments of Art, English, History, Modern Languages and Classics, and Political Sciences, as well as the Honors College, to explore issues of social structure, philosophy, religion, politics, language, poetry, prose, material culture, and visual expression from an interdisciplinary perspective.
Students who elect this curriculum usually begin their exploration of the period through introductory courses, such as ARH 155 , ARH 156 , HON 112 [Inactive], HON 211 , and HTY 105 , only one of which counts towards the total credits of the curriculum, and continue on with more focused studies at higher course levels. Students are encouraged to take courses from all of its disciplines.
For complete information about Medieval and Renaissance Studies, visit the coordinator at 219 Lord Hall, phone (207) 581-3252 or contact Associate Professor Michael Grillo at grillo@maine.edu.

Native American Studies Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: A grade of C or better in the Core Native American Studies Courses
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Darren Ranco, Chair of Native American Programs, 5724 Dunn Hall, 581-9485, darren.ranco@maine.edu

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Native American Studies is an interdisciplinary minor committed to the study of the cultures, values, history and contemporary life of the American Indian nations and people of North America with a focus on the Wabanaki Nations of Maine and the Maritimes. The importance and significance of the indigenous people are critical in understanding the settler nation-states in which we live. The Native American Studies minor creates an understanding of the unique legacy of American Indians and their continuing relationship to the development of the United States and Canada. Specific emphasis is placed on the Wabanaki peoples of Maine and Canada, with a secondary focus on the Native peoples of North America.

Native American Studies is founded on the principles of self-determination and sovereignty. It is committed to academic scholarship and research excellence. We educate and inform all students about the Native experience and the rich cultural heritage of the sovereign Native peoples of the North American continent. Our goal is to teach students, through Native perspectives, to better understand Native people, their traditions and their cultures.
In an increasingly diverse society, an understanding of distinct populations is a critical asset. A minor in Native American Studies exposes students to, and provides them with, an understanding of the historical, economic, social and political forces that have shaped Native experiences in the Americas. It prepares students to live in a multicultural society by giving them the skills to confront racism, discrimination and prejudice. It further empowers students to appreciate and celebrate diversity by understanding the worldviews of a distinct people. The program is designed to augment students' major programs of study and prepares students for diverse careers in areas such as: public service, nursing, law enforcement, business, education, medicine, counseling, social work, as well as a myriad of other occupations.
The Native American Studies minor involves a minimum of 18 credits of course work focusing on Native Americans with three required NAS-designated courses.
In addition, students may submit courses with considerable Native American content for consideration for inclusion in the Native American Studies minor. The content for such courses may make them suitable as approved electives.
For more information or advising assistance, please see Darren Ranco darren.ranco@umit.maine.ed, Chair of Native American Programs in Dunn Hall or call (207) 581-4450.

Physics Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 21
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine; at least 6 of these 9 credits must be from the Elective courses.
Contact Information: Frank Dudish, 123 Bennett Hall, (207) 581-1016, fdudish@maine.edu

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This program is intended for students (except for physics and engineering physics majors) enrolled in an undergraduate degree program at the University of Maine. It requires a minimum of 21 credits and a minimum GPA of 2.0 in both the core and elective courses.

Religious Studies Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: Religious Studies minors must earn a minimum grade of "C" or better in all courses used for the minor.
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Derek A. Michaud, Chair, Department of Philosophy and Coordinator of Religious Studies, (207) 581-3890, derek.a.michaud@maine.edu

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Religion has existed in all human cultures and continues to play an important role in most societies and in many conflicts. The Religious Studies curriculum is designed to help students understand these facts, regardless of whether they are themselves religious or not.

Graphic Design Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: Students must have a grade of "C-" or better in all courses applied to the minor.
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Justin Wolff, Professor & Chair, Department of Art, 107 Lord Hall, (207) 581-3245, justin.wolff@maine.edu

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The Department of Art's minor in Graphic Design includes required coursework in studio art and design; electives in new media, innovation, communications, advertising, and marketing; and opportunities for internships and field experiences. Students learn creative and technical skills in various media and develop visual thinking capabilities for application in numerous fields, including branding, marketing, advertising, and print and digital design and production.

Political Theory Minor

OVERVIEW OF DEGREE REQUIREMENTS
Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: C-
Residency Requirement: A minimum of 9 credit hours must be completed at the University of Maine
For Political Science majors: No more than two courses may count both in the major and the Political Theory minor.
Contact Information: Mark Brewer, Professor and Chair of Political Science, (207) 581-1863, mark.brewer@maine.edu

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Political theory is the philosophical study of politics. Using methods of the humanities, especially the rigorous interpretation of classic texts in the history of political thought, political theory studies politics "normatively", asking how the political world should or ought to work. What place should liberty, equality, justice, or virtue, e.g., have in our lives, as individuals and as political communities? Why does politics seem always to fall so frustratingly short of the hopes that we reflexively lay up in it? And what should our response to such frustrations be? The minor in Political Theory allows students especially interested in such questions to make them a focus of study. It likewise affords consideration of the very different ways in which the brightest minds of other times and places have understood and answered them.

The Constitution and American Law Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA required to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: C-
Residency Requirement: A minimum of 9 Credit Hours must be completed at the University of Maine
Contact Information: Mark Brewer, Professor and Acting Chair, 113a BoudreauHall, (207) 581-1863, mark.brewer@maine.edu
Students who are majoring in Political Science cannot declare "The Constitution and American Law" as their minor.

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This Minor will enable students to focus on the American Constitution and its implications, providing them with a systematic way to structure their studies of this critical aspect of American political life. With so much ill-informed discussion on the content and meaning of the Constitution among the larger public in contemporary public discourse, this Minor contributes to the larger public good as well as providing a sound academic foundation for the individual student. By deeply understanding our own Constitution and American law, students are much better positioned to understand not only the American political system, but those of other countries as well.

Creative Writing Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn a minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: A "C-" or better is required in all English Minor Courses
Residency Requirement: A minimum of 12 Credit Hours must be completed at the University of Maine
Contact Information: Gregory Howard, Associate Professor and Director of Creative Writing, 303 Neville Hall, (207) 581-3838, gregory.e.howard@maine.edu

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The Creative Writing minor is designed for students interesting in learning how to write or to improve their own original creative works. The focus of the minor is the workshop. The sequential requirements train minors in a progressive manner: from the basic skills of writing creatively, through the theoretical and aesthetic questions of narratology and poetics, and, finally, in the skill of completing a polished manuscript. The minor provides the opportunity for minors to study both poetry and prose, as well as some literature, creative non-fiction, and special topics in creative writing, such as translation, playwriting, or literary collage.
The minor can only be declared after the completion of Eng 205: Introduction to Creative Writing with a grade of B or better. Please note: 300 and 400-level writing courses require the submission of a manuscript and instructor approval to enroll. Priority is given to English Majors concentrating in creative writing and Creative Writing minors.

Judaic Studies Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: Grade of "C" or higher required in all courses.
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Derek A. Michaud, Chair, Department of Philosophy, 109 The Maples, (207) 581-3890, derek.a.michaud@maine.edu

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Judaic Studies provides a broad liberal arts background that cultivates an appreciation of the central role played by Jewish culture in the development of human civilization. This interdisciplinary program provides students some substantive understanding of the historical, religious, literary, philosophical, sociological and political experiences of the Jews; and it offers a diverse disciplinary framing of questions central to the Jewish experience with different perspectives and methodologies.

Folklore and Traditional Arts Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: C-
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Sam Hanes, Associate Professor, Chair, Department of Anthropology, 5773 South Stevens Hall, 207.581.1885, samuel.hanes@maine.edu

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Folklore encompasses a vast range of human stories and information transmitted through traditional means, including folktales, myths and epics; ballads, folk songs and other musical forms; traditional dance, theatre and other performance; and folk art and decorative arts, as well as belief systems connected to these forms. The study of folklore draws upon theories and methods from several fields while also having its own unique interdisciplinary perspective. This minor is designed to appeal to a broad range of students, including social science majors interested in cultural expression, and students in the arts and humanities who wish to deepen their understanding of the cultural aspects of their fields.

Statistics Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 16
Minimum Cumulative GPA required to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: C
Other GPA requirements to earn minor: None
Other course requirements: A minimum of 9 credit hours must be completed at the University of Maine. Prerequisites: MAT 126

and MAT 127
Contact Information: Neel Patel, Mathematics and Statistics, 237 Neville Hall, (207) 581-4894, neel.patel@maine.edu

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The statistics minor consists of MAT 228 , followed by at least 12 credits of approved statistics courses. Approved STS courses include:

- STS 235 - Introduction to Statistical Methods Credits: 3 (will not count towards the Statistics Minor if taken after STS 434 or STS 435)
- STS 434 - Probability Theory %credits:%
- STS 435 - Introduction to Mathematical Statistics %credits:%
- STS 437 - Statistical Methods in Research %credits:%

Most other 400-level and 500-level STS courses are likely to be approved, when available, and up to 3 credits of approved statistics courses from other departments may be counted towards the minor. Certain MAT courses with statistical content may also be counted. Please contact the department for information on whether a particular course will be approved. STS 132 does not count towards the minor.

Leadership Studies Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
Minimum Cumulative GPA required to earn minor: 2.50
Minimum Grade for courses to count toward minor: C-
Residency Requirement: A minimum of 9 credit hours must be completed at the University of Maine
No more than 6 credits can overlap with those being counted toward another Major or Minor
Contact Information: Richard J. Powell, Associate Professor, Department of Political Science; 229 N. Stevens Hall; 581-1795; rpowell@maine.edu

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The interdisciplinary minor in leadership studies provides students with in-depth knowledge of leadership theory, ethics, skills, and context-based issues, as well as practical, experiential training applicable to nearly any area of study or social setting. The minor prepares students for diverse, real-life experiences as citizen leaders in local, state, national, and global communities.
This broad, interdisciplinary minor draws upon coursework and expertise offered by faculty and staff from colleges across campus.

Archaeology Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
Minimum Grade requirements for courses to count toward minor: Students minoring in Archaeology must pass ANT 101 , ANT 102 , and ANT 317 with at least a C- grade.
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Other requirements: A minimum of 9 credit hours that include ANT 317 must be completed at the University of Maine.
Contact Information: Samuel Hanes, Chair, Associate Professor of Anthropology, 5773 S. Stevens Hall, (207) 581-1885, Fax: (207) 581-1823, samuel.hanes@maine.edu

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The minor in Archaeology introduces students to a variety of approaches and theoretical frameworks used to reconstruct ancient human behaviors and culture. It also emphasizes the importance of the historical, geographic, and environmental context of the development of humankind. As an interdisciplinary field that provides a broad view of the past, the minor will complement several

major degree programs, including Art, Biology, Earth Sciences, Ecology and Environmental Sciences, Engineering, International Affairs/Anthropology, History and Zoology. The curriculum draws on departmental strengths in anthropological and environmental archaeology and offers foundational courses in archaeology, regional specializations throughout the globe, and topics of special interest.

Required Courses: A minimum of 9 credit hours must be at the 200-level or above.

Human Dimensions of Climate Change

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120

Minimum Cumulative GPA required to graduate: 2.0

Minimum number of credits required to complete the major: 42

Minimum Grade requirements for courses to count toward major: ANT 101 , ANT 102 , ANT 225 , and ANT 410 must be completed with minimum grade of C- or better. Capstone experience (ANT 493 or ANT 497) must be completed with a minimum grade of C or better.

Other GPA requirements to graduate: Cumulative GPA of 2.0 or better in the courses in the major field that are credited toward the major.

Required Courses for fulfilling Capstone Experience: ANT 493 . Alternatively, with approval, students may fulfill the capstone requirement with ANT 497 or the Honors thesis (HON 499). Double majors: If HDCC is your secondary major, the capstone from your primary major may fulfill your HDCC capstone requirement as long as there is an HDCC component to it (chair approval required). However, the earned credits of your primary capstone experience/course will not count toward the minimum number of credits required for the HDCC major.

Courses satisfying the writing intensive requirement within the major: ANT 464 , ANT 466 , and ANT 493

Residency requirement: ANT 225 , ANT 410 , and ANT 493 (the capstone experience), and 15 other degree program credits must be taken at UMaine

Contact Information: Samuel Hanes, Chair, Associate Professor of Anthropology, 5773 S. Stevens Hall, (207) 581-1885, Fax: (207) 581-1823, samuel.hanes@maine.edu

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The requirements listed on this page are specific to this particular major. Students are also responsible for meeting any graduation requirements set out by their college. Students in the College of Liberal Arts and Sciences (CLAS) should make sure to review those requirements as stated on the College of Liberal Arts & Sciences page of the catalog.

For more information about our undergraduate and graduate programs, program learning outcomes, internships, special resources and programs, and research and career opportunities, see our web site at https://umaine.edu/anthropology .

Information about the Human Dimensions of Climate Change major

- A minimum of 45 credits is required. ANT 101 , ANT 102 , ANT 225 , and ANT 410 must be completed with a minimum grade of C- or better. ANT 493 (or ANT 497 as capstone) must be completed with a minimum grade of C or better.
- First year students are advised to take ANT 101 (fall semester) and ANT 102 (spring semester), as these are both required for the major and are prerequisites for many upper division courses.
- ANT 225 and ANT 410 are both major requirements. ANT 225 should be completed early in the degree program, whereas ANT 410 is an advanced seminar and will be restricted to the junior or senior year.
- The capstone experience can be completed with either ANT 493 (capstone course) or ANT 497 (independent research and subject to approval), taken in the junior or senior year.
- Advanced study in the human dimension of climate change often requires use of quantitative methods, foreign language competency, and some theoretical sophistication. Consequently,

students planning to pursue graduate work in a related field of study should take a course in statistics, and achieve relevant foreign language competency at the intermediate level.
- Minors in the social or environmental sciences are appropriate for this major (e.g., climate sciences, earth sciences, marine sciences, ecology and environmental science, economics, sustainable agriculture).
- Although not required, the Anthropology Department strongly encourages a study abroad experience through International Programs or Travel Study. Students should work with the advisor and department chair in advance to ensure proper course selection toward the degree program.

Bachelor of University Studies, CLAS pathway

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Other GPA requirements to graduate: A minimum cumulative GPA of 2.0 across coursework in focus areas
Required Grade for fulfilling Capstone Experience: A grade of C- or better in LAS 497
Contact Information: College of Liberal Arts and Sciences Associate Dean's Office, Stevens Hall

Individuals expected to derive the greatest benefit from the CLAS pathway include continuing students who for a variety of reasons may be unable to complete their originally intended major, and readmitted or transfer students who have earned significant University of Maine credits but have no cohesive body of coursework in a major currently offered by the University of Maine. Students in this program are not eligible to earn a double major or a dual degree.

Admission:

Matriculated University of Maine students who apply to the Bachelor of University Studies (B.U.S.) CLAS Pathway program *must* a minimum of 42 credit hours completed. At least 24 credit hours must have been earned at the University of Maine. The remaining hours may have been earned at UMaine or through acceptable transfer from regionally accredited post-secondary institutions. To apply, students must meet with a BUS advisor in the College of Liberal Arts and Sciences and must submit a BUS degree plan with the advisor's approval.

Matriculated CLAS students who have accumulated 54 (or more) degree credits, but who have not declared a major will automatically be placed into the BUS program. Students will receive notification of this change and will meet with the BUS advisor to discuss their program of study and determine if they wish to remain in the BUS pathway or declare another major. Students should look at degree requirements for other colleges to determine their qualifications for another program outside of CLAS.

Final program admission decisions are made by the Dean of the College of Liberal Arts and Sciences (or designee). Students following the B.U.S pathway are CLAS students advised in the CLAS Advising Center. Upon completion of degree requirements, students will graduate with a BUS degree from the Division of Lifelong Learning.

Graduation Requirements:

Students must complete the following:

- 120 credit hours, including 15 credits at the 300 level or higher
- All University of Maine residency and General Education requirements, including a 3 credit senior capstone LAS 497 . A grade of C- or better in the capstone is required
- 15 credits and a 2.0 in each of three focus areas chosen from the options below. Credits used to satisfy general education requirements may also be used to meet focus area requirements. Focus areas are: Business; Education; Engineering and Technology; Health and Wellness; Humanities; Mathematics, Statistics and Computing; Physical and Life Sciences; Natural Resources and the Environment; Performing and Visual Arts; Social Sciences

All students are subject to university-wide standards for good academic standing.
Learning Outcomes:

- Students demonstrate an ability to reflect on prior knowledge and learning experiences
- Students demonstrate an ability to integrate and apply their reflections toward developing goals and objectives for their future.
- Students demonstrate an ability to identify their skills, employment interests, and career directions.
- Students demonstrate skills in critical thinking, professional writing, and research, as related to their career interests.

Certificate of Proficiency: French

A certificate in French requires a minimum of nine credits in the target language, at least three of which must be at the 300-level or above. A grade of C- or better is required for any 300-level or above course to count toward the certificate. Credit by exam may not be counted toward the certificate of proficiency.

Certificate of Proficiency: Spanish

A certificate in Spanich requires a minimum of nine credits in the target language, at least three of which must be at the 300-level or above. A grade of C- or better is required for any 300-level or above course to count toward the certificate. Credit by exam may not be counted toward the certificate of proficiency.

Professional Languages Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: None
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Carlos Villacorta, Chair, Associate Professor of Spanish, 201 Williams Hall, (207) 581-2072, carlos.villacorta@maine.edu

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Requirements to earn minor: 9 credits in French and 9 credits in Spanish
Be better prepared for the global job market of the 21 century. The minor in Professional Languages is intended for students who would like to develop intermediate or advanced proficiency in French and Spanish, including knowledge of the fundamentals of business-related communication and practices in several of the countries in which French (54 countries) and Spanish (44 countries) are spoken.
Credits can be counted toward the minor starting at the intermediate level (FRE 201 /FRE 202 ; SPA 203 /SPA 204) or higher.

Human-Computer Interaction Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: : Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: C-
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine. (acceptance of transfer credits is determined on a case by case basis)
Contact Information: Velma Figgins, School of Computing and Information Science, 348 Boardman Hall, (207) 581-4358, vfiggins@maine.edu

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Human-Computer Interaction (HCI) is a multidisciplinary field that aims to enhance the interaction between humans (users) and computing technologies. HCI primarily focuses on designing, creating, and improving interfaces and interactions between people and computers. It studies how humans interact with technology and how they make decisions by conceptualizing, prototyping, and evaluating computer-based systems to enhance user experience. HCI has roots in computing, design, and cognitive sciences, spanning over 50 years. It has emerged as a dynamic area of study that merges concepts and methodologies from human factors and ergonomics, information sciences, sociology, and industrial and product design with the technical concerns of computing and engineering product development. In today's world, where computing devices are pervasive, and consumer technologies are advancing rapidly, HCI is a key discipline that emphasizes making computing technologies more user-friendly.
Key concepts, Skills, and Methods:

- Design concepts, processes, and HCI toolkits
- Develop problem-solving skills for creating effective HCI environments
- Perform fieldwork to understand user needs and the influence of context
- Learning about how to conduct user-centered, participatory, and inclusive design
- Teamwork and collaboration
- Critiquing design ideas effectively by building scenarios and iterative refinement of designs
- Implementation of interactive prototypes
- Rapid prototyping and additive manufacturing techniques
- Evaluation techniques, including empirical evaluation methods

Benefits of the Minor:

- An interdisciplinary minor that prepares students to conceptualize, design, and develop solutions for complex problems
- Expose students to creative and innovative problem-solving and entrepreneurial activities
- Increase knowledge base beyond common core and enhance current degree focus
- Introduce students to cutting-edge design methods and technology
- Teach job-ready UI and UX design skills

New Media Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: C-
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Velma Figgins, Administrative Specialist, 5711 Boardman Hall, Room 348, 207-581-4358

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Interested in new/emerging media and technology? The New Media minor may be perfect for you. The New Media Program created the minor in new/emerging media for the consideration of all students at the University of Maine. Expertise in new and emerging media enhances any major. Expand your comprehension of contemporary communication practices-including digital, mobile, and social media-while learning some of the most effective ways to interact in this continuously evolving environment. Focus on both critical and creative tools across disciplines to build upon your specific goals and interests.

This minor in New Media is designed to prepare students to perform professionally, academically, and personally in a diverse new media environment. The minor provides a foundation upon which students build an understanding of New Media in relation to art, art history, communication, computer science, English, engineering, philosophy, psychology, music, and more.

The minor in New Media is designed for students seeking an introduction to the interdisciplinary applications of computer-based media. The minor enables students from a variety of majors to:

- Learn the technical considerations involved with computer-based manipulation of image.
- Develop aesthetic abilities and problem-solving skills required in creating effective communication in digital environments.
- Understand the interrelationships of new digital media to various professions and fields of study.

The New Media minor explores multiple perspectives of how information or content is created and shaped in new and emerging media, as well as the role and impact of those media on human communication. New Media refers to the emerging digital technologies that enable information to be produced, stored, transmitted, and displayed in new ways. Students will gain an understanding of how these technologies change the ways various types of content can be created, managed, and distributed, as well as their potential to influence the content itself.

Key Concepts, Skills, and Methods

- Fieldwork for understanding people's needs and the influence of context
- Generative approaches to imagining many possible solutions, such as sketching and an interaction design method know as User Experience prototyping
- Iterative refinement of designs
- Implementation of iterative prototypes
- Evaluation techniques, including empirical evaluation methods

Benefits of this Minor

- Provides students with a variety of digital technology skills
- Increases knowledge base beyond common core
- Introduces students to cutting-edge digital technologies
- Application of New Media concepts in support of a wide variety of majors
- Job-ready problem-solving and design skills for the modern workplace

Media Studies Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18

GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.

Minimum Grade requirements for courses to count toward minor: C- or higher.

Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.

Contact Information: Judith Rosenbaum-Andre, Chair, 414 Dun Hall, 207.581.1934, judith.rosenbaumandre@maine.edu

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Firmly grounded in the liberal arts, the minor degree in Media Studies provides students with an understanding of different roles that media play in society. The minor introduces students to humanistic and social science traditions of media research, teaches students about the influence that media forms and institutions have, and provides instruction in the critical evaluation of different

kinds of media communication.

Certificate of Proficiency: German

A certificate in German requires a minimum of nine credits in the target language, at least three of which must be at the 300-level or above. A grade of C- or better is required for any 300-level or above course to count toward the certificate. Credit by exam may not be counted toward the certificate of proficiency.

Journalism Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: Grade of "C" or higher required in all courses.
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Judith Rosenbaum, Associate Professor, Chair, Department of Communication and Journalism, 420 Dunn Hall, 207.581.1935; judith.rosenbaumandre@maine.edu

Firmly grounded in the liberal arts, the minor degree in Journalism provides students with an understanding of the practice and profession of journalism. The minor introduces students to the history of journalism, the basics of media writing, and the contemporary landscape of journalistic forms. Students also sample from various practice courses to advance their skills as journalists.

Criminal Justice Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: No courses for the Criminal Justice minor may be taken pass/fail.
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Karyn Sporer, Chair, Department of Sociology, Fernald Hall, Room 201G, 207.581.2361, karyn.sporer@maine.edu

Environmental Ethics Minor

OVERVIEW OF MINOR REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: Cumuluative GPA of 2.0 or better in the courses in the minor field that are credited toward the minor.
Other requirements: A minimum of 9 credit hours of the minor must be completed at the University of Maine.

Contact Information: Derek Michaud, Chair, Department of Philosophy, 109 Maples, derek.a.michaud@maine.edu, 207-581-3890

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The Environmental Ethics minor is an interdisciplinary minor that combines focused courses in ethical reasoning about the environment, the philosophy of nature and environmental justice. It features a wide range of electives from across disciplines that specialize in the study of environmental values. In a world facing increasing challenges from climate change, this minor aims to provide students with ethical frameworks, multi-cultural awareness and a philosophical grasp of environmental justice issues pertaining to the Penobscot River, the state of Maine and beyond. Featuring a concentration in ethical and ecological thought, this minor should appeal to students in the humanities, sciences and other fields.

Mental Health and Rehabilitation Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 21
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: D-
Other requirements: A minimum of 12 credit hours must be completed at the University of Maine (MHR designator)
Contact Information: Benjamin Guenther, 356 Williams Hall, 581-2025, benjamin.guenther@maine.edu

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The minor in Mental Health and Rehabilitation offers classes related to mental health and rehabilitation. Students completing all 7 courses in the Mental Health and Rehabilitation minor at the University of Maine are eligible for State of Maine MHRT/Community certification. Students apply directly to the State of Maine for certification.

Human Dimensions of Climate Change Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
Minimum Grade requirements for courses to count toward minor: Students minoring in HDCC must pass ANT 225 and ANT 410 with at least a C- grade.
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor filed that are credited toward the completion of the minor.
Other requirements: A minimum of 9 credit hours that include ANT 225 and ANT 410 must be completed at the University of Maine. A minimum of 9 credit hours must be at the 200-level or above.
Contact Information: Samuel Hanes, Chair, Associate Professor of Anthropology, 5773 S. Stevens Hall, (207) 581-1885, Fax: (207) 581-1823, samuel.hanes@maine.edu

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Climate Change is one of the leading environmental and human problems facing the world today. Melting glaciers and rising oceans are one side of the issue, and shifting temperature and moisture patterns and the responses of earth's biota to these changes add to the dilemma. The other side of the problem is the human dimension, both with regards to impact and response. Solutions to the many problems arising from climate change will only be found with an understanding of the processes that govern both climate *and* human culture. The minor in Human Dimensions of Climate Change explores the diverse human causes and impacts of climate change to better enact successful policy decisions at local, national, and international levels. Students will choose one of two tracks - sociocultural or archaeological - to focus on contemporary or past human dimensions of climate change, respectively.
As an interdisciplinary field that combines the social and environmental sciences, the minor will complement many different major degree programs, including Biology, Earth Sciences, Ecology and Environmental Sciences, Engineering, Forestry, History, Marine

Science, Sustainable Agriculture, and Zoology, among others. The curriculum draws on departmental strengths in environmental anthropology and archaeology, and it offers foundational and advanced coursework in HDCC, regional specializations throughout the globe, and topics of special interest.

Professional Skills for the Liberal Arts Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 21
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor.
Other requirements: A minimum of 12 credit hours must be completed at the University of Maine.
Contact Information: Timothy M. Cole, Associate Dean for Academics, College of Liberal Arts and Sciences, 105A Stevens Hall, (207) 581-3844, tmcole@maine.edu

This minor is intended as a professional skills-oriented minor for liberal arts majors, focused on the acquisition of knowledge that will enhance their professional opportunities in the earliest years of their careers.

Human-Centered Technology Design

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: C
Other GPA requirements to graduate: Cumulative GPA of 2.0 in all HCD courses credited toward the major
Required Course(s) for fulfilling Capstone Experience: HCD 498, HCD 499
Contact Information: Nimesha Ranasinghe, r.ranasinghe@maine.edu, 207-581-2195

Human-Centered Technology Design is an approach to problem solving that puts humans (users) at the center of the design process. The process starts with building deep empathy for those being designed for, and is used to design both physical and digital products. After completing the program, students will have a thorough understanding of how to execute HCTD activities and methods and will have first experience to plan HCTD in a realistic environment. To be able to work in multidisciplinary teams, students are introduced to related topics in various fields, including psychology, computing and information technology, and entrepreneurship. The structure of the curriculum begins with courses with a view to specialization in later terms. Introductory courses provide an overview of human-centered design, followed by in-depth examinations of HCTD activities in the areas of prototyping, user research, usability evaluation, and usability engineering.
Students are introduced to fundamental theories and concepts of human-centered design, including interface design and evaluation, usability and universal design, multimodal interfaces (touch, gesture, natural language), virtual reality, and spatial displays. Exploring and refining desired behaviors and user experience, students learn methods, concepts, and techniques necessary to make human-centered design an integral part of developing effective interactions. User experience and interaction design, grounded in psychology, help students recognize the centrality of people's needs, and the context of use, frames product opportunities, so that they can skillfully propose useful, usable, and desirable (usually digital) solutions. Such knowledge and skills prepare students for work in active areas of research and development, including bio-inspired design using the human system as a model for good design and for exploring the role of collaborative intelligence in design, smart and connected systems for supporting human interactions and engagement.
The structure of the HCTD program provides consistent support for student success through repeated, progressive research and

creative opportunities where students discover or invent effective paths to resolving artistic or analytical challenges that may be complicated by a competitive environment, opposing interests, and divergent or uncertain data and information. As a result, students come to understand not only the technological transformations impacting interaction and communication, but also the technological, social and political changes that underlie the movement toward a digital society, informed by historical and critical perspectives.

The proposed Human-Centered Technology Design program is based on a review of dozens of well-established creative technology and game design programs and a separate review of as many undergraduate educational institutions deploying experiential learning throughout their curricula, integrating problem-based learning (PBL) at institutional, college, program and course levels.

- Students begin the HCTD program with classes that provide hands-on experiences in several areas of HCTD, promoting a DIY-DIWO culture. Experiential learning throughout the curriculum focuses on the open-ended exploration on the expressive and inventive potentials of various emerging technology areas. All coursework supports a 'maker' culture and collaboration, working with interdisciplinary groups, cultivating appreciation and practical skills in project-development and management. Throughout the curriculum, students would stay engage by working on projects connected to real-world challenges. These progressive undergraduate research opportunities culminate in either laboratory and/or co-op learning on real-world projects with collaborative partners through programs including the VEMI Lab, Maine Geospatial Institute, Multisensory Interactive Media Lab, and ASAP Media Service, or through off-campus industry opportunities.
- The core curriculum is designed to cover a plethora of basic required skills, including problem-solving, computational thinking, wireframing, rapid prototyping, and communication skills. In addition, students have flexibility to specialize in their identified pathway. These core skills will be essential to prepare students for real world problem solving and work in multidisciplinary teams in the future.
- HCTD students take the introductory Innovation Engineering course through the Foster Center for Innovation, where they begin developing an entrepreneurial mindset and learning the tools that are essential to realizing true and sustainable positive change.
- The academic culture of HCTD must be collaborative, with classes being offered in dedicated spaces emphasizing cooperative exploration. Students have the flexibility to choose projects that align with their interests; faculty would act as coaches, mentors and advisers, providing responsive, contextually informed instruction and helping student teams find the resources they need.
- Students may co-op at on-campus facilities or with companies throughout Maine, working on multi-semester projects in teams or cohorts on real-world research and development with UM research faculty, for the campus, community organizations or industrial partners.

Our Project-Based Learning method further uses a tiered method of mentoring, where advanced-level undergraduates mentor early-year participants and graduate students mentor advanced-level undergraduates. Faculty facilitates mentoring throughout the project continuum. This Vertically Integrated Project (VIP) model is a natural fit for the HCTD program at UM.

Game Design and Development Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn a minor: 18
GPA requirements to earn minor: Students graduating with a minor in a CLAS or MCEC field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited
toward completion of the minor.
Minimum Grade requirements for courses to count toward minor: C-
Other GPA requirements: A minimum of 9 credit hours must be completed at the University of Maine. No more than nine credits may be applied to both any major and the GDD minor.
Contact Information: Velma Figgins, School of Computing and Information Science, 348 Boardman Hall, (207) 581-4358, vfiggins@maine.edu

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The Game Design and Development minor introduces a broad set of skills necessary for developing a game, including computer programming, modeling, storytelling, and sound design.
Courses are drawn from multiple departments on campus, including Computer Science, New Media, Human-Centered Technology and Design, Philosophy, English, Art, and Spatial
Computing.
Learning Outcomes:

- Develop problem-solving skills to design and prototype interactive games.
- Develop skills in one or more areas in Asset Generation: Audio, Storytelling, Character and Environmental Models.
- Explore how to conduct user-centered, participatory, and inclusive design.

Benefits of the Minor:
• An interdisciplinary minor that prepares students to conceptualize, design, and develop interactive games.
• Expose students to creative and innovative problem-solving and entrepreneurial activities.

Criminal Justice

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum number of credits required to complete the major: 36
Minimum Grade requirements for courses to count toward major: At least a "C" in either ENG 201 , or ENG 315 , or ENG 317 ; at least a "C-" in an advanced methods course; at least a "C" in each of the Core Requirements except for SOC 101 , SOC 201 , and CRJ 114 .
Other GPA requirements to graduate: Cumulative GPA of 2.0 or better in the courses in the major field that are credited toward the major.
Required Course(s) for fulfilling Capstone Experience:CRJ 499 or six credits of CRJ 493 or 3 credits of CRJ 495 (with permission), or successful completion of an Honors College thesis in criminal justice.
Courses satisfying the writing intensive requirement with the major: CRJ 290
Residency Requirement: At least 15 credits of UM courses (excluding CRJ 114 and SOC 101)
Contact Information: Karyn Sporer, Chair, Fernald Hall, Room 201G, 207.581.2361, karyn.sporer@maine.edu

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The Criminal Justice major provides a liberal arts perspective in the structure, functioning, effectiveness, and impact on the criminal justice system. in the United States. Students take coursework to prepare them for a wide range of careers in or related to criminal justice, but above all, they learn to think critically about the operations and impact of policing, courts, and corrections, including evidence of gender, racial, social class, and other inequalities in these components. Criminal justice faculty are deeply committed to high-quality undergraduate instruction and offer a welcoming environment for students from all backgrounds. Faculty research and instruction are guided by their commitment to public criminology, or the use of criminological and criminal justice research in the service of an equitable society. This interdisciplinary major is offered by the Department of Sociology.

Paralegal Studies Certificate

OVERVIEW OF REQUIREMENTS

Minimum number of requirements to earn certificate: 15; 18 if done in conjunction with the legal studies minor
Minimum Cumulative GPA required to earn certificate: 2.0
Minimum Grade requirements for courses to count toward certificate: C-
Other GPA requirements to earn certificate: none
Contact Information: Mark D. Brewer, Professor and Chair of Political Science, Director of Legal Studies, 113a Boudreau Hall, (207)581-1863, mark.brewer@maine.edu

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The Certificate in Paralegal Studies-available both online and in the classroom-is designed to educate and train students so that upon competition of the certificate they are prepared to succeed as paralegal professionals anywhere in the United States. More specifically, students who complete the requirements for the certificate in paralegal studies will:

- Have a broad understanding of the legal system in the United States.
- Be familiar with the basics of both criminal and civil law and litigation.
- Understand multiple aspects of business law, including contracts, commercial law, property rights, and torts.
- Be able to engage in critical analysis on questions of law and fact.

Actuarial Studies Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: A cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor
Minimum Grade requirements for courses to count toward minor: A C or higher is required in STS 434 and STS 435.
Other requirements: A minimum of 12 credit hours must be completed at the University of Maine.
Contact Information: Prof Gilbert Moss, Mathematics and Statistics, 322 Neville Hall, 581-3920, gilbert.moss@maine.edu

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The minor in Actuarial Studies will provide students with the coursework needed for a basic readiness to enter the workforce as an Actuary. Through coursework in economics, mathematics and finance that has been approved by the Society of Actuaries (SoA), students will emerge prepared to study for and take the first two SoA credentialing examinations (Probability, and Financial Mathematics).

Division of Lifelong Learning

The Division of Lifelong Learning (DLL)offers a diverse range of educational programs and services tailored to meet the needs of all learners. DLL brings the University of Maine to all students, regardless of their physical location or stage in their educational journey, by supporting them throughout the calendar year and their lifetimes. DLL meets the needs of individual learners and the State of Maine through programs such as Early College, the Bachelor of University Studies adult degree completion program, UMaineOnline, Summer University and Winter Session, Travel Study, and non-credit professional development/continuing education. For further information: umaine.edu/dll or call 207.581.3113.
Bachelor of University Studies

The Bachelor of University Studies (B.U.S.) is UMaine's adult degree completion program. The program offers four flexible track options for 21st century adults to use credit for prior learning (CPL) and past college credits to earn a bachelor's degree. The program is available part time, full-time, on campus, entirely online, or in combination to accommodate the adult learner's needs. The degree requirements are also flexible, providing an excellent opportunity to develop a program of study that includes each student's interests, makes maximum use of existing transfer and CPL credits, and is relevant to the student's goals and career interests. For further information: umaine.edu/universitystudies or call 207.581.3143.

Early College Programs

The University of Maine is renowned for its innovative education. UMaine is proud to be the first University of Maine System campus to recognize the importance of online Early College programming through its signature Academ-*e* program. High school students may earn up to 12 credits a year (lifetime cap of 18 tuition-free credits) and enroll in coursework during fall, spring and summer terms.

Students attending Maine public high schools and registered homeschool students may receive up to 18 credits tuition-free. A reduced Early College rate is available to all high school students who do not qualify for the Maine tuition waiver (nonresident, international, private school, or paying tuition to attend a public high school) or Maine Public high school students who have met or exceeded their lifetime maximum of 18 tuition-free credits. Early College offers high school students the opportunity to take courses in person on campus, online, at their high school, or participate in impactful summer coursework and residential programs. High school students can access multiple Early College Pathways designed to make course access purposeful and connect with potential majors, minors, and careers. For further information: umaine.edu/earlycollege or call 207.581.8024.

Professional Development and Continuing Education Programs

From certificate programs to comprehensive workshops and training seminars, the University of Maine is committed to providing online and in-person professional development programs to Maine's workforce. Class sizes are small, and the programs are engaging and highly interactive. Online professional development programs are instructor-led and not pre-recorded. All programs are open to the public and the University of Maine System community.

Professional development programs are designed to benefit professionals from a range of sectors, including healthcare workers, educators, business professionals, and members of nonprofit organizations, as well as individuals who are unemployed, underemployed, or seeking to transition into new careers. For further information: http://um.continuinged@maine.edu/ or call 581.3167

Summer University

Summer University is integral to the of the University of Maine and of the University's Think 30 initiative.An extensive portfolio of courses is offered each summer on campus and online. Courses are taught by the same faculty who teach during the academic year. Summer University is designed to meet the needs of regularly enrolled college students, educators throughout the state, high school students through Early College, and individuals looking for personal and professional growth opportunities in various disciplines. Students at UMaine and other collegiate institutions can take advantage of Summer University to make up coursework or to get ahead in their degree. Early College students and those not engaged in formal study but who wish to attend for general purposes are also welcome. The Summer University runs from May to August, offereing various scheduling options. Nearly 900 courses are offered on campus and online. For further information: umaine.edu/summeruniversity or call 207.581.3143.

Summer University also includes UMaine Summer Programs, which offers a variety of experiences for incoming students focused on providing the support and skills needed to succeed academically at the University of Maine. With programs such as Summer Start and Early College residential programs, UMaine Summer Programs will help students get a head start on their UMaine career. Whether they are looking to earn college credits early, learn more about the University, meet other new students, or get a quick refresher before the fall semester begins, UMaine Summer Programs has an option to fit students' interests and schedule. Staff are available to answer any questions, help students enroll, and provide support University faculty and staff interested in developing new programs. For further information: umaine.edu/summeruniversity, or call 207.581.4750.

Travel Study

The Division of Lifelong Learning collaborates with faculty members to offer travel study opportunities that enhance classroom learning and provide direct contact with diverse cultures in various domestic and international settings. Credit is variable depending on the course length and its academic requirements. Programs have included courses in Ireland, England, Italy, Honduras, Nicaragua, Quebec, Jamaica, Tanzania, France, Cuba, Mexico, Sweden, Russia, The Netherlands, and Croatia. For further information: http://umaine.edu/travelstudy or call 207.581.4750.

UMaineOnline

UMaineOnline is the premier source for online education in Maine and beyond.

UMaineOnline offers student support services for all online programs and certificates provided by the University of Maine. Students can access the same courses, degrees, and world-class faculty as on-campus students in a flexible online environment.

Online undergraduate programs:

Bachelor of Arts in Economics
Bachelor of Science in Business Administration in Management
Bachelor of Arts in Political Science
Bachelor of Science in Surveying Engineering Technology
Bachelor of University Studies (BUS)
Bachelor of Social Work
Applied Associates in Liberal Studies
Bachelor of Arts in Psychology and Community Studies
Bachelor of Science in Rural Education

Online undergraduate certificates:

Certificate in Electrical Engineering Technology
Certificate in Surveying Engineering Technology
Certificate in Mental Health and Rehabilitation (MHRT/C)
Post-Baccalaureate Certificate-Alternative Route to Teacher Certification

Online undergraduate minors:

Minor in Child Development and Family Relations
Minor Interdisciplinary Disability Studies
Minor in Labor Studies
Minor in Legal Studies
Minor in Maine Studies
Minor in Political Science

For further information: umaine.edu/online or call 207.581.5858.

Winter Session

Winter Session is an integral part of the University of Maine, and of the University's Think 30 program. Online courses are taught by the same faculty who teach during the academic year. Students can take advantage of the Winter Session to make up coursework, stay on track, or to get ahead in their degree. Those not engaged in formal study at UMaine, but who wish to attend as a non-degree student, are welcome to enroll. All courses are offered in a condensed, intensive, fully online three-week format.
Students enrolled in a Winter Session course should be prepared to dedicate 30-40 hours per week to their coursework. For further information: umaine.edu/wintersession or call 207.581.3143.

University Studies

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Grade requirements for courses to count toward major: C or better in UST courses
GPA requirements to graduate: 2.0
Required Course(s) for fulfilling Capstone Experience: UST 499
Contact Information: Barbara Howard, Director, 435 Estabrooke Hall (207)581-3143; howard@maine.edu

The Bachelor of University Studies (B.U.S.) is UMaine's degree completion program for 21st century adults. Many adults who have

some higher-education experience but no bachelor's degree find that life circumstances or interests make a traditional major and/or on-campus study difficult. Often family, job, and other responsibilities do not allow for full-time study. For these students, the B.U.S. program provides an excellent opportunity to develop a program of study that encompasses their interests and makes maximum use of their existing transfer credits. The program is accessible through online and/or on-campus coursework. The program can be full-time or part-time depending on the needs of the student.

The B.U.S. curriculum can be self-designed, or students may select another track (24 credit hours). The B.U.S. program offers the following track options:

- Labor Studies Track
- Leadership Studies Track
- Maine Studies Track
- Self-Design Track

With its multiple track options, the B.U.S. program provides an opportunity both for students who would benefit from an individually-designed multidisciplinary program of study, as well as for students who would prefer a more prescribed curriculum.

Admission to the B.U.S. program is offered to adults with at least 18 college credits from regionally accredited institutions with a grade point average of 2.0 or better who wish to develop a flexible and accessible degree program to advance their goals. Potential candidates are encouraged to discuss with the program director how their educational background may be evaluated through transfer evaluation and the Prior Learning Assessment policy of the University. After they confirm their admission to the degree program, students with relevant prior learning experience will be connected with appropriate evaluators, and discuss the possibility of converting such experience to college credit.

In their first semester, B.U.S. students take a required (online) one credit course-UST 100: Introduction to University Studies-in which they have a chance to explore their goals, refresh their knowledge about essential resources and college success skills, explore the UMaine curriculum, and draft a proposed plan of study, either self-designed using existing UMaine courses of with one of the existing tracks listed above.

Students work with an advisor to articulate their goals leading to specific educational outcomes that will work well with their current life circumstances. Maintenance of a 2.0 GPA is required to remain in good standing as a degree candidate.

Students may be suspended from degree candidacy for failing to complete an approved plan (Self-design Option students) or falling below the required grade point average. These students may be reinstated to degree candidacy after one semester upon approval of a plan and improved academic standing, as long as they meet all other requirements.

For an appointment or for further information, call (207) 581-3143 or visit the web page: umaine.edu/universitystudies

Honors College

The University of Maine offers one of the nation's oldest continuously-running programs for honors-level students. Open to students in all majors, the Honors College provides a unique opportunity for motivated students to investigate diverse academic areas of the University, to be challenged in a supportive intellectual environment, and to engage fellow students and enthusiastic, distinguished faculty in thoughtful, provocative discussion. Students in the Honors College complete an academic major in one of the University's five degree-granting colleges while completing most of their general education requirements and a thesis in the Honors College. The benefits and rewards are substantial, and the program is flexible enough to be tailored to each student's needs and interests.

For Further Information

Questions about the Honors College should be addressed to the Honors College Dean, University of Maine, 5727 Estabrooke Hall, Orono ME 04469-5727. The phone number is (207) 581-3263. Email us at honors@maine.edu or visit our website at honors.umaine.edu

Click the link below to view additional information about the Honors College and its curriculum.

Honors College

Honors College

Established in 1935, the University of Maine Honors College is one of the nation's oldest continuously-running honors programs. A welcoming home for those of all backgrounds, majors, and interests, the Honors College empowers students to develop their whole selves as learners and as people. The college fosters an inclusive, collaborative community that helps students become creative problem-solvers, intellectual risk-takers, and compassionate, engaged citizens.

A community of approximately seven hundred students within the University of Maine, the Honors College is available to students

in any major and includes faculty from all areas of the university. The college offers small, interdisciplinary classes where students and faculty members interact closely, sharing ideas and insights developed through critical exploration of important texts, ideas, and issues.

Students in the Honors College complete an academic major in one of the university's five degree-granting colleges while completing most of their general education requirements and a culminating senior project in the Honors College. The Honors curriculum expands students' perspectives by exploring areas of thought beyond their major fields while also providing them opportunities to delve more deeply in their major area of study.

Admission

Entering first-year students are invited to join the Honors College on the basis of their admission records; no separate application is required. To be eligible, students should have a strong academic record and show curiosity and initiative in both academic work and extracurricular activities. Incoming first-year students, current UMaine students, and transfer students may also request an application for admission by contacting the Honors College office (honors@maine.edu). Prior to admission, current and transfer students will consult with the associate dean to discuss previous coursework and an appropriate program of study in Honors.

Honors Project and Degree Designation

In the course of their Honors experience, students will build a personal portfolio of their work and reflections from across their four years, culminating in an Honors thesis or project where students put their learning into practice through independent scholarship or creative and community-engaged projects. An Honors student's portfolio of work is evaluated after the completion of their thesis/project. Graduation with Honors will be assigned based on successful review of students' complete portfolios. The honors designation appears on both the student's diploma and on the transcript; the thesis/project title also appears on the transcript. More information on the Honors thesis/project can be found at honors.umaine.edu.

College and University Requirements

Successful completion of the 22-credit curriculum outlined below satisfies all of the undergraduate General Education Human Values and Social Context requirements as well as one writing intensive requirement. Students in many programs will also satisfy their capstone and writing intensive within major requirements through the Honors College*. In practice, this means that students who complete the Honors sequence have satisfied all of the university's general education requirements with the exception of ENG 101 (College Composition) and Quantitative and Scientific Literacy requirements.

*In many majors, the Honors project will satisfy the "capstone" general education requirement. Some departments also allow HON 402 to satisfy the requirement for a writing intensive course in the major or to serve as a technical elective. For specific information, students should contact their department chair or consult with their major advisor.

A C or better is required in all Honors courses to satisfy the requirements of the Honors College. These courses may be repeated once for credit. In addition to successfully completing all the required Honors College courses, a minimum cumulative GPA of 3.30 is required to graduate with Honors.

The Honors College monitors the GPAs of its students. Those who fall below a 3.30 GPA are cautioned based upon a set of GPA thresholds for each cohort (first-year through senior). The caution ranges are based on the credits remaining to graduation that can reasonably be used to restore a student's GPA back to the 3.30 GPA required for graduation in Honors: 2.7 to 3.0 at end of first year; 3.0 to 3.15 at end of second year; 3.15 to 3.30 at end of third year. Students in each cohort who fall below the lower threshold will be separated from the Honors College, but have the option to appeal for reinstatement.

Further information about the Honors College can be found at honors.maine.edu. The Honors College can be reached by email at honors@maine.edu; by phone at (207) 581-3263; or by mail at The Honors College, University of Maine, 5716 Colvin Hall, Orono ME, 04469-5716..

Maine College of Engineering and Computing

The Maine College of Engineering and Computing (MCEC) at the University of Maine prepares graduates to become immediate contributors, leaders, and innovators through rigorous and relevant curricula that foster technical expertise, analytical thinking, creative design, and professional skills. MCEC fuels discovery and research, with faculty, staff, and students pursuing solutions to complex issues and driving meaningful advancements across disciplines. The college fosters a thriving community of global citizens empowered to innovate ethical solutions to grand challenges, responsibly manage natural resources, and navigate the complexities of the digital world.

MCEC is Maine's only university to offer 12 ABET accredited engineering, engineering technology and computer science degree programs. Our reputation is known world-wide, our facilities are world-class, and our research contributes significantly to scientific discoveries and economic development in Maine and beyond.

The MCEC specific educational objectives are to:

- Provide students with a sound knowledge of the fundamental principles of engineering, engineering technology, or computing and information science.
- Develop in graduates critical thinking and problem solving skills that can be applied to a wide range of problems-both technical and non-technical.
- Provide the skills necessary for the practice of engineering, engineering technology, or computing and information science.
- Provide a well-balanced educational experience that will help the student develop communication skills, an appreciation of social values and an understanding of the social and ethical implications of technology.
- Ensure that the MCEC programs remain technically current and responsive to the changing needs of society.

In addition, MCEC has research and public service objectives in the tradition of the Land Grant University Mission. These objectives are to:

- Apply engineering and computing principles to solve challenges facing Maine, the nation and world.
- Stimulate and maintain the involvement of the faculty in new developments in their fields.
- Provide opportunities for undergraduate and graduate students to participate in state of the art research, and pursue experiential learning through internships in industry.
- Provide assistance to industry, government agencies and other organizations in the solution of engineering and computing related problems.
- Provide assistance in the implementation of research findings and advanced engineering and computing methods.

ACADEMIC PROGRAMS:

Bachelor of Science in:

Biomedical Engineering
Chemical Engineering
Civil Engineering
Computer Engineering
Computer Science
Construction Engineering Technology
Electrical Engineering
Electrical Engineering Technology
Engineering Physics
Human-Centered Technology Design
Mechanical Engineering
Mechanical Engineering Technology
Surveying Engineering Technology

Bachelor of Arts in:

Computer Science
Computer Science and Business
New Media

Minors:

Bioinstrumentation
Biomedical Engineering
Computer Engineering
Computer Science
Construction Engineering Technology
Electrical Engineering
Electrical Engineering Technology
Engineering Entrepreneurial
Engineering Leadership and Management
Environmental Engineering
Human Computer Interfaces
Mechanical Engineering
Mechanical Engineering Technology
Nanotechnology
New Media
Ocean and Marine Engineering
Power
Process Engineering
Renewable Energy Engineering
Renewable Energy Sciences and Technology

General Education Requirements:

All MCEC students must meet university-wide general education requirements. Notes specific to the college are as follows:
Science: Any program in the college will easily exceed this standard with the required chemistry and physics courses.
Human Values and Social Context (HVSC): It is required that engineering and technology students carefully select these electives so that an ethics elective is included within the 18 HVSC credits required.
Quantitative: Any program in the college will easily exceed this standard.
Writing Competency: Writing intensive courses are designated within each major. For most engineering and technology majors, technical writing is the second required writing intensive course.
Ethics: Students must satisfy the ethics requirements by selecting an HVSC elective that also qualifies as an ethics elective. In some majors, students satisfy the ethics requirement by taking specific courses in their curriculum. For example, Civil and Environmental Engineering majors satisfy the ethics requirement by taking the required CIE 412 - Engineering Ethics.
Senior Capstone Experience: Students are required to complete a capstone experience within the major.

Maine College of Engineering and Computing Notes:

Cooperative Work-Study Opportunities

A number of cooperative work-study programs are available in the College. Details of each program may be obtained from the appropriate department or school.

Transfer Credit:

Evaluation of transfer courses for degree credit is performed by the Office of Student Records in consultation with the Dean of the Maine College of Engineering and Computing, the College of Liberal Arts and Sciences, and associated Departments or Schools, if necessary. Credits from military service or prior learning will be evaluated on a case by case basis. The University of Maine Equivalency Table is helpful in identifying equivalent courses.

Pass/Fail:

Students enrolled in the Maine College of Engineering and Computing may not take a course (except courses only offered as pass/fail) on a Pass/Fail basis, if the course is to be used to fulfill degree requirements

Pulp and Paper Foundation:

Supported by private funding from over 60 companies located in all 50 states as well as several hundred annual individual donations and endowment gifts, the UMaine Pulp and Paper Foundation (UMPPF) supports undergraduates across the MCEC with

scholarships as well as co-op, internship, and full-time employment opportunities across the country. The UMPPF supports a significant undergraduate merit-based scholarship program, with full and partial tuition scholarships available to qualified students in the MCEC programs and the forest management program in the College of Earth, Life and Health Sciences totaling nearly $1 million annually. The UMPPF also encourages a strong teaching and research program in chemical engineering.

Program Contacts

Biomedical Engineering
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Chemical Engineering
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Computer Science
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Mechanical Engineering Technology
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Surveying Engineering Technology
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Biomedical Engineering

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 130
Minimum Cumulative GPA required to graduate: 2.0.
Minimum Grade requirements for courses to count toward major: None.
Other GPA requirements to graduate: A minimum cumulative GPA of 2.0 in required BEN courses, not including technical electives.
Other Requirements: The Biomedical Engineering program requires that students have a PC-compatible laptop computer capable of running Microsoft Office®, Mathcad©, Labview©, and Solidworks©.
Required Course(s) for fulfilling Capstone Experience: BEN 478 andBEN 479
Contact Information: Peter van Walsum, Interim Chair, 115 Jenness Hall, 581-2277, peter.vanwalsum@maine.edu

The mission of the Biomedical Engineering program reflects the mission of Maine's Land Grant University, specifically to provide teaching, research and public service in the discipline of Biomedical Engineering. The goal of the Bachelor of Science program is to prepare students for employment or graduate education in fields associated with clinical, therapeutic, and diagnostic applications of Biomedical Engineering. Students are given high quality undergraduate engineering instruction directed toward the instrumentation and techniques employed to analyze biological systems and processes, the challenges and methodologies associated with manipulating biological systems, and the current and future applications of Biomedical Engineering. The program educational objectives are that in the time frame of three to five years after graduation our students will:

- hold positions that utilize their engineering training and have advanced in their job responsibilities, or be pursuing postgraduate education.
- be working as engineering professionals, act ethically by adhering to standards and being committed to the health and safety of employees and the general population.
- be pursuing innovative solutions to current societal challenges and continue to improve themselves through a variety of learning opportunities.
- contribute to their employer and society by working effectively in the global economy, contribute to professional, civic, or governmental organizations, be leading or working collaboratively in teams, and be communicating with diverse groups.

Upon completion of the program, our students will have an ability to:

- identify, formulate and solve complex engineering problems by applying principles of engineering, science, and mathematics
- apply engineering design to produce solutions that meet specific needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- communicate effectively with a range of audiences
- recognize ethical and professional responsibilities in engineering situation and make informed judgments, which must consider the impact of engineering solutions in a global, economic, environmental, and societal contexts
- function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.

Program Description

The field of Biomedical Engineering is the intersection of core principles of biology, physics, chemistry, and engineering applied to design devices and techniques to improve human health. For example, Biomedical Engineers might be involved in the design of artificial organs, development of new methods to detect or treat cancer, the design of devices to measure biological agents, or the formulation of materials for the controlled release of drugs and other bioactive molecules to promote desirable physiological responses. Biomedical Engineers work at the forefront of research and industry and frequently address clinical, diagnostic, and therapeutic applications of engineering. Students entering UMaine's Biomedical Engineering B.S. program typically have a strong interest in science and problem solving. The curriculum provides thorough training in the fundamentals of engineering, mathematics and science, combined with additional elective coursework in engineering, humanities, and social sciences. Employing this knowledge base, students develop the skills to engineer solutions to real world problems. Additional information about the program is available on our website. https://umaine.edu/chb/

UMaine's Maine College of Engineering and Computing offers a five-year BS-MBA degree with the Maine Business School as well as a minor in Engineering Leadership and Management. The Department also offers a 4+1 Biomedical Engineering program, yielding a BS-MS degree.

The program in Bioengineering is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org. Biomedical Engineering majors interested in production of biofuels, biopharmaceuticals and biopolymers may take advantage of a Bioprocess Engineering Concentration. Additionally, UMaine's Maine College of Engineering and Computing offers a Biomedical

Engineering Minor, a five-year BS-MBA degree with the Maine Business School, as well as a minor in Engineering Leadership and Management.

Degrees are awarded upon satisfactory completion of 130 credits with a cumulative grade point average of not less than 2.0 in Biomedical Engineering courses.
The program in Bioengineering is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.
Summer Internships, Undergraduate Research Experiences, and the Cooperative Work Experience Program Option in Biomedical Engineering
UMaine faculty members help students obtain summer internships in leading research and diagnostics development laboratories throughout New England. Internships with these companies and research institutions typically take place in the junior and senior years of the program.

Students are encouraged to undertake undergraduate research experiences in the laboratories of the department faculty. UMaine Biomedical Engineering professors are all highly active and accomplished researchers. Research projects have included the development of nanoprobes for detection and imaging of cancer; creation of model cellular membranes for the study of membrane-protein interactions, molecular biosensors for detecting pathogens and toxins, and improving tissue-implant compatibility. Undergraduates are encouraged to participate in research projects to gain hands-on experience in the field, either for course credit, or as paid employees.
Students with satisfactory academic standing at the end of their fourth semester may elect to participate in the "Co-Op" program. Biomedical Engineering CO-OPs range from three to six-months of paid and professionally supervised experience with companies throughout New England. The Co-Op sessions are typically scheduled from July-January, January - July of the junior year or June-August after the completion of the junior year coursework. The exact schedules of the Co-OP sessions are decided by the Co-OP partners. Many students are able to participate in the Co-Op experience and graduate in four years by scheduling coursework during a summer term.
Employment Opportunities
The B.S. degree is suitable for entry-level engineering careers and as preparation for graduate-level study in engineering or scientific disciplines. The degree also serves as an excellent foundation for admission to professional medical degree programs or other health-related graduate or advanced degree programs (e.g., law, veterinary). For students who wish to pursue advanced postgraduate studies in this area, UMaine also offers a Master of Science degree in Biomedical Engineering (including a 4+1 option), in addition to a Ph.D. in Biomedical Engineering through the Graduate School of Biomedical Sciences and Engineering. http://gsbse.umaine.edu/
Scholarships
Many Biomedical Engineering undergraduates enjoy some degree of scholarship support. Students should inquire at the Office of Student Financial Aid to learn about opportunities. Additionally, the following scholarships are offered by the department on a competitive basis:
Eileen M. Byrnes Scholarship
S.T. Han Memorial Scholarship

Chemical Engineering

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: None.
Other GPA requirements to graduate: A cumulative GPA not less than 2.0 in required CHE courses not including technical electives.
Other Requirements: Chemical Engineering program requires that students have a PC-compatible laptop computer capable of running Mathcad ©, Microsoft Office © and Aspen ©. Visit the Maine College of Engineering and Computing website for recommended configuration details.
Required Course(s) for fulfilling Capstone Experience: CHE 479
Contact Information: Peter van Walsum, Interim Chair, 115 Jenness Hall, 581-2277, peter.vanwalsum@maine.edu

The mission of the Chemical Engineering program reflects the mission of Maine's Land Grant University, specifically to provide teaching, research and public service in the discipline of chemical engineering. The goals of the program are to provide a high quality educational program at both the undergraduate and postgraduate levels, to conduct research projects that further fundamental understanding and address practically relevant problems, to act as a center of technical expertise and service to industry and to government agencies that may require assistance in the general area of chemical engineering, and to sustain our established strength as a center of excellence for teaching, research and service in areas related to the pulp and paper industry.
Chemical Engineers design, operate and manage processes that transform raw materials into valuable products. In the design and operation of such facilities the optimal outcome supports profitable enterprises while minimizing environmental impact and safety hazards. Since chemical engineers are employed in many different industries, the basic training is general and not industry-specific.
The program educational objectives are that in the time frame of three to five years after graduation our students will:

- hold positions that utilize their engineering training and have advanced in their job responsibilities, or be pursuing postgraduate education.
- be working as engineering professionals, act ethically by adhering to standards and being committed to the health and safety of employees and the general population.
- be pursuing innovative solutions to current societal challenges and continue to improve themselves through a variety of learning opportunities.
- contribute to their employer and society by working effectively in the global economy, contribute to professional, civic, or governmental organizations, be leading or working collaboratively in teams, and be communicating with diverse groups.

Upon completion of the program, our students will be able to:

- identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- apply engineering fundamentals to design solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- communicate effectively with a range of audiences
- recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- develop and conduct appropriate experiments, analyze and interpret data, and use engineering judgment to draw conclusions
- acquire and apply new knowledge as needed, using appropriate learning strategies

Program Description

The program provides a broad base of knowledge for engineering practice in today's society. The curriculum includes core courses in engineering, mathematics and science combined with electives in engineering, humanities, and social sciences. The engineering courses follow the "process engineering" approach. The required courses cover both the scientific foundations of the subject and the relevant engineering sciences such as stoichiometry, thermodynamics, kinetics, fluid mechanics and unit operations.
Economics and process design are learned in the senior year. Technical electives in the junior and senior years give students the opportunity to gain specialized knowledge in areas of interest. Additional information about the program is available on the Web at http://www.umche.maine.edu/chb/
The department offers a concentration for students who are interested in pulp and paper management. Additionally, UMaine's Maine College of Engineering and Computing offers a Biomedical Engineering Minor, a five-year BS-MBA degree with the Maine Business School, as well as a minor in Engineering Leadership and Management.
Students intending to apply for admission to Medical School may consider completing a Minor in Pre-Medical Studies. Coursework in addition to the Chemical Engineering requirements is required. Some of these courses can be used to fulfill the technical elective

requirements. For more details on the Pre-Medical Minor, click on the following link: Pre-Medical Studies Minor
The undergraduate program prepares students for immediate employment as well as graduate and professional studies. The degrees of Master of Science (Chemical Engineering) and Doctor of Philosophy (Chemical Engineering) are also offered in the Department. Several assistantships are available. The program is described in the University of Maine Graduate School online Catalog and on the Web.
The program in Chemical Engineering is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.

Cooperative Work Experience Program Option in Chemical Engineering

Students with satisfactory academic standing at the end of their fourth semester may elect to participate in the Co-Op program. This fifteen-month program involves two fourteen-week sessions of paid, supervised professional experience as a junior engineer. The Co-Op sessions are typically scheduled during alternating semesters of the third year with a semester of coursework between the sessions. Students are able to participate in the Co-Op experience and still graduate in four years by scheduling one of the third-year semesters of coursework during a summer term. Students participating in Co-Op must register for CHE 494, but these credits cannot be substituted for the courses required for the BS degree. Students who do their Co-Op work experience within the Pulp and Paper sector are strongly advised to take the introductory course PPA 264 prior to their first Co-Op term. This 200-level course is allowed to satisfy a technical elective requirement for those students.

Employment Opportunities

Chemical Engineering graduates find employment in all the major process industries: petroleum refining, petrochemicals, commodity or specialty chemicals, pharmaceuticals, food processing, polymers, production of semiconductors and the pulp and paper industry. Job functions cover a wide range of activities including research and development, process design, control, operation and management of production facilities and technical sales.

Scholarships

Many Chemical Engineering undergraduates enjoy some degree of scholarship support. Students should inquire at the Office of Student Financial Aid to learn about opportunities. Additionally, the following scholarships are offered by the department on a competitive basis:
Eileen M. Byrnes Scholarship
S.T. Han Memorial Scholarship
In addition, the University of Maine Pulp and Paper Foundation supports many undergraduate students with scholarships. Entry scholarships are offered to competitive first-year students based on their high school records. For more information about the opportunities, contact the University of Maine Pulp and Paper Foundation, https://umaineppf.org/ , or call 207-581-2297.

Civil Engineering

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 129
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: None.
Other GPA requirements to graduate: A minimum cumulative GPA of 2.0 in CIE courses.
Required Course(s) for fulfilling Capstone Experience: CIE 411 , CIE 413
Contact Information: Bill Davids, Professor and Chair, 5711 Boardman Hall, Room 105, Tel: (207) 581-2170, email: william.davids@maine.edu

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Civil and environmental engineers are primarily responsible for planning, designing, and constructing facilities to serve society, all providing for the health and safety of its citizens. These facilities include highways and railroads, bridges and tunnels, airports and harbors, hydroelectric dams and power plants, irrigation and flood control projects, and the foundations and frames of buildings. Environmental engineers plan and design water purification plants, pollution control facilities, and other environmental protection projects. An engineer may specialize in one of these areas and may further specialize in a particular function such as design, management, or construction. Our programs educational objectives prepare graduates to:

1. Practice the disciplines of transportation, environmental, structural, water resources, and geotechnical engineering, and/or related fields.
2. Engage in advanced education, research, and development.

3. Pursue continuing education and professional licensure.
4. Promote and advance public health and safety, and enhance quality of life.
5. Act in a responsible, professional, and ethical manner.

More information about the department and the program can be found on our web site.

Program Description

The multifaceted nature of this society-serving profession dictates that civil engineers have proficiency in five areas: structural, geotechnical, environmental, water resources, and transportation engineering. To achieve that objective, students need to be proficient in mathematics through differential equations; probability and statistics; calculus-based physics; and general chemistry. The ability to conduct laboratory experiments and to critically analyze and interpret data in more than one of the four above-mentioned major areas is emphasized throughout the program. Design is integrated throughout the professional component of the curriculum by means of design experiences and by functioning on multidisciplinary teams.

Since civil and environmental engineering is a societal profession, our engineers may also be faced with economic, ethical, political, social, and legal issues. Moreover, civil engineers must be able to communicate effectively both orally and in writing. Therefore, societal issues and communication skills are emphasized in our civil and environmental engineering courses. Moreover, the curriculum provides for Human Values and Social Context courses, including ethics, writing and public speaking. A two-course senior capstone course sequence, taken in the senior year, provides students the opportunity to apply their education to a realistic civil engineering project, while gaining understanding of professional practice issues.

Degrees are awarded upon satisfactory completion of 129 credits at an accumulative grade point average of not less than 2.0 in Civil Engineering courses.

The program in Civil Engineering is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org. The program currently grants 50-60 BS degrees per year, and our present undergraduate enrollment is about 270 students. Annual student enrollment data can be found at https://umaine.edu/oir/majors-report/, and information on degrees granted is posted at https://umaine.edu/oir/degrees-conferred/.

Cooperative Work Experience Program Option

Students who are engaged in engineering related summer jobs under the direction of the department's co-op coordinator can earn three credits of technical elective through the cooperative education program of the department.

Employment Opportunities

Civil and environmental engineers work in consulting firms, construction, manufacturing industries such as paper, chemical, and ship building in the engineering offices of cities and towns, for government agencies and in private practice.

Scholarships

The department offers PaCEsetter Scholarships for outstanding first-year students majoring in civil and environmental engineering. In addition, students can apply for college and departmental scholarships through the Maine College of Engineering and Computing and departmental scholarships through the department.

Computer Engineering

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 124

Minimum Cumulative GPA required to graduate: 2.0

Minimum Grade requirements for courses to count toward major: To repeat any ECE course for which a grade of F, L, or WF has been recorded, a grade of C- or better in the course's prerequisites is required. Dismissal from the program will be recommended if any required course in the program is taken twice without achieving a passing grade. This includes courses where AU, L, or WF grades are received.

Other GPA requirements to graduate: Minimum of a cumulative 2.0 GPA for all courses taken. Minimum of a cumulative 2.0 GPA for all ECE courses taken.

Required Course(s) for fulfilling Capstone Experience: ECE 403

Contact Information: Yifeng Zhu, Professor and Chair, Electrical and Computer Engineering, 101 Barrows Hall, (207) 581-2499; yifeng.zhu@maine.edu

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The Department of Electrical and Computer Engineering offers both undergraduate and graduate degrees in Electrical Engineering and Computer Engineering. For more comprehensive and detailed information about the Department, its programs, career

opportunities, scholarships, and other resources, please visit our website at www.ece.umaine.edu.
The mission of the Computer Engineering program is to provide students with a strong foundation in computer engineering, enabling them to be nationally competitive and successful in their chosen careers and to be prepared for future graduate studies. To achieve this, within two to five years after graduation, graduates of the computer engineering program are expected to:

1. Demonstrate a solid understanding of computer engineering principles by holding positions that utilize their engineering training, advancing in their job responsibilities, or pursuing postgraduate education.
2. Exhibit the ability to work effectively in a professional setting through independent thinking, problem-solving, teamwork, and effective communication.
3. Work as engineering professionals, with a commitment to ethical conduct, adhering to standards, and ensuring well-being of employees and the general population.
4. Engage in lifelong learning activities to continuously enhance their professional development.

Program Description

The Computer Engineering curriculum provides students with the technical skills as well as the mathematical and scientific background required to advance current technology and to contribute to future developments in the computer engineering profession. The curriculum strives to instill critical written and oral communication skills while also providing a diverse background in the humanities and social sciences. Our graduates acquire a sense of professionalism as they become aware of an engineer's responsibility to help solve societal problems. They also develop the ability to contribute to team solutions and an appreciation for the importance of lifelong learning.
Furthermore, the curriculum adopts a practical hands-on approach that combines classroom theory and laboratory experience. This approach ensures that graduates are equipped to take a technical project from inception through to the successful implementation of a solution. The process begins in the first year of the program where students learn to prototype digital circuits and program microcontrollers. It continues through the senior year when they complete their capstone design projects. In this latter case, students typically collaborate in two-person teams over three semesters. Together, they propose, specify, create, present, and demonstrate a solution to a technical problem of their choosing.
To earn a BS degree in Computer Engineering, students must: (1) fulfill all University academic requirements, (2) meet all Computer Engineering curriculum requirements, (3) maintain a GPA of 2.0 or better in all ECE courses, and (4) have a GPA of 2.0 or better in all computer courses. Retaking any ECE course for which a grade of F, L, or WF has been recorded requires a grade of C- or better in the course's prerequisites. Dismissal from the program will be recommended if any required course in the program is taken twice without receiving a passing grade. This includes courses where a grade of AU, L, or WF is received.
Students do have the option to petition the ECE faculty for exceptions to any program requirements. Lastly, it is important to note that the program in Computer Engineering is accredited by the Engineering Accreditation Commission of ABET, which can be found at http://www.abet.org.

Construction Engineering Technology

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 122
Minimum Cumulative GPA required to graduate: 2.0
Other GPA requirements to graduate: CET majors must accumulate a GPA of 2.0 in all required CET classes.
Required Course(s) for fulfilling Capstone Experience: CET 458
Course satisfying the writing intensive requirement within the major: CET 356
Contact Information: Meredith Kirkmann, 130 Boardman, 207-581-2732, meredith.kirkmann@maine.edu

The Construction Engineering Technology (CET) program develops engineering and professional skills in students who aspire to facilitate construction projects. Our graduates have the ability to work in all stages of the building and infrastructure project lifecycle, from design and planning through construction, operations and maintenance. Key skills include:

• Practical problem solving

• Communication and collaboration with designers, engineers, owners and the public
• Construction engineering judgment
• An appreciation for community service and the value of our infrastructure

Accreditation:

The BS in Construction Engineering Technology Major is accredited by the Engineering Technology Accreditation Commission of ABET, under the commission's General Criteria and Program Criteria for Construction Engineering Technology and Similarly Named Programs

Program Educational Objectives (PEOs)

Graduates of the UMaine Construction Engineering Technology Program, within a few years after graduation, are expected to:

1. Utilize a sound knowledge of the fundamental principles of mathematics, science, and construction engineering technology;
2. Use problem solving skills and critical thinking to solve a wide range of problems, both technical and managerial;
3. Collaborate with diverse constituencies through effective communication and teamwork;
4. Assume leadership roles;
5. Have productive and ethically responsible careers that positively impact their communities.

Student Outcomes (SOs)

At graduation, graduates of the UMaine Construction Engineering Technology Program at expected to have:

1. an ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly-defined engineering problems appropriate to the discipline;
2. an ability to design systems, components, or processes meeting specified needs for broadly-defined engineering problems appropriate to the discipline;
3. an ability to apply written, oral, and graphical communication in broadly-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature;
4. an ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes; and
5. an ability to function effectively as a member as well as a leader on technical team

Program highlights:

• Service learning construction projects to give back to the community
• Connections to summer employment in the industry
• Development of professional culture
• The ability to eventually become a professional engineer (PE)
• In addition to University-wide Core Curriculum requirements, the program provides instruction in a number of specific curricular areas. Students are expected to learn how to:
• Utilize techniques that are appropriate to administer and evaluate construction contracts, documents, and codes
• Estimate costs, estimate quantities, and evaluate materials for construction projects
• Utilize measuring methods, hardware and software that are appropriate for field, laboratory, and office processes that are related to construction
• Apply fundamental computational methods and elementary analytical techniques in sub-disciplines related to construction engineering
• Produce and utilize design, construction and operations documents
• Perform economic analyses and cost estimates related to design, construction, and maintenance

of systems associated with construction engineering
• Select appropriate construction materials and practices
• Apply appropriate principles of construction management, law, and ethics
• Perform standard analysis and design in at least one sub-discipline related to construction engineering

Computers

All students are required to have a laptop computer. Visit our website (umaine.edu/set) for recommended configuration details.

Employment Opportunities

With a Bachelor of Science degree, graduates are prepared to perform technical and supervisory tasks in the field and office, and then advancing to management positions. Prospective employers include construction contractors and subcontractors, private and public construction monitoring agencies, contract administrators, and major facility owners such as the Department of Transportation. There are also similar employment opportunities in other project-oriented industries, such as aircraft, aerospace, and shipbuilding.

The recommended sequence of the four-year curriculum is outlined below. Copies can be obtained in the School of Engineering Technology office.

Electrical Engineering

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 124

Minimum Cumulative GPA required to graduate: 2.0

Minimum Grade requirements for courses to count toward major: To repeat any ECE course for which a grade of F, L, or WF has been recorded, a grade of C- or better in the prerequisites for the course is required. Dismissal from the program will be recommended if any required course in the program is taken twice without achieving a passing grade. This includes courses where AU, L, or WF grades are received.

Other GPA requirements to graduate: Minimum of a cumulative 2.0 GPA for all courses taken. Minimum of a cumulative 2.0 GPA for all ECE courses taken.

Required Course(s) for fulfilling Capstone Experience: ECE 403

Contact Information: Yifeng Zhu, Professor and Chair, Electrical and Computer Engineering, 101 Barrows Hall, (207) 581-2499, yifeng.zhu@maine.edu

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The Department of Electrical and Computer Engineering offers both undergraduate and graduate degrees in Electrical Engineering and Computer Engineering. For more comprehensive and detailed information about the Department, its programs, career opportunities, scholarships, and other resources, please visit our website at www.ece.umaine.edu. The mission of the Electrical Engineering program is to provide students with a strong foundation in electrical engineering. enabling them to be nationally competitive and successful in their chosen careers and to be prepared for furture graduate studies. Within two to five years after graduation, graduates of the electrical engineering program are expected to:

1. Demonstrate a solid understanding of electrical engineering principles by holding positions that utilize their engineering training, advancing in their job responsibilities, or pursuing postgraduate education.
2. Exhibit the ability to work effectively in a professional setting through independent thinking, problem-solving, teamwork and effective communication.
3. Work as engineering professionals, with a commitment to ethical conduct, adhering to standards and ensuring the to the well-being of employees and the general population.
4. Engage in lifelong learning activities to continuously enhance their professional development.

Program Description

The Electrical Engineering curriculum provides students with the technical skills as well as the mathematical and scientific background required to advance current technology and contribute to future developments in the electrical engineering profession. The curriculum strives to instill critical written and oral communication skills while also providing a diverse background in the humanities and social sciences.

Furthermore, the curriculum adopts a practical hands-on approach that combines classroom theory and laboratory experience. This approach ensures that graduates are equipped to take a technical project from inception through to the successful implementation of a solution. The process begins in the first year of the program, where students learn to prototype digital circuits and program microcontrollers. It continues through the senior year when they complete their capstone design projects. In this latter case, students typically collaborate in two-person teams over three semesters. Together they propose, specify, create, present, and demonstrate a solution to a technical problem of their choosing.

To earn a BS degree in Electrical Engineering, students must: (1) fulfill all University academic requirements; (2) meet all Electrical Engineering curriculum requirements; and (3) maintain a GPA of 2.0 or higher in all ECE courses. Retaking any ECE course for which a grade of F, L, or WF has been recorded requires a grade of C- or better in the course's prerequisites. Dismissal from the program will be recommended if any required course in the program is taken twice without receiving a passing grade. This includes courses where a grade of AU, L, or WF is received. Students do have the option to petition the ECE faculty for exceptions to any program requirements. Lastley, it is important to note that the program in Electrical Engineering is accredited by the Engineering Accreditation Commission of ABET, which can be found at http://www.abet.org.

Electrical Engineering Technology

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: A C or higher in MAT 122 , MAT 126 , ENG 101
Other GPA requirements to graduate: EET majors must accumulate a GPA of 2.0 in all required EET classes.
Required Course(s) for fulfilling Capstone Experience: EET 350 and EET 451 and EET 452
Courses satisfying the writing intensive requirement within the major: EET 100 and EET 452
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: Paul Villeneuve, 7 Barrows Hall (207) 581-2271, paul.villeneuve@maine.edu

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The mission of the Electrical Engineering Technology program is to provide a quality education for its students and an outstanding professional development environment for its faculty and students.

To accomplish this mission, the Department has set the following educational objectives for its Electrical Engineering Technology curriculum.

- To prepare students to immediately contribute in the workplace upon graduation through exposure to state of the art equipment, internship experience and design project experience.
- To prepare students in the business of engineering through the understanding of economic and business principles and effective project management techniques.
- To prepare students for the increasing use of computer based technology in industry through the use of computing hardware and software throughout the technical curriculum.
- To provide students with an appreciation for the ethical, legal and professional obligations necessary to function effectively in a contemporary business environment.
- To develop students' communication skills to a level that they can present complex ideas in a clear, logical and concise manner both orally and in writing.

Accreditation:

The BS in Electrical Engineering Technology Major is accredited by the Engineering Technology Accreditation Commission of ABET, under the commission's General Criteria and Program Criteria for Electrical Engineering Technology and Similarly Named

Programs.

Program Educational Objectives (PEOs)

1. To prepare students to immediately contribute in the workplace upon graduation through exposure to state of the art equipment, internship experience and design project experience.
2. To prepare students in the business of engineering through the understanding of economic and business principles and effective project management techniques.
3. To prepare students for the increasing use of computer based technology in industry through the use of computing hardware and software throughout the technical curriculum.
4. To provide students with an appreciation for the ethical, legal and professional obligations necessary to function effectively in a contemporary business environment.
5. To develop students' communication skills to a level that they can present complex ideas in a clear, logical and concise manner both orally and in writing.

Student Outcomes (SOs)

Prior to graduation, students are required to demonstrate the following learned capabilities:

1. an ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly-defined engineering problems appropriate to the discipline;
2. an ability to design systems, components, or processes meeting specified needs for broadly-defined engineering problems appropriate to the discipline;
3. an ability to apply written, oral, and graphical communication in broadly-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature;
4. an ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes; and
5. an ability to function effectively as a member as well as a leader on technical teams.

EET students can also enrich their academic experience by completing minors that complement their program such as engineering entrepreneurial, or business administration.

Program Description

The Electrical Engineering Technology (EET) program at the University of Maine prepares students for professional electrical engineering careers in industry. The program provides students with the theory and applications experience necessary for them to quickly become productive in their jobs after graduation. The EET program provides students with a traditional electrical and electronic engineering curriculum with possible extra concentrations in Power, Electromechanical, Information Technology, or tailoring their own focus like renewable energy. All courses in the program are taught in a way that includes a strong component of practical applications, along with core theoretical concepts.

The EET degree also requires students to gain an understanding of engineering management principles. Courses in engineering economics, statistics and project management are required of all graduates. This highlights the program's focus on preparing graduates for entry into the work force upon graduation. The program is constantly updated in response to input from an Industrial Advisory Committee that has representatives from manufacturing, power utilities, process industries, data communications and electronics companies.

The faculty in the EET program focus upon teaching the students. They all have significant industrial experience and serve actively as consulting professional engineers when not teaching. Program faculty teach all classes and laboratories with additional lab assistant support to promote learning as required. Thus, students learn first-hand about current industry trends and the latest electrical equipment.

A very important part of the education of all EET students is a Senior Design Project sequence that is spread over three semesters finishing in their senior year. Also, design projects are required in some of the EET courses to help prepare students for their capstone project. The Senior Design Project requires student teams to solve a design problem while utilizing good engineering design, troubleshooting and project management.

Cooperative "Work Experience" Program Option

All EET students who have achieved sophomore status are encouraged to participate in a well-established co-op program that allows students to receive course credit while gaining valuable experience with an industry of their choice. The department faculty work closely with key industrial partners to maintain cooperative education opportunities that are technically challenging and offer strong economic benefits.

Computers

Incoming students are required to have a PC laptop computer. Visit our website for recommended configuration details.

Employment Opportunities

Graduates of the EET program fill a wide variety of professional technical positions in industry. Many take jobs designing and testing energy systems, while others take positions in manufacturing and electronics. Other EET graduates enjoy lucrative careers in management of projects and/or personnel in a wide variety of electrical-related industries, both in-state and nationally.

Scholarships

The program offers scholarships for outstanding students majoring in Electrical Engineering Technology. In addition, students can apply for scholarships through the Scholarship University.

The recommended sequence of the four-year curriculum is outlined below. Copies can be obtained in the School of Engineering Technology office.

Engineering Physics

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 125

Minimum Cumulative GPA required to graduate: 2.0

Minimum Grade requirements for courses to count toward major: A grade of "C-" or better is required for all prerequisite courses in the major in order to proceed to subsequent courses in the major.

Other GPA requirements to graduate: A minimum cumulative GPA of 2.0 ("C") in the major (physics plus engineering sequence).

Required Course(s) for fulfilling Capstone Experience: PHY 400 and the sequence of PHY 481 and PHY 482 or HON 498 and HON 499

Contact Information: John Thompson, Chair and Professor, Department of Physics and Astronomy, 120 Bennett Hall, 207.581.1016, physics@maine.edu

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The Engineering Physics Program, offered by the Department of Physics and Astronomy, is designed for students who are interested in not only a particular engineering field, but also in physics and mathematics that provide a foundation for that field. Thus, the mission of the Engineering Physics Program is to offer an accredited Bachelor of Science degree that combines a meaningful sequence of engineering courses within a particular engineering field with a traditional high-quality undergraduate physics education. The goals of the program are to prepare graduates to directly enter the modern workplace or go on to graduate study, either in their chosen engineering field or in physics.

The Engineering Physics program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org, under the commission's General Criteria and Program Criteria for Engineering, General Engineering, Engineering Physics, and Engineering Science.

Our Engineering Physics program is the first ever such program, established in 1938, and is tied for the first accredited engineering physics program (with the University of Kansas) in 1949, and the only accredited engineering physics program in New England.

The Educational Objectives of the University of Maine Engineering Physics Program are to have our graduates:

- Use the versatility afforded by the engineering physics degree to collaborate with a dynamic, diverse, and technically sophisticated workforce by successfully employing engineering/scientific skills, developed at UMaine, in a wide range of fields.
- Continuously improve and expand their technical and professional skills through informal self-study, coursework, pursuit of licensure, or the attainment of advanced degrees in science, engineering, business, or other professional fields.

• Advance the profession and themselves through ethical behavior, communication, teamwork and leadership.
• Recognize the importance of civic engagement and support the significant roles that engineering and science play in the betterment of society.

The Student Outcomes of the University of Maine Engineering Physics Program are that, by the end of their undergraduate program in engineering physics, students will have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. an ability to communicate effectively with a range of audiences.
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Therefore, preparation also includes an introduction to the humanities, social sciences, communications, and a sensitivity to issues of ethics and professional practice.

Furthermore, the program encourages majors to participate in student professional organizations, including the Society of Physics Students, the Society of Women Engineers, and the various student societies within the student's chosen engineering field. In addition, majors frequently qualify for membership in the honor societies Sigma Pi Sigma and Tau Beta Pi, among others.

For further information visit our website, physics.umaine.edu.

Program Description

The basic curriculum of required courses, combined with electives in science, engineering, the humanities, and social sciences, culminates in a two-semester engineering design capstone experience. Of the 125 credits, 45 are electives, permitting each major, in consultation with both her/his physics advisor and engineering advisor, to put together a significant core of engineering courses in their engineering field of choice, and to satisfy the University General Education Requirements through electives supportive of their professional goals.

The program consists of a minimum of 24 credits of engineering courses, most of which lie in the student's area of engineering concentration, along with a technical elective for a total of 24-30 credits. (A technical elective can be an Astronomy, Physics, Engineering, Chemistry, Mathematics, Computer Science or other approved science course, generally at the 300-level or higher.) The engineering concentrations include Biomedical, Chemical, Civil and Environmental, Computer, Electrical, and Mechanical. Engineers teach all engineering courses.

The program requires a laboratory course in physics in each of eight semesters. These laboratory experiences emphasize the ability to conduct experiments, analysis and interpretation of data, working with modern instrumentation and meeting deadlines. When possible, students work in teams alongside majors outside the Maine College of Engineering and Computing. The junior-year laboratory sequence is also a writing intensive experience. An English instructor meets regularly with majors to develop their technical writing skills, through assignments, guided revision and assessment.

Five courses in mathematics, in addition to a computer programming course, are required, with the upper-level selections involving topics pertinent to engineering. A minor in mathematics can be earned with one additional mathematics course beyond these five (as long as one is at the 400-level) and our required PHY 472 . Approximately 50% of graduating Engineering Physics majors earn a minor in mathematics.

The Engineering Physics program requires satisfactory completion of at least 125 credits at an accumulative grade point average of not less than 2.0.

The Department of Physics and Astronomy also offers graduate programs leading to the following degrees: Master of Engineering in Engineering Physics, Master of Science in Physics, and Doctor of Philosophy in Physics. Further information about these programs is contained in the Graduate School online Catalog.

Cooperative "Work Experience" Program Option

Engineering Physics majors who have completed both their sophomore year and 16 credits in physics courses can participate in the cooperative education program. This program integrates a practical work opportunity at an industrial facility (obtained through a specific period of employment) with on-campus classroom and laboratory experiences. Academic credit is received through enrollment in PHY 495 Engineering Physics Practice.

Employment Opportunities

Engineering Physics graduates work in industry, universities, government agencies, and private practice. Roughly half go directly to an engineering/physics employment opportunity immediately after graduation. Others continue their education in graduate programs in engineering, physics, law (e.g. patent law), business and medicine. Employment in industries producing electronics products, optical products, and the nuclear/radiation medicine field is popular. Because the Engineering Physics major is familiar with both the practice of engineering and the scientific approach to problem solving, our students are often sought out for multidisciplinary employment opportunities. Recent multidisciplinary employment examples include navigation instrumentation (Lincoln Laboratories), nuclear radiation monitoring (The State of Maine), and optical and acoustical effects (The Walt Disney Corporation).

Mechanical Engineering

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 123
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: None.
Other GPA requirements to graduate: A minimum cumulative GPA of 2.0 in MEE courses.
Required Course(s) for fulfilling Capstone Experience: MEE 487 and MEE 488
Contact Information: Dr. Masoud Rais-Rohani, Mechanical Engineering Chair, Ferland Engineering Education and Design Center, Room 237F, Tel: (207)581-4120.

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The mission of the Department of Mechanical Engineering is to educate students for success in the field of mechanical engineering by providing academic programs that promote engineering principles, experiential learning, critical thinking, creative problem-solving, teamwork, leadership and outreach, and to pursue innovative research and scholarly achievement for advancing the State and developing technology solutions to societal needs.

Mechanical engineers work in transportation, energy, chemical, and biomedical industries, among many others. They work for small and large companies, consulting firms, laboratories, and government agencies. Many mechanical engineers are employed by manufacturers in aerospace, automotive, and shipbuilding. Mechanical engineers solve problems by developing systems that involve moving parts, ranging from small biomedical devices to giant machines used in mining, agriculture, and construction. Mechanical engineers conduct research in solar and wind energy, advanced materials, computer modeling, additive manufacturing, jet and rocket propulsion, among many other topics.

The undergraduate program has been developed to enable the student to begin a professional career in engineering after graduation or to pursue advanced studies in graduate school. Additional information can be found online at https://umaine.edu/mecheng/.

Program Educational Objectives

Within a few years after graduation, those holding a bachelor's degree in Mechanical Engineering from UMaine are expected to:

1. Successfully practice engineering in roles of increasing responsibility to serve local, state, national, and international industries and government agencies.
2. Demonstrate a spirit of lifelong learning by pursuing professional licensure, graduate education, short courses or other training programs in engineering or related fields.
3. Demonstrate professional and ethical responsibility, and awareness of diversity, equity, and inclusion, in their work and daily lives.

4. Participate in their community and in so doing advocate for the profession.

Student Outcomes

By the end of their undergraduate degree program in mechanical engineering, students will have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. an ability to communicate effectively with a range of audiences.
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Program Description

The undergraduate mechanical engineering program develops the student's creative potential to meet the increasingly complex needs of industry, government and graduate education. It provides a foundation of knowledge in mathematics, basic physical sciences, thermal sciences, dynamic systems, materials science, fluid and solid mechanics and design of systems.

Since engineers must address problems requiring awareness of economical, ethical, political, social and legal issues, the curriculum includes an introduction to the humanities and social sciences as well as mathematics, science and engineering fundamentals.

In consultation with an academic advisor, the student plans a program based on the recommended curriculum. The format can be modified within the constraints of all the departmental, college, and university requirements and course prerequisites to satisfy scheduling needs or student preferences.

In addition to meeting all university academic requirements, a mechanical engineering student must also have a minimum GPA of 2.0 in all mechanical engineering (MEE designator) courses.

The Mechanical Engineering Program is accredited by the Engineering Accreditation Commission of ABET, (https://www.abet.org) under the commission's General Criteria and Program Criteria for Mechanical Engineering. This program leads to a Bachelor of Science degree in mechanical engineering.

Mechanical Engineering Technology

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 127
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: The 3-course math sequence (MAT 122 , MAT 126 , MAT 127) requires a C or better in each class to move on to the next class. ENG 101 requires a C or better to move on to ENG 317 .
Other GPA requirements to graduate: MET Majors must accumulate a GPA of 2.0 in all required MET classes.
Required Course(s) for fulfilling Capstone Experience: MET 464 and MET 465
Course satisfying the writing intensive requirement within the major: MET 234
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: Brett Ellis, 215A Boardman, (207) 581-2134

The UMaine Mechanical Engineering Technology program prepares students for a broad range of engineering activities including the development, design, testing, and manufacturing of products; the design, operation and maintenance of processes, and technical sales and marketing. The scope of mechanical engineering technology includes transportation, power generation, energy conversion, climate control, machine design, manufacturing and automation, and the control of engineering systems and devices.

Accreditation:

The BS in Mechanical Engineering Technology Major is accredited by the Engineering Technology Accreditation Commission of ABET, under the commission's General Criteria and Program Criteria for Mechanical Engineering Technology and Similarly Named Programs.

Program Educational Objectives (PEOs)

The graduates of the UMaine Mechanical Engineering Technology Program, within a few years after graduation, are expected to:

1. demonstrate a sound knowledge of the fundamental principles of mathematics, science, and mechanical engineering;
2. utilize critical thinking and problem solving skills that can be applied to a wide range of problems both technical and non-technical;
3. carry out the safe and responsible practice of mechanical engineering;
4. use communication, teamwork, and leadership skills, appreciate social values, and understand the implications of technology;
5. expand technical currency in response to changing technology and the needs of society.

Student Outcomes (SOs)

Prior to graduation, students are required to demonstrate the following learned capabilities:

1. an ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly- defined engineering problems appropriate to the discipline;
2. an ability to design systems, components, or processes meeting specified needs for broadly-defined engineering problems appropriate to the discipline;
3. an ability to apply written, oral, and graphical communication in broadly- defined technical and non-technical environments; and an ability to identify and use appropriate technical literature;
4. an ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes; and
5. an ability to function effectively as a member as well as a leader on a technical team.

Program Description

Throughout the program students prepare for professional practice by developing both technical and interpersonal skills. Early in the program students learn to create 3D computer models and communicate with 2D drawings. Then they learn to bring drawings to reality in our workshop. They develop skills working on diverse teams.

Students acquire math and science skills through a structured math sequence and courses in physics and chemistry. They continue to build a solid foundation of engineering knowledge and skills. Topics include heat and work, materials, support and motion of rigid bodies and fluids, manufacturing processes, and electrical circuits. Students also learn to write and speak about technical topics and measure all things mechanical.

Students learn how to design complex mechanisms, then apply all their learnings to a senior capstone project. The capstone project is widely regarded because students find a real-world problem, design a solution, then build and test their design.

Students are urged to work in a technical job during each summer recess. If the job meets certain requirements students may obtain 3 hours of co-operative education degree credit via MET 394.

Computers

Incoming students are required to have a laptop computer. Visit our website for requirements.

Biomedical Engineering Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 20

GPA requirements to earn minor: 2.0

Minimum Grade requirements for courses to count toward minor: No grades below C-

Other requirements: A minimum of 9 credit hours must be completed at the University of Maine

Contact Information: Michael Mason, Professor and Program Coordinator, 309 Jenness Hall, 207-581-2344;

michael.mason@maine.edu

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Biomedical Engineers work at the forefront of research and industry and frequently address clinical, diagnostic, and therapeutic applications of engineering. Biomedical Engineers use engineering skills to design devices or develop methods that interface with biomedical systems to benefit society. Instruction in this minor is directed toward the instrumentation and techniques employed to analyze biomedical systems and processes, the challenges and methodologies associated with manipulating biological systems, and the current and future applications of Biomedical Engineering.
This minor is only available to students matriculated into an engineering degree program at the University of Maine. This minor is not available to students pursing the Biomedical Engineering major.

Computer Engineering Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 20
GPA requirements to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: No grades below C-
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: Dr. Don Hummels, Professor of Electrical and Computer Engineering, (207) 581-2244, donald.hummels@maine.edu

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PLEASE NOTE: This minor is not available to students majoring in Electrical Engineering and/or Computer Engineering.
The Computer Engineering Minor is designed to provide engineering majors outside of the Department of Electrical and Computer Engineering (ECE) and students from other disciplines an introduction to the wide-ranging content of the computer engineering major. The minor program entails 14 credit hours of required courses and a minimum of six credit hours of ECE elective courses.

Construction Engineering Technology Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: No more than one grade less than a C-
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: Philip Dunn, Coordinator, Construction Engineering Technology, 132 Boardman Hall, 207-581 -2326, philip.dunnjr@maine.edu

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PLEASE NOTE: This minor is not available to Construction Engineering Technology majors.
A minor in Construction Engineering Technology requires at least 18 credit hours in construction management program courses. The courses must include three credits of estimating and planning and three credits in planning and scheduling. The remaining courses must be selected from construction management (CET) courses required in the Construction Engineering Technology curriculum. Approval of a course of study by a Construction Engineering Technology faculty advisor is required.

Electrical Engineering Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 20
GPA requirements to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: No grades below C-
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: Donald Hummels, Professor of Electrical and Computer Engineering, 207-581-2224, donald.hummels@maine.edu

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PLEASE NOTE: This minor is not available to students majoring in Electrical Engineering and/or Computer Engineering. The Electrical Engineering Minor is designed to provide engineering majors outside of the Department of Electrical and Computer Engineering (ECE) and students from other disciplines an introduction to the wide-ranging content of the electrical engineering major. The minor program entails 14 credit hours of required courses and a minimum of six credit hours of ECE elective courses.

Electrical Engineering Technology Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: No more than one grade less than a C-
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Judith Pearse, Professor, Electrical Engineering Technology, 9 Barrows Hall, 207-581-2346, jpearse@maine.edu

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PLEASE NOTE: This minor is not available to Electrical Engineering Technology majors.
A minor in Electrical Engineering Technology provides students with a thorough, hands-on approach to electrical systems. From troubleshooting to basic design skills, this minor covers such topics as circuit theory, electronics, and industrial control systems - all taught with a focus on practical application. Through classroom interaction and a significant laboratory component, students with an Electrical Engineering Technology Minor are prepared to be immediately productive in such fields as Power and Energy as well as Industrial Manufacturing.

Engineering Entrepreneurial Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: No more than one grade less than a C-
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: School of Engineering Technology, 119 Boardman, 207-581-2340

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The Engineering Entrepreneurial Minor provides engineering students with a "big-picture" perspective on business and how to approach non-technical issues in today's work environments. Initially requested by several key industry advocates, this minor shows engineering students how their skills may be best utilized in a business situation. With a focus on such coursework as project management, business law, economics, and small business management, students are provided with a unique business perspective that makes them highly valuable in today's workforce.

Engineering Leadership and Management Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: No grades below C-
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: Jude Pearse, Professor, Electrical Engineering Technology, 9 Barrows Hall, 207-581-2346, jpearse@maine.edu

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The Engineering Leadership and Management Minor provides undergraduate engineering and engineering technology majors with skills that are essential to long-term career advancement. Moreover, the carefully selected skills that comprise the minor are highly sought after by employers of our graduates. The minor includes a course, Engineering Leadership and Management Internship, where students will put their skills to the test in real-world businesses. Students will learn how leaders deal with people and inspire others to enthusiastically and willingly achieve the vision and goals of the organization. Students will learn how leaders play a fundamental role in setting the organization's vision and goals. As a manager, students will learn how to effectively apply relevant experience, knowledge, and resources for the efficient and timely completion of operations or tasks to achieve success for the organization.
Note: Most of the courses included in this minor have prerequisites. Some of the prerequisites qualify as Human Values and Social Contexts (HVSC) electives. Students should strategically use their HVSC electives to satisfy these prerequisites.

Power Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 19
GPA requirements to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: No grades below C-.
Contact Information: Donald Hummels, Professor of Electrical and Computer Engineering, (207) 581-2224, donald.hummels@maine.edu
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
PLEASE NOTE: This minor is not available to Electrical Engineering and/or Computer Engineering majors.

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The objective of the Power minor is to provide students with a comprehensive understanding of the about generation and delivery of electric energy. The minor consists of four core sources, with the first two focusing on the fundamentals knowledge in electrical circuits and networks, while latter two delve into the generation and conversion, transmission and distribution, and the design and analysis of power and energy systems. In addition, there are elective courses that provide complementary and related knowledge in design, control, and application of power and energy systems. Taking this minor will prepare students for working in the power utility industry, construction industry, submarine and aircraft manufacturing, and/or attending graduate school for research and development in smart grid and other electric energy-related technologies.

Process Engineering Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 21
GPA requirements to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: None
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: Sara Walton, Principal Lecture, 319 Jenness Hall, 207-581-2283, sara.walton@maine.edu

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PLEASE NOTE: This minor is not available to Chemical Engineering majors.
The objective of the Process Engineering minor is to prepare students to work in process manufacturing industries such as semiconductors, foods, pharmaceuticals, plastics, petrochemical, pulp and paper, and bioprocessing. The first course covers basic process calculations used to account for materials and energy used in production processing. The subsequent courses cover design of unit operations such as pumps, heat exchangers, chemical reactors, and chemical separators. Students completing this minor will be able to understand the operation of and analyze the performance of process equipment in a production facility. For science and engineering major outside the traditional process industries the minor will give a broad understanding of the considerations involved in process engineering analysis.

Robotics Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: No grades below C-
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: Dr Babak Hejrati, Rm 225 Boardman Hall, (207) 581-6689, babak.hejrati@maine.edu or Dr. Vikas Dhiman (minor completion audits), Rm 105 Barrows Hall, (207) 581-2222, vikas.dhiman@maine.edu

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The robotics minor is designed to provide a fundamental understanding of robotic operation and preliminary training in the design and use of robots. This minor is intended to equip students with fundamental knowledge and information on robotic manipulators, structures, systems and related applications. Specifically, this minor will cover statics, kinematics, dynamics and control of robots. Robotic systems have wide applications in modern technology and manufacturing. Students who choose this minor can also specialize, by completing special projects within the various courses, in certain aspects of intelligent robotics such as mobile walking robots, robotic vision, robotic surgery and surgical microrobots as well as the design and applications of robots for hazardous tasks and environments.

Survey Engineering Technology Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: No more than one grade less than a C-
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: Ray Hintz, Coordinator, Surveying Engineering Technology, 316 Boardman Hall, um.set@maine.edu

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PLEASE NOTE: This minor is not available to Survey Engineering Technology majors.
The objective of the minor in Surveying Engineering Technology is to provide majors in a related discipline with the necessary knowledge for licensure as a land surveyor in Maine. As an example, an engineer could perform design, boundary survey, and construction survey in a development. A forester could survey a wood lot's boundary lines as part of a forestry function. A minor in Surveying Engineering Technology requires at least 18 credit hours in surveying program courses. The courses must include three credits of plane/basic surveying, three credits in advanced or construction surveying, and three credits in boundary law. The remaining courses must come from surveying, engineering, engineering technology, technical, legal , or ethical courses approved as program electives in the Surveying Engineering Technology curriculum. Approval of a Surveying Engineering Technology minor course of study by a surveying engineering technology faculty is required.

Surveying Engineering Technology

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 125
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: C or higher in MAT 122 and MAT 126 and ENG 101
Other GPA requirements to graduate: SVT majors must accumulate a GPA of 2.0 in all required SVT classes.
Required Course(s) for fulfilling Capstone Experience: SVT 490
Courses satisfying the writing intensive requirement within the major: SVT 221 , SVT 451 and SVT 475
Contact Information: Prof. Raymond Hintz, 316 Boardman Hall; um.set@maine.edu

The Surveying Engineering Technology program educates individuals to enter a career in professional surveying. The program is designed to provide a graduate with sufficient skills to enter the surveying profession and be successful. The degree is offered both on campus and remotely on-line.

The Surveying Engineering Technology program provides quality instruction in surveying and engineering topics blended with business and communications. The objectives of the program are fulfilled by providing students with a foundation in mathematics, science, communications, social science, and humanities; coupled with topics in plane surveying, construction surveying, photogrammetry, geodetic surveying, remote sensing, boundary law, civil engineering technology, cadastral surveying, global positioning systems, land development design, and geographic information systems.

Accreditation:

The BS in Surveying Engineering Technology Major is accredited by the Engineering Technology Accreditation Commission of ABET, under the commission's General Criteria and Program Criteria for Surveying Engineering Technology and Similarly Named Programs.

Program Educational Objectives (PEOs)

1. Demonstrate a practical understanding of skills in mathematics, basic physical sciences, business, surveying, and engineering sufficient to pass professional registration exams.
2. Show proficiency in using surveying equipment and gathering experimental and surveying data for the use of analytical and problem-solving skills reasonably expected for surveying practice necessary to be in responsible charge of surveying operations.
3. Be able to apply design skills sufficient to meet employer and client expectations in the areas of land development and survey operations planning.
4. Conduct themselves ethically and professionally and exhibit personal integrity and responsibility in surveying practice.
5. Be proficient in written, oral, and graphic communication to deal with promotion of professional services, business communications, reporting to clients, interacting with peers, and addressing client matters in public forums.
6. Awareness for the arts, humanities, social sciences, and diversity and their place among society and the profession in taking leadership roles in the community and profession.
7. Be able to work in a multi-disciplinary team environment, and lead when necessary to accomplish a given mission or project when providing professional services to the public.
8. Recognize, participate, and appreciate the need for quality improvement of services, continuous improvement of professional skills, and embarking on lifelong learning.

The student is taught a variety of surveying topics in a highly technical and rigorous curriculum. The primary focus is educating students to enter a rewarding career as a professional land surveyor. Students that enjoy outdoor activities will enjoy a career in land surveying.

Degrees are awarded upon satisfactory completion of 121 credits at an accumulative grade point average of not less than 2.0 overall. Students must also achieve at least a 2.0 grade point average in all required SVT courses.
The recommended sequence of the four-year curriculum can be obtained in the School of Engineering Technology office. . The Surveying Core Courses, Other Required Courses and Technical Elective list can be found below.

Student Outcomes

Prior to graduation, students are required to demonstrate the following learned capabilities:

1. an ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly- defined engineering problems appropriate to the discipline;
2. an ability to design systems, components, or processes meeting specified needs for broadly-defined engineering problems appropriate to the discipline;
3. an ability to apply written, oral, and graphical communication in broadly- defined technical and non-technical environments; and an ability to identify and use appropriate technical literature;
4. an ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes; and
5. an ability to function effectively as a member or leader on a technical team.

Computers

Incoming students are required to have a PC laptop computer (NOT a MAC). Visit our website for recommended configuration details, https://umaine.edu/set/, for recommended configuration details.

Renewable Energy Science and Technology Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: None
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: David Dvorak, Prof. of Mechanical Engineering Technology, 119 Boardman Hall

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The Renewable Energy Science and Technology Minor provides students an introduction to the wide-ranging issues concerning the production, distribution, consumption, and impacts of energy. This program complements degree programs in engineering and engineering technology, as well as those in the physical, life, and social sciences. The minor includes 18 credit hours of coursework, 9 hours of which are required courses.

Renewable Energy Engineering Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18

GPA requirements to earn minor: 2.0

Minimum Grade requirements for courses to count toward minor: None
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine

Contact Information: David Dvorak, Coordinator, Professor of Mechanical Engineering Technology, 119 Boardman Hall

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The Renewable Energy Engineering minor provides students an introduction to the wide-ranging issues concerning the production, distribution, consumption, and impacts of energy, with a particular focus on the design and implementation of existing and emerging technologies. This program complements numerous engineering majors and helps to prepare students for careers in this

innovative field. The minor includes 18 credit hours of coursework, 9 hours of which are required core courses.

Mechanical Engineering Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 21
GPA requirements to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: No grades below C-.
Other requirements: A minimum of 15 credit hours must be completed at the University of Maine.
Contact Information: Masoud Rais-Rohani, Chair, 219 Boardman Hall, 207-581-4120, masoud.raisrohani@maine.edu

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PLEASE NOTE: This minor is not available to Mechanical Engineering majors.
The Mechanical Engineering Minor is designed to provide majors outside of the Department of Mechanical Engineering a fundamental introduction to the mechanical engineering field, allowing them to interact more successfully with mechanical engineers on team projects. The minor consists of 15 credit hours of required courses and a minimum of six credit hours of MEE elective courses.

Environmental Engineering Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 25
GPA requirements to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: No grade below C-
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: Dr. Shaleen Jain, Chair; Professor of Civil Engineering, 207-581-2420, shaleen.jain@maine.edu

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The Environmental Engineering Minor is open to all students wishing to demonstrate a focus on environmental engineering. Many engineers find themselves faced with environment issues in many projects and would benefit by having a fundamental knowledge of environmental engineering.

Nanotechnology Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: No grades below C-
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: Dr. Rosemary Smith, Professor, Electrical & Computer Engineering, (207)581-3361, rosemary.smith@maine.edu

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The Nanotechnology minor will comprise both fundamental and specialized coursework preparation for undergraduate students who engage in nanoscale research and/or who wish to pursue a career in nanotechnology.
Prerequisite Courses

Only as specified by each individual core and elective course required for the minor.

Ocean and Marine Engineering Minor

OVERVIEW OF DEGREE REQUIREMENTS
Minimum number of credits required to earn minor: 21
GPA requirements to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: None
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: Dr. Andrew Goupee, Assistant Professor of Mechanical Engineering, 206 Boardman Hall, 207-581-3657, agoupe91@maine.edu

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The minor in Ocean and Marine Engineering is a collection of courses that provide the student with fundamental and applied knowledge of the vast ocean and marine resources available on this planet. Emphasis is placed on responsible and sustainable engineering for extracting resource extraction from the ocean. The core and elective options include courses from engineering as well as physical and marine sciences.

Mechanical Engineering Technology Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: No more than one grade less than a C-
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: S. David Dvorak, 119 Boardman Hall, Room 112, 207-581-2338, dvorak@maine.edu

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Bioinstrumentation Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 25
GPA requirements to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: C- or better for all courses used to satisfy the concentration
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: Dr. Rosemary Smith, Professor, Electrical & Computer Engineering, (207) 581-3361, rosemary.smith@maine.edu

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The Bioinstrumentation minor provides increased knowledge and skills specific to the development of electronic or computer systems used for biological and biomedical applications. Background in the biological sciences is required to prepare students for employment or graduate education in fields associated with clinical, therapeutic, and diagnostic applications ofbioinstrumentation. Students completing the minor are uniquely positioned to work in management, production or research and development in a variety of industries such as medical devices, diagnostics, genetics, healthcare industry support, pharmaceutical production, drug discovery, environmental remediation, or agricultural advancement.
All students who complete the minor must complete two Biomedical Engineering courses, BEN401 and BEN 403 (6 credits) and two biological science prerequisites: BIO 100, and BIO 208 or BMB 280. These courses provide basic biological science background knowledge and literacy, application of engineering methods to biomedicine, and examination of specific bioinstrumentation examples. In addition, students must complete a sensors course (ECE 465) and an introduction to robotics

course (ECE 417) (6 additional credits), along with the prerequisites: ECE 210 and ECE 177 or COS 220. The ECE courses provide an increased depth of knowledge in circuit design, programming, robotics and sensors, which are commonly implemented elements of bioinstrumentation.

Bioinstrumentation Required Courses (25-27 credits):

- BIO 100 - Basic Biology %credits:%
- BIO 208 - Anatomy and Physiology %credits:% or BMB 280 - Introduction to Molecular and Cellular Biology %credits:%
- BEN 401 - Dynamic Biomedical Systems %credits:%
- BEN 403 - Instrumentation in Biomedical Engineering %credits:%
- ECE 177 - Programming I: From C Foundations to Hardware Interaction %credits:% or COS 220 - Introduction to C++ Programming %credits:%
- ECE 210 - Electric Circuits I %credits:%
- ECE 417 - Mobile Robotics %credits:%
- ECE 465 - Introduction to Sensors %credits:%

Surveying Engineering Technology Certificate

OVERVIEW OF REQUIREMENTS

Minimum number of credits required to earn certificate: 15
Minimum Cumulative GPA required to earn certificate: 2.0
Minimum Grade requirements for courses to count toward certificate: none
Other GPA requirements to earn certificate: None
Contact Information: Raymond Hintz, Professor of Surveying Engineering Technology, 119 Boardman Hall, (207)581-2341, ray.hintz@maine.edu

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The online undergraduate Certificate in Surveying Engineering Technology (SVT) is designed to fit a national niche for professionals seeking licensure as land surveyors. The program is designed to serve those who have entered the surveying profession with a degree that is not surveying engineering technology, and their path to licensure requires a core group of surveying classes. It also serves those professional in states where a degree is not required for licensure, and instead a core curriculum is necessary which will be satisfied by the certificate. The certificate can serve as a stepping stone into the current online BS degree in surveying engineering technology (SVT).

Composite Materials and Structures Certificate

OVERVIEW OF REQUIREMENTS

Minimum number of credits required to earn certificate: 12
Minimum Cumulative GPA required to earn certificate: 2.5
Minimum Grade requirements for courses to count toward certificate: C or higher in each course is required to count towards the certificate requirements
Contact Information: Masoud Rais-Rohani masoud.raisrohani@maine.edu, (207) 581-4120 (for Maine College of Engineering and Computing) or Douglas Gardner douglasg@maine.edu, (207) 581-2846 (for School of Forest Resources)

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Educational Objectives

• Introduce modern composites made of different constituent materials.
• Develop skills necessary for analysis, design, fabrication, and testing of modern composite materials and structures.
• Establish suitability of composite materials and structures for various applications.

Eligibility Criteria

Students at UMaine as well as others are eligible to enroll in the Certificate program as long as the prerequisites for each course in the sequence are met.

The courses completed for the Certificate may be counted towards an undergraduate or graduate degree per the guidelines of the respective undergraduate or graduate degree program.

Requirements

The Certificate requires the completion of 12 credits (4 courses) through a combination of 400- and graduate-level courses as described in the course sequence section below. A maximum of one course (or 3 credits) at 400 or 500 level may be transferred from outside of UMaine to the program for credit.

The Certificate program shall be completed within 3 years from the date of acceptance into the program.

Experiential Programs Innovation Central (EPIC) Certificate

OVERVIEW OF REQUIREMENTS

Minimum number of credits required to earn certificate: 10-13
Minimum Cumulative GPA required to earn certificate: 2.5
Minimum Grade requirements for courses to count toward certificate: A minimum grade of C required in each course.
Other GPA requirements to earn certificate: None
Contact Information: Dr. Susan Smith, Director of EPIC, susan_lynn.smith@maine.edu

The Experiential Programs Innovation Central's (EPIC) Certificate is designed to complement a student's core curriculum, and provide them with tangible skills to meet the needs of employers throughout Maine and across the world.

Coursework is designed to provide skill-building in the following areas:

- Project management
- Computational thinking
- Critical thinking
- Problem solving
- Communication
- Research
- Writing
- Marketing
- Teamwork and team management

Key objectives of the program include the following:

• Students will develop new workforce development skills that they otherwise would not gain through their regular academic program.
• Students will gain a deep understanding of experiential resources on campus, and have hands-on experience with those resources.
• Students will understand how to use changing and emerging technologies to creatively solve problems.
• Students will be able to articulate ways that their knowledge can be applied in real-world work

settings clearly and effectively.

Eligibility Criteria:

Students at UMaine are eligible to enroll in the certificate program as long as the prerequisites for each course in the sequence are met. A minimum GPA of 2.5 applies to all candidates and minimum TOEFL score of 80 (IbT), 6.5 (IELTS) or 60 (PTE Academic) are required for international students. Up to two courses completed for the certificate may be double counted towards an undergraduate degree per the guidelines of the respective undergraduate degree program.

Electrical Engineering Technology Certificate

OVERVIEW OF REQUIREMENTS

Minimum number of credits required to earn certificate: 18

Contact Information: Paul Villeneuve, Program Coordinator of Electrical Engineering Technology; 9 Barrows Hall; 207.581.2271; paul.villeneuve@maine.edu and William Manion, Director of School of Engineering Technology; 230 Boardman Hall; 207.581.2184; wmanion@maine.edu

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The purpose of this certificate is to increase the technical knowledge and skills of an individual either working in industry or interested in acquiring skills EET graduates have obtained. General skills developed include AC circuit analysis, analog circuit fundamentals, and introductory power design and analysis. These technical content areas also include hands-on practical applications. Elective content allows students to develop specialized skills in additional content areas.

Engineering Applications of Artificial Intelligence Certificate

OVERVIEW OF REQUIREMENTS

Minimum number of credits required to earn certificate: 12

Minimum Cumulative GPA required to earn certificate: 2.5

Minimum Grade requirements for courses to count toward certificate: A minimum grade of C in each course

Contact Information: Mohamad Musavi, Associate Dean, Maine College of Engineering and Computing, 205 AMC Building, (207)581-2218, musavi@maine.edu; and Yifeng Zhu, Professor of Electrical and Computer Engineering, 271 Engineering Science Research Building, (207)581-2499, yifeng.zhu@maine.edu

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Requirements: The proposed free-standing certificate program requires the completion of 12 credits (4 courses) through a combination of 400- and 500-level courses as described in the proposed course sequence section below. A maximum of one course (or 3 credits) at 400 or 500 level may be transferred from outside of UMaine to the program for credit.

Prerequisites: Undergraduate applicants should have taken at least one course in each of the following three areas:

- college calculus (MAT 228 or equivalent),
- statistics and probability (STS 132, STS 332, STS 434, ECE 316, CHE 350 or equivalent), and
- engineering-level software programming (ECE 177, MEE 125, CIE 115, PHY 241, COS 125 or equivalent).

Class assignments in core courses listed below will use Python or Matlab. If students have extensive programming experiences in a different language (C/C++/Java/JavaScript/Perl/R), we
recommend they familiarize themselves with Python and Matlab before their first course. In addition, it is expected that students who take COS 470 should have COS 226 (data structures
and algorithms) or equivalent.

Educational Objectives:

• Gain sufficient knowledge of AI methods for developing engineering applications based on modern AI tools.
• Develop skills necessary for analyzing and processing data, and designing, implementing, and testing AI methods using available tools such as Matlab and Python.
• Establish suitability and validation of AI methods for engineering applications.

The courses completed for this certificate program may be counted towards an undergraduate or graduate degree per the guidelines of the respective undergraduate or graduate degree program.
The program shall be completed within 3 years from the date of acceptance into the program.

Engineering Applications of Artificial Intelligence Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
Minimum cumulative GPA required to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: None.
Other GPA requirements to earn minor: None
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: Mohamad Musavi, Associate Dean, Maine College of Engineering and Computing, 205 AMC Building; 207-581-2218; musavi@maine.edu and Yifeng Zhu, Professor of Electrical and Computer Engineering, 271 Engineering Science Research Building, 207-581-2499; yifeng.zhu@maine.edu

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The minor is a collection of courses that provide the student with applied knowledge of artificial intelligence methods in a vast number of engineering applications. In this day and age and with availability of vast amount of information, it is important for students to gain the knowledge of how to gather intelligence from data and apply it to their industrial processes and functions. The core and elective options include courses from engineering disciplines including one optional course from the School of Computing and Information Science. The minor was developed in consult ion with all engineering departments/school and the School of Computing and Information Science.

Sports Technology Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 22
Minimum Grade requirements for courses to count toward major: C-
Other requirements: A minimum of 12 credit hours must be completed at the University of Maine.
Contact Information: Michael Mason, Department of Chemical and Biomedical Engineering, 350 EEDC, 207.581.2344; michael.mason@maine.edu

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The Sports Technology minor provides students with an understanding of the broad interdisciplinary skills necessary to develop sports related technology solutions from conception to market readiness, through a combination of core innovation and topical content and project based learning. The minor, offered jointly by Innovation Engineering and Biomedical Engineering, combines thematic courses familiarizing students with relevant background in health and physiology, business and communication, data and analysis, with principles and methods used in the practice of innovation. The minor culminates in a year-long multidisciplinary project based experience, where student teams work with stakeholders to develop real world innovative solutions in the sports technology sector.

The Maine Business School

The Maine Business School offers programs in business administration. This professional program provides students with an education based on a strong liberal arts foundation. This broad education is designed to prepare students for successful careers in a rapidly changing global environment while providing them with the skills needed for lifelong learning.

ACADEMIC PROGRAMS:

Bachelor of Science in:

Business Administration

Majors:

Accounting
Business Administration
Business Information Systems & Security Management
Finance
Management
Marketing
Sport Management

Minors:
Accounting
Business Administration
Management
Marketing

Concentrations:

Innovation and Entrepreneurship
International Business

Each Business Administration concentration is open only to Accounting, Business Information Systems and Security Management, Finance, Management, Marketing, or Sports Management majors. Please be aware that some of the courses in each concentration have prerequisites.

Innovation and Entrepreneurship Concentration:

Complete Three (3) Required Courses:

• INV 121 Fundamentals of Innovation
• INV 282 - Advanced Innovation Skills
• MGT 344 Entrepreneurship and New Venture Creation

Complete Two (2) Elective Courses:

• INV 405 - Innovation Leadership
• MGT 425 - New Business Models
• MKT 377 - New Product Management
• PSY 230 Social Psychology
• or other select Innovation and Entrepreneurship related course

International Business Concentration:

Complete the following Requirements:

- MKT 376 International Marketing
- MGT 445 International Management
- INA 101 Introduction to International Affairs
- A study abroad/international experience OR a foreign language course

Complete Two (2) Internationally-Oriented Elective Courses from the following list

- A foreign language course (an additional language course if a foreign language course was used to satisfy the requirments listed above)
- ANT 245 - Sex and Gender in Cross-Cultural Perspective
- CMJ 314 - International Media
- FIN 455 - International Corporate Finance
- GEO 100 - World Geography
- HTY 241 - History of Globalization, 1900-Present
- INA 201 - Topics in International Affairs
- MGT 328 - Canadian/U.S. Business: A Comparison /ECO 340 - The Canadian Economy: Issues and Policies
- POS 376 - Politics of the Global Economy
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NOTES:

Entrance Requirements:

Entrance requirements for the degree programs in the Maine Business School are noted in the admission section of this catalog. Please note that admission requirements differ among majors.

Continuing Student Requirements:

Maine Business School students need to obtain a C- or better in all the core business courses and any course that is a prerequisite to a business course, even another business course. Core business courses may be repeated only once, and when a student earns a grade less than a C- in a core business course, they must retake that class at UMaine. Students that do not pass a core business course with a C- or better after their second attempt, may be removed from the program.

Academic Advising:

The Maine Business School utilizes professional advisors. Each student enrolled at the MBS will be assigned a professional advisor. The Maine Business School is committed to ensuring that the students receive thorughtful guidance throughout their academic careers. Each student will be assigned a faculty mentor in his/her intended major as well as a professional advisor. Students may request a change in advisor at any time.

Declaring the Major:

Students applying for admission to the Maine Business School must designate a major on the application form. Please read the appropriate section in this catalog for more information about the specific majors.

Honors Thesis Course:

Maine Business School students completing HON 499 with a major-specific topic may be able to count the course as an elective in their major with the Associate Dean's approval.

Military Credit Policy:

The Maine Business School allow a maximum of 15 military science credits which will count as free electives. No MSL classes count as Business electives.

Changing Colleges:

Students currently enrolled in another baccalaureate program at the University of Maine may change their enrollment to the Maine Business School provided they have the required grade point average and are in good academic standing on the effective date of change. For students changing colleges, the Maine Business School requires a 2.0 accumulative grade point average. Students who wish to change Colleges should contact the associate dean of their current college for procedures.

Transfers:

Students from other Universities generally are accepted as transfer students if they have completed a minimum of 12 semester credits with the required grade point average. For students transferring to the Maine Business School the required grade point average is 2.0. Students applying for transfer will receive an evaluation of their transcripts indicating course equivalencies for any

courses taken at other institutions. The Maine Business School adheres to University-wide transfer policies.
Students currently enrolled at the University of Maine who wish to take courses at another institution must obtain written approval from the Associate Dean's office prior to registration. The Office of Student Records and the Associate Dean's office will evaluate all courses for which transfer credit is requested.

Differential Tuition:

The Maine Business School, similar to other colleges on campus, charges differential tuition in addition to standard tuition. Differential tuition provides one fee to replace numerous course, program, and lab fees. The revenue generated by differential tuition supports our mission by allowing us to offer our students best practice elements in analytics, projects, and connections to the community. Differential tuition is also used to continue to provide high-quality facilities for use by MBS students such as our Capital Markets Training Lab, student computer lab with no-fee printing, atrium, and assistance with online and synchronous programs. Differential tuition ensures that the degree programs and learning experiences in the Maine Business School are commensurate with accredited programs in the world.

Program Contacts

Business Administration

Patti C. Miles, Ph.D.
Maine Business School
211 Donald P. Corbett Business Building
(207) 581-1968
patti.miles@maine.edu

Accounting Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 24
GPA requirements to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: A C- or higher is required in ACC 201 , ACC 202 and ACC 301 .
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.
Contact Information: Patti Miles, Associate Dean, 211 DP Corbett, (207) 581-1968

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A 2.0 cumulative GPA is required to declare the accounting minor. The accounting minor may be declared, at the earliest, in the second semester of a student's enrollment.
Must earn at least 50% of the ACC credit hours at UMaine. All Accounting classes must be taken for a grade (no pass/fail permitted).

Business Administration Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 27

GPA requirements to earn minor: Must earn a minimum overall GPA of 2.0 in the required Business and Economics courses.
Minimum Grade requirements for courses to count toward minor: Must earn a minimum of a C- in all required courses for the minor.
Contact Information: Patti Miles, Associate Dean, 211 DP Corbett, (207) 581-1968

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- A 2.0 cumulative GPA is required at the time the student declares a business minor
- A business minor may be declared, at the earliest, in the semester of a student's enrollment

• Must earn at least 50% of the Business and Economics credit hours at UMaine
• All Business classes must be taken for credit (no pass/fail permitted)

Management Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 24
GPA requirements to earn minor: Must earn a minimum overall GPA of 2.0 in the required Business/Economics courses.

Minimum Grade requirements for courses to count toward minor: Must earn a minimum of a C- in ECO 120 ,ECO 121 , MGT 225 , MGT 343 and PSY 100 .
Contact Information: Patti Miles, Associate Dean, 211 DP Corbett, (207) 581-1968

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A 2.0 cumulative GPA is required at the time the student declares a management minor. A management minor may be declared, at the earliest, in the second semester of a student's enrollment.

Business Administration in Accounting

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: A C- or higher is required in all business core classes: MGT 101 , ACC 201 , ACC 202 , MGT 220 , BUA 105 , BIS 235 , MKT 270 , MGT 225 , MGT 337 , MGT 343 , FIN 350 , and MGT 449 , three one-credit Professional Skills courses, and in ACC 301 , ECO 120 , ECO 121 and PSY 100 and STS 132 . Core business courses may be repeated only once, and when a student earns a grade less than a C- in a core business course, they must retake that class at UMaine. Students who do not pass a core business course with a C- or better after their second attempt may be removed from the program.
Other GPA requirements to graduate: Must earn a minimum overall GPA of 2.0 in all Business and Economics classes. Must earn at least 70% of the total credit hours in core business classes, as well as the majority of the courses in the major at UMaine
Required Course(s) for fulfilling Capstone Experience: MGT 449
Course stasifying the Writing Intensive requirement within the major: ACC 302
Contact Information: Patti Miles, Associate Dean, 211 DP Corbett, (207)581-1968, patti.miles@maine.edu

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The Accounting major prepares students to have skills in the organization and presentation of financial information to corporate stakeholders and internal financial and managerial information to business managers. Accounting majors' career paths include financial reporting, taxation, internal and external auditing and business consulting.
School/Departmental Requirements:
To earn a B.S. in Accounting at least 70% of the total credits earned in business core classes, as well as the majority of the specialized courses in the major (i.e., 4 out of 6 in accounting) must be taken at the University of Maine. Business and economics coursework must be completed with a 2.0 ("C") cumulative average.
A C- or better is required in all business core classes and those classes may be repeated only once.
Students wishing to transfer from other institutions or from other programs within UM must have a cumulative GPA of 2.0 and be in good academic standing. In addition to University-wide policies for transfer of credit, MBS, as an institution accredited by AACSB International, evaluates transfer credit according to AACSB standards.
First year accounting students should take MGT 101 , ACC 201 , ACC 202 and BIS 235 . Sophomores (24 or more degree hours) may take BUA 105 , MGT 220 , MGT 225 , ACC 301 , ACC 302 and MKT 270 . Juniors (54 or more degree hours) may take any other 300- or 400-level business course for which prerequisites have been met unless the course specifies "Senior Standing".

Class standing requirements are never waived.

The Business Program for Accounting majors has three components:

1. The General Foundation (49 credits). Throughout the program students acquire a broad education in the liberal arts and sciences. Through courses in English, communications, international studies, mathematics, computer science, economics and psychology, as well as electives, students build a strong foundation for lifelong learning. Within this component, the student will satisfy the University's general education requirements.
2. The Business Core (37 credits). The core business courses provide an understanding of the functional areas common to most businesses: accounting, finance, law, marketing, management, management information systems, production and operations, international business and strategy.
3. The Major Fields (15-18 credits). Students acquire advanced knowledge of a major field (accounting, finance, management, or marketing) by taking five courses (six in accounting) beyond the introductory level in a chosen major. Concentrations in International Business, Management of Information Systems, and Innovation and Entrepreneurship can be elected in addition to a major.

Note: The remaining 16-19 credits needed to qualify for graduation can be filled with any course offered at the University.

Prospective CPA students:

Students who intend to sit for the CPA (Certified Public Accounting) examination must have completed 150 credits including a baccalaureate degree and a minimum of 15 credits in accounting. One option recommended for University of Maine students is to complete the baccalaureate degree in business with a major in accounting and then complete the UMaine MBA. Students should strongly consider an internship in accounting sometime during their program.

Business Administration in Management

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120

Minimum Cumulative GPA required to graduate: 2.0

Minimum Grade requirements for courses to count toward major: A C- or higher is required in all business core classes: MGT 101 , ACC 201 , ACC 202 , MGT 220 , BUA 105 , BIS 235 , MKT 270 , MGT 225 , MGT 337 , MGT 343 , FIN 350 , and MGT 449 three one-credit Professional Skills courses, and in ECO 120 , ECO 121 and PSY 100 and STS 132 . Core business courses may be repeated only once, and when a student earns a grade less than a C- in a core business course, they must retake that class at UMaine. Students who do not pass a core business course with a C- or better after their second attempt may be removed from the program.

Other GPA requirements to graduate: Must earn a minimum overall GPA of 2.0 in all Business and Economics classes. Must earn at least 70% of the total credit hours in core business classes, as well as the majority of the courses in the major at UMaine.

Required Course(s) for fulfilling Capstone Experience: MGT 449

Course satisfying the Writing Intensive requirement within the major: MGT 330

Contact Information: Patti Miles, Associate Dean, 211 DP Corbett, (207)581-1968, patti.miles@maine.edu

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The Management major prepares students to have skills necessary to navigate the complexities of corporate, international and small business management. The program's broad scope allows students to understand administrative and organizational principles, including decision-making, teamwork, leadership, motivation, organizational change, strategic analysis and production system analysis, as well as recruiting, training and compensating personnel. Career paths for management majors include business consulting, general management in private and nonprofit organizations, and human resource management.

School/Departmental Requirements:
To earn a B.S. in Management at least 70% of the total credits earned in business core classes, as well as the majority of the specialized courses in the major (i.e., 3 out of 5 in management) must be taken at the University of Maine. Business and economics coursework must be completed with a 2.0 ("C") cumulative average.
A C- or better is required in all business core classes and those classes may be repeated only once.
Students wishing to transfer from other institutions or from other programs within UM must have a cumulative GPA of 2.0 and be in good academic standing. In addition to University-wide policies for transfer of credit, MBS, as an institution accredited by AACSB International, evaluates transfer credit according to AACSB standards.
First year management students may take MGT 101 and BIS 235 . Sophomores (24 or more degree hours) may take ACC 201 , ACC 202 , BUA 105 , MGT 220 , MKT 270 , BUA 290 , and MGT 225 . Juniors (54 or more degree hours) may take any other 300- or 400-level business course for which prerequisites have been met unless the course specifies "Senior Standing". Class standing requirements are never waived.
The Business Program for Management majors has three components:

1. The General Foundation (49 credits). Throughout the program students acquire a broad education in the liberal arts and sciences. Through courses in English, communications, international studies, mathematics, computer science, economics and psychology, as well as electives, students build a strong foundation for lifelong learning. Within this component, the student will satisfy the University's general education requirements.
2. The Business Core (37 credits). The core business courses provide an understanding of the functional areas common to most businesses: accounting, finance, law, marketing, management, management information systems, production and operations, international business and strategy.
3. The Major Fields (15-18 credits). Students acquire advanced knowledge of a major field (accounting, finance, management, or marketing) by taking five courses (six in accounting) beyond the introductory level in a chosen major. Concentrations in International Business, Management of Information Systems, and Innovation and Entrepreneurship can be elected in addition to a major.

Note: The remaining 16-19 credits needed to qualify for graduation can be filled with any course offered at the University.

Business Administration in Finance

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: A C- or higher is required in all business core classes: MGT 101 , ACC 201 , ACC 202 , MGT 220 , BUA 105 , BIS 235 , MKT 270 , MGT 225 , MGT 337 , MGT 343 , FIN 350 , and MGT 449 , three one-credit Professional Skills courses, and in ECO 120 , ECO 121 and PSY 100 and STS 132 . Core business courses may be repeated only once, and when a student earns a grade less than a C- in a core business course, they must retake that class at UMaine. Students who do not pass a core business course with a C- or better after their second attempt may be removed from the program.
Other GPA requirements to graduate: Must earn a minimum overall GPA of 2.0 in all Business and Ecomomics classes. Must earn at least 70% of the total credit hours in core business classes, as well as the majority of the courses in the major at UMaine.
Required Course(s) for fulfilling Capstone Experience: MGT 449
Course satisfying the Writing Intenstive requirement within the major: FIN 351
Contact Information: Patti Miles, Associate Dean, 211 DP Corbett, (207)581-1968

The Finance major prepares students to have skills in three general areas - structure and functioning of financial markets and institutions; methods of financing business operations; and security selection and portfolio management for individual and institutional investors. Common career paths for finance majors are in financial management in business, management and nonprofit organizations; commercial and investment banking; and brokerage.

School/Departmental Requirements:

To earn a B.S. in Finance at least 70% of the total credits earned in business core classes, as well as the majority of the specialized courses in the major (i.e., 3 out of 5 in finance) must be taken at the University of Maine. Business and economics coursework must be completed with a 2.0 ("C") cumulative average.

A C- or better is required in all business core classes and those classes may be repeated only once.

Students wishing to transfer from other institutions or from other programs within UM must have a cumulative GPA of 2.0 and be in good academic standing. In addition to University-wide policies for transfer of credit, MBS, as an institution accredited by AACSB International, evaluates transfer credit according to AACSB standards.

First year finance students may take MGT 101 and BIS 235 . Sophomores (24 or more degree hours) may take ACC 201 , ACC 202 , BUA 105 , MGT 225 , MGT 220 and MKT 270 . Juniors (54 or more degree hours) may take any other 300- or 400-level business course for which prerequisites have been met unless the course specifies "Senior Standing". Class standing requirements are never waived.

The Business Program for Finance majors has three components:

1. The General Foundation (49 credits). Throughout the program students acquire a broad education in the liberal arts and sciences. Through courses in English, communications, international studies, mathematics, computer science, economics and psychology, as well as electives, students build a strong foundation for lifelong learning. Within this component, the student will satisfy the University's general education requirements.
2. The Business Core (37 credits). The core business courses provide an understanding of the functional areas common to most businesses: accounting, finance, law, marketing, management, management information systems, production and operations, international business and strategy.
3. The Major Fields (15-18 credits). Students acquire advanced knowledge of a major field (accounting, finance, management, or marketing) by taking five courses (six in accounting) beyond the introductory level in a chosen major. Concentrations in International Business, Management of Information Systems, and Innovation and Entrepreneurship can be elected in addition to a major.

Note: The remaining 16-19 credits needed to qualify for graduation can be filled with any course offered at the University.

Business Administration in Marketing

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120

Minimum Cumulative GPA required to graduate: 2.0

Minimum Grade requirements for courses to count toward major: A C- or higher is required in all business core classes: MGT 101 , ACC 201 , ACC 202 , MGT 220 , BUA 105 , BIS 235 , MKT 270 , MGT 225 , MGT 337 , MGT 343 , FIN 350 , and MGT 449 , three one-credit Professional Skills courses, and in ECO 120 , ECO 121 and MKT 382 , PSY 100 and STS 132 . Core business courses may be repeated only once, and when a student earns a grade less than a C- in a core business course, they must retake that class at UMaine. Students who do not pass a core business course with a C- or better after their second attempt may be removed from the program.

Other GPA requirements to graduate: Must earn a minimum overall GPA of 2.0 in all Business and Economics classes. Must earn at least 70% of the total credit hours in core business classes, as well as the majority of the courses in the major at UMaine.

Required Course(s) for fulfilling Capstone Experience: MGT 449
Course satisfying the Writing Intenstive requirement within the major: MKT 480
Contact Information: Patti Miles, Associate Dean, 211 DP Corbett, (207)581-1968, patti.miles@maine.edu

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The Marketing major prepares students to have skills in market assessment, marketing to particular segments, building brands, as well as teamwork, professional presentations and effective communication. Marketing majors commonly have careers in retail management, services marketing, sales, advertising, and marketing research.

School/Departmental Requirements:

To earn a B.S. in Marketing at least 70% of the total credits earned in business core classes, as well as the majority of the specialized courses in the major (i.e., 3 out of 5 in marketing) must be taken at the University of Maine. Business and economics coursework must be completed with a 2.0 ("C") cumulative average.

A C- or better is required in all business core classes and those classes may be repeated only once.

Students wishing to transfer from other institutions or from other programs within UM must have a cumulative GPA of 2.0 and be in good academic standing. In addition to University-wide policies for transfer of credit, MBS, as an institution accredited by AACSB International, evaluates transfer credit according to AACSB standards.

First year marketing students may take MGT 101 and BIS 235 . Sophomores (24 or more degree hours) may take ACC 201 , ACC 202 , BUA 105 , MGT 220 , MGT 225 , and MKT 270 . Juniors (54 or more degree hours) may take any other 300- or 400-level business course for which prerequisites have been met unless the course specifies "Senior Standing". Class standing requirements are never waived.

The Business Program for Marketing majors has three components:

1. The General Foundation (49 credits). Throughout the program students acquire a broad education in the liberal arts and sciences. Through courses in English, communications, international studies, mathematics, computer science, economics and psychology, as well as electives, students build a strong foundation for lifelong learning. Within this component, the student will satisfy the University's general education requirements.
2. The Business Core (37 credits). The core business courses provide an understanding of the functional areas common to most businesses: accounting, finance, law, marketing, management, management information systems, production and operations, international business and strategy.
3. The Major Fields (15-18 credits). Students acquire advanced knowledge of a major field (accounting, finance, management, or marketing) by taking five courses (six in accounting) beyond the introductory level in a chosen major. Concentrations in International Business, Management of Information Systems, and Innovation and Entrepreneurship can be elected in addition to a major.

Note: The remaining 16-19 credits needed to qualify for graduation can be filled with any course offered at the University.

Marketing Minor

Overview of Degree Requirements

Minimum number of credits required to earn minor: 21
GPA requirements to earn minor: Must earn a minimum overall GPA of 2.0 in the required MKT/ECO courses.
Minimum Grade requirements for courses to count toward minor: Must earn a minimum of a C- in MGT 101 , MKT 270 and STS 132 .
Contact Information: Patti Miles, Associate Dean, 211 DP Corbett, (207) 581-1968

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A 2.0 cumulative GPA is required at the time the student declares a marketing minor. A marketing minor may be declared, at the earliest, in the second semester of a student's enrollment.

Must earn at least 50% of the MKT and ECO credit hours at UMaine.
All MKT classes must be taken for a grade (no pass/fail permitted).

Business Administration in Sport Management

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA to graduate: 2.0
Minimum Grade requirements for courses to count toward major: A C- or higher is required in all business core classes: MGT 101 , ACC 201 , ACC 202 , MGT 220 , BUA 105 , BIS 235 , MKT 270 , MGT 225 , MGT 337 , MGT 343 , FIN 350 , and MGT 449 , three one-credit Professional Skills courses, and in ECO 120 , ECO 121 and SPT 355 , SPT 250 , PSY 100 and STS 132 . Core business courses may be repeated only once, and when a student earns a grade less than a C- in a core business course, they must retake that class at UMaine. Students who do not pass a core business course with a C- or better after their second attempt may be removed from the program.
Other GPA requirements to graduate: Must earn a minimum overall GPA of 2.0 in all Business and Economics classes. Must earn at least 70% of the total credit hours in core business classes, as well as the majority of the courses in the major at UMaine.
Required Course(s) for fulling Capstone Experience: MGT 449
Course satisfying the Writing Intensive requirement within the major: SPT 250
Contact Information: Patti Miles, Associate Dean, 211 DP Corbett, (207)581-1968, patti.miles@maine.edu

School/Departmental Requirements:

To earn a Bachelor of Science in Business Administration in Sport Management at least 70% of the total credits earned in business core classes, as well as the majority of the specialized courses in the major (i.e., 3 out of 5 in sport management) must be taken at the University of Maine. Business and economics coursework must be completed with a 2.0 ("C") cumulative average.

A C- or better is required in all business core classes and those classes may be repeated only once. A C- or better is required in all prerequisites to business courses.

Students wishing to transfer from other institutions or from other programs within UM must have a cumulative GPA of 2.0 and be in good academic standing. In addition to University-wide policies for transfer of credit, MBS, as an institution accredited by AACSB International, evaluates transfer credit according to AACSB standards.

First year sport management students may take MGT 101 and BIS 235 Sophomores (24 or more degree hours) may take ACC 201 , ACC 202 , BUA 105 , MGT 220 , MGT 225 , and MKT 270 . Juniors (54 or more degree hours) may take any other 300- or 400-level business courses for which prerequisites have been met unless the course specifies "Senior Standing." Class standing requirements are never waived.

The Business Program for Sport Management majors has three components:
1. The General Foundation (49 credits). Throughout the program students acquire a broad education in the liberal arts and sciences. Through courses in English, communications,

international studies, mathematics, computer science, economics, and psychology, as well as electives, students build a strong foundation for lifelong learning. Within this component, the student will satisfy the University's general education requirements.

2. The Business Core (37 credits). The core business courses provide an understanding of the functional areas common to most businesses: accounting, finance, law, marketing, management, management information systems, production and operations, international business, and strategy.
3. The Major Field (15-18 credits). Students acquire advanced knowledge of a major field (accounting, finance, management, marketing, or sport management) by taking five courses (six in accounting) beyond the introductory level in a chosen major. Concentrations in International Business, Business Information Systems, and Innovation and Entrepreneurship can be elected in addition to a major.

Note: The remaining 16-19 credits needed to qualify for graduation can be filled with any course offered at the University.

Business Administration in Business Information Systems and Security Management

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: A C- or higher is required in all business core classes: ACC 201 , ACC 202 , BUA 105 , BIS 235 , FIN 350 , MGT 101 , MGT 220 , MGT 225 , MGT 337 , MGT 343 , MGT 449 , MKT 270 , three one credit Professional Skills courses and in BIS 267 , BIS 363 , BIS 364 , ECO 120 , ECO 121 , and PSY 100 and STS 132 . Core business courses may be repeated only once, and when a student earns a grade less than a C- in a core business course, they must retake that class at UMaine. Students who do not pass a course business course with a C- or better after their second attempt may be removed from the program.
Other GPA requirements to graduate: Must earn a minimum overall GPA of 2.0 in all Business and Economics classes. Must earn at least 70% of the total credit hours in core business classes, as well as the majority of the courses in the major at UMaine
Required Course(s) for fulfilling Capstone Experience: MGT 449
Course stasifying the Writing Intensive requirement within the major: BIS 468
Contact Information: Patti Miles, Associate Dean, 211 DP Corbett, (207)581-1968, patti.miles@maine.edu

School/Departmental Requirements:
To earn a Bachelor of Science in Business Administration in Business Information Systems and Security Management (BISSM) at least 70% of the total credits earned in business core classes, as well as the majority of the specialized courses in the major (i.e., 2 out of 5 in BISSM) must be taken at the University of Maine. Business and economics coursework must be completed with a 2.0 ("C") cumulative average.
A C- or better is required in all business core classes and those classes may be repeated only once.
Students wishing to transfer from other institutions or from other programs within UM must have a cumulative GPA of 2.0 and be in good academic standing. In addition to University-wide policies for transfer of credit, MBS, as an institution accredited by AACSB International, evaluates transfer credit according to AACSB standards.
The Business Program for BISSM majors has three components:

1. The General Foundation (49 credits). Throughout the program students acquire a broad

education in the liberal arts and sciences. Through courses in English, communications, international studies, mathematics, computer science, economics and psychology, as well as electives, students build a strong foundation for lifelong learning. Within this component, the student will satisfy the University's general education requirements.

2. The Business Core (37 credits). The core business courses provide an understanding of the functional areas common to most businesses: accounting, finance, law, marketing, management, management information systems, production and operations, international business and strategy.
3. The Major Fields (15-18 credits). Students acquire advanced knowledge of a major field (accounting, business information systems, finance, management, marketing, or sport management) by taking five courses (six in accounting) beyond the introductory level in a chosen major. Concentrations in International Business and Innovation and Entrepreneurship can be elected in addition to a major.

Note: The remaining 16-19 credits needed to qualify for graduation can be filled with any course offered at the University.

Sport Communication Minor

Overview of Degree Requirements

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Students graduating with a minor in a CLAS field must earn a cumulative GPA of 2.0 or better in the courses in the minor field that are credited toward completion of the minor
Minimum Grade requirements for courses to count toward minor: C-
Other requirements: A minimum of 12 credit hours must be completed at the University of Maine
Contact information: Judith Rosenbaum-Andre, Department of Communication and Journalism, 420 Dunn Hall, 207.581.1934; Judith.rosenbaumandre@maine.edu

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The sport communication minor provides students with the critical understanding and experience in content creation needed to excel in a variety of aspects of the sports industry. In the sport communication minor, students will learn the principles of communication and journalism as they apply to sports-related events, topics, and people. The minor offers courses familiarizing students with the skills and tools needed to produce sport content for a variety of media from broadcasting to digital media, as well as courses that will teach students to function as effective communicators within and for sport organizations. Several courses also offer students the opportunity to develop a critical understanding of the role sport and sport organizations play in larger social processes and issues, including health promotion, issues of equity and equality, and the impact of media images.

Business Administration

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: A C- or higher is required in all business core classes: ACC 201 , ACC 202 , BUA 105 , BIS 235 , ECO 120 , ECO 121 , FIN 350 , MGT 101 , MGT 220 , MGT 225 , MGT 337 , MGT 343 , MGT 449 , MKT 270 , PSY 100 , and STS 132 . Core business courses may be repeated only once, and

when a student earns a grade less than a C- in a core business course, they must retake that class at UMaine.
Other GPA requirements to graduate: Must earn a minimum overall GPA of 2.0 in all Business and Economics classes. Must earn at least 70% of the total credit hours in core business classes, as well as the
majority of the courses in the BSBA Major at UMaine.
Required Course(s) for fulfilling Capstone Experience: MGT 449
Course satisfying the Writing Intensive requirement within the major: BUA 205, or ACC 302 , BIS 468 , FIN 351 , MGT 330 , MKT 480 , SPT 250
Contact Information: Patti Miles, Associate Dean, 211 DP Corbett, (207)581-1968, patti.miles@maine.edu

The BSBA major prepares students to have skills necessary to navigate the complexities of the business environment. The program's broad scope allows students to understand different aspects of business most relevant to their futures.

School/Departmental Requirements:

To earn a B.S. in Business Administration, at least 70% of the total credits earned in business core classes, as well as the majority of the specialized courses in the major (i.e., 3 out of 5 in any of the business major classes)
must be taken at the University of Maine. Business and economics coursework must be completed with a 2.0 ("C") cumulative average. A C- or better is required in all business core classes and those classes may be repeated only once.

Students wishing to transfer from other institutions or from other programs within UM must have a cumulative GPA of 2.0 and be in good academic standing. In addition to University-wide policies for transfer of credit, MBS, as an institution accredited by AACSB International, evaluates transfer credit according to AACSB standards.

First year BSBA students may takeMGT 101 and BIS 235 . Sophomores (24 or more degree hours) may take ACC 201 , ACC 202 , BUA 105 , MGT 220 , BUA 290 , MGT 225 and MKT 270 . Juniors (54 or more degree hours) may take any other 300- or 400-level business course for which prerequisites have been met unless the course specifies "Senior Standing". Class standing requirements are never waived.

The Business Program for Business Administration majors has three components:

1. The General Foundation (52 credits). Throughout the program students acquire a broad education in the liberal arts and sciences. Through courses in English, communications, international studies, mathematics, computer science, economics and psychology, as well as electives, students build a strong foundation for lifelong learning. Within this component, the student will satisfy the University's general education requirements.
2. The Business Core (34 credits). The core business courses provide an understanding of the functional areas common to most businesses: accounting, finance, law, marketing, management, management information systems, production and operations, international business and strategy.
3. BSBA Major (16 credits). Students acquire advanced knowledge of a major field (accounting, finance, management, marketing, business information systems and security management, or

sport management) by taking five courses in any of the majors. In Addition, all BSBA majors will be required to take BUA 205, a one-credit business communication writing class, or a writing intensive class in one of the existing majors. Concentrations in International Business, Management of Information Systems, and Entrepreneurship can be elected in addition to a major.

Note: The remaining 18 credits needed to qualify for graduation can be filled with any course offered at the University.

Computer Science and Business

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Minimum Grade requirements for courses to count toward major: Computer Science and Business majors must have a C- or better in each course credited to the major.
Required Course(s) for fulfilling Capstone Experience: (COS 397 and COS 497) or (COS 501, INT 601, COS 503, COS 504, COS 505, and COS 506) or (MGT 449 and BIS 468)
Residency Requirement: 24 credits
Course satisfying the writing intensive requirement within the major: BIS 468 or COS 490
Contact Information: Patti Miles, MBS Associate Dean, 211 DP Corbett, (207)581-1968, patti.miles@maine.edu, Laura Gurney, SCIS CSB Lead, 238 Boardman, (207)581-2744, laura.gurney@maine.edu

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The requirements listed on this page are specific to this particular major. Students are also responsible for meeting any graduation requirements set out by their college(s).

University of Maine at Machias

UNIVERSITY OF MAINE AT MACHIAS

The University of Maine at Machias, the regional campus of the University of Maine, awards baccalaureate degrees, associate degrees and certificates. It is regionally accredited by the New England Association of Schools and Colleges as part of the University of Maine System. Established in 1909 as a school for teachers, UMM is the easternmost university campus in the United States. The area's bountiful natural resources and rich environmental, recreational, cultural, and educational traditions inform the structure of UMM's programs.

MISSION

Through our distinctive baccalaureate programs and student-centered community, the University of Maine at Machias creates enriching educational opportunities that prepare graduates for professional success and lifelong engagement with the world. UMM embodies an active community of diverse learners committed to exploration, leadership, collaboration, and interdisciplinary problem-solving. Inspired by our unique coastal location, UMM's creative energy, applied research, and community engagement enhance the social, cultural, economic, and natural environments of the Down East region and the State of Maine.
The University of Maine at Machias is the regional campus of the University of Maine and a member of the University of Maine System.

VISION

UMM is Maine's coastal campus. Our location on the Bold Coast - including the land and sea, communities, and natural ecosystems - provides the context for a unique learning and living experience. We offer high-quality education that centers on engaging students in the scientific, cultural, economic, and social inquiry prompted by Maine's Bold Coast region. We provide

students with active learning and leadership development opportunities, close mentoring, and tight community connections. Students are engaged in intellectually rigorous and innovative campus and community experiences, including academically integrated campus service, community engagement, social diversity, mentored research, and professional internships.

PURPOSE

All aspects of the University's life and mission are influenced by the proximity of the campus to the ocean and the surrounding forests, lakes, and streams. The unique nature of this location fosters sensitivity toward the natural environment and offers place-based experiential learning opportunities for students in science, recreation management, creative arts, and teacher education programs. Integrating the area's natural resources into the fabric of campus life - from academic instruction to extracurricular activities - gives UMM students a distinctive college experience.

Characterized by warmth and personal concern for each individual, UMM emphasizes the importance of relationships among people and connections among areas of knowledge. Its goal is to help students develop the qualities necessary for self-confidence, informed judgment, effective communication, cooperative problem-solving, and ethical behavior. Individuals develop the additional abilities needed to expand their horizons, respond to change, learn throughout life, and reach the potential required for personal success, leadership, and service.

UMM conducts applied research relevant to its instructional role and the region's needs and provides public service programs, cultural opportunities, consulting services, and educational leadership for the area.

While UMM's primary responsibility is to serve as an educational and cultural resource for the Down East region, its quality educational programs, world-class faculty, and extraordinary location attract students from throughout Maine, the United States, and the world.

Degree Programs:

Associate of Arts in:

The Associate of Arts - Liberal Studies provides eight areas of specialization and it may be completed online:

Allied Health

Aquaculture

Creative Writing

Digital Media Production

Marine Biology

Mental Health & Rehabilitation

Psychology

Visual Arts

Associate of Science in:

Associate of Science - Conservation Law and Outdoor Management

Bachelor of Arts in:

Bachelor of Arts - Creative Arts

Bachelor of Arts - Integrative Biology

Bachelor of Arts - Psychology & Community Studies (may be completed online)

Bachelor of Science in:

Bachelor of Science - Environmental Geographic Information Science

Bachelor of Science - Marine Biology

Bachelor of Science - Outdoor Recreation & Leadership

Bachelor of Science - Rural Education (may be completed online)

Bachelor of College Studies:

The Bachelor of College Studies degree allows students to develop an individualized concentration in an area of interest. (may be completed online)

Minors:

A minor is a secondary area of specialization and competence that further prepares a student for a career and/or graduate work. Students who successfully complete all the coursework required for a minor with a 2.0 GPA in those courses and complete a baccalaureate degree will have the minor posted in the degree section of their transcript. A minor may only be awarded with a baccalaureate degree and not added after degree completion.

Students who wish to strengthen their major or supplement their professional preparation may select an approved minor from the following list or any minor listed in the catalog. Please note that not all minors are available at both campuses due to instructor constraints and instruction modes. It is recommended that students request an additional advisor from the minor's field.

Applied Chemistry

Botany Minor - offered in cooperation with the College of Earth, Life and Health Sciences
Coaching Minor
Conservation Law Minor
Creative Arts Minor
Economics Minor - offered in cooperation with the College of Earth, Life and Health Sciences
English Minor - offered in cooperation with the College of Liberal Arts and Sciences
Environmental Science Minor
Geographic Information Systems Applications Minor
Graphic Novel Minor
Integrative Biology Minor
History Minor - offered in cooperation with the College of Liberal Arts and Sciences
Marine Biology Minor
Mental Health & Rehabilitation Technician/Community Minor - offered in cooperation with the College of Liberal Arts and Sciences
Outdoor Recreation Minor
Psychology Minor - offered in cooperation with the College of Liberal Arts and Sciences
Public Administration Minor
Quantitative Methods Minor
Secondary Education Minor
Social Studies Minor
Wilderness Therapy Minor
Zoology Minor - offered in cooperation with the College of Earth, Life and Health Sciences

Non-Degree Certificate Programs:

UMM offers the following certificate programs:
Alternative Route to Teacher Certification[++]
Aquaculture Certificate*
Book Arts Certificate
Business Fundamentals Certificate*
Conservation Law Certificate
Creative Arts Certificate*
Digital Media Production Certificate
Exploring Psychology Certificate*
Family Studies Certificate
Geographic Information Systems Applications (Advanced) Certificate
Geographic Information Systems Applications Certificate*
Human Resource Management Certificate
Inclusive Early Childhood Education*
Introduction to Health Professions Certificate*
Introduction to Science, Technology, Engineering & Mathematics (STEM) Certificate*
Mental Health & Rehabilitation Technician/Community Certificate (may be completed online)
Outdoor Leadership Certificate*
Small Business Management Certificate
Supporting Diverse Learners Certificate*
Teaching Fundamentals Certificate*
Wilderness Therapy Certificate

[++] This certificate program is open to students who hold a Baccalaureate degree.

* These certificates are open to any student, including early college students.

Students who complete the specified requirements will receive a certificate, and completion of the certificate is noted on the UM transcript. Students in UMM degree programs and non-degree students may earn certificates. Current students must declare their intention to complete a Certificate by filing a Change of Program form, available through the UMM Office of Student Records. New students should apply through the UM/UMM Admissions Office.

Students must generally satisfy all requirements for certificate programs in residence at UM/UMM. In cases where an MOU or articulation agreement permits the inclusion of transfer credits in a specific certificate program, students must complete a minimum of 12 credit hours toward their certificate program requirements in residence.

Once the certificate requirements have been completed, students will need to apply for a certificate through MaineStreet. For further information, contact the Office of Student Records.

Integrative Biology

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Other GPA requirements to graduate: A minimum cumulative GPA of 2.00 in the degree program requirements.
Required Course(s) for fulfilling Capstone Experience and Writing Intensive in Major:
Choose one of the following:

- Senior Thesis Option - BIO 412 , BIO 413 , BIO 414
- Biological Research Option - BIO 415 , BIO 416 , and BIO 417
- Senior Seminar Option - BIO 410

Required Course for fulfilling Service Learning in Major: ENV 102 or BIO 245
Residency requirement: Must complete at least 30 credits through UM/UMM, at least 12 of which must be in their major and 9 of these 12 must be upper level (300 level or above).

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Biology is one of the traditional liberal arts; it informs us about ourselves, the dynamics of the natural world, and how we interact with our environment. In so doing, biology complements the other liberal arts programs as a context for human endeavors. Biology provides the basis of knowledge in the areas of medicine, agriculture, biotechnology, and ecology. Studies of nature have long been the inspiration for works of art, literature, and music. At the same time, rapid advancements in biotechnology affect nearly every facet of our lives from the foods we eat and the drugs we take, to the fibers that are used to make our clothes. With our increasing ability to manipulate the genetic structure of organisms, as well as the structure and composition of entire ecosystems, comes an increased responsibility for all citizens to act in an informed manner.
Within that context, the major objectives of the B.A. in Integrative Biology at UMM are to:
1. provide a broad and substantive training in scientific inquiry appropriate for students seeking careers in the biological sciences or in secondary education immediately following graduation;
2. support an integrative, applied understanding of biological systems and their connections to the broader world;
3. provide rigorous training for students planning to further their education in professional studies or graduate school; and
4. allow sufficient flexibility to encourage students to pursue a concentration, a minor, or a second major.

Students will study biological systems at the level of the cell, the organism, and the ecosystem with an emphasis on integrating their skills and knowledge to solve novel problems. Courses in mathematics, physics, and chemistry will enhance students' understanding of the physical laws that govern the activities of living organisms, providing further integrative context. All coursework is enhanced by extensive study in the laboratory and in the field with emphasis on hypothesis formulation and testing, and experimental design.
All students in the Integrative Biology major are required to complete 58 or 59 credits of program requirements. A highlight of these requirements is the opportunity to participate in a Senior Thesis that allows students to do an in-depth study of an area of particular interest. Alternatively, students may enroll in a Senior Seminar that explores advanced topics in biology based on a student's previous training. Students may elect additional coursework to complete a Fisheries Biology, Pre-Professional or Wildlife Biology concentration. Biology courses required in either concentration will fulfill biology electives in the program requirements.

Psychology & Community Studies

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120

Minimum Cumulative GPA required to graduate: 2.0

Required Course for fulfilling Capstone Experience, Service Learning, and Writing Intensive in Major: SSC 450

Residency requirement: Must complete at least 30 credits through UM/UMM, at least 12 of which must be in their major and 9 of these 12 must be upper level (300 level or above).

The Psychology & Community Studies major is an interdisciplinary, community-engaged program, drawing from anthropology, psychology, sociology, community studies, economics, natural sciences, the arts, and humanities. In exploring the cultural heritage and issues affecting the human communities of Downeast Maine, students obtain a place-based, service-oriented education where they learn how to understand, manage, and promote change - change in their lives, change in society, and global change.

Career Options

The Psychology & Community Studies major can prepare the student for a career in human services, research, social work, health sciences, advertising, marketing, personnel and business management, public administration, case management, advocacy, conflict mediation, alcohol and substance use counseling, social work and a variety of entry-level positions in service agencies. Career prospects for graduates in Psychology & Community Studies are further enhanced because the human and social service field continues to be a growing one.

Students can enter some positions with a bachelor's degree, whereas other positions require graduate or professional training. The Psychology & Community Studies faculty is committed to assisting students in planning a program of study that meets their career objectives.

Marine Biology

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Other GPA requirements to graduate: A minimum cumulative GPA of 2.00 in the degree program requirements.
Required Course(s) for fulfilling Capstone Experience and Writing Intensive in Major: Choose one of the following:

- Senior Thesis Option - BIO 412 , BIO 413 , and BIO 414
- Biological Research Option - BIO 415 , BIO 416 , and BIO 417
- Senior Seminar Option - SMS 460 or SMS 461

Required Course for fulfilling Service Learning in Major: SMS 460 or SMS 306
Residency requirement: Must complete at least 30 credits through UM/UMM, at least 12 of which must be in their major and 9 of these 12 must be upper level (300 level or above).

UMM's location is ideal for courses related to marine biology, ecology, and mariculture. Students have direct access to inter-tidal and sub-tidal marine habitats and organisms, finfish and shellfish aquaculture sites and hatcheries, and commercial fishing ports. This access to marine environments gives UMM students unique field and laboratory experiences. All students in the Marine Biology major are required to complete 52-54 credits of program requirements and if declaring a concentration students are required to complete 73 to 85 credits of program requirements.

Program Goals

- To provide a rich and rigorous undergraduate experience in marine biology that focuses on the biological, social, and historical uniqueness of our geographic settings.
- To provide students an opportunity to enhance their analytical and communication skills through independent study or senior thesis.
- To provide students with access to mariculture or other marine-based industries to enhance their competitive advantage in the job market.
- To prepare students to think critically at all junctures of their academic and work-related careers.
- To provide rigorous training for students planning to further their education in professional studies or graduate school.

Rural Education

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Required Course(s) for fulfilling Capstone Experience and Service Learning Experience in Major: EDU 460 (Elementary Education, Secondary Education); SED 460 (Special Education, Inclusive Early Childhood Education concentrations)
Required Course for fulfilling Writing Intensive in Major: EDU 216
Residency requirement: Must complete at least 30 credits through UM/UMM, at least 12 of which must be in their major and 9 of these 12 must be upper level (300 level or above).

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The Education major prepares students for a teaching career in one of four concentrations: Elementary Education, Secondary Education, Special Education, or Inclusive Early Childhood Education. Students complete the UMaine Machias Core Requirements; Major Requirements of the program; and Concentration Requirements.

Applied Chemistry Minor

OVERVIEW OF MINOR REQUIREMENTS

Minimum number of credits to earn the minor: 24-27
GPA requirements to earn minor: 2.0
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine.

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Coaching Minor

OVERVIEW OF MINOR REQUIREMENTS

Minimum number of credits required to earn minor: 18

GPA requirements to earn minor: 2.0

Other requirements: A minimum of 9 credit hours must be completed at the University of Maine

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Additional courses may be added to this list as they are developed. Students should consult with their academic advisor.

Conservation Law Minor

OVERVIEW OF MINOR REQUIREMENTS

Minimum number of credits required to earn minor: 22

GPA requirements to earn minor: 2.0

Other requirements: A minimum of 9 credit hours must be completed at the University of Maine

Additional courses may be added to this list as they are developed. Students should consult with their academic advisor.

Creative Arts Minor

OVERVIEW OF MINOR REQUIREMENTS

Minimum number of credits required to earn minor: 21

GPA requirements to earn minor: 2.0
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine

This program is intended to serve as a foundation for additional study in art and as a complement to related liberal arts or education majors.

Digital Media Production Certificate

OVERVIEW OF REQUIREMENTS

Minimum number of credits required to earn certificate: 24

Minimum Cumulative GPA required to earn certificate: 2.0

Other requirements: Students must complete at least 12 credit hours required for this certificate through UM/UMM.

The Digital Media Production certificate program prepares students to develop a variety of production projects in their courses that become part of a professional portfolio. Students will build skills working with digital recording studios, Pro Tools, and the Adobe Creative Cloud suite that supports photography, video editing, graphic design, print design, web design, podcasting and audio editing, among other applications. A required internship (COE 201 for 3 or more credits) provides further professional experience, networking, and references for future employment. This program appeals to New Media Creators from Audio Producers to Podcasters to Filmmakers, as well as those interested in Graphic Design, New Media, Public Relations and Digital Marketing.

Family Studies Certificate

OVERVIEW OF REQUIREMENTS

Minimum number of credits required to earn certificate: 12

Minimum Cumulative GPA required to earn certificate: None

Other requirements: Students must complete at least 12 credit hours required for this certificate through UM/UMM.

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This four-course, 12 credit certificate program in Family Studies is designed to give students introductory level core curriculum credits. This curriculum helps students assume the role of change agents for their children, families, and communities as well as prepares them for additional coursework that transfers into future degree programs. This certificate is part of a larger innovative post-secondary program, Family Futures Downeast (FFD) for Washington County parents. The program is dedicated to assisting families to break the cycle of poverty through whole-family education. Parents with children apply for free to this cohort program that has been collaboratively designed with an emphasis on removing barriers that make it difficult for parents to transition into college and find success.
Members of University of Maine at Machias, Washington County Community College, and the Community Caring Collaborative developed curriculum and support structures that allow parents to achieve in a post-secondary setting while gaining skills and knowledge in order to change outcomes for themselves and their children. This structure provides a rich and rewarding educational experience in which students receive all possible opportunities to flourish. Individual students receive academic, financial, and social supports for navigating the college setting, which for many will be new and challenging terrain.

Geographic Information Systems Applications Minor

OVERVIEW OF MINOR REQUIREMENTS

Minimum number of credits required to earn minor: 18-20
GPA requirements to earn minor: 2.0
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine

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Graphic Novel Minor

OVERVIEW OF MINOR REQUIREMENTS

Minimum number of credits required to earn minor: 18

GPA requirements to earn minor: 2.0

Other requirements: A minimum of 9 credit hours must be completed at the University of Maine

Liberal Studies (Associate of Arts)

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 60
Minimum Cumulative GPA required to graduate: 2.0
Other requirements: A minimum of 15 credit hours must be completed at UM/UMM.

Students completing the Associate of Arts in Liberal Studies may complete optional concentrations in Allied Health, Aquaculture, Digital Media Production, Creative Writing, Marine Biology, Mental Health & Rehabilitation, Psychology or Visual Arts.
To graduate, students must earn a minimum of 60 credits and achieve a cumulative GPA of at least 2.0.

Students completing the Associate of Arts degree in Liberal Studies can complete one of the following eight optional concentrations:

- *Allied Health*
- *Aquaculture*
- *Creative Writing*
- *Digital Media Production*
- *Marine Biology*
- *Mental Health & Rehabilitation*
- *Psychology*
- *Visual Arts*

Conservation Law and Outdoor Management (Associate of Science)

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 60

Minimum Cumulative GPA required to graduate: 2.0

Other requirements: A minimum of 15 credit hours must be completed at UM/UMM.

Conservation Law and Outdoor Management emphasizes a study of outdoor leadership and criminal justice integrated with environmental conservation. The program of study emphasizes liberal arts as well as professional studies. In addition, the curriculum facilitates transition to UMM's Outdoor Recreation and Leadership and other baccalaureate programs for those students who decide to further their studies or seek higher credentials.

Creative Arts

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Required Course for fulfilling Capstone Experience and Service Learning in Major: COE 403
Required Course for fulfilling Writing Intensive in Major: ARH 112 or ENG 372
Residency requirement: Must complete at least 30 credits through UM/UMM, at least 12 of which must be in their major and 9 of these 12 must be upper level (300 level or above).

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The B.A. degree in Creative Arts adds new twists to traditional arts programs. Individualized learning plans, intense focus on one area of the arts, and interdisciplinary interactions among many arts characterize the program. Students concentrate in creative writing or visual arts but they learn about all the arts. The program includes rich interactions with all teachers in the fine arts areas and students in the program. The program is also heavily experiential. Students produce their own books, concerts, gallery exhibits, magazines, and radio shows. They learn how to survive in the world of art. At the same time, the B.A. curriculum helps develop skills associated with the traditional liberal arts: thinking, communication, collaboration, and creativity.

Career Options

With a degree in Creative Arts, you'll be ready to work as a freelance or technical writer, an illustrator, a public relations specialist, an exhibition planner, a book designer. Add a certification in teaching to your degree, and you'll be eligible to work as an instructor in elementary school, middle school, or high school. Students who have studied creative writing and visual art with us have gone on to become published authors, working artists, professional photographers, educators, or to move successfully into graduate school programs in order to teach at the college level, to curate museums, or land leading positions in publishing and design.

Outdoor Recreation and Leadership

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Required Course for fulfilling Capstone Experience and Writing Intensive in Major: REM 442
Required Course for fulfilling Service Learning in Major: REM 327
Residency requirement: Must complete at least 30 credits through UM/UMM, at least 12 of which must be in their major and 9 of these 12 must be upper level (300 level or above).

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The Outdoor Recreation & Leadership major provides an integrated study of recreation and tourism services that prepares students for careers ranging from game wardens to park interpreters, professional guides, recreation resource managers, camp directors, municipal recreation directors, nature-based tourism providers, experiential educators, and many more. Students select our program at UMM because they love the hands-on nature of the coursework, the field work, the small class sizes, and placement in internships that gain them quality work experience by the time they graduate.

Our program emphasizes learning and leadership in a wide variety of environmental contexts. Students gain a broad understanding of leisure and recreation in our society while developing strong managerial skills. The curriculum is designed and selected with the expectation that graduates will leave UMM with a solid foundation of knowledge and skills pertinent to all areas within the leisure service industry (as "generalists", rather than "specialists"). Yet, students have the opportunity to delve more deeply into their personal area of interest through our carefully designed cross-disciplinary minors and certificates, including: Conservation Law, Wilderness Therapy, and Coaching.

Our program maintains a balance between analytical thinking and practical application as we prepare students for the profession. Students become very involved in campus and community stewardship and programming through many service projects over the course of their studies. These projects allow students to learn through experience while benefiting the local community.

We take great pride in our personal approach to education and our Downeast location. Our location on the coast among coves, rivers, lakes, and forests lends itself to the enjoyment of outdoor recreational experiences and, therefore, to unique experiential learning opportunities, particularly for future recreation professionals.
Students may also acquire nationally recognized certifications while participating in this program, such as Leave No Trace Trainer, Wilderness First Responder, Red Cross EMR, NASAR, Certified Interpretive Guide, and Rescue Diver.

Environmental Science Minor

OVERVIEW OF MINOR REQUIREMENTS

Minimum number of credits required to earn minor: 21-23

GPA requirements to earn minor: 2.0
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine

Geographic Information Systems Applications Certificate

This certificate is designed for students majoring or working in related fields who wish to enhance their employment prospects or future graduate work with skills in geographic information systems (GIS). Such skills are in demand in economics, education, geosciences, government, planning, landscape architecture, public health, public safety, recreation, humanities, graphic design and marine, earth and life sciences.
Coursework stresses hands-on service learning along with relevant theory, giving students practical experience in addressing real-world problems and questions.
At least one-third of all credits used toward the GIS certificates must be taken at UM/UMM.

Integrative Biology Minor

OVERVIEW OF MINOR REQUIREMENTS

Minimum number of credits required to earn minor: 32
GPA requirements to earn minor: 2.0
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine

Introduction to Science, Technology, Engineering & Mathematics (STEM) Certificate

OVERVIEW OF REQUIREMENTS

Minimum number of credits required to earn certificate: 15

Minimum Cumulative GPA required to earn certificate: 2.0

Other requirements: Students must complete at least 12 credit hours required for this certificate through UM/UMM.

This certificate program is open to all non-degree students, including early college, and is designed to give students a set of introductory-level college STEM courses. The curriculum supports students interested in attending college and prepares them with the first-year curriculum in several different STEM fields. All courses are currently required in UMM's baccalaureate programs in Integrative Biology and Marine Biology.
Students interested in engineering or physical science should take the PHY 121/PHY 122 sequence, as the PHY 111/PHY 112 sequence may not necessarily meet program requirements in an engineering or physical science program.

Marine Biology Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 24
GPA requirements to earn minor: 2.0
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine

Mental Health & Rehabilitation Technician/Community Certificate

OVERVIEW OF REQUIREMENTS

Minimum number of credits required to earn certificate: 21

Minimum Cumulative GPA required to earn certificate: 2.0

Other requirements: Students must complete at least 12 credit hours required for this certificate through UM/UMM.

Any student who is interested in a career in mental health services, including being a counselor, therapist, case manager, clinical psychologist, or in any associated nursing or medical field, can use MHRT courses to benefit their professional development. MHRT/C is a standardized training & certification process that prepares people to meet the basic requirements for employment in the field of adult and older adult mental health and rehabilitation services in the state of Maine. The UM Certificate in MHRT provides the courses required for full state MHRT/C certification.
To Obtain State Certification upon successful completion of the required coursework visit the Muskie School Application https://cfl-muskie.org/next-steps-a/
Send transcripts to:
Muskie School of Public Service Center Learning
Re: MHTR/Community Certification
12 East Chestnut St
Augusta ME 04330

Outdoor Recreation Minor

OVERVIEW OF MINOR REQUIREMENTS

Minimum number of credits required to earn minor: 20-22

GPA requirements to earn minor: 2.0
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine

Additional courses may be added to this list as they are developed. Students should consult with their academic advisor.

Aquaculture Certificate

OVERVIEW OF REQUIREMENTS

Minimum number of credits required to earn certificate: 14

Minimum Cumulative GPA required to earn certificate: 2.0

Other requirements: Students must complete at least 12 credit hours required for this certificate through UM/UMM.

This certificate is open to any student, including early college, and is designed for students who wish to explore careers in aquaculture of shellfish, finfish and algae. With Maine's aquaculture industry on the rise, skilled workers are in demand. The courses combine hands-on experience with multiple aquaculture methods with a preparation in the science and business skills needed in the workforce. In addition, the curriculum facilitates the transition to UMM's Bachelor of Arts in Integrative Biology or Bachelor of Science in Marine Biology degree programs, for those students who decide to further their studies or seek higher credentials.

Teaching Fundamentals Certificate

OVERVIEW OF REQUIREMENTS

Minimum number of credits required to earn certificate: 15

Minimum Cumulative GPA required to earn certificate: 2.0

Other requirements: Students must complete at least 12 credit hours required for this certificate

through UM/UMM.

This certificate program is designed to give students, including early college students, a set of introductory-level courses with a focus on the knowledge and activities related to the field of education. The curriculum supports students interested in majoring in Rural Education with a concentration in Elementary Education or Secondary Education so they can be prepared with knowledge and skills in the field and learn about possible career paths.
All the courses are currently required in UMaine Machias' baccalaureate program in Rural Education.

Business Fundamentals Certificate

OVERVIEW OF REQUIREMENTS

Minimum number of credits required to earn certificate: 15

Minimum Cumulative GPA required to earn certificate: 2.0

Other requirements: Students must complete at least 12 credit hours required for this certificate through UM/UMM.

Discover the essentials of business through our dynamic Business Fundamentals Certificate. Open to all students, including early college participants; this program provides an introductory pathway into the exciting field of business.
Master effective communication, personal finance, small business management, and more. These essential courses are a stepping stone toward UMM's Small Business Programs, where they are required for the associate and baccalaureate degrees.

Conservation Law Certificate

OVERVIEW OF REQUIREMENTS

Minimum number of credits required to earn certificate: 15

Minimum Cumulative GPA required to earn certificate: 2.0

Other requirements: Students must complete at least 12 credit hours required for this certificate through UM/UMM.

This certificate is open to all students, including early college, and emphasizes a study of conservation law and how it relates to both law enforcement and outdoor recreational services. In addition, the curriculum facilitates the transition to UMM's Associate of Science in Conservation Law and Outdoor Management and/or UMM's Bachelor of Science Degree in Outdoor Recreation and Leadership for those students who decide to further their studies or seek higher credentials.

Creative Arts Certificate

OVERVIEW OF REQUIREMENTS

Minimum number of credits required to earn certificate: 15

Minimum Cumulative GPA required to earn certificate: 2.0

Other requirementS: Students must complete at least 12 credit hours required for this certificate through UM/UMM.

The Creative Arts Certificate is for students, including early college students, interested in visual arts, creative writing, graphic novels, book illustration, and creative work combining text with illustrations. The skills learned in these beginning courses will prepare students for advanced courses in the UMM's Creative Arts Program such as Book Arts, Intermediate Creative Writing, Book Design and Publishing, Drawing and Illustration, Careers in publishing, writing, illustration, graphic design, and book arts, are attainable in an ever-expanding industry with a degree from our program.

Exploring Psychology Certificate

OVERVIEW OF REQUIREMENTS

Minimum number of credits required to earn certificate: 15

Minimum Cumulative GPA required to earn certificate: None

Other requirements: Students must complete at least 12 credit hours required for this certificate through UM/UMM.

This certificate is open to any student, including early college, and is a set of introductory-level courses which provide students with knowledge and activities related to the field of psychology.
This curriculum supports students interested in majoring in Psychology to be prepared with general knowledge and skills in the field, as well as information about possible career paths.
All of these courses are currently required of our Psychology & Community Studies majors.

Introduction to Health Professions Certificate

OVERVIEW OF REQUIREMENTS

Minimum number of credits required to earn certificate: 18

Minimum Cumulative GPA required to earn certificate: 2.0

Other requirements: Students must complete at least 12 credit hours required for this certificate program through UM/UMM.

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This certificate is open to any student, including early college, and is designed for students who wish to major in the health professions in the future.
For those students who decide to further their studies or seek higher credentials, the curriculum prepares them with the first-year curriculum in several different health profession fields, including nursing, pre-professional, etc.
All these courses are currently required of students completing an Associate of Arts degree with a concentration in Allied Health.

Outdoor Leadership Certificate

OVERVIEW OF REQUIREMENTS

Minimum number of credits required to earn certificate: 14

Minimum Cumulative GPA required to earn certificate: 2.0

Other requirements: Students must complete at least 12 credit hours required for this certificate through UM/UMM.

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This certificate is open to all students, including early college.
This five-course, 14-credit certificate program in Outdoor Leadership is designed to give students a set of introductory level credits with a focus on providing students with knowledge and activities related to the field of outdoor recreation and leadership. This curriculum supports students interested in majoring in Outdoor Recreation and Leadership, or minoring in Outdoor Recreation or Wilderness Therapy, to be prepared with general knowledge and skills about the field as well as potential career paths. All of these courses are currently required of our Outdoor Recreation and Leadership majors and support the Outdoor Recreation and Wilderness Therapy minors.

Supporting Diverse Learners Certificate

OVERVIEW OF REQUIREMENTS

Minimum number of credits required to earn certificate: 13

Minimum Cumulative GPA required to earn certificate: None

Other requirements: Students must complete at least 12 credit hours required for this certificate through UM/UMM.

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This certificate is open to all students, including early college, and will facilitate the development of: an understanding of K-12 schools as organizational systems; foundational skills related to working in a K-12 school environment; and awareness of the multiple dimensions of diversity represented in K-12 student populations. Emphasis will be placed upon the formation and practical application of professional skills and dispositions expected of individuals working in a K-12 school environment.
These courses all count toward UMM's Bachelor of Rural Education with a concentration in Special Education. Additionally, SED 302 applies to all Maine teaching endorsements.

Quantitative Methods Minor

OVERVIEW OF MINOR REQUIREMENTS

Minimum number of credits required to earn minor: 19

GPA requirements to earn minor: 2.0
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine

Social Studies Minor

OVERVIEW OF MINOR REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: 2.0
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine

Complete 9 credits from:

- Choose one 100 level ANT
- Choose one 100 level GEO
- Choose one 100 level HTY
- Choose one 100 level PSY
- Choose one 100 level SOC

Complete 9 credits from:

- Choose up to two 200+ level ANT
- Choose up to two 200+ level HTY
- Choose up to two 200+ level PSY
- Choose up to two 200+ level SOC

Wilderness Therapy Certificate

Wilderness Therapy - also known as behavioral healthcare - is an adventure-based therapy treatment modality for behavior change and interpersonal self-improvement, combining experiential education and individual and group therapy in a wilderness setting. The Wilderness Therapy Certificate is for students who are seeking a career that uses wilderness as a therapeutic process to help those in need. This certificate focuses on theory within psychology and sociology, as well as experiential learning in the outdoors

through the Recreation & Tourism Management coursework.
Students who complete the Wilderness Therapy certificate program will have a well-rounded outdoor education experience and a high degree of training specific to employment within the outdoor industry, as well as basic counseling psychology theory and methods.
Organizations that may employ graduates include wilderness therapy program, recreation facilities, outfitters and guide services, ski areas, summer adventure camps, community nature centers and outdoor programs, whitewater river outfitters, outdoor equipment purveyors and other outdoor education and/or recreation companies and organizations.
In addition to field-based experiential learning of basic technical skills, students will also be prepared as outdoor trip leaders by examining and developing the interpersonal skills needed in positions in outdoor leadership.
Students must complete at least 12 credit hours required for this certificate through UM/UMM.

Wilderness Therapy Minor

OVERVIEW OF MINOR REQUIREMENTS

Minimum number of credits required to earn minor: 26
GPA requirements to earn minor: 2.0
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine

Book Arts Certificate

OVERVIEW OF REQUIREMENTS

Minimum number of credits required to earn certificate: 27

Minimum Cumulative GPA required to earn certificate: 2.0

Other requirements: Students must complete at least 12 credit hours required for this certificate through UM/UMM.

The Book Art Certificate Program is a 27-credit, one-year system of study that immerses the enrollee into the world of bookmaking as an artistic expression. Courses include Book Arts, Publishing, Papermaking, and selected credits from the following studio offerings: Book Illustration, Graphic Design, Photography, and Drawing. It also includes a final capstone course of the Certificate project that may include a series of works of either a traditional or experimental nature, or an edition of an artist's book. The immersion into this program has an appeal to both the traditional arts student and those seeking specific teaching certification, or the non-traditional student who wishes to hone their studio skills.

Bachelor of College Studies

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120
Minimum Cumulative GPA required to graduate: 2.0
Required Course for fulfilling Capstone Experience and Writing Intensive in Major: BCS 460 or other equivalent courses
Residency requirement: Must complete at least 30 credits through UM, at least 12 of which must be in their major and 9 of these 12 must be upper level (300 level or above).

The Bachelor of College Studies (BCS) program meets the individualized needs of students who have a strong desire to finish their Bachelor's degree, have earned at least 45 hours of college credit, and developed a clear and compelling set of program goals and learning objectives that can be achieved and supported by UM/UMM courses and UMM faculty. The general education and program requirements are broad and flexible enough to give many students the fastest and most affordable route to completing their degree. BCS students may take on-line and/or onsite classes, or a combination of the two.

Working closely with the BCS coordinator and an advisor appropriate to their concentration area, students must develop a Plan of Study that includes overall program objectives, student learning outcomes for the Self-Designed concentration, all course work to be completed in all areas of the program, and the planned capstone experience (i.e. BCS 460 or other equivalent). Once approved, the Plan sets the curriculum for the individualized program.

Secondary Education Licensure Minor

OVERVIEW OF MINOR REQUIREMENTS

Minimum number of credits required to earn minor: 25

GPA requirements to earn minor: 2.0
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine

In conjunction with their BA/BS programs in Creative Arts, Psychology & Community Studies, or any of the sciences, students who successfully complete a Secondary Education Licensure minor may apply for teaching certification, grades 7-12. It is important that students take initiative early in their college careers to form an informal advising relationship with one of the education faculty. Courses must be planned carefully to meet requirements for both major program and secondary education certification.
Students preparing for secondary teaching certification must successfully complete the following professional courses, including student teaching:

Alternative Route to Teacher Certification

For post-baccalaureate students, UMM offers professional coursework leading to Elementary Teacher Certification (K-8); Secondary Teacher Certification (7-12) in the fields of Art, English, Social Studies, Life or Physical Science, Mathematics, and Music; and Special Education Teacher Certification (K-8 or 7-1 2).
Elementary Teacher Certification requirements include 24 credit hours in liberal arts: six credit hours in English, six credit hours in mathematics, six credit hours in science, and six credit hours in social studies. Secondary Certification requires 24 credits in the content area. These courses may be completed before or after acceptance to the program. Teacher Certification Programs require approximately 140 hours of field placements which may be accomplished in local schools.

Students are required to maintain a GPA of 2.5 in professional coursework.
Other requirements: Students must complete at least 12 credit hours required for this certificate through UM/UMM.

Geographic Information Systems Applications (Advanced) Certificate

This certificate is designed for students majoring or working in related fields who wish to enhance their employment prospects or future graduate work with skills in geographic information systems (GIS). Such skills are in demand in economics, education, geosciences, government, planning, landscape architecture, public health, public safety, recreation, humanities, graphic design and marine, earth and life sciences.
Coursework stresses hands-on service learning along with relevant theory, giving students practical experience in addressing real-world problems and questions.
At least one-third of all credits used toward the GIS certificates must be taken at UM/UMM.

University Wide Academic Programs

Explorations

Students entering college are often undecided about a major or have several areas of academic interests. These students can apply for admission to Explorations rather than to one of the baccalaureate degree colleges at UMaine. Explorations provides students the opportunity to assess their abilities, interests and goals while systematically investigating various academic programs.
Through a one-credit seminar and close contact with their advisor, Explorations students engage in structured activities, which enable them to make an informed choice of major and to consider potential careers. Under the guidance of their advisors, Explorations students select courses to investigate disciplines of interest as well as to fulfill general education requirements. Generally, students continue in Explorations for up to one year. By the end of the second semester many Explorations students feel confident they have identified an academic program that matches their abilities and intellectual or career interests. At the time of declaration of major or transfer to a college, students must meet the eligibility requirements (e.g., GPA) of the program or college of interest. Explorations students may choose to major in any of the undergraduate programs at the University, provided they meet the eligibility standards and space is available. Further information may be obtained by calling the Assistant Dean at (207) 581-1952.

Interdisciplinary Disability Studies Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 24
Other GPA requirements to earn minor: 2.0 in all Interdisciplinary Disability Studies Minor courses taken.

Minimum Grade requirements for courses to count toward minor: A grade of C or better in all Interdisciplinary Disability Studies Core Courses (minimum 9 Credits, DIS 300 , DIS 400 , and DIS 450
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: Stephen Gilson, PhD, Professor and Coordinator, Center for Community Inclusion & Disability Studies,The University of Maine, 5717 Corbett Hall, Room 201, Orono, ME 04469-5717, (voice) - 207/581-1263; (fax) - 207/581-1231; V/TTY - 800/203-6957, stephen.f.gilson@maine.edu

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The curriculum in Interdisciplinary Disability Studies provides students a means to explore disability within the larger context of

diversity and to examine professional practice, scholarship and policy related to persons with disabilities. Administered through the Center for Community Inclusion and Disability Studies, Maine's University Center for Excellence in Developmental Disabilities, Education, Research, and Service (UCEDD), students may enroll in individual courses, DIS 300 , DIS 400 , DIS 450 (with permission of instructor), DIS 480 , DIS 490 as electives, or in the Minor Interdisciplinary in Disability Studies. The Minor consists of 24 credits distributed among elective courses in three categories: social change, diversity studies, and environmental context; and 3 core interdisciplinary courses taught by faculty with expertise in disability studies, DIS 300 , DIS 400 and DIS 450 . For complete information about Interdisciplinary Disability Studies, please visit the Coordinator at 201 Corbett Hall, phone (207) 581-1263 or Prof. Stephen Gilson at stephen.f.gilson@maine.edu.

Innovation Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: Minimum GPA of 2.9 in courses that count toward the minor.
Minimum Grade requirements for courses to count toward minor: C-
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine

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The Minor in Innovation Engineering teaches students from any major to create, communicate, and commercialize or otherwise realize meaningfully unique ideas in any field. The Minor in Innovation Engineering is a university-wide program; courses in Innovation Engineering have been developed by faculty in the colleges of Liberal Arts & Sciences, Engineering, Business Public Policy and Health, Education, Earth, Life and Health Sciences, and the Division of Lifelong Learning.
Objectives of the Minor in Innovation Engineering: to give students the tools and confidence to create their own opportunities, and to realize a prosperous and sustaining future within or outside organizations, businesses, or institutions.
Outcomes of the Minor in Innovation Engineering: students will be able to lead change within their education, their careers, their affiliations, their communities and their personal lives.
The Minor in Innovation Engineering consists of a minimum 18 credit hours in INV courses, including:

- INV 121 , INV 282 , INV 405
- 7 credits of 400 level INV courses or cross-listed course

Possible pathways for 7 credit hours to complete Innovation Minor:
INV 471 Special Topics in Innovation (3-4 cr.) or capstone in a major academic department with innovation skill requirements. This can be easily adapted to any capstone project.
INV 480 Internship in Innovation (1-6 cr.) Innovation internship or this can be an internship in Major academic department and easily adapted to include innovation skills.
INV 490 Independent Study in Innovation (3 cr.) Innovation related project or it could be adapted to experiential learning opportunities with inclusion of Innovation skills.
Students that complete INV 121 , INV 282 , and INV 405 will receive level 1-3 and micro-credential in Innovation.

Military Science and Leadership Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: No grades below C-
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: Brendan Fahey, Scholarship and Enrollment Advisor, 114 Armory, (207) 581-1125 or (207) 581-1121, UMArmyROTC@maine.edu

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The Military Science and Leadership Minor develops undergraduate students organizational and management skills necessary to

lead in the 21st century. The minor uses practical application and hands on learning to develop core competencies such as mental agility, communications, and developing others. The minor focuses on leadership skills that get results using a professional ethos framework that emphasizes mission accomplishment, innovation and teamwork. Students will understand the importance of a manager's ability to develop goals and communicate a vision in order to create a cohesive organization that is committed to lifelong learning, bonded together by trust and teamwork. At the end of a Cadet's junior year, each cadet is required to attend Advanced Camp at Fort Knox, Kentucky. Students successfully completing their degree requirements and this minor will earn a commission as a Second Lieutenant in the United States Army.
Note: Most courses included in this minor have prerequisites that may be met through multiple options. The capstone is only required for students pursuing a commission.

Naval Science Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 23
GPA requirements to earn minor: 2.0
Minimum Grade requirements for courses to count toward minor: No grades below C-
Other requirements: A minimum of 9 credit hours must be completed at the University of Maine
Contact Information: Capt Joseph Hendron, UMaine Officer-in-Charge and Marine Officer Instructor, 378 College Ave, 207-581-1551, joseph.hendron@maine.edu

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The Naval Science Minor allows students at the University of Maine the opportunity to complement their education with a Navy training experience. The Naval Science courses are specifically designed to prepare University of Maine students participating in the NROTC program for their future careers as Commissioned Officers in the United States Navy and United States Marine Corps. By completing these Naval Science courses, students will gain applied knowledge in various areas including Personnel Management, Warfare Tactics, Engineering Systems and Navigation with a strong overall emphasis on leadership. Many of these Naval Science courses may be beneficial to University of Maine students pursuing any type of career in a leadership position and a couple courses even fulfill general education requirements, but it is advised to carefully read the course description or contact the instructor before enrolling in the course.

Pre-Law, Pre-Medical, Pre-Dental, Pre-Optometry

Since law schools do not require specific undergraduate majors or courses, we encourage students interested in law to consider completing the Legal Studies Minor. A special pre-law advisor, who supplements the academic advisor within the major program, counsels University of Maine students planning to attend law school. Contact Lisa Carter at (207) 581-1359 or lisa.m.carter@maine.edu
Few careers are as challenging or as satisfying as the practice of medicine or one of the related health professions (dentistry, optometry, veterinary medicine, and others). Admission to post-baccalaureate professional schools is highly competitive, but is a realistic goal for able students who plan their undergraduate programs carefully. Most professional schools value well-rounded applicants possessing a strong background in the liberal arts and solid preparation in the sciences. For this reason the University of Maine does not recommend one specific academic major for students planning to apply to medical or other professional schools. Instead, we assist students in any academic major who are interested in a health-professions career regarding options to complete the prerequisite courses typically required for application to the related professional schools. Students may pursue the minor in Pre-Medical Studies outlined below in addition to their major (n.b. some majors with significant overlap are excluded) and some majors offer a concentration in pre-medical studies. Students are not required to enroll in the minor or concentration. To find out more, visit the Health Professions web page at umaine.edu/healthcareers.
Here are some of the special advantages The University of Maine offers to students planning careers as physicians, optometrists, dentists, chiropractors, podiatrists, physician assistants, veterinarians, and in related health professions.

ROTC

Both Army and Navy ROTC programs are available to University of Maine students who want to become commissioned officers. The Army program is headquartered on campus, while the Navy program is offered in cooperation with Maine Maritime Academy. Both programs have offices on campus and offer a variety of scholarships.

Army

The Army ROTC program leads to a commission as a Second Lieutenant in the United States Army, Army Reserves, or Army National Guard. Students enrolled in ROTC classes may pursue any university curriculum that leads to a baccalaureate or higher degree.

The Army ROTC program is designed around two levels: the Basic and Advance courses of military studies. The Basic Course of MSL 100 and MSL 200 level courses are available to all university students interested in learning about leadership, teamwork, and group dynamics. Exception is MSL 100 - Leadership laboratory, which is only open to enrolled or contracted ROTC students. Students taking classes in the Basic Course are not under any obligation to the Army.

Students may take MSL courses at the 300 and 400 levels only with the permission of the Professor of Military Science. Students wishing to contract and earn a commission as a Second Lieutenant in the United States Army must earn their baccalaureate degree, complete the MSL upper division courses, and complete a Military History Course.

Students may enter the Advance Course after the Basic Course requirements are met. This is generally accomplished by one of three ways:

1. Enroll and successfully complete the 100 and 200 level course.
2. Attend a five week off-campus course the summer prior to enrolling in the Advance Course.
3. Have attended and successfully completed basic training for a service of the United States Military.

The Department of the Army offers 2-, 3-, and 4-year scholarships, and Guaranteed Reserve Forces Duty Scholarships to selected students who have demonstrated outstanding leadership and scholastic ability. These scholarships pay full tuition and mandatory fees annually, $1200 per year for textbooks, and $300 - $500 per month tax free stipend during the academic year for the duration of the scholarship. Non-scholarship contracted students in the last two years of the program also receive the tax-free $450 - $500 monthly stipend during the academic year.

Army ROTC at the University of Maine also awards Nursing Scholarships to students excelling in the Nursing Program. The financial benefits are the same as above.

The program has administrative, medical, and physical requirements which must be met in order to qualify for a scholarship, contract and commission.

Specific information regarding the program and Army ROTC classes may be obtained by contacting a Military Science and Leadership advisor at (207) 581-1121, or toll free at 1-888-942-ROTC, or by visiting the UMaine Army ROTC website.

Students should check with their individual college to determine credit awarded for Military Science and Leadership courses toward degree completion. All Military Science and Leadership credits count toward a student's overall GPA. A minor in Military Science and leadership is also offered.

Navy

The Naval ROTC program is designed to train and educate qualified students for commissioning and active service as officers in the United States Navy and United States Marine Corps. Navy Option commissionees also receive a minor in Naval Science.

Program requirements:

In order to be eligible for application to this program a student must:

1. Be a US citizen
2. Be at least 17 but less than 23 years of age
3. Be physically qualified
4. Possess satisfactory records of academic ability and moral integrity
5. Demonstrate those characteristics desired of a Naval Officer and
6. Have no moral obligation or personal conviction that will prevent the bearing of arms.

The Naval ROTC Scholarship Program offers the following benefits: all tuition paid, up to $400 per month subsistence allowance during the school year and a substantial uniform allowance. Eligible graduates of this program receive commissions in the United States Navy or Marine Corps and serve on active duty a minimum of five years. High school students may apply for the national scholarship program between March 1 of their high school junior year to November 15 of their high school senior year. Application forms are available from any Navy recruiter and most guidance counselors. Early application is recommended as this program is highly competitive. Students already enrolled at UMaine may also be eligible for non-national scholarships.

The Naval ROTC College Program offers students not on scholarship an opportunity to participate in ROTC. The monetary benefits

of the College Program include: a substantial uniform allowance and up to $400 per month subsistence allowance during the junior and senior years. Graduates of the College Program receive commissions and are required to serve on active duty for five years. Students may apply for the College Program from the beginning of their first year to the end of their sophomore year.
Students in the College Program may apply for 2 and 3-year scholarships. Selection is based on academic and Naval ROTC performance. Scholarships are also available for students in the technical majors (engineering, physics, etc.) who have successfully completed at least one semester of college. Special Navy and Marine Corps scholarships are available to Hispanic and African-American students.
Specific information regarding the program and Naval Science courses may be obtained by calling (207) 581-1551.

Education Abroad

The University of Maine offers many education abroad opportunities for academic credit. Education abroad leads to self-awareness, skill-building, intercultural understanding, personal growth, and self-sufficiency. For those studying in another language, it can lead to language competency and even fluency. An Education Abroad experience adds depth to a résumé and can give students a competitive edge in the job market as it reflects the ability to adapt, problem-solve, and collaborate in a multicultural environment.
The University of Maine offers several options for education abroad. There are a number of direct exchanges with partner universities. Direct exchanges allow UMaine students to pay tuition and fees to the University of Maine, while paying room and board costs to the host institution. Other recommended programs are available through UMaine's consortium memberships or by direct enrollment, with the student responsible for payment directly to the provider or to the host school. Most programs offer instruction in English, while some may require intermediate language skills. Many offer pre-program or co-curricular language immersion short courses,to support language skills for a semester or year of study in that language. Most UMaine financial aid can be used for all University-approved programs. Additional national and institutional study abroad scholarships are available. Most areas of the world which are rated at advisory levels 1 and 2 according to the US Department of State are available. Countries at advisory levels 3 and 4 are subject to special approval by petition.
For further information, contact the Office of International Programs, where the Study Abroad program is located at 122 Chadbourne Hall; (207) 581-3437, studyabroad@maine.edu or visit https://umaine.edu/studyabroad/

College Success Programs

Mission statement: College Success Programs at the University of Maine help students achieve academic success, attain their educational goals, and engage in life long learning. To learn more about College Success Programs visit our website.
TRIO-Student Support Services (TRIO SSS)
TRIO Student Support Services is funded through a U. S. Department of Education grant. Its goal is to increase the retention and graduation rates of low income students, first generation students, and students with disabilities. TRIO SSS serves 400 students each year. Students indicate their interest in services through an interest form filled out online or by visiting our main office in 130 Alumni Hall. Students are then invited to meet with a TRIO staff member to learn more about the program and to complete an application for services. Students are notified of their selection; once selected, services are available throughout that student's college career at UMaine. Services include academic advising, tutoring, peer mentoring, counseling, and workshops. Grants may be available to active first and second year students to reduce unmet need and loans. For further information contact us at (207) 581-2320, TRIO Student Support Services, University of Maine, Orono, ME 04469-5725, or visit our website.
The Office of Student Academic Success
The Office of Student Academic Success (OSAS) is a branch of College Success Programs at the University of Maine and provides academic support services to enhance student achievement.
OSAS offers free peer tutoring through the Knack platform, connecting students with qualified peers who have demonstrated proficiency in their courses. This service is available for 100 to 400-level classes, ensuring broad support across disciplines. Tutors are University of Maine students who have earned a B+ or better in the courses they tutor, and they undergo training to provide effective assistance.
In addition to tutoring, OSAS also offers individualized success coaching tailored to the specific needs of first-year students. This program assists students in creating personalized academic success plans, setting achievable goals, developing strategies to meet those goals, and maintaining accountability. Success coaches collaborate with students' faculty and academic advisors to provide holistic support, facilitating connections with additional campus resources as needed.
To learn more about tutoring at UMaine through Knack or Success coaching, please visit our website at umaine.edu/studentacademicsuccess

Labor Studies Minor

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18
GPA requirements to earn minor: None.
Minimum Grade requirements for courses to count toward minor: C or better in all Labor Studies core courses (LST 101 and LST 201).
Contact Information: Marc T. Cryer, Director, Bureau of Labor Education, Room 202 Chadbourne Hall, (207) 581-4124, marc.cryer@maine.edu

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As the 21st century progresses the rapid pace of changes in technology, productivity, globalization of markets and culture, and the environment are profoundly affecting the jobs, workplaces, and lives of working people. The minor in Labor Studies allows students to pursue an integrated structure of coursework that critically examines changes in the workplace, the U.S. labor movement, and labor issues from a variety of academic disciplines, including labor studies. Utilizing an interdisciplinary approach, areas of study will include: work and labor in the global economy; the history of labor and the labor movement; the role of conflict, power and inequality; employment and labor law; the organization, roles, and functions of unions; collective bargaining, contract maintenance, and labor-management relations; the implications of climate change, ecology and resource depletion for workers and the labor movement; women and work; and the impacts of technology on work; as well as labor and contemporary social issues.
The Minor in Labor Studies will provide important educational and professional development opportunities for students wishing to focus on labor studies; unorganized and organized employees in the public and private sectors; the staff and elected officers of labor organizations; educators, government officials, and public policy makers. Non-degree students interested in Labor Studies are encouraged to speak with the Director of the Bureau of Labor Education about the Certificate in Labor Studies.
Goals and Learning Outcomes: The goal of this Minor in Labor Studies centers on enabling students to develop greater knowledge and understanding of unions and the labor movement, the social, historical, economic and political contexts of work and the labor movement, future trends and prospects for work and the labor movement, and issues relating to work in a global context. As a result of completing the Minor in Labor Studies, students will:
• develop a greater understanding of the U.S. labor movement and workplace through historical, political, legal, economic, social, and organizational perspectives;
• be able to analyze the changing nature of work and the workplace in the U.S. and global economy;
• gain a greater understanding of the role of gender, race, and class in the workplace and labor movement;
• explore the implications of post-carbon issues and climate change for workers, the economy, and for the labor movement;
• acquire a practical understanding of the roles, structure, and functions of unions, as well as the dynamics of labor relations established through collective bargaining and contract maintenance;
• be able to identify the major trends and leaders in the history of U.S. organized labor;
• have the knowledge of economic concepts, vocabulary, and current events sufficient to read and "understand the financial section of a major U.S. newspaper;
• become familiar with the state and federal laws most commonly cited in employment and labor relations disputes and be able to find these laws on-line or in a library;

• be familiar with the concepts, vocabulary, and processes of alternative dispute resolution as applied in employment and labor relations.

NOTE: All LST courses will be available as distance and/or hybrid courses, combining a distance section with a live class section.

Innovation Engineering Certificate

Innovation Engineering Undergraduate Certificate (12 credit hours)
Innovation Engineering courses give students a complete array of tools and a systematic approach to creating, communicating and commercializing ideas in response to problems and opportunities in any field; they also learn how to lead the process of innovating within organizations -- businesses, nonprofits, governments, educational institutions, arts organizations, etc.

Educational Objectives:
The coursework is designed to be ancillary to major work in a specific discipline or central passion. The objective of the Certificate in Innovation Engineering is to give students the skills and confidence to create meaningfully unique solutions to problems in their chosen fields, to communicate the benefits of their innovations and to test and realize their innovative ideas. The course sequence achieves these objectives by teaching the fundamentals of Innovation Engineering in INV 121, advanced skills in INV 180, communicating in INV 282, and commercializing in INV 392.
Eligible students:
Undergraduate students matriculated in any field may take coursework in Innovation Engineering. These students should notify Foster Center for Student Innovation, (207) 581-1454, uminnovation@maine.edu.
Undergraduate non-degree students (students who have not yet earned a Bachelor's degree or its equivalent) may apply for admission to the Certificate of Innovation by contacting the Foster Center for Student Innovation. Non-degree students typically register for classes through the University's Division of Lifelong Learning. Except for courses offered through Continuing Education/Summer Session, the University allows non-degree registration in regular courses on a space-available basis.
Course Sequence:
The core courses required for the undergraduate certificate are INV 121 - Fundamentals, INV 180 - Create, INV 282 - Communicate, and INV 392 - Commercialize. Courses should be taken in the following order:

- INV 121 Fundamentals
- INV 180 Create
- INV 282 Communicate
- INV 392 Commercialize

GPA requirements to earn the certificate: Minimum GPA of 2.9 in courses that count toward the certificate.
Minimum Grade requirements for courses to count toward certificate: C-

The Intensive English Institute

The Intensive English Institute (IEI) of the University of Maine is part of the Office of International Programs. Its primary goal is to provide students the language support and cultural knowledge needed to be successful in achieving their educational and career goals.
The IEI prepares international students and non-native speakers of English for university study at UMaine and other American universities and colleges. It also prepares immigrants to Maine to enter the workforce or improve their career trajectory by helping them improve their English language fluency.
Intensive English courses are offered in five sessions of 7-8 weeks each during the calendar year. Custom courses are also offered for groups based on partner's interest and IEI capacity. In addition to a English language courses, the IEI offers academic advising, cross-cultural counseling, tutorials and self-study opportunities in a variety of content and skill areas.
The IEI endorses the TESOL Standards for Post-secondary Programs and the NAFSA Principles of International Educational Exchange. The courses offered at the IEI in any particular semester vary according to enrollment and the placement levels of incoming students. The IEI accepts both matriculated and non-matriculated students. For more information, visit https://umaine.edu/iei/ or contact um.iei@maine.edu or call 207-581-3821.

Bureau of Labor Education

The Bureau of Labor Education (BLE), established in 1966 by the 102nd Maine Legislature and the Trustees of the University of Maine, is guided by the principle that lifelong education is a necessary and vital component of a democratic society. The Bureau conducts educational programs and research on issues of interest to workers, labor unions and policy makers, topics have included: labor and employment law, labor history, labor relations, political economy, collective bargaining, arbitration and administrative hearing advocacy, mock arbitration, Robert's Rules of Order, union officer training and leadership development. Through teaching, research and public service, the Bureau helps Maine workers and others assess their situation in relation to the global, economic, political and legal environment. The BLE offers an undergraduate Minor in Labor Studies as well as a Labor Studies Track that is part of the Bachelor of University Studies degree. Labor studies courses include LST 101 - Introduction to Labor Studies, LST 201 - Work and Labor in a Global Environment, and LST 298 - Topics in Labor Studies. For further information: umaine.edu/ble or call 207.581.4124.

Academic Standing

Grade Point Average (GPA)

UMaine calculates official student grade point average (GPA) values for each term (term GPA) and for the entirety of a student's enrollment at UMaine (cumulative GPA) based exclusively on courses completed at UMaine and receiving letter grades of A-F. These calculations are completed by multiplying the number of credit hours earned for each eligible course by the numerical equivalent (e.g. 4.00, 3.67, etc.) of the letter grade earned, as defined in the Grading System policy. These calculations are carried to two decimal places (truncated) and are not rounded (e.g. a calculation of 3.679 is recorded as 3.67).

- For example, a 3-credit course with a grade of B- earns 2.67 points per credit hour, for 8.01 total points, while a 3-credit course with a grade of A- earns 3.67 points per credit hour, for 11.01 total points. Those two courses taken together during a single term would result in a term GPA of 3.17.

Courses a student has withdrawn from, taken as Pass/Fail (or any other non-GPA grading basis), earned via examination (e.g. AP, CLEP, etc.), or completed at any other institution (transfer credit; see Course Repeat Policy) are not included in the calculation of the term or cumulative GPA.

Individual academic departments or programs may calculate specialized GPA values (e.g. major or program GPA) to meet departmental or accreditation requirements. While these specialized GPA values are generally reflected in the degree progress report within MaineStreet, they are distinct from the term and cumulative GPAs and are not reflected on the official transcript.

Academic Standing

Each student's academic standing is determined based on their term and/or cumulative GPA values for courses taken at UMaine. Students with a cumulative GPA of 2.00 or greater are considered to be in good academic standing. Statuses of Academic Concern, Academic Contract and Probation, do not specifically prohibit a student from participating in extracurricular activities unless otherwise specified by University policy, rules, or by-laws governing the activity or organization.

Academic Recognition

The University recognizes outstanding academic achievement of degree-seeking students in several ways. Two of the most prestigious are the Presidential Scholar and the Dean's List designations, which are awarded in the Spring and Fall terms only. These achievements are based exclusively on courses and credit hours applicable toward the term and/or cumulative GPA (See GPA policy).

Eligibility to be recognized for these academic achievements is assessed thirty-five (35) calendar days after the last day of the final exam period of each Spring and Fall term. Students with any missing grades, or unresolved Incomplete grades, remaining on their record for the relevant term when eligibility is reviewed will be ineligible to receive recognition, and their records will not be reassessed for eligibility at a later date.

Once awarded, academic recognitions are recorded on the official transcript by the Office of Student Records.

Presidential Scholar

To be recognized as a Presidential Scholar a student must earn 12 or more credit hours from courses applicable toward the GPA in the relevant term, and earn a 4.0 term GPA.

Full-time Dean's List

To be eligible for the Full-time Dean's List, a student must earn 12 or more credit hours from courses applicable toward the GPA in the relevant term and earn a 3.50 or higher term GPA.

Student teachers may qualify for the Full-time Dean's List during their semester of student teaching provided they are enrolled full-time and either A) enter the term with a minimum 3.50 cumulative GPA and earn a minimum 3.50 term GPA or B) earn a minimum 3.50 term GPA on 6 or more credit hours from courses applicable toward the GPA.

Part-time Dean's List

Students who have part-time status during both the fall and spring semesters of a given academic year are eligible for Part-time Dean's List. They must have completed 12 or more credit hours from courses applicable toward the GPA over both terms and have earned a combined GPA in those terms of 3.50 or higher.

Academic Actions (Concerns, Probation, Suspension, Dismissal)

Degree-seeking students who fail to meet the minimum academic standards for satisfactory progress toward their degree (separate from the satisfactory academic progress (SAP) assessed for financial aid), both in a single semester and overall, are considered to be in negative academic standing and may be subject to an academic action.

A university-wide committee administers the academic standing policy by placing students on concern, probation, suspension, or dismissal. Review occurs at the end of the fall and spring semesters.

Academic Concern

Students whose cumulative GPA remains above 2.00, but whose term GPA was below 2.00 for a given term, will be assigned a status of academic concern. Students with this status remain in good academic standing, but will be contacted to determine what factor(s) may have contributed to their drop in term GPA and what resources may be available to assist with their academic success.

Academic Probation

Students whose cumulative GPA falls below 2.00 following a spring or fall term are placed on academic probation. Students on probation may also be placed on a contract by their college's Dean's Office that requires them to meet certain academic conditions defined by their college dean.

Students on academic probation who do not improve their cumulative GPA to a 2.00 by the end of the next semester, or who fail to meet the conditions of an academic contract, may be continued on probation or have their action escalated to academic suspension.

Students on probation are restored to good standing after achieving a cumulative GPA of 2.00 or higher following any term. Students who return to good standing but fail to meet the terms of an academic contract may be subject to continued academic restrictions from their College, up to and including Program Dismissal.

Academic Suspension

Students will be subject to suspension following any fall or spring semester when any of the following conditions apply:

1. The student's earned semester GPA is 0.00 and their cumulative gpa is below 2.00.
2. The student has failed to fulfill the terms of an academic contract.
3. The student is already on probation and has earned a semester GPA of 1.00 or below.
4. The student is already on probation and has not met required cumulative GPA minima (at least 1.7 for students with 0-23 earned credits; at least 2.0 for students with 24 or more earned credits) unless the student's semester GPA is 2.00 or higher.

Suspension is noted on the student's official academic record, a hold will be placed on their account, and they are made inactive in MaineStreet pending readmission.

Suspended students may file an application for readmission to resume their studies after one semester (Spring or Fall) of non-enrollment.

Students may request permission from their associate dean to take up to two courses (maximum 8 credit hours) per semester, and/or during the summer term, as a non-degree student while they are under suspension. Courses completed while enrolled as non-degree do impact the cumulative GPA and may be used to meet degree requirements, however, students are ineligible for housing and financial aid while enrolled as non-degree.

Double Major and Dual Degree students:

If a student is pursuing a double major or dual degrees and is suspended, recommendation from both Associate Deans (if the majors or degrees are in different colleges) are required for the student to register as a non-degree student.

Academic Dismissal

Dismissal is the final action taken when students are not making satisfactory progress toward a degree or when students readmitted after suspension show no improvement in their cumulative GPA or otherwise fail to meet conditions set by the college. A student who has been dismissed is considered separated from the University permanently, and a notation stating this is placed on the student's official transcript.

Program Dismissal

Due to accreditation, licensure, and career standards, some academic programs have more stringent academic and ethical standards than the University academic guidelines. Failure to meet program requirements will lead to dismissal from these programs. Since this is a program dismissal and not a dismissal from the University, the student may have the opportunity to earn a degree in another academic program at the University. The decision to dismiss a student from their program is considered to be a permanent action. Students who are dismissed from a program have the opportunity to appeal the decision to the Academic Standing Appeals Committee. The process, as well as the timing of such an appeal, is outlined in the notification of dismissal. The decision of the committee is final.

Summer Session Courses for Suspended and Dismissed Students

Students who are notified of suspension or academic dismissal from the university while attending a summer session or winter term course will be allowed to complete that course for a grade and credit. Students under suspension or dismissal will not be allowed to take any subsequent courses without the permission of the associate dean of their college.

Academic Forgiveness

Academic forgiveness refers to the exclusion of an entire fall or spring semester from the calculation of a student's GPA and earned credits. All grades remain on the transcript. When academic forgiveness occurs, the associate dean or designee may waive the re-taking of selected courses for which the student has earned sufficient grades. Though the degree credit has been removed, these courses may be used to meet degree requirements and to meet pre-requisite requirements. Students must achieve program minimum requirements to graduate.

Students may receive academic forgiveness once during their association with the university following one of the actions listed below. In all cases, the semester to be forgiven is the one immediately prior to the qualifying action and is contingent on completion of their first 12 or more graded credits in the subsequent semester with a minimum semester GPA of 2.3 and no grades less than a C-. Students who regularly maintain less than a 12 credit hour load should check with their dean's office regarding provisions for part-time students. Forgiveness must be requested in writing and once granted may not be revoked.

Actions eligible for academic forgiveness include the following:

- Readmission to the University after academic suspension
- Readmission to the University after a voluntary break in enrollment
- Changing academic majors within or between colleges, if this action represents a substantial change in curriculum as determined by the associate dean or designee.

Any semester of non-degree enrollment will not be considered under this policy. Students receiving Academic Forgiveness are excluded for consideration of Valedictorian or Salutatorian awards. Academic Forgiveness may impact a student's eligibility for financial aid due to the Satisfactory Academic Progress Policy. Information is available at http://umaine.edu/stuaid/policies/sap/.

Fresh Start (5 year rule)

Students requesting readmission after an absence of five or more years may be treated as external transfers in the determination of credits and GPA. Credit is allowed for all University of Maine courses passed at the level of C- or higher. All grades remain on the academic transcript, but are removed from calculation of the cumulative GPA. To be eligible for fresh start, students must have a minimum of 30 credits remaining toward degree completion and must complete those 30 credits in residence at the University of Maine. Students receiving a fresh start are ineligible for Valedictorian or Salutatorian awards. For more information, contact the Associate Dean or Director of the School or College you are readmitting into. Fresh Start may impact a student's eligibility for financial aid due to the Satisfactory Academic Progress Policy. Information is available at http://umaine.edu/stuaid/policies/sap/.

Enrollment Status

Full-time Status

Full-time Status

The University treats undergraduate students registered for 12 or more credits per semester as full-time students. Calculating student financial aid and student fees and determining eligibility for campus housing, athletics, and veteran's benefits is dependent upon enrollment status. For most undergraduate degree programs, students must average 15 credits per semester over the course of 8 semesters to earn the minimum of 120 credits required for graduation. Some programs require more than 120 credits to earn the degree.

Courses taken with an audit status (no grade or credit hours earned) do not count toward enrollment status, despite the fact that students pay tuition to audit a course. Students who will be less than full-time and are receiving financial aid should report a "change in enrollment plans" when accepting their financial aid through MaineStreet's Student Self-Service. The Office of Student Financial Services initially awards students based on 30 credits of enrollment per year (typically 15 credits per semester, Fall and Spring), so any credit load less than 30 credits may require adjustments to the financial aid offer. As such, the Office of Student Financial Services will update student financial aid awards as needed and notify the students by email. Students are encouraged to update their enrollment status for the spring semester in November. If updates are necessary for the fall semester, those should be made in July. Failure to report a change in enrollment plans may delay receiving an expected refund when financial aid is disbursed.

The University grants exceptions to the full-time status under the following conditions (these exceptions do not apply to financial aid):

- Students who enroll in field experience or internships as part of their UMaine degree programs.
- Graduating seniors who need less than 12 credits to complete requirements and have applied to

graduate.

Reduced Course Load Policy

The University of Maine's policy and practice complies with the Americans with Disabilities Act (ADA) and Section 4504 of the Rehabilitation Act of 1973. These laws direct the institution to provide academic adjustments to accommodate students with disabilities. To this end, the University has established a Reduced Course Load Policy for students with disabilities.

The University defines full-time student status as twelve credit hours per semester for undergraduate students. On the recommendation of the Office of Student Accessibility Services and an Advisory Committee, and with the approval of the Executive Vice President for Academic Affairs and Provost or designee, undergraduate students requesting reasonable accommodation for a documented disability who register for at least six credit hours enjoy the rights and privileges of full-time students. Appropriate reduced hours for graduate students are determined on a case-by-case basis. Students granted reduced course load status are assessed mandatory fees by University policy. In some cases, receipt of benefits is contingent on payment of fees.

The policy does not extend to student eligibility for such programs as federal financial aid, U.S. Veterans Administration (VA) benefits, academic scholarships, and health insurance. Students approved for a reduced course load are responsible for determining the impact of that load on their eligibility for federal financial aid, VA benefits (including housing allowance), scholarships, and/or insurance. The University is not responsible for the reduction or loss of non-University aid, privileges, gifts, remuneration, or other real or perceived benefits resulting from a student's decision to carry a reduced course load.

Students requesting this accommodation must provide current comprehensive evidence of a documented disability from a healthcare professional and an official transcript from any institution(s) they attended before enrolling at the University of Maine.

The Office of Student Accessibility Services organizes and oversees all procedures relating to the enactment of this policy and provides a written annual report to the Provost. For further information, contact Student Accessibility Services via phone at 207.581.2319 or visit our website at www.umaine.edu/studentaccessibility.

Non-Degree Students

Students taking courses at the University of Maine who are not working towards a University of Maine degree are non-degree students. These students typically register for classes through the University's Division of Lifelong Learning (DLL). Except for courses offered through Winter and Summer Sessions, the University allows non-degree registration in regular courses during the semesters on a space-available basis.

Non-degree students are registered through DLL and advised by specific staff/units (ie. UMaine Online or Early College). Exceptions to this advising structure include:

Students holding a degree but who are pursuing a certificate (e.g., a teaching or professional certificate)

Students who are degree students elsewhere, but are attending the University of Maine under a formal student-exchange program (e.g., National Student Exchange, Canadian-American Exchange, New England Land-Grant University Student Exchange)

Non-degree students registered for 9 or more (Orono campus) credits per semester, and who are in good academic standing, are eligible for campus housing on a space-available basis. The University of Maine does not normally award financial aid to non-degree students.

Absence from the University

Students who plan to be away from the University for any period of time should choose the most appropriate option from the list below.

Domestic Study Away

Students who wish to take coursework at another institution are strongly encouraged to request prior approval by completing the Domestic Study Away form. This approval will ensure that the course(s) and credits will transfer into the University of Maine. Details on the specific degree requirements that will be met are provided separately and documented in the Degree Progress Student Substitution Request form if needed. When completed with an acceptable grade, credits will count toward enrollment status, and students will maintain enrollment in their degree program. Students who are applying for financial aid must complete a Domestic Study Away form.

Withdrawal

Students may experience life circumstances or medical conditions that compromise their health, safety, or academic success. In such circumstances, students may need to leave the University and their studies and be readmitted at a later date. Students who wish to leave the University should request a withdrawal. Withdrawing officially is preferable to simply ceasing to attend because it may prevent the assignment of failing grades that will remain on the transcript. Withdrawing also allows for the discussion of options for returning at a later date. For the required withdrawal forms and a more complete explanation of the withdrawal process,

go to: http://studentrecords.umaine.edu/home/withdrawal-policy/
Students who withdraw from the University and do not enroll in the subsequent semester must apply for readmission when they choose to return. The Re-admit Form is available on the Office of Student Records
website: http://studentrecords.umaine.edu/forms/. Students withdrawn for two or more years will need to meet the catalog requirements in effect at the time of readmission. Refer to the Academic Calendar for specific dates and information pertaining to withdrawn classes.

Retroactive Fall/Spring Term Withdrawal

A retroactive withdrawal may be an option for students who were unable to complete a standard withdrawal through the Office of Student Records or the Graduate School (if applicable). A retroactive University withdrawal is an extraordinary remedy only available when extenuating circumstances significantly impair the student's ability to complete the semester and officially withdraw by the established semester deadlines as outlined in the Academic Calendar. Examples of extenuating circumstances may include, but are not limited to, a mental or physical illness, injury, or other extraordinary circumstance that significantly limited a student's capacity to withdraw in a timely manner or when the student was forced to leave the University abruptly due to a health or safety emergency within their immediate family, or to an individual whose close relationship with a student is the equivalent of a family relationship, or Title IX concerns, or some other type of extenuating circumstance.
To submit a request for a fall or spring retroactive term withdrawal, students must contact the Associate Dean of their college. The withdrawal date will be based on the last confirmed date of attendance or participation in any course relevant to the request. The deadline for requesting a retroactive withdrawal for fall or spring term is six months after the final day of the term.

Retroactive Winter Session/Summer University Session Withdrawal

A request for a retroactive withdrawal for a Winter Session or Summer University course(s) may be submitted to the Division of Lifelong Learning (DLL). Typically, this type of withdrawal is requested when extenuating circumstances significantly impaired the student's ability to complete the session and officially withdraw by the established session deadlines as outlined on the DLL website, https://dll.umaine.edu/. Examples of extenuating circumstances may include, but are not limited to, those listed in the Retroactive Fall/Spring Term Withdrawal policy. The deadline for requesting a retroactive withdrawal is six months after the final day of the term in which the student withdrew.

Registration for Classes

Enrollment in Classes

The process of enrolling in classes for the upcoming semester involves the student creating a wishlist of possible courses to take from the Schedule of Classes after consulting with their Degree Planner and the degree requirements for their major in the Undergraduate Catalog. The Schedule of Classes lists the courses to be taught in a given semester, showing the days, times, delivery modalities (e.g. online or in-person) and building locations where they meet. Not every class is offered every semester.
The next step is for the student to meet with their advisor. Once the advisor approves their wishlist and the student's enrollment appointment date and time have arrived, the student may enroll in classes using MaineStreet.
Students wishing to register for more than 18 hours in a semester must obtain permission from the Associate Dean of their college.
More information on enrolling in classes can be found at the Office of Student Records website (opens in a new window).
The University of Maine gives priority enrollment appointments by class level to students closest to graduation and to athletes, veterans, and members of the Honors College.

Student Class Level	Earned Credit House
Senior	84 or more
Junior	54 to 83
Sophomore	24 to 53
First-Year	0 to 23

Immunization

Maine law prohibits students born after 1956 from registering for classes until they have submitted proof of immunization against measles, mumps, and rubella to the Office of Student Records. Students must also provide proof of tetanus/diphtheria (Td or DT) or tetanus, diphtheria and pertussis (Tdap) administered within the past 10 years. More information about submitting immunization records can be found at the Office of Student Records website.

Course Numbering System

Course Numbering System
Courses are numbered to indicate their level. Those numbered 000-099 are considered remedial and do not count towards a University degree. Courses numbered 100-299 are often introductory and intended to be taken during the first two years of a baccalaureate degree program. The numbers 300-399 usually indicate advanced courses with prerequisites designed for the junior and senior years of the undergraduate program. Courses numbered 400-499 are advanced baccalaureate courses. Courses numbered 500-599 are designed for students working for graduate degrees, but undergraduates may take them with the permission of their academic advisor and of the course instructor. Courses numbered 600-699 are highly advanced courses for graduate students.

Schedule Changes (Course Add/Drop/Withdrawal)

Full-Semester Length Classes: The University of Maine allows students to make schedule adjustments for full-semester classes including adding courses, swapping sections within a course, and changing the grading option through the first five class days of the semester. Full-semester classes may be dropped through the first five weeks of the semester. However, there is no tuition refund after the tenth day of classes. Course withdrawals are noted on the transcript with a "W" grade from the sixth week through the eleventh week. Grades of W do not impact the GPA or credits earned. Withdrawals after the 75% completion of the course are graded with the "F" grade.
Less than Full-Semester Length Classes: The student information system, MaineStreet, provides drop deadlines for classes meeting less than the full semester. A link to the Academic Calendar including pertinent dates and deadlines for the add/drop/withdrawal processes is located at the Office of Student Records website
Definition of an Undergraduate Student Credit Hour

Definition of an Undergraduate Student Credit Hour
The University of Maine acknowledges and adheres to the federal definition of a credit hour for courses offered face to face, in hybrid format, and online, as developed in 2010 and published in the Code of Federal Regulations (CFR), Title 34, Part 600.02:
[A] credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates not less than
(1) One hour of classroom or direct faculty instruction and a minimum of two hours of out of class student work each week for approximately fifteen weeks for one semester or trimester hour of credit [...] or the equivalent amount of work over a different amount of time; or
(2) At least an equivalent amount of work as required in paragraph (1) of this definition for other academic activities as established by the institution[,] including laboratory work, internships, practica, studio work, and other academic work leading to the awarding of credit hours.

Degree Requirements for Graduation

Each student is responsible for knowing and following the policies governing their course of study and for fulfilling all academic requirements for the degree sought. The faculty and the staff of the University are available to advise and assist students to understand and to meet these requirements. Students should direct questions about academic policies and degree requirements to their academic advisor or to their academic dean or program coordinator.

Substitutions and Waivers of Academic Requirements

Substitutions and waivers described in this section are entered into the degree progress report to note when a degree requirement has been replaced with an alternative course or requirement (substitution) or waived for a particular student.
All substitutions and waivers are unique to each student and must be approved by the academic unit offering the student's major, minor, or certificate.
The enrollment process within MaineStreet does not recognize courses that were not completed due to waivers or substitutions as satisfying course prerequisites, so students must seek overrides when enrolling in any courses where a waived or substituted course serves as a prerequisite

Course Substitutions

In some cases, a department may determine that a student has/will fully satisfy an academic requirement based upon a combination of one or more alternative courses or other academic experiences resulting in credit hours (e.g., internships, prior learning assessment, credit by examination, etc.). This may include cases where a similar, but not directly equivalent, course (e.g., a seminar from a related department) is approved due to scheduling needs, the required content is spread across multiple courses taken externally, or changes in curriculum have moved the required content to new courses.

Course Waivers

Course waivers excuse a student from completing a specific course requirement without expectation that an equivalent course has/will be completed in its place or reduce the credit hours required for a requirement (e.g., reducing a course from three credits to two). Approved waivers apply only to the relevant requirement, and do not lessen the overall credits required for graduation as noted in the Catalog. In effect, approved waivers create an elective slot equal to the number of waived credit hours within the degree plan, with any specific requirements for fulfilling that elective slot (e.g., courses within the same subject area, at the same level, etc.) subject to approval by the student's academic department.
In cases where a requirement has/will be satisfied by any combination of alternative coursework and/or credit-granting academic experiences a course substitution request, not a waiver, is the appropriate course of action.
Certain courses (e.g. primary program capstones) cannot be waived, as noted in the entry for the Degree Progress Student Waiver form on the Office of Student Records forms website.

Non-Course Waivers

Waivers may also be requested for requirements not based on specific courses. Examples may include major-specific GPA requirements, college/department residency requirements (not overall UMaine residency), or other requirements specific to a college, department, or major.
For reasons of academic integrity, waiver requests to decrease the minimum number of credits required to earn a degree below the number stated in the Catalog cannot be approved. For double major students, the number will be the one required for the larger of the two majors.
Considerations for Substitutions and Waivers
The following additional considerations apply to substitutions and waivers:

- All substitution and waiver requests are submitted to, and reviewed by, the Office of Student Records before being processed.
- Substitution requests require notations detailing which course(s) are being applied to meet the relevant requirement(s) and must be approved by the relevant Associate Dean.
- Waiver requests must include a detailed justification for the requested action and require approval by both the relevant Associate Dean and Associate Provost.
- In the event a student changes elements of their degree plan (e.g., change of major or minor), existing substitutions and/or waivers may be voided, as noted below. For any voided items, updated forms may need to be submitted.
  - Those specific to a program or requirement that has been dropped are voided.
  - Those specific to a program or requirement that has been changed to a version from a newer Catalog may be voided, depending upon what changed between versions.
- The enrollment process within MaineStreet does not recognize courses that were not completed due to waivers or substitutions as satisfying course prerequisites, so students must seek overrides when enrolling in any courses where a waived or substituted course serves as a prerequisite.

Baccalaureate and Associate Degree Requirements

Candidates for baccalaureate and associate degrees must meet all of the following requirements:

1. Receive acceptable grades in all required courses and credits, including Core Curriculum, college, and major courses.

- The student-elected Pass/Fail option is not allowed for courses used to fulfill program requirements for the major, for the minor, for the college, or for Core Curriculum. This restriction applies only to courses put on Pass/Fail by the student and not to courses where the department offers the courses on a Pass/Fail grading basis.

2. Accumulate the number of degree credits specified by the program in which they are registered.

- Associate degree programs require a minimum of 60 credits.
- Baccalaureate degree programs require a minimum of 120 credits.
- Some programs may require more credits, as noted in this Catalog on the page for each program.

3. Achieve a cumulative grade point average of not less than 2.0.

4. Earn a minimum of 25% of the credits required for the degree using coursework originating from the University of Maine*. For baccalaureate degree programs, at least 15 of those credits must be completed at the 300 level or higher.** There are two exceptions to this policy:

- students who have already completed three or more years at the University of Maine (minimum of 90 credits of University of Maine courses) when, in the opinion of the student's academic program faculty in consultation with the student's dean, there is sufficient and valid reason to complete the senior year elsewhere.
- students who have completed a minimum of three years of work at the University of Maine and who have been admitted to an accredited professional school of medicine, dentistry, veterinary medicine, or divinity. With the approval of the academic program faculty in consultation with the student's dean, these students may qualify for the appropriate bachelor's degree at the University of Maine upon receipt of the professional degree.

*This requirement is 30 credits for a typical 120 credit baccalaureate degree program, and 15 for a typical 60 credit associate degree program, but will be higher for all programs where the minimum number of credits required to graduate exceeds the typical 60 or 120 credit minimums. Students should refer to the entry for their major in this Catalog, and consult with their advisor, to verify the correct value for their degree plan.

**An academic department may require that some minimum number of courses be completed within that department to earn a University of Maine degree in that discipline. These departmental residency requirements are noted in the description of each academic program elsewhere in this catalog.

Application for Graduation

Graduation is not automatic upon completion of all program requirements. Candidates for degrees must submit an Application for Graduation according to the following schedule:

by February 1, for degrees to be awarded in May

by July 15, for degrees to be awarded in August

by October 1, for degrees to be awarded in December

General information and details of the application process are available at https://studentrecords.umaine.edu/students/graduation/

Note: Students completing degree requirements during May Term are considered August (Summer) degree candidates and students completing degree requirements during Winter Term are considered May (Spring) degree candidates.

Verification of Degree and Conferral Timelines

The Office of Student Records performs final reviews and certification of degree completion for each student who applies for graduation and will not confer any degree until all requirements have been verified. Final reviews begin once grading has been completed each term, and continue until all applications have been finalized (conferred or denied).

All degree requirements (e.g. grades of incomplete, transcripts from other institutions, etc.) must be verifiable as satisfied within 45 calendar days following the final day of the semester of graduation. Students who apply for graduation but do not satisfy all requirements by this deadline will have their applications for graduation denied and will be required to reapply once they have addressed whatever deficiencies prevented their graduation. Students whose graduation is denied will be notified by the college. The Office of Student Records reports on degree completion within 60 days after the end of the term.

Academic Honors and Commencement

Academic honors are based upon each student's UMaine cumulative GPA.

Latin Honors

Students may graduate with Latin Honors provided they both meet the minimum cumulative GPA requirements outlined below and have completed at least 30 credits in residence at UMaine for associate's degree programs or 60 credits in residence for baccalaureate degree programs.

Minimum cumulative GPA requirements

Summa cum laude: 3.70- 4.00 GPA

Magna cum laude: 3.50 - 3.69 GPA

Cum laude: 3.30 - 3.49 GPA

Honors

Graduates who successfully complete the requirements of the University of Maine's Honors College may have their degrees designated with Honors.

Valedictorian/Salutatorian

Valedictorian and Salutatorian are the highest honors awarded to students by the University of Maine. Each student will be recognized for outstanding academic achievements and for contributions to the University or wider community.

To be considered for these awards, all candidates must meet the following eligibility criteria:

- Students must have completed at least 75 credits of coursework at the University of Maine, exclusive of pass/fail or incomplete grades. Calculation are based on the number of University of Maine credits earned is based on credits earned as of the end of the fall semester prior to the spring semester valedictorian-salutatorian selection process.
- Students must have a minimum of at 3.8 GPA at the end of the fall semester prior to graduation.
- All credits counting toward the baccalaureate degree must have been completed within six (6) years immediately preceding graduation.
- Students must file for the previous August, previous December, or May graduation by published deadline.

In addition to the above listed criteria, the candidates will be evaluated upon the strength, breadth, and rigor of their academic achievements, evidence of intellectual promise, character, service and other accomplishments.

Celebration of Academia

The conferral of baccalaureate, masters, and doctoral degrees upon students, known as Commencement, is an important event in the life of the institution, one rich in tradition dating to medieval times. It is a celebration of student achievement in which the faculty, the family and friends of the students, and the graduates themselves together mark the end of a formal program of education and the commencement of a new stage in life. All faculty members and graduating students are encouraged to participate in the formal Commencement ceremonies held in May each year. See the UMaine Commencement website for more information.

Grades and Grading

Grading System

The University of Maine uses a letter-grade system ranging from A to F. Faculty members have the option of adding + (no A+) and - grades to the basic letter grades. There is no University-wide grading scale. Each instructor determines the points or percentage associated with each letter grade and provides this information in the course syllabus.

The qualitative value of the five basic letter grades is defined as follows:

- A = Excellent work.
- B = Good work.

• C = Satisfactory work.
• D = Poor work that does not adequately prepare students for more advanced work in the discipline. Grades of D contribute to total credit hours earned but may, or may not satisfy course prerequisites and/or graduation requirements for majors, minors or other academic programs.
• F = Failure. No credit is earned for a failed course.

The grades A-F have the following numerical values used in calculating a student's Grade Point Average (GPA):

A = 4.00	B = 3.00	C = 2.00	D = 1.00
A- = 3.67	B- = 2.67	C- = 1.67	D- = 0.67
B+ =3.33	C+ = 2.33	D+ = 1.33	F = 0.00

The University uses a variety of grades on transcripts to designate special circumstances. These include:

Grade	GPA Impact	Description
AU	N/A	Assigned only for courses taken under the audit option. No credit is earned.
DG	N/A	Deferred grade. Used only for courses that extend beyond a single semester.
I	N/A	Incomplete. See the Incomplete policy below for additional details.
L	Same as F	Failure for lack of participation. Indicates a student participated in less than 50% of the class but did not formally withdraw. No credit is earned
TH	N/A	Final grade deferred. Used only for the Honors thesis (HON 499).
W	N/A	Indicates that the student officially withdrew from the course.

N/A=not applicable

Grade	Description
F*	Course failed on the pass/fail grading option. No credit is earned and the GPA is not affected.
LP	Course passed on the pass/fail grading option with a D+, D, or D-. Credit is earned, but the GPA is not affected.

P	Course passed on the pass/fail grading option with a C- or above. Credit is earned, but the GPA is not affected.

Incomplete Grades

The instructor, in consultation with the student, postpones the assignment of a final grade to allow the student to complete work not turned in before the end of the semester. Instructors assign the incomplete "I" grade only when A) circumstances beyond the student's control prevented the completion of assigned work on time, and B) when the student has completed more than 50% of the class. When the "I" grade is assigned, the instructor must complete an Incomplete Contract (viewable in MaineStreet) to inform the student of the time-specific work to be completed and the time allotted to submit the incomplete work. If the incomplete work is not submitted within 160 days from the end of the semester (or by the defined date from the Contract), the grade will automatically default to an "F" grade regardless of what the grade noted on the Contract was for the work actually completed. The instructor may agree to extend the time allotted to complete the work by filing an Extension Form for Undergraduate Incomplete Grades. Students receiving an "I" grade are not allowed to re-register for the same course until the incomplete has been made up or converted to an "F" grade. A student receiving an "I" grade may not make up missed work by sitting-in on the course the next time it is taught.

Incomplete Grade and Graduation

A student is allowed to graduate with an Incomplete grade (I) on the academic transcript only if all of the following conditions are met:

- The course was taken no more than one academic year preceding graduation.
- The student has at least 120 credits of graded work.
- All college, department, and general education requirements have been satisfied.
- The incomplete when counted as an "F" grade does not reduce the accumulative grade point average below 2.0

If an incomplete grade is resolved within 45 days from the end of the term of graduation (See Verification of Degree and Conferral Timelines policy), the grade change will be processed normally and the GPA will be updated prior to the degree being conferred. If the incomplete is resolved after the degree has been conferred, the grade(s) will be noted at the end of the transcript and will not affect the GPA.

Grading Option

Students select one of three grading options for each course at the time of registration.

1. Grade option. This is the option normally selected. It results in a grade (A-F) upon completion of the course. Courses in the major and courses meeting general education requirements must be taken using this optio
2. Pass/Fail option. Students may take a limited number of courses Pass/Fail. Students who pass the course receive the P or LP grade and degree credit. Students who fail the course receive the F* grade and no degree credit. Grades of P, LP and F* do not affect the student's grade point average. Some required courses in the major, such as first-year seminar courses, may only be offered with the pass/fail grading option. The following restrictions apply to other courses the student may choose to take with the Pass/Fail option:

- Students must have sophomore standing or higher and have a cumulative GPA of at least 2.0 to choose to register for a course Pass/Fail.

- No more than one course per semester may be taken on the student-elected Pass/Fail grading basis.
- The Pass/Fail option is not allowed for courses used to fulfill program requirements for the major, for the minor, for the college, or for Core Curriculum, unless the course is only offered with a Pass/Fail grading option.
- Students normally select the Pass/Fail option when enrolling in the course, but have until the end of the add/drop period to change to the Pass/Fail option or back to the Grade option.

3. Audit option. Students registered to audit a course attend class meetings but usually do not take exams or complete formal assignments. No grade is assigned and no degree credit is earned for an audited course. Full tuition is charged for audited courses. The Audit option is appropriate only under special circumstances, and should only be used upon the advice of an academic advisor and with permission from the course instructor. Courses may be changed from the Grade or Pass/Fail option to the Audit option before the last day to add courses as specified in the Academic Calendar with the approval of an academic advisor, the course instructor, and the associate dean. A student cannot change from an Audit to the Grade option beyond the add period for that class. Early College students covered by Department of Education (DOE) funding may not enroll using the Audit option.

Deferred Grades for Honors Students

Students who are registered for Honors Thesis (HON 498/ 499) have the option to receive a defered grade (TH) while they are working on the Honors thesis. Students will not be allowed to graduate with a "TH" grade. Students who have not completed their thesis work in the time frame allowed to complete graduation requirements, will be contacted by the Honors College and will either apply for graduation at a later date or will be given a grade for the work that has been done and the student will graduate without Honors.

Grade Reports

Students may access their course grades using MaineStreet. Course grades are available as they are posted by instructors and processed following final examination period.
Considerable care is taken to ensure that all grades entered on a student's permanent record are accurate. Any student who suspects an error in a grade should contact the course instructor without delay.

Appealing Grades

The University of Maine has formal procedures by which students may appeal the assignment of grades by an instructor, accusations of cheating or plagiarism, or certain aspects of classroom procedure. The details of these appeal processes can be found on the Office Of Student Records website: https://studentrecords.umaine.edu/policies/grades-and-grading/

Course Repeat Policy

A student may repeat a course regardless of the grade or grades previously earned in that course. Students will normally only be permitted to repeat a course twice, i.e. take the course for a maximum of three times, regardless of grade. There may be student financial aid implications for repeating a course more than once after the student has earned a passing grade. Federal regulations limit financial aid funds to paying for one repetition of a previously passed course, even if a higher grade is still needed to advance in the academic program and/or is required for a subsequent course.
Every time a student chooses to repeat a course, each of the following apply:

- Full tuition is charged.

- Any earned credits and grade points from the prior attempt are removed, even if the prior attempt was passed and/or if the most recent grade is lower.
- Earned credits and grade points from the most recent course completion are applied toward credit counts and the cumulative GPA. Only values from this attempt are counted.
- The grades for all attempts remain visible on the transcript.

There may be limitations on the number of times that specific courses may be repeated in specific programs. Students should contact their academic advisor, the associate dean of their college, or their program director to discuss whether they should repeat a course and consult with the Office of Student Financial Aid to see how many repetitions of a course are allowed. Courses taken at another institution may transfer in to meet a course requirement but will not replace the low grade of a course taken at the University of Maine in the calculation of GPA. More information on the transferring of courses can be found under the Transfer Credit section of the catalog.

Academic Integrity

Academic honesty is very important. It is dishonest to cheat on exams, to copy term papers, to submit papers written by another person, to submit papers generated by software or systems without the explicit approval of the instructor, to fake experimental results, or to copy or reword parts of books or articles into your own papers without appropriately citing the source. Students committing or aiding in any of these violations may be given failing grades for an assignment or for an entire course, at the discretion of the instructor. In addition to any academic action taken by an instructor, these violations are also subject to action under the University of Maine Student Conduct Code. The maximum possible sanction under the student conduct code is dismissal from the University. Please see the University of Maine System's Academic Integrity Policy listed in the Board Policy Manual as Policy 314 (*Date Issued: September 1, 2020): https://www.maine.edu/board-of-trustees/policy-manual/section-314/

Attendance

The policy of the University is that students are responsible for attending all class meetings for courses for which they are registered, whether online or in-person. Each instructor determines the specific attendance and participation policy for the course and documents the policy in the course syllabus. Instructors may assign a lower letter grade for failure to adhere to the attendance policy. For fully asynchronous online courses and for asynchronous elements of hybrid courses, participation may be defined as the student's virtual presence for, and participation in, discussions, activities, and related forms of electronic contact occurring in a course's learning environment(s). Examples of course components include participation in on-line discussions, listening to podcasts, group writing sessions, whole class or one-on-one chat, and completion of assignments. The requirements for frequency and quality of a student's participation in an online course are set by the course instructor and described in the course syllabus. Students sometimes miss classes because of ill health, family emergencies, or other reasons beyond their control. It is the student's responsibility to notify instructors of the reasons for missing class and to make arrangements to make up missed work. In some cases, if absences are extensive, even for legitimate reasons, it may not be possible for the student to complete the course and they may be advised to withdraw.

Final Examinations

Final examinations are held in most courses at the end of each semester. Final examinations are held according to a published schedule and cannot be taken before the scheduled time. Students who are scheduled for more than three final examinations on the same day or have two exams scheduled at the same time are asked to work with their instructors to reschedule one of the final exams. If students have difficulty reaching a reasonable compromise with their instructors, the Office of Student Records will provide further assistance.

Official Records

Transcripts

The Office of Student Records maintains the official academic record of each student in perpetuity and provides official transcripts to students upon request. Official transcripts reflect the entirety of each student's academic career.

Student Rights

The Family Educational Rights and Privacy Act (FERPA) gives students certain rights with respect to their education records. They are:

I. The right to inspect and review the student's education records.

II. The right to request the amendment of the student's education records that the student believes are inaccurate, misleading or in violation of the student's rights of privacy.

III. The right to provide written consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent.

IV. The right to file a complaint with the U.S. Department of Education concerning alleged failures by The University of Maine to comply with the requirements of FERPA. The name and address of the Office that administers FERPA is:

Family Policy Compliance Office
U.S. Department of Education
400 Maryland Avenue, S.W.
Washington, DC, 20202-460

V. Request that their directory information not be released.

Directory Information

The University has designated the information below as Directory Information for purposes of FERPA. FERPA allows the University discretion to disclose Directory Information to the public unless a student has taken formal action to request confidentiality of their Directory Information from the University.

Directory information includes:

i. Name*
ii. Mailing Address **
iii. University Email Address
iv. Program of Study
v. Dates of Attendance
vi. Degrees and Awards received (including dates)
vii. Most recent previous educational institution attended
viii. Participation in sports and activities
ix. Class Level
x. Enrollment status (full/part-time)
xi. Personal athletic statistical data

* If a student provides a preferred/chosen name, that will be considered Directory Information instead of the legal name. The University will use/release the legal name in cases where the use of the legal name is required (e.g. State and Federal reporting, subpoenas, tax documents, etc.).

** Each student's home address recorded at the time of admission will be, by default, used as their "Mailing Address" for Directory Information purposes until/unless they provide a separate, specific "Mailing Address". Once a student has done so, only that address will be used for Directory Information from that point forward.

Credit for Prior Learning

Credit for Prior Learning

Credit for Prior Learning (CPL) enables students to earn credit for college-level learning they may have acquired outside of a traditional academic environment. CPL can be earned in a number of ways, including through Standardized Exams, Military Coursework, Departmental Challenge Exams, Credential Reviews, Academic Portfolio Assessment, or other Coursework Experience.

Student Eligibility:

Matriculated students who are enrolled in a degree-seeking program may be awarded CPL for learning which is deemed comparable or equivalent to University of Maine (UMaine) courses, and is applicable toward their degree progress. Departments conduct reviews of prior learning at their discretion. Students should contact their Associate Dean's (AD's) Office with questions related to CPL requests or eligibility.

Award of Credit and Transcription:

- CPL will be awarded based upon assessment of documented college-level learning, which demonstrates achievement (at a grade level of C- or better) of learning outcomes for specific courses, discipline areas, or general electives in accordance with institutional and departmental policies.
- Students may not receive credit for the same course or learning experience twice.
- Students will be notified via a message in their Mainestreet Student Center when credits are awarded for CPL.
- CPL will be listed as transfer credit on the transcript, but will not be calculated into the grade point average (GPA) and do not carry quality points.
- Credits earned through departmental challenge exams will count towards UMaine residency requirements.

The following are methods by which CPL may be assessed:

Standardized Exams

Students should request to have official score reports sent directly to the Office of Student Records (OSR) to be processed.

Advancement Placement (AP) Exams: UMaine awards credit for most AP exams which are successfully completed with an earned score of 3 or higher.
AP exam equivalencies can be viewed at: Advanced Placement Credit Table.
AP exam and score report ordering information can be found at: https://ap.collegeboard.org/

College Level Examination Program (CLEP):

CLEP exams are administered at UMaine through College Success Programs (located in Alumni Hall). In addition to the exam fee which is paid directly to CLEP, College Success Programs also assesses a $30 fee which must be paid in cash on the day of the exam. An additional $50 fee will be assessed by the English Department for evaluation of essays related to the CLEP Analyzing and Interpreting Literature exam. A minimum score of 50 or higher is required to qualify for credit at UMaine.
CLEP exam equivalencies can be viewed at: CLEP Credit Table
CLEP exam information can be found at: www.umaine.edu/csp/clep/

DANTES Subject Standardized Tests (DSST):

DSST exams are competency based exams which are open to all learners and can be taken to earn college credit for knowledge acquired outside of a traditional classroom. A minimum score of 400 or higher is required to qualify for credit at UMaine. Students should register online through the DSST exam website, choose a testing site, and specify the institution to receive the exam score(s).
DSST exam equivalencies can be viewed at: DSST Credit Table
DSST exam and score report ordering information can be found at: www.getcollegecredit.com

International Baccalaureate (IB-Higher Level):

UMaine awards credit for approved IB exams which are successfully completed at the Higher Level, with an earned score of 5 or higher (exams taken at the Standard Level are not eligible for credit).
IB exam equivalencies can be viewed at: International Baccalaureate Credit Table
IB exam and score report ordering information can be found at: www.ibo.org

Seal of Biliteracy:

The Seal of Biliteracy recognizes students who have achieved proficiency in English and at least one other language. UMaine awards credit to students who have earned the Seal of Biliteracy endorsement (proof of the language a student has been certified proficient in will be required). There are a number of foreign language testing services which may be used to demonstrate proficiency, however, scores must align with the Intermediate-Mid Proficiency level of the ACTFL Proficiency Scale in order to receive Seal of Biliteracy certification. Students who are evaluated at the Advanced-Low or higher proficiency level on the ACTFL OPI or OPIc proficiency tests will receive an additional three credit hours of elective credit at the 300 level.
Seal of Biliteracy equivalencies can be viewed at: Seal of Biliteracy Credit Table
Seal of Biliteracy information can be found at: https://sealofbiliteracy.org/

Military Credit

Students should submit a copy of their Joint Services Transcript (JST) to OSR to be evaluated (transcripts can be ordered at jst.doded.mil/jst/). Credit for military work will be evaluated based on recommendations of the American Council on Education (ACE) and will correspond to subject areas offered at UMaine.

Credit for Military Coursework: Only courses recommended at the upper or lower baccalaureate level will be evaluated for credit (vocational and graduate level courses do not qualify). A maximum of 15 credits will be awarded for military coursework, which will be applied as elective credit only, unless an exception is approved. Students seeking an exception should contact their Associate Dean's Office to make a request. The Associate Dean's Office will work with the appropriate department(s) to determine if an exception should be granted; supporting documentation may be required for review.

Credit for Other Military Experience & Training: Prior Learning related to training and other experiences in the military will be considered for CPL in the same way as other prior experiential learning. This type of experiential learning may be evaluated via CLEP/DSST exams or an Academic Portfolio Assessment (up to a maximum of 30 credits is allowed via Academic Portfolio Assessment). Students who have relevant experiences which relate to their program of study should contact their Associate Dean's Office for more information.

Departmental Challenge Exams

Select departments at UMaine, including the English Department and the Department of Modern Languages and Classics, evaluate prior learning through competency-based exams. These exams are comprehensive assessments (either written, verbal, or demonstrative), which evaluate whether or not a student has met the learning outcomes of a particular course. Students must attain a specific score to earn credit.

Credits earned through departmental challenge exams will count towards university residency requirements. Interested students should contact the appropriate department for more information about available exams and any applicable fees.

Credential Review

Students may be eligible to earn up to a maximum of 15 credits for certain certifications, licenses, micro-credentials/digital badges, registered apprenticeships or other credentials which originate from organizations outside of a higher education setting, when there is an appropriate subject matter expert to review the learning and it is deemed applicable toward a student's degree progress.

Any type of Credential Review will require valid proof of learning, such as the license or certificate awarded, course materials, or other information. Micro-credentials or digital badges earned through any for-credit courses, for which the student already has earned credit at UMaine, will not earn additional credit through the CPL process. Please be aware that submitting credential documentation does not guarantee that credits will be awarded.

Interested students should contact their AD's Office to verify that the credential earned is able to be evaluated and is applicable toward their degree progress.

Academic Portfolio Assessment

Matriculated students who are enrolled in a degree-seeking program and have prior learning experiences which did not result in a formal exam score, transcript or other credential, may request an Academic Portfolio Assessment for learning which is applicable toward their degree progress (up to a maximum of 30 credits).

An academic portfolio is a student-prepared document which outlines, in depth, learning experiences gained outside the college classroom, and demonstrates how those experiences align with college-level learning. The goal of the Portfolio is not simply to list experiences or knowledge gained, but to examine learning experiences in essay form with supporting, verifiable documentation. Students should be able to prove to a subject matter expert that they possess the claimed learning and should articulate the relationship between their prior learning and the learning outcomes of one or more UMaine courses, while discussing the theory and skills acquired through their knowledge and experience.

Students should contact their AD's Office to verify that their prior learning experience is applicable toward their degree progress and able to be evaluated as the UMaine course for which credit is being sought. Departments conduct academic portfolio assessments at their own discretion. Students may request an academic portfolio assessment by submitting an Academic Portfolio Assessment Request Form. A portfolio assessment fee for $50 per credit hour requested will be charged to the student's account. This fee is non-refundable and is not dependent upon the outcome of the portfolio assessment. If credit is approved, the Office of Student Records will apply the approved credit to the student's academic record and they will be notified via a message in MaineStreet. If credit is not approved, students will be notified by their Associate Dean's office.

Other Coursework Experience

Certain coursework which does not qualify for regular undergraduate transfer credit may be eligible for CPL, when the coursework is deemed comparable or equivalent to one or more UMaine course offerings, and is applicable toward a student's degree progress.

This may include graduate or post-baccalaureate level courses, courses completed at an institution whose accreditation is not recognized by CHEA or the USDE, professional development courses, or other coursework for which an alternative evaluation method does not exist. Students who are seeking credit for this type of coursework should contact their AD's Office.

Test Credit Tables

- Advanced Placement Credit Table
- College Level Examination Program Table
- DANTES Subject Standardized Tests Credit Table
- International Baccalaureate Credit Table
- Seal of Biliteracy Credit Table

Transfer Credit

Official Transcripts:

Students applying for either freshman or transfer admission must arrange to have official transcripts from all colleges or universities they have previously attended sent to the University of Maine System's Shared Processing Center. Veterans must also submit an official copy of their Joint Services transcript (JST) or Form DD295.

Application Processing, University of Maine System

P.O. Box 412

Bangor, ME 04402-0412

edocs@maine.edu

Current degree-seeking students who have taken one or more courses at another college or university must arrange to have their official transcripts sent to the Office of Student Records (OSR). Students may instead choose to deliver sealed official copies of transcripts to OSR in person. Any transcript that has been opened before it is received by OSR will be considered unofficial when received.

Office of Student Records

5781 Wingate Hall
Orono, ME 04469
um.transfer@maine.edu

Transfer of Credit Within UMS

Current degree-seeking students who have taken courses at other University of Maine System (UMS) institutions do not need to arrange for transcripts to be sent to UMaine. Internal transfer processes will identify their courses. Once grades have been posted, credit for all courses in which the student has earned grades of C- or higher, including P grades, will be applied as transfer credit to their academic record at UMaine (except for ENG 101, which requires a grade of C or higher to qualify for transfer). It is the responsibility of the student to notify the Office of Student Records if grade changes occur at another UMS institution that would require the original credit to be reevaluated.
Credit will not be awarded for institutionally based exams completed at other UMS schools, or for courses which are defined as developmental, post-baccalaureate, graduate level, or professional development.

Accreditation for External Institutions

UMaine accepts transfer credit from accredited colleges and universities whose accreditation is recognized by either the Council for Higher Education Accreditation (CHEA) or the United States Department of Education (USDE). Colleges and universities which are accredited by one of the organizations appearing on these lists must have been fully accredited at the time coursework was completed in order for the coursework to be eligible for transfer credit.

Transfer Credit from External Institutions

In order to qualify for transfer credit, undergraduate courses must be completed with earned grades of C- or higher. Some courses may not transfer because they are not applicable to any UMaine program of study or are not normally associated with an undergraduate degree program.
Credit will not be awarded for institutionally based exams completed at other colleges or universities, or for courses defined as developmental, post-baccalaureate, graduate level, or professional development.
OSR maintains a transfer equivalency database of courses which are offered at other colleges and universities and are transferable to UMaine.
For courses taken under a pass/fail grading basis at a college or university outside the UMS, the external school must define their "Passing" grade as being equivalent to a C- or higher in order for the course to qualify for transfer credit. Only general elective credit may be awarded for courses taken under a pass/fail grading basis (see the Grading System policy).
Non-degree students, including those enrolled in certificate programs, are not eligible to receive transfer credit.

Evaluation

After a student has been admitted into a degree program, and official copies of their transcripts have been received, an official evaluation of transfer credit will be completed. Following this evaluation any applicable credits will be posted to their academic record and will be viewable in the Degree Progress Report found within the MaineStreet Student Center. Students should consult with their advisor and/or Associate Dean's Office to determine how their transfer credits may be used to satisfy their specific degree requirements. Students who do not agree with the evaluation of their courses may file an appeal requesting that OSR conduct a secondary evaluation by contacting um.transfer@maine.edu. Appeals must include a course syllabus for each contested course as well as a statement in writing indicating A) which course or courses they are requesting a secondary evaluation for and B) what specific course equivalency or Core Curriculum requirement is being requested for each appealed course. OSR will review appeals with representatives from the appropriate academic departments and will notify students of any approved changes.

Transfer of Courses with Different Credit Hours

In some cases other colleges or universities may offer courses for a different number of credit hours than the equivalent course at UMaine. For example, UMaine offers a 4 credit precalculus course (MAT 122), where other colleges and universities may offer versions for 3 or 5 credits. In these situations, the type of credit awarded at UMaine will depend on whether the external course earned fewer or more credits than the UMaine equivalent, as outlined below:

- Lower number of credit hours earned: Only elective credit (e.g. MAT 100X for 3 credits) will be awarded. Students seeking to appeal the elective credit awarded should refer to the transfer appeal process.
- Higher number of credit hours earned: Credit will be awarded for any applicable direct equivalent course at its normal number of credit hours and any remaining credits will be awarded as elective credits (e.g. MAT 122 for 4 credits plus MAT 100X for 1 credit).

Subject Specific Credit Limitations

Physical Education skills classes will be limited to a total of eight credit hours and will be annotated on the transcript with an equivalency of KPE 100S. Participation in varsity athletics will not transfer. Emergency Medical Technician courses will be limited to nine total transfer credit hours and will be annotated on the transcript with an equivalency of KPE 100E. First year seminar type courses will be limited to three credit hours and will be annotated on the transcript with an equivalency of FYS 100X.

Grades and GPA

Grades earned in courses completed at other colleges or universities, including any other UMS institution, will appear on students' transcripts and may be applied toward Core Curriculum and/or degree requirements as long as any minimum grade requirements are met. Such courses will not be used in the calculation of a student's term or cumulative GPA values. Please review the GPA policy for any other guidelines.

Repeated Courses

Courses taken at other colleges or universities may transfer to UMaine for credit and to meet requirements but will not replace or remove grades earned at UMaine. To replace a grade earned at UMaine, the course must be repeated at UMaine. More information on the Repeat Policy can be found under the Grades and Grading section of the catalog.

Domestic Study Away

Current students should complete a Domestic Study Away form to insure that earned transfer credit will apply toward completion of their degree. Students who are applying for financial aid must complete a Domestic Study Away form, which is available on the OSR website at: http://studentrecords.umaine.edu/forms/

Core Curriculum Requirements

All students are required to pass English 101 or an approved equivalent with a grade of C or better, and to complete UMaine's Core Curriculum requirements. Note: Students who have previously earned a bachelor's degree from an accredited college or university are exempt from the Core Curriculum requirements, except for specific courses required by the major (i.e. writing in the major and capstone). Transferred courses that do not have exact UMaine equivalents, but are accepted for elective credit, may still meet Core Curriculum requirements. Students seeking credit for a specific Core Curriculum requirement may file an appeal with OSR (see Evaluation policy).

Credit from International Institutions

UMaine accepts transfer credit from accredited international colleges and universities, both for international students and for domestic students participating in education abroad programs. Academic transcripts submitted for evaluation must be certified original documents. Documents in a language other than English must be accompanied by a certified English translation. The Office of International Programs may request that a student completes an external credential evaluation through an accredited agency in order for UMaine to accept the transfer credits. Contact the Office of International Programs at (207) 581-3437 international@maine.edu for information or visit https://umaine.edu/international/transfer_credit/

Credit for Prior Learning

Students seeking credit for standardized examinations (e.g. AP, CLEP, DSST, IB), Seal of Biliteracy or other foreign language proficiency examinations, departmental examinations, external training or certifications, military service, academic portfolio assessment, etc., should refer to the Credit for Prior Learning policy.

Time Limitations of Course Work

Courses over five years old will be subject to additional review to determine if there have been significant changes.

Auxiliary Enterprises

Auxiliary Enterprises provides on-campus housing for students in residence halls at both the Orono and Machias campuses. UMaine Dining is provided by Sodexo. The Auxiliary Enterprises umbrella includes University Park for students/faculty with families, the Bookstore, Bear Necessities Shop, Parking Services, Printing and Mailing Services, Events and Hospitality, and the Children's Center.

Housing Information and Overview

The University of Maine provides on-campus housing in 17 residence halls, ranging from 38 to 300 residents in each hall. UMaine Machias provides on-campus housing in two residence halls. Our options include traditional undergraduate residence halls for first year students and traditional and suite-style living for upperclass students.

Residence Halls

- have double occupancy rooms with limited single occupancy rooms available
- are smoke-free
- Laundry is free spin in all of our halls.
- have several living/learning lifestyle options for first year-students (see http://umaine.edu/reslife/themed for more information)
- Suite Style (for upper class only)
- Graduate

Residency Requirement

Living on campus maximizes students' opportunities for social, cultural and extracurricular

involvement and is positively linked to students' persistence toward attaining a degree. The University of Maine believes that residence hall living is an educational opportunity that all new students should experience. Living on campus is not required for a new admitted first-year student under any of the following criteria: (1) aged 21 or older; (2) a veteran or transfer student; (3) living with a parent or legal guardian within easy commuting distance (35 miles); (4) exceptional circumstances that do not permit them to meet the requirement.
Please note: This requirement does not apply when campus housing is not available.

Housing Eligibility requires that all

- undergraduate students must be at least 17 years old and matriculated
- undergraduate students be enrolled for a minimum of nine University of Maine credit hours per semester

The Room and Board License

- is signed by all students living on campus
- is non-transferable and covers the entire academic year
- is payable in two installments, one installment per semester
- requires all residents, except Doris Twitchell Allen Village/Patch Hall to have a meal plan

Family Housing

On campus housing for students with families (spouse or partner, and/or children) may apply to live at University Park Family Housing. For more information, email: or visit our website at http://www.umaine.edu/housing/family-housing to download application and instructions.

University of Maine Dining

All on-campus residents are required to have a meal plan with the exception of the apartment-style housing at DTAV and Patch. Residents can choose from several meal plan options that have been developed for great value, flexibility and convenience. UMaine Dining also offers Commuter Meal Plans for those off-campus students who wish to dine on campus. To view meal plans offered, please see our website at http://www.umaine.edu/dining.

A meal plan:

- is required for all campus residents (except DTAV and Patch residents)
- is effective the entire academic year
- is payable in two installments, one installment per semester
- change is allowed during the first six (6) weeks of each academic semester

Commuter Meal Plans

For those students living off-campus, UMaine Dining offers several meal plans designed

specifically for the commuter student. The Commuter Meal Plan Application can be found at or contact University of Maine Dining at (207) 581-3463 for more information.

Black Bear Bucks

Black Bear Bucks are available to all students. Black Bear Bucks can be purchased with cash, check, Visa, MasterCard or Discover with a minimum deposit of $5.00. Please visit the MaineCard Online Office at https://umaine.edu/mainecard/online-card-office/.

Black Bear Bucks can be used

•in all University of Maine Dining operations (receive a 5% discount and tax exempt)
•in the Bookstore
•at Cutler Health Center **UNFORTUNATELY BLACK BEAR BUCKS ARE NO LONGER ACCEPTED**
•in the library for copying
•in most clusters for printing
•in the Collins Center for the Arts
•in the residence hall laundry facilities
•at Maine Bound
•at participating off-campus locations in the greater Bangor area (see http://www.umaine.edu/mainecard/)

Contact Information

Housing Services, Room 103 Hilltop, 5734 Hilltop, Orono, ME 04469-5734.
Phone: (207) 581-4580.
E-mail: um.housing@maine.edu

Facilities and Centers

ORONO CAMPUS - Facilities and Centers

The University of Maine maintains a wide variety of special educational and research facilities and supports many special educational, research, and public service programs. A few of these that are of most direct interest to undergraduate students are described below.

The University Libraries

Raymond H. Fogler Library, Maine's largest library, is essential to education, research, and public service at the University of Maine and beyond. The library offers more than 1.5 million e-books; 180,000 online journals; 350 research databases; and over 308,000 digital music and video files, in addition to more than 2 million books and other non-digital materials. Through Fogler Library, UMaine patrons can borrow print and digital materials from libraries throughout the state and around the world.

Library staff serve as information experts who help patrons discover, use, and expand knowledge. The Research & Instruction Department is the central location for research support on campus. Each academic program has a subject librarian who can provide individual consultations, classroom instruction, and subject-matter expertise across the different areas of study at UMaine. The department provides research support in-person and online via email, live chat, telephone, and video conference (https://library.umaine.edu/ask-a-librarian/).

Fogler Library's Special Collections Department maintains an extensive collection of published bibliographical, historical, and descriptive works on Maine, as well as literary titles by Maine authors. These documents provide extensive insights into Maine cities, towns, counties, people, and institutions. The department also houses rare books, manuscript collections, and University of Maine publications and records. Special Collections staff support the research pursuits of students, faculty, and scholars at UMaine

and around the world.
Fogler Library is also a regional depository for federal government publications; an official depository for Canadian federal and Maine state government publications; the state-designated Maine Business, Science, and Technology Library; and the only Patent and Trademark Resource Center in Maine.
Merrill Library, at the University of Maine at Machias, has a collection of more than 60,000 print and physical items, as well as access to Fogler Library collections including e-resources. Librarians and staff provide services that enable learning, scholarship, and knowledge creation.
Access library resources, services, expertise, collections, and general information at https://library.umaine.edu. The general telephone number for the library is 207.581.1666.

Linda G. and Donald N. Zillman Art Museum - University of Maine

The Zillman Art Museum (ZAM), located at 40 Harlow Street in Downtown Bangor, opened five new galleries on the second floor in 2021, increasing the museum's total exhibition space by 42%. ZAM's twelve galleries feature changing exhibitions (new shows every four months) of primarily modern and contemporary art, as well as frequent rotations of the Permanent Collection. The Permanent Collection consists of over 6,000 works of art that encompass an array of visual art including painting, photography, and prints created since 1910. Highlights include works by Marc Chagall, Childe Hassam, Kara Walker, Edward Hopper, Käthe Kollwitz, Ralph Blakelock, George Inness, Mary Cassatt, Pablo Picasso, and Diego Rivera. The Collection also celebrates the long heritage of Maine art and includes examples by artists with deep connections to the state such as Berenice Abbott, Marsden Hartley, Winslow Homer, John Marin, Carl Sprinchorn, Bernard Langlais and Andrew Wyeth. The Robert Venn Carr '38 Collection comprises over 300 pieces and includes works on paper by many contemporary masters including Max Beckmann, Jennifer Bartlett, Jim Dine, Helen Frankenthaler, Andy Warhol, Roy Lichtenstein, Elizabeth Murray, and Robert Rauschenberg.
Hours: Tuesday-Saturday, 10 am-5 pm. Free Admission. 207-581-3300. http://zam.umaine.edu

Lord Hall Gallery

The Lord Gallery is located in the historic Lord Hall, along with the Department of Art, on the university mall. The gallery is host to six exhibitions annually. Each academic year begings with the work of an invited artist, followed by the Department of Art student senior capstone exhibition. The spring semester includes a featured faculty exhibit, and a juried student event. Each summer the gallery exhibits the work of the Intermedia Master of Fine Arts thesis students, followed by an exhibition featuring prominent Maine artists working in a variety of media.
The gallery is open Monday-Friday, 9-4. For further information: http://umaine.edu/art/lord-hall-gallery-page/

The Hudson Museum

The Hudson Museum is located in the Collins Center for the Arts on the UMaine campus. The Hudson Museum celebrates a world of culture and cultures of the world. The Museum's holdings feature an extraordinary collection of Pre-Columbian artifacts ranging from Olmec to Aztec - The William P. Palmer III Collection, Native American holdings from Maine, the Southwest, Northwest Coast, Arctic, and Plains, as well as Collections from Africa, Oceania and Asia. The Museum features four galleries: the Merritt Gallery and the Minsky Culture Lab for temporary exhibits, a World Cultures Gallery and a Wabanaki Gallery.
The Museum offers guided tours and gallery programs, lectures, workshops and an annual Wabanaki Winter Market. It also offers staff assistance for directed research projects and internships.
For further information, please call 581-1904 or visit us on the web at www.umaine.edu/hudsonmuseum.

Page Farm and Home Museum

The Page Farm and Home Museum documents the history of rural Maine from 1865 to 1940 through a collection of art and artifacts from that period. The main museum building itself is a part of Maine agricultural history. The large, post-and-beam barn is the last of the original agricultural buildings actually pre-dating the founding of the University of Maine by more than thirty years. Careful renovations display the collection over its three floors while preserving much of the building's original character. The site of the Museum also includes an historic one-room schoolhouse, a carriage house, blacksmith shop and two heirloom gardens. The Museum is open Tuesday through Saturday, 10-3. FMI: call 581-4100 or visit us on the web: http:/umaine.edu/pagefarm/

Collins Center for the Arts

The Collins Center for the Arts is a cultural and artistic centerpiece for eastern, central and northern Maine. The 1,435 seat Hutchins Concert Hall provides the perfect venue to see a wide variety of performances including Broadway tours, legendary musicians and singers, nationally-known comedians, classic and modern dance, live theatre, family shows, and much more. The John I. and Elizabeth E. Patches Chamber Music Series brings some of the finest instrumental and vocal chamber musicians in the world to campus. Home to one of the largest projector screens in Maine, audiences can see broadcasts from The Metropolitan Opera's award-winning The Met: Live in HD; and National Theatre Live, broadcasting the best of British theatre recorded live from the London stage. The CCA is proud to host performances by the Bangor Symphony Orchestra, one of the oldest, continually-operating community orchestras in the nation. Each year, the Symphony performs the Nutcracker, and other orchestral masterworks for thousands of fans. The Collins Center is also the perfect place to see arts education in action with performances presented by UMaine's School of Performing Arts ensembles. Additionally, the Collins Center hosts a number of

campus and community events, including performances, lectures, rallies and public forums. For more information about the CCA's performances and events, visit www.collinscenterforthearts.com.

The Leonard and Renee Minsky Music Recital Hall

This 280-seat facility is primarily the site for faculty and student recitals, vocal and instrumental ensembles, concerts, and several Collins Center for the Arts performances. Various dance and theatre productions are also presented. A recording studio and moveable stage lighting are part of the Minsky Hall facility.

Darling Marine Center

The Darling Marine Center (DMC) is the University of Maine's marine laboratory. Located in Walpole, on the shore of the Damariscotta River Estuary in midcoast Maine, just 100 miles south of the Orono campus, the DMC is a full-service field station with diverse marine, freshwater, and terrestrial habitats in the immediate area. The mission of the DMC is to connect people to the ocean by generating and sharing knowledge of coastal and marine ecosystems and the human communities that are part of them. The DMC welcomes scientists and students from UMaine and around the world and is the year-around home to more than 40 faculty, staff, and students. The 182-acre campus includes over one mile of waterfront, 3 miles of trails, two flowing seawater laboratories for culturing marine organisms and conducting scientific observations and experiments, an aquaculture lease site, and analytical laboratories with a wide variety of state-of-the-art instrumentation. The DMC also has a fleet of coastal research vessels, oceanographic sampling gear, classrooms, and a marine library. It hosts UMaine's scientific diving program, one of the oldest and largest in the state. Housing, meal service and conference space are available for researchers, class field trips, and scientific and educational workshops. In addition to supporting university research and education, the DMC also actively engages with fishermen, aquaculture entrepreneurs, and other marine industry professionals and community members through collaborative research, workforce development, and business incubation programs.

The DMC is closely associated with UMaine's School of Marine Sciences (SMS), and hosts courses for the SMS as well as for allied environmental science, ecology, and engineering units, among others. During the fall semester, undergraduate students immerse themselves in field and lab-based learning through UMaine School of Marine Sciences' Semester-by-the-Sea (SBS). SBS includes field-intensive courses in topics such as oceanography, marine ecology, and scientific diving. Intensive short courses for graduate students, postdocs, faculty and professionals are offered at the DMC in the spring and summer, and independent research opportunities for graduate and undergraduate students are available year-around. More details on these opportunities are available at https://dmc.umaine.edu/.

Versant Power Astronomy Center

The Versant Power Astronomy Center on Rangeley Road opened in 2014 as Maine's largest and most advanced astronomy facility. It is home to the Maynard F. Jordan Planetarium, the Jordan Observatory, and the Clark Telescope. These facilities are associated with the Department of Physics and Astronomy, and were made possible by the generous contributions of private donors. Intended for the use of students, researchers, and the public, the astronomy center offers programs throughout the year. Even on cloudy days, audiences in the planetarium can enjoy a view of the stars and journeys of adventure through our universe. Public showings are offered on Friday evenings and Sunday afternoons; additional shows are scheduled for special events. Programs can be arranged for K-12 and university classes, private groups, birthday parties, and more. Tickets for public shows are available on the website, via phone, or at the planetarium ticket counter.

The Jordan Observatory, a small, domed building behind the Versant Power Astronomy Center houses a state-of-the-art, remote-controlled, 20" reflector telescope system and several smaller instruments that students can use to learn about astronomy, conduct research, and enjoy the wonders of the heavens. A separate roll-off roof building adjacent to the Jordan Observatory houses the historic Alvin Clark Telescope, an 8-inch refractor. Public observing nights are staffed by planetarium staff as well as university students. Astronomy students use the facility for studies on weeknights, and it is open on weekends for the general public. For more information visit the Versant Power Astronomy Center or to book tickets for planetarium programs see the web site: http://astro.umaine.edu.

Canadian-American Center

Founded in 1967, the Canadian-American Center is one of the leading institutes for studying Canada in the United States. Designated a National Resource Center on Canada by the U.S. Department of Education in 1979, the Canadian-American Center coordinates an extensive program of undergraduate and graduate education; contributes to the continued development of Fogler Library as a major research library on Canada; promotes cross-border research in the humanities, social sciences, natural sciences, and professions; and directs outreach programs to state, regional, and national audiences which include Canada Week, summer teachers institutes, and international conferences.

The Canadian-American Center coordinates an extensive program of undergraduate and graduate education leading to the Minor in Canadian Studies, Major in International Affairs with a concentration in Canadian Studies, Master of Arts in History with a concentration in Canadian History, Master of Arts with a concentration in North American French Studies, and Doctor of Philosophy in History with a concentration in Canadian History. The Canadian-American Center is located at 154 College Avenue

www.umaine.edu/canam.

Maine Folklife Center (MFC)

The Maine Folklife Center was founded in 1992 (with roots going back to 1957) by world-renowned folklorist Edward D. "Sandy" Ives. The Center's mission is to enhance our understanding of the folklife, folklore, and history of Maine and Atlantic Canada and to encourage appreciation of the diverse cultures and heritage of the region, thereby strengthening and enriching our communities. Among other activities, the Center documents, preserves, analyzes, and disseminates information about the region's history and traditional cultures, primarily through recorded interviews. The Center also offers training in oral history and cultural heritage documentation, and produces a journal, podcasts, and other materials focused on the region's cultures and people. The Center, which also houses a library, media production facility, and seminar room, is in South Stevens Hall on the Orono campus. Our phone number is 207-581-1840. More information can be found on our website: umaine.edu/folklife.

Center for Community Inclusion and Disability Studies

The Center for Community Inclusion and Disability Studies (CCIDS) is an interdisciplinary research unit of the University of Maine. The work of CCIDS is guided by the principles of universal design/access, inclusion, diversity, and social justice. CCIDS faculty and staff represent diverse disciplines and engage in a broad range of initiatives that enhance the quality of life for individuals with developmental and other disabilities. CCIDS offers interdisciplinary undergraduate and graduate study, and supports the conduct of research, evaluation, and policy analysis in the areas of education and early intervention, autism, child care, health, employment, housing, transition, mobility, and other aspects of community living for individuals with disabilities and their families. As Maine's federally designated University Center for Excellence in Developmental Disabilities (UCEDD), CCIDS is a member of the Association of University Centers on Disabilities and collaborates with other universities and research centers throughout the country and internationally to address disability-related research, practice, and public policy. Graduate and undergraduate students from any discipline may become involved in the Center's activities through coursework, independent studies, projects, and research. For additional information, please contact the Center for Community Inclusion and Disability Studies, 234 Corbett Hall, phone 207.581.1084 or 800.203.6957, TTY users: call Maine Relay 711, or visit the CCIDS website: www.ccids.umaine.edu.

MACHIAS CAMPUS - Facilites and Centers

Art Galleries

The Art Gallery and the Gallery of Maine History house exhibits of visual and cultural importance and contribute to the arts education of the community. The UMM permanent collection includes the John C. and Norma B. Marin Foundation collection, containing the work of John Marin, Oscar Bluemner, Lionel Feininger and other prominent early modernist artists, as well as contemporary works of paintings, prints and photographs.

Crandlemire Support Building

This building houses all the grounds equipment and includes a mechanical shop with equipment storage, carpenter shop, and service area for vehicles in the motor pool.

Dorward and Sennett Halls (please note that Sennett Hall is not available for fall 2023-spring 2024, so all students will be housed in Dorward Hall)

UMM's two residence halls, Dorward and Sennett, offer students gender-neutral on-campus housing, complete with study rooms, lounges, community kitchens and leisure activities like billiards, ping-pong and air hockey. The residence halls also provide students with a place outside of the classrooms and labs where they can learn from their peers and develop important everyday life skills in a supportive community.

- Dorward Hall is primarily occupied by upper-class students and includes traditional double rooms, suites, and singles. UMM's Book Arts facility and Gallery for the Book is also located within Dorward Hall.

- Sennett Hall is for first-year students and is single-gender by floor. The building is comprised solely of double rooms. There is a pool table in the main lounge and plenty of table space for study or recreation. Sennett Hall has one laundry room that is free for use by UMM residential students. There is one large study lounge on the second floor. Please note that Sennett Hall is not equipped with an elevator. There is only one residential section of Sennett that can be accessed without utilizing any stairs, so if you have mobility concerns, please let us know in your application.

Downeast Institute for Applied Marine Research & Education

The Downeast Institute (DEI), the easternmost marine research laboratory in the United States, serves as the University of Maine at Machias Marine Science Field Station, providing field labs for science classes, internship opportunities, and an optional "semester by the sea" in on-site dormitory housing for junior marine biology students.

Located on Great Wass Island on a working waterfront in the fishing community of Beals, the facility sits on a 16-acre campus adjacent to a pristine nature preserve, and overlooks over 2,000 feet of deep-water frontage. The field station includes a commercial-scale shellfish hatchery and fully equipped marine research laboratories, including an ecology wet lab and a state-of-the-art ocean acidification lab used to examine the effects of changing CO2 levels on marine organisms.

Elizabeth Flaherty Early Childhood Center The Flaherty Early Care & Education Center offers child care, Head Start, pre-K and Early Head Start child care for children ages 6 weeks to 5 years. Located on the UMM campus, and operated by Downeast Community Partners, the center encourages and facilitates participation of children of all abilities and their families. The center provides parenting support, health and nutrition services, free USDA-approved meals and snacks. Teaching staff are National Head Start credentialed.

Frederic A. Reynolds Athletic and Education Center

Housing the gymnasium, this is the largest and best-equipped facility of its kind in Downeast Maine. This facility contains a competition-size swimming pool, fully equipped weight and exercise rooms, a smaller gym, locker and shower rooms, classrooms and offices for some of the faculty and staff. We also offer fitness classes to university and community members through this facility.

Kilburn Commons

A modern dining facility serving the needs of students, faculty, and staff, Kilburn is also used regularly for banquets and other campus and community activities. Campus organizations use the lobby for information tables and fundraising.

Merrill Library

The mission of the Merrill Library is to empower and support the teaching of UMM's distinctive baccalaureate programs with its print and electronic collections. The Library is an accessible and important center of research, learning, and creativity focused on student success. Students, faculty, and staff have access to traditional library services. Library staff welcome the citizens of

the local community and beyond to share in its collections, promoting and stimulating intellectual curiosity and creativity while immersed in the cultural milieu of coastal Downeast Maine.

O'Brien House

Named for its former owner and architect, Jeremiah O'Brien, a Maine legislator during the 1800s, this early 19th-century building is maintained in the decor of the period. This was the residence of former University of Maine at Machias presidents. Now it is home to the University of Maine Cooperative Extension office for Washington County.

Performing Arts Center

This 358-seat auditorium hosts campus and community meetings, seminars, festivals, and performances.

Powers Hall

A prominent area landmark, Powers Hall overlooks the village of Machias and the beautiful Machias River gorge, waterfalls and tidal basin area. It houses admissions, administrative, faculty, and staff offices, art and music classrooms, two art galleries and the Performing Arts Center.

Science Building

This teaching laboratory facility contains laboratories for biology, chemistry, marine biology, and physics; a 124-seat lecture hall; classrooms; a conference room; and faculty offices. A variety of aquaria housing living organisms may be found in this building, along with articulated skeletons of various marine species. The Science Building also houses an aquaculture facility, a teaching herbarium, and a greenhouse.

Torrey Hall

This central classroom building contains the Campus Security Office, Student Life, the Student Support Center, the Campus Technology Office and computer labs, a GIS lab and the Tutoring and Writing Center.

Student Services and Facilities

The University of Maine provides a wide range of specialized services for its students. Some of the most widely used are listed below.

ORONO CAMPUS

Student Wellness Resource Center (SWell)

Located on the ground floor of the Memorial Union and part of the Division of Student Life, the Student Wellness Resource Center provides students, the University, and the surrounding community programming that includes substance use and abuse-related topics such as programs, resources, and education on alcohol, cannabis, tobacco, other drugs, hazing prevention, sexual assault prevention, and bystander intervention among others. SWell is located in Room 143 of the Memorial Union. Students may attend

daily programs or simply walk in during open hours. Contact the Student Wellness Resource Center at 207-581-1423 or visit them on the web at www.umaine.edu/wellness.

Bodwell Center for Service and Volunteerism

The Bodwell Center for Service and Volunteerism is currently located in the former UCU Building on Rangeley Road on campus. The Center is the hub for student volunteerism, service learning and much more. Center activities include: Black Bear Mentors, Black Bear Exchange (food pantry and clothing exchange on campus), Maine Day of Service, Maine Hello, blood drives and ongoing community service opportunities. Contact the Center at 207-581-3091 or at http://www.umaine.edu/volunteer

Campus Recreation and Maine Bound

Campus Recreation is located in the New Balance Student Recreation Center on Hilltop Road. Offerings include: Intramural Sports, group fitness classes, personal training, Sport Clubs, youth programs, and the latest in fitness equipment (treadmills, ellipticals, stationary bicycles, free weights and weight machines, etc.) at the Rec Center. The Maine Bound Adventure Center is located just northeast of the Memorial Union. The main feature of the Maine Bound Adventure Center is the indoor climbing wall, which also offers outdoor equipment rental and exciting and cutting-edge local and expedition outdoor recreation opportunities. Contact Campus Recreation at 207-581-1082 or Maine Bound at 207-581-1794. Visit their website www.umaine.edu/campusrecreation and https://umaine.edu/mainebound/

Career Center

Located on the third floor of the Memorial Union, part of the Division of Student Life, the Career Center offers essential services for students as they prepare for their chosen career; career counseling and coaching, résumé and cover letter assistance, interview preparation, career fairs and events, and job search strategies. Internships and full-time positions are posted through our career management platform. Specialized assistance and guidance are available to students going into health and legal professions. The Career Center maintains information on admission requirements of professional schools, application processes, standardized national exams, and other useful information. For more services and up-to-date information on health professions, visit: www.umaine.edu/healthcareers/. For more information about pre-law options and services, visit the web site http://www.umaine.edu/career/studentsalumni/pre-law/. To connect with the Career Center call 207-581-1359, stop by our office, or access the website: www.umaine.edu/career

Center for Student Involvement (CSI)

The Center for Student Involvement, part of the Division of Student Life, is located on the ground floor of the Memorial Union. CSI is comprised of three units: Fraternity and Sorority Life, Campus Activities, and Student Organizations and Leadership.

Fraternity and Sorority Life serves in an advisory role for all recognized (and colonizing) social fraternities and sororities. They also develop and deliver programs that promote individual and organizational growth, health and safety. Assistance with chapter management, recruitment (including formal recruitment for all sororities), new member education, community service, event registration/management and many other support and assistance functions (including a Greek organization dashboard) come from Fraternity and Sorority Affairs. For more information, visit the website at https://umaine.edu/studentinvolvement/greek-life/, visit the office or call 207-581-4183.

Campus Activities provides social, educational and entertaining programs for students throughout the academic year, focusing primarily on Thursday through Saturday nights. These events and programs include but are not limited to: movies, concerts, comedians, music performances, holiday activities/celebrations and many others. The eSports Arena is a joint operation between The Center for Student Involvement and the University of Maine Student Government, Inc. (UMSG, Inc.), and is located in the Memorial Union. It features all the latest games and equipment for free use by students. Contact Campus Activities at 207-581-1793, at https://umaine.edu/studentinvolvement/campusactivities/ or in their offices on the ground floor of the Memorial Union.

Student Organizations and Leadership works with student organizations (and students who want to form/create a student organization) to help them plan events, manage their members (ex. help write their constitution/bylaws, elections, etc.), and provide leadership and transition training. There are more than 200 student organizations at UMaine and they include political groups, religious/faith groups, service groups, sport clubs, and so many other types of student organizations. The annual student organization fair is typically offered outdoors on the Mall during the first week of classes so look for that great opportunity to connect with a great student group.

Community Standards, Rights and Responsibilities (CSRR)

The Office of Community Standards administers the UMS Student Conduct Code through referrals to its office from around campus and the community. The University of Maine System Student Conduct Code contributes to the intellectual, ethical, and physical development of students by assuring that all students are held to a common standard of behavior. The Code also protects the free and peaceful expression of ideas and assures the integrity of various academic processes. Through the use of educational interventions, CSRR works to help students develop their personal integrity and sense of community. For additional information call (207) 581-1409 or visit the web site at https://umaine.edu/communitystandards/.

Commuter/Non-Traditional Student Programs (CNTSP)

The Commuter/Non-Traditional Student Program, located in the Wade Leadership Center on the ground floor of the Memorial

Union, provides personal advising, support and referral services, as well as being the home-away-from-home for many non-residential and non-traditional students. For additional information call 207-581-1420 or visit the web site at www.umaine.edu/CNTSP.

The Madelyn E. and Albert D. Conley Speech Language and Hearing Center

The Madelyn E. and Albert D. Conley Speech, Language and Hearing Center, located in Dunn Hall on the University of Maine campus, serves as the primary clinical demonstration and teaching site for undergraduate and graduate students in the Department of Communication Sciences and Disorders. Judy Stickles, M.A., CCC-SLP is the Clinical Director for the Conley Center. At the Center, faculty and graduate students provide speech, language and audiological services to the University community and residents in the surrounding communities. UM students are eligible for services at no cost during the academic year.

The Conley Center serves approximately 125 clients a year for speech/language therapy and 600+ clients per year in the audiology clinic. Clients are all ages and have varied needs, from preschoolers with speech/language delays to adults with intellectual disability and limited communication skills, adults with voice or fluency disorders, or individuals seeking assistance with English pronunciation. The faculty supervisors and student clinicians maintain a client and family-centered approach, working closely with family members, caregivers and other service providers in the client's life to provide comprehensive, individualized and functional services.

Evaluation and remedial services are offered on the semester (Fall, Spring) and Summer calendar of the University. A Diagnostic Clinic is conducted on Friday mornings during the Fall, Spring and Summer semesters. Comprehensive audiological services are provided on a twelve month basis. Graduate students are supervised by clinical and academic faculty who hold the Certificate of Clinical Competence in Speech Pathology (CCC-SLP) through the American Speech-Language-Hearing Association. Our full-time Clinical Audiologist, Amy Engler Booth, M.A. who holds the ASHA CCC in Audiology (CCC-A), supervises graduate students in audiology practicum.

For further information on services please call 207 581-2006.

Counseling Center

The UMaine Counseling Center offers FREE, confidential mental health and substance use therapy for all UMaine students. There is no wait-list for counseling and most students are seen within 2 weeks of contacting us. The Counseling Center offers daily Urgent Care appointments for students who are in crisis. We are available to consult with faculty, staff, students, and parents daily. We offer a variety of training to faculty and staff including suicide prevention training and crisis assessment and de-escalation training. To connec with us, simply call 207-581-1392, visit us in the Cutler Health Building across the street from Gannett Hall, or find us on line at www.umaine.edu/counseling.

If you are having a mental health crisis, please contact the National Suicide Prevention Lifeline at 988, University of Maine Police at 207-581-4040, dial 911, or go to your local emergency room.

Information Technology

The University of Maine System Information Technology (UMS:IT) department is committed to offering the highest quality technology-based support and services for UMaine students. As the University's central technology support organization, our goal is to provide efficient support with walk-in service centers, in addition to UMS staffed phone, email, and LiveChat support channels. UMS:IT designs and supports technology solutions through a team of knowledgeable, dedicated professionals. Working within a structure of shared governance and data-driven decisions, we support the mission of the University of Maine System and its campuses through reliable and innovative solutions. UMS:IT's UMaine main office is located at 12 Shibles Hall.

View our Student Resources at: https://umaine.edu/it/student-resources/

Student Accessibility Services

The mission of Student Accessibility Services (SAS) is to collaborate with students and campus partners to create an inclusive university experience for students with disabilities. We equip students with accommodations, provide educational access, and connect students with campus resources. Students with physical, mental health, learning, and other disabilities may request accommodations by contacting SAS to engage in the interactive accommodation process. Examples of accommodations include testing accommodations, alternative format textbooks, note takers, classroom relocation, other auxiliary aids, housing accommodations, and emotional support animals.

For Orono students please contact Student Accessibility Services via phone at 207.581.2319 or visit the website at www.umaine.edu/studentaccessibility.

For UMaine Machias students please contact Student Accessibility Services at 207.255.1228 or visit the website at https://machias.edu/campus-life/student-services/student-accessibility-services/.

Division of Student Life

The Division is headed by the Vice President for Student Life and Inclusive Excellence and Dean of Students. The entire Student Life staff is dedicated to serving students as advocates, as seasoned professionals who can offer them counsel and advice, and also as "go-to" people who can help them cut through red tape. The Division of Student Life also maintains the Student Handbook. The Student Handbook provides complete details on student government structure as well as other important information for

students. The Student Handbook is available on the web at www.umaine.edu/handbook. For additional information call 207-581-1406 or visit the web site at www.umaine.edu/studentlife.

Intercollegiate Athletics

The University of Maine is an NCAA Division I institution (football is FCS), offering 17 varsity sports. Conference memberships include America East, Colonial, and Hockey East. For information call (207) 581-1052.

Ombudsperson

The Ombudsperson for UMaine students is in the Student Life office located in Room 315 of the Memorial Union. An ombudsperson investigates disputes and mediates fair settlements, and also helps students cut through red tape. Contact the Ombudsperson at 207-581-1406.

Religious Life Team

Religious programming, worship information, and connections to the faith-based student groups and community religious groups are provided. More than a dozen active student organizations are on campus. Chaplains and other religious representatives are available for counseling and/or instruction. For more information call 207-581-1406 or visit our web site at www.umaine.edu/studentlife.

Diversity and Inclusion

The Office for Community and Connections is dedicated to fostering a supportive and engaging environment where students can thrive. By integrating student support, education, and community-building, the office creates meaningful opportunities for collaboration and personal growth.

Student advisory leadership groups help shape programs, services, and initiatives to ensure they reflect the evolving needs of the student body. Through student organizations, educational programs, and campus-wide initiatives, we provide a modern, responsive approach to campus life that strengthens connections and empowers students.

Rainbow Resource Center (RRC) Memorial Union 224

The Rainbow Resource Center (RRC) strives to maintain an open, affirming, and supportive environment for students, staff, faculty, and alumni and provide educational opportunities, information, and advocacy services.

We are committed to building a campus community that not only tolerates but respects and honors individuals at the University of Maine.

Core Values

- Commitment to prepare students to live responsibly in an increasingly global civilization.
- Education and Advocacy
- Broad Access - To create opportunities for students to feel welcomed and become active participants in the community.
- Student Development and Leadership - To provide students the tools and opportunities to become involved and achieve their goals for success.
- Community Outreach - To meet the needs of the community through collaboration and innovation.

Intersectional Feminist Resource Center (IFRC) Memorial Union Room 227

The Intersectional Feminist Resource Center (IFRC) supports and empowers students of all identities and backgrounds at the University of Maine. The IFRC strives to provide education around feminist topics, including, but not limited to, sexual health and wellness, in a space that is free from judgment and is open to individual experiences and expressions. In addition, the IFRC connects students with information about support services in the area. The center is dedicated to creating resources through programming and events grounded at the intersections of feminism while forging connections on an individual and campus-wide level.

Multicultural Student Center (MSC) Memorial Union Room 314

The Multicultural Center serves as a community for the UMaine community . We provide resources and support to empower students and their organizations to create a vibrant UMaine community. Through various programs, the center explores critical issues on campus and how to best support the success of students.

Through the Multicultural Center, we provide:

- A community that embraces all backgrounds and appreciates all identities.
- A safe and welcoming space for relaxation, meetings, studying

• Educational and Social Programs

• Extensive campus and community resources

Residence Life

In all 18 of the undergraduate residence halls, student growth and development are promoted through the residential student curriculum. Students living in the residence halls have immediate access to staff members who can help them to build relationships with other students, with faculty, and with student organizations that will contribute to their enjoyment and satisfaction with the UMaine experience. The staff that works in Residence Life is committed to promoting the on-campus experience; and encouraging students to build community, succeed academically, appreciate multiculturalism, participate in engaging programs, connect throughout the university, while maintaining their place in a safe and civil community. Please visit the website at www.umaine.edu/reslife or call us at (207) 581-4801.

Title IX Student Services

Title IX Student Services, located on the second floor of the Memorial Union in Room 235 and headed by Deputy Title IX Coordinator Heather Hogan, offers prevention, awareness and educational materials and programs related to sexual harassment, sexual assault, bystander intervention, stalking, and domestic/relationship violence to students and the entire campus community. Additionally, students who have experienced, witnessed and/or want to report incidents of sexual harassment, sexual assault, stalking, and/or relationship/domestic violence should contact Title IX Student Services (207-581-1485) or UMPD (for emergency situations call 911, for non-emergency situations call 207-581-4040 and you will be connected to someone who can assist). For more information, or to report any incidents of sexual harassment, assault, stalking, or relationship violence call 207-581-1485 or visit www.umaine.edu/titleix/.

Office of Student Employment

The Office of Student Employment is located in Wingate Hall and offers services to students who want to work while they attend school. Whether a student was awarded Federal Work-Study or not, whether they want to work on campus or off, the Office of Student Employment is the place to start! To find employment, students are encouraged to visit the Office of Student Employment's online job search, located at www.umaine.edu/studemp/. Students should contact The Office of Student Employment, Monday through Thursday from 8:30am - 4:30pm and on Fridays from 9:30am - 4:30pm at (207) 581-1349, by email at student.employ@maine.edu or visit www.umaine.edu/studemp/ for more information.

Student Government, Inc.

The University of Maine sustains a long tradition of active, independent student government. The University is committed to active student involvement in the operation of the University, not only for the valuable perspective student government brings to the planning and decision processes, but for the unique educational opportunities it gives to participating students. University of Maine Student Government, Inc. is funded and controlled by undergraduate students with the sole purpose of benefiting students through educational, cultural and social programming. Its officers include an elected president and vice-president who appoint and coordinate a diverse executive board representing student needs and promoting student rights. Visit us on the web site at https://umaine.edu/umsg/. The General Student Senate (GSS) is the legislative unit of Student Government, Inc. under the leadership of the vice president and has final approval over all Student Government matters.

Student Health Services

Cutler Health Center (www.umaine.edu/cutler)

To meet the needs of the students at the University of Maine, Cutler Health Center offers comprehensive healthcare to the University campus community. Clinical services at Cutler Health Center are provided by Northern Light Eastern Maine Medical Center. Services offered include but are not limited to: general medical care including the treatment of acute medical problems or injuries, chronic illness, immunizations, women's health issues, contraception, sexual health, fitness, nutrition, smoking cessation, and other annual wellness screenngs. Cutler Health Center also provides students with an on-site laboratory, physical therapy and x-ray.

The clinical staff includes physicians, nurse practitioners, physician assistants, nurses, athletic trainer, radiographer, medical assistants, practice schedulers and an office coordinator. Cutler Health Center's practice schedulers provide assistance with access to care by scheduling appointments, coordinating services, and assisting with insurance company authorizations for services.

All undergraduate students are welcome to use the health center for medical care. We also provide services to University of Maine employees and their dependents. Cutler Health Center is a primary care provider with physicians available to take care of your primary care needs. Review Cutler's website for a biography of providers to help with your primary care provider selection. Please be sure to make contact with your insurance company if you choose to change your primary care provider (PCP) to one of the Cutler Health Center's providers.

Appointments: We offer appointment-based care Monday - Friday, from 8:00 am to 5:00 pm. Students should arrive at the health center 15 minutes prior to their scheduled appointment to allow adequate time for the check-in process to be completed. An appointment can be requested by calling 207-581-4000. Please have your health insurance information available to provide and

confirm or update your mailing address and emergency contact information.

Appointment Cancellation Policy: (Notify Us in Advance). Students who make an appointment and cannot keep the allotted appointment time should call the Cutler Health Center appointment line at 207-581-4000 or send a secure message via myNorthernLightHealth Patient Portal to our office to cancel or reschedule their appointment in advance, 24 hours prior to the scheduled appointment time.

Radiology and Laboratory services: Cutler Health Center accepts orders from all Eastern Maine Medical Center affiliated hospitals and physician practices. The order must be from an Eastern Maine Medical Center provider. Orders must provide the diagnosis and specify the phone number and office address of the physician ordering the tests.

Women's Health Services: Women's Health Services include annual exams, emergency contraception counseling, screening and treatment for sexually transmitted diseases and infections, pregnancy testing, pregnancy options counseling and referral, breast exams and self-breast exam education, birth control provisions, as well as assessment and treatment of urinary tract infections. For consultation, follow-up, and referral for a variety of women's concerns including PMS, menopause, colposcopy, and biopsy for abnormal pap evaluation call 207-581-4000.

Emergency Services: In an EMERGENCY or if you require emergent pre-hospital care; please dial 911 from any phone. The University of Maine operates a state licensed volunteer ambulance service U.V.A.C. (University Volunteer Ambulance Corps). This ambulance service responds to all campus locations and operates mutually with surrounding community emergency services.

Non- Emergency Transportation Support: If it is determined you need to go to a hospital but it is not an emergency, Cutler Health Center provides "free" taxi transport to and from the hospital, urgent care center, specialist referrals and pharmacies; 24 hours a day, 7 days a week day (see After Hours Services). Contact 581-4000 for more information.

After Hours Service: A health care provider is available 24 hours a day, 7 days a week. Coverage varies for each break so please check the website for details. The medical answering service is available to coordinate taxi transportation to and from the hospital, urgent care center, specialist, referrals and pharmacies 7 days a week/24 hours a day. Calling 207-581-4000 when the Health Center is closed activates the service. There is no charge for the taxi service. The costs of all hospital, emergency room, medication, radiology, laboratory, non-health-center physician, and/or other services are the responsibility of the student.

Student Publications and Media

The award-winning student newspaper since 1875, The Maine Campus, is issued throughout the academic school year regularly online. It is written, edited and produced entirely by University of Maine students. Its offices are located in Memorial Union. For information call (207) 581-1273 or visit the paper online at www.mainecampus.com.

The Open Field is the University of Maine's annual undergraduate literary magazine. It publishes fiction, non-fiction, poetry, and artwork by University students. For further information contact the Review at 302 Neville Hall, by email at OpenField@maine.edu.

WMEB (91.9 FM) is an independently student-run, non-profit radio station at UMaine. WMEB's variety of music captures the essence of their DJ's who spin their favorite unique beats. In addition, WMEB provides updates on local news, talk shows, interviews, and live music performances. The station is located on the ground floor of the Memorial Union.

The Office of Student Academic Success

The Office of Student Academic Success (OSAS) is a branch of College Success Programs at the University of Maine and provides academic support services to enhance student achievement.

OSAS offers free peer tutoring through the Knack platform, connecting students with qualified peers who have demonstrated proficiency in their courses. This service is available for 100 to 400-level classes, ensuring broad support across disciplines. Tutors are University of Maine students who have earned a B+ or better in the courses they tutor, and they undergo training to provide effective assistance.

In addition to tutoring, OSAS also offers individualized academic coaching tailored to the specific needs of first-year students. This program assists students in creating personalized academic success plans, setting achievable goals, developing strategies to meet those goals, and maintaining accountability. Academic coaches collaborate with students' faculty and academic advisors to provide holistic support, facilitating connections with additional campus resources as needed.

To learn more about tutoring at UMaine through Knack or academic coaching, please visit our website at umaine.edu/studentacademicsuccess

University Bookstore

The University Bookstore is centrally located in the heart of campus on the lower level of the Memorial Union. The bookstore is the official source of UMaine course material and is committed to digitally deliver the lowest cost options for University of Maine students through its Academic Materials Program (AMP). Visit: umaine.edu/amp-course-materials

The bookstore not only features course materials but carries one of the largest selections of official UMaine clothing and gifts, official class rings and electronics.

As an Authorized Apple Campus Store, the Bookstore offers educational discount pricing for students on a full range of Apple computer products. The bookstore is also an Authorized Dell computer outlet offering a wide range of options and accessories. The bookstore services both Apple and Dell with a professional computer service & repair center available on site for your

convenience.

Contact the Bookstore at 207-581-1700 or go to umaine.edu/bookstore.

University of Maine Police Department and Security Department (UMPD)

The UMPD is the certified police department on the UMaine campus. With officers trained especially to deal with issues related to today's college students, the University of Maine Police Department fully embraces the community policing model. UMPD provides a 24-hr/day, 365-day per year presence on the UMaine campus. Students are strongly encouraged to become familiar with the emergency text messaging system and the Black Bear Safe app from the UMPD website. UMaine's Annual Safety and Fire Report (Clery Act) can also be found on the UMPD website (http://www.umaine.edu/police/). For more information about UMPD, contact their non-emergency number 207-581-4040 or visit their web site: www.umaine.edu/police/.

Veterans Education and Transition Services (VETS)/Veterans Center

Veterans Education and Transition Services part of the Division of Student Life and located on the ground floor of the Memorial Union. The center also provides information and guidance to veterans and their families, certifies students to receive benefits, and supports the transition from being in the military to being on campus. Call them at 207-581-1316, visit their website: www.umaine.edu/veterans, or visit the Center in the Memorial Union.

The Writing Center

The Writing Center in 402 Neville Hall is staffed by trained peer tutors who provide feedback on written work for all University of Maine students, faculty and staff. For more information, go to: http://www.umaine.edu/wcenter/

MACHIAS CAMPUS

Career Center

Located on the second floor of Torrey Hall, the Career Center offers essential services for students as they prepare for their chosen career. Résumé advice; interview techniques; career fairs; and international, national and state-wide job searching are available. If you would like to set up a meeting please contact us at ummcareer@maine.edu or 207-255-1295.

Counseling Center

Early intervention is the best predictor of success. The Counseling Center is committed to providing services for UMM students to help develop improved coping skills to address emotional, interpersonal and academic concerns. We provide short-term, free and confidential individual and group counseling for students enrolled in 6 or more credits. We offer referrals to community service providers when students could benefit from longer-term therapy and/or is beyond our scope of practice. Students who are enrolled in less than 6 credits are eligible for one consultation session to assess their situation and receive appropriate information about available resources at UMM and in the local community. The Counseling Center also provides outreach, educational and prevention programs.

The Counseling Center is located in Torrey Hall Room 229B. To request counseling services, please call 207-255-1343 so we can learn about your situation and recommend appropriate services. For more about Counseling Center services (including office hours) and programs and to access on-line resources please visit our website at: www.machias.edu/campus-life/student-services/counseling-services/ and our FaceBook Page at www.facebook.com/ummcounselingcenter

University Services: Information Technology

The University of Maine System's Department of Information Technology (US:IT) is committed to providing and supporting the highest quality technology-based services for UMM's faculty, staff, and students. US:IT strives to perform in a timely and effective manner while it delivers technology services to the UMM community. US:IT's UMM main office is located in Torrey Hall, room 108.

IT Support Services Center (Torrey Hall - Room 108, 255-1237)

Provides telephone, walk-in, live chat, and email assistance for UMS accounts (Google apps, MaineStreet, networking/wireless access, BrightSpace, etc.), and software applications across multiple operating systems.

An excellent resource for the detection and removal of computer viruses and malware and for assistance with data backup.

For more information or to request support call 207-255-1237 or email help@maine.edu. You can also visit our website at https://machias.edu/it/.

Public IT Computer Clusters

Computer clusters are available in the Merrill Library.

Software provided includes; Microsoft Office, UMM licensed applications used to support classwork such as Minitab, and Sigma Plot.

Printing

IT Print From Anywhere release stations are located in the Merrill Library.

Visit the IT website on the campus portal at https://mycampus.maine.edu/group/umm/laptop-print for instructions on printing from a personal device, UMS email or via a mobile device.

Media Services (Torrey Hall - Room 108, telephone 255-1237)

Classroom technology equipment support including audio and video equipment assistance, help to configure or operate equipment, also video and web conference support for classes and meetings.
Equipment-On-Loan is available through our office as well.
To reserve Audio Visual equipment call 255-1237. A valid University ID Card is required to sign out AV Equipment.
For additional information or to request support call 207-255-1237.

Student Activities, Involvement, and Leadership (SAIL)

Provides programming for the entire student body. This programming includes events like movie nights, laser tag, dodgeball, trivia, bingo, weekend trips, as well as Fall Weekend and Spring Fling. They also work closely with other clubs and organizations, providing opportunities for an enhanced campus community.

Student Accessibility Services

The Office of Student Accessibility Services promotes the integration of engaging teaching strategies with academic supports provided by our faculty and staff to create a collaborative educational experience for all our students.
The Student Accessibility office's main focus is on coordinating services for our students with permanent or temporary documented disabilities. We extend reasonable accommodations for documented and requested academic and housing needs. Overall, we are dedicated to supporting all students. "Student Success" is our motto, and our individualized, supportive approach encourages students to advocate for themselves while developing the skills and empowerment to reach their academic and professional goals. Requests for any educational or housing accommodations must be processed through the Manager of Student Accessibility Services. The Student Accessibility Office is in Torrey Hall room 229A and can be reached phone at 207-255-1228.

Student Life

With the assistance of a dedicated staff this team serves as advocates for students, offers them counsel and advice, and helps them cut through red tape. University ID Services, Parking Services, Commuter Life, Student Conduct, adn Campus Space Reservations are also a part of the Student Life Office. Please call here if you're not sure who to call. For additional information call 207-255-1320.

Study Center

The UMM Study Center is located on the second floor of Torrey Hall, Room 225. It is open Monday through Friday from 8:00 A.M. to 8:00 P.M. It is available for individual and group study with conversation welcome.
The area is separated in three sections: There is a comfortable area for relaxed discussion with a couch, 2 chairs, a TV with a VCR and DVD player. A whiteboard is also available in this area for your use. In the middle of the study center we have a round table with a movable whiteboard to accommodate round table discussions. This is always nice when students want to share information in a group setting. Also in the study center are two different areas where there are rectangular tables that seat 6 each. Both areas have whiteboards and in one area there is an acoustic wall divider to make the area a little more private. All areas have comfortable seating with the opportunity for small and large group meetings.
The Study Center is also home base for the **UMM Student Tutor Program.** There is no fee for tutor services, and tutoring is a paid position under both Federal Work Study as well as through Departmental funds. If you are interested in becoming a Student Tutor, please contact the Study Center Office. The phone number is 255-1232. The Study Center office is located in room 225B (behind the study center). Stop by and pick up an application and join our team! We would love to put you to work earning not only a little cash, but also an opportunity to learn many transferrable skills that can follow you throughout your future career.

Residence Life

Student growth and development are promoted in both of our residence halls. Students living in the residence halls have immediate access to staff members who can help them to build relationships with other students, with faculty, and with student organizations that will contribute to their enjoyment and satisfaction with the UMM experience. The staff that works in Residence Life is committed to promoting the on-campus experience; and encouraging students to build community, succeed academically, appreciate multiculturalism, participate in engaging programs, connect throughout the university, while maintaining their place in a safe and civil community. Please visit the website at https://machias.edu/campus-life/living-on-campus/.

Student Senate

The UMM Student Senate is the elected representative of the student body. Senators engage with campus staff, faculty and administration to ensure that when ideas or issues come forward, they are properly dealt with, as to benefit everyone. More information is available at https://machias.edu/campus-life/student-engagement/student-senate/

Student Health Services

Local Machias Area Health adn Dental Services include the Down East Community Hospital, DECH Family Practice and General Surgery, Eastport health Machias Family Practice, Machias Family Planning, the Women's Health Center, and Machias Dental.
Local Machias Area Pharmacy Locations include the Machias Family Pharmacy, Walgreens, and Hannaford Pharmacy.
Appointments: We offer appointment-based care Monday - Friday.
Schedule an on-campus appointment via email, jporter@dech.org or call 207-255-4567, option 1.
Jordan also offers appointments at his Down East Community Hospital Family Practice office, Reid Emery Building - Upper Level,

229 Main Street, Machias ME, from 8AM - 6PM Tuesday through Thursday and from 8AM to 1PM on Fridays. You can schedule an appointment by calling 207-255-4567, option 1. Telehealth appointments are also available. Please have your health insurance information available to provide and confirm.

WUMM (91.1 FM)

UMM's independent student-run, non-profit radio station. WUMM's variety of music captures the essence of the DJ's who spin their favorite unique beats. With DJ's consisting of students, staff, and community member, WUMM is serves Machias and the greater Washington County region. The station is located on the ground floor of the Reynolds Center.

Veterans Education and Transition Services (VETS)

Veterans Education and Transition Services is part of the Office of Student Records and is located on the second floor of Powers Hall. This office provides information and guidance to veterans and their families, certifies students to receive benefits, and supports the transition from being in the military to being on campus. Call them at 207-255-1223 or visit their site: https://machias.edu/academics/academics/registrars-office/veterans-services/

Disclaimers

The University of Maine reserves the right to revise, amend, or change items set forth in the Catalog from time to time. Accordingly, readers of this Catalog should inquire as to whether any such revisions, amendments, or changes have been made since the date of the publication. The University of Maine reserves the right to cancel course offerings, to set the minimum and maximum sizes of classes, to change the designated instructors in courses and to make decisions affecting the academic standing of anyone participating in a course or program offered by the University of Maine.

Non-discrimination Notice

In complying with the letter and spirit of applicable laws and pursuing its own goals of diversity, the University of Maine System does not discriminate on the grounds of race, color, religion, sex, sexual orientation, transgender status, gender, gender identity or expression, ethnicity, national origin, citizenship status, familial status, ancestry, age, disability physical or mental, genetic information, or veterans or military status in employment, education, and all other programs and activities. The University provides reasonable accommodations to qualified individuals with disabilities upon request. The following person has been designated to handle inquiries regarding non-discrimination policies: Director of Equal Opportunity, 5713 Chadbourne Hall, Room 412, University of Maine, Orono, ME 04469-5713, 207.581.1226, TTY 711 (Maine Relay System).

The University of Maine's non-discrimination notice can be found at https://umaine.edu/eo/disability-access/nondiscrimination-notices-for-umaine-publications/

Sex Discrimination, Sexual Harassment, Sexual Assault, Relationship Violence, Stalking and Retaliation and Title IX Sexual Harassment

The University of Maine and the University of Maine at Machias does not discriminate on the basis of sex and prohibits sex discrimination in any education program or activity that it operates, as required by Title IX and its regulations, including in admission and employment.

The University will respond to complaints and reports of violations of this policy in a prompt, fair, impartial and equitable manner. Regardless of whether a complaint is filed, the University will respond promptly and reasonably when it has notice of potential sexual misconduct that is covered by this policy. The University will take steps to end and prevent recurrence of violations of this policy and to correct their discriminatory effects on the complainant and others when a determination of responsibility has been made against a respondent. In responding to all complaints and reports, the University will act to ensure the safety of students, guests, and employees while complying with state and federal laws and provisions of applicable collective bargaining agreements and employee handbooks.

Individuals with questions about Title IX, or who would like to report a violation, are encouraged to contact any of the persons or agencies listed below. In addition, any person may report sex discrimination, including sexual harassment (whether or not the person reporting is the person alleged to be the victim of conduct that could constitute sex discrimination or sexual harassment), in person, by mail, by telephone or by electronic mail by using the contact information listed below for the Title IX Coordinator and Deputy Title IX Coordinators, or by any other means that results in the Title IX Coordinator receiving the person's verbal or written report. Reports can be made during non-business hours by mail to the listed office addresses or by using the listed telephone numbers or e-mail addresses. Inquiries about the application of Title IX may be referred to the Title IX Coordinator, to the Assistant Secretary of the U.S. Department of Education Office for Civil Rights, or both.

The grievance procedures and process, including how to file a report and how the University will respond can be found at https://www.maine.edu/title-ix/

The Sex Discrimination, Sexual Harassment, Sexual Assault, Relationship Violence, Stalking, and Retaliation and Title IX Sexual Harassment policy and procedures may be found at: https://www.maine.edu/board-of-trustees/policy-manual/section-402/

Deputy Title IX Coordinator for Students: Cam McDonnell
Phone: 207.581.1485
Email: cam.mcdonnell1@maine.edu
Office: Memorial Union, W.T. Grant Company Room, Room 235A, Orono, ME 04469 (Orono Campus)
Deputy Title IX Coordinator for Employees: Krissinda Slack
Phone: 207.581.1206
Email: krissinda.slack@maine.edu
Office: Chadbourne Hall Room 412, Orono, ME 04469 (Orono Campus)
UMS Title IX Coordinator for Employees: Liz Lavoie
Phone: 207.581.1206
Email: titleix@maine.edu
Office: Chadbourne Hall Room 412, Orono, ME 04469 (Orono Campus)

Consenting Relationships

Consenting relationships may constitute sexual harassment. When a professional power differential exists between members of the University of Maine System and a romantic or sexual relationship develops, there is a potential for abuse of that power, even in relationships of apparent mutual consent. Faculty and staff members are strongly advised not to engage in such relationships and must report any such relationship to Human Resources, without exception.

The Consenting Relationship Guidelines can be found at: https://www.maine.edu/human-resources/human-resources/guidelines-regarding-consenting-relationships/. Further, the University System prohibits the abuse of power in romantic or sexual relationships.

To assure that power is not abused and to maintain an environment free of sexual harassment, a faculty or staff member must eliminate any current or potential conflict of interest by removing himself or herself from decisions affecting the other person in the relationship. Decisions affecting the other person include grading, evaluating, supervising, or otherwise influencing that person's education, employment, housing, or participation in athletics or any other University System activity.

Questions, concerns and complaints about discrimination or harassment in any area of the University or about the application of laws and regulations related to equal opportunity and affirmative action should be directed to: Director of Equal Opportunity, 5713 Chadbourne Hall, Room 412, University of Maine, Orono, ME 04469-5713, 207.581.1226, TTY 711 (Maine Relay System).

The University of Maine 2025-2026 Undergraduate Cat log

UM - Orono Core Curriculum Requirements

Core Curriculum

Every University of Maine academic program is based upon a strong foundation in the liberal arts and sciences. The University's goal is to ensure that all of its graduates, regardless of the academic major they pursued, are broadly educated persons who can appreciate the achievements of civilization, understand the tensions within it, and contribute to resolving them. This component of every program is called Core Curriculum Requirements, and it amounts to about one third of every program. The design of the Core Curriculum Requirements at the University of Maine is meant to be flexible within the broad goals it seeks to achieve. It affords each student many ways of meeting its requirements, which fall under the six broad categories outlined below.

Students who have completed the UMS General Education Transfer Block (a full set of General Education/Core requirements minus the writing intensive in the major and capstone courses) at any other UMS institution currently accredited by NECHE will be regarded as having completed all of their Core Curriculum Requirements except for the following, which must be taken at the University of Maine:

- A minimum of three additional course credits in any of the UMaine Human Values and Social Context subcategory areas
- A Writing Intensive course in the Major Degree
- A Capstone Experience course
- Any specific Core Curriculum Requirements courses required by the major

A student completing more than one academic major or baccalaureate degree need complete only one set of UMaine Core Curriculum Requirements. For example, in many cases, a student completing a double major needs to complete the "writing intensive course in the major" and the capstone experience only for the designated primary major. Exception: some departments may require students to take their writing intensive and capstone courses specific to the major, aside from their role in the Core Curriculum Requirements. In this case the double-major student must complete them, not because of Core Curriculum Requirement policy, but because the major program requires those courses.

Students who have previously earned a baccalaureate degree from an accredited institution do not have to meet General Education requirements to earn a degree from UMaine except specific courses required by the major (i.e. writing in the major and capstone). A student must meet the requirements of the major (assuming sufficient credits are accepted by transfer to total 120 credits or more, depending on the major) with at least 30 credits courses from UMaine.

Notes:

- The student elected Pass/Fail option is not allowed for courses used to fulfill program requirements for the major, for the minor, for the college, or for Core Curriculum Requirements.
- In order to earn General Education credits, the course must be taken with earned credit.

Science

Students must complete two courses in the physical or biological sciences. This may be accomplished in two ways:

1. By completing two courses with laboratories in the basic or applied sciences;
2. By completing one course in the applications of scientific knowledge, plus one course with a laboratory in the basic or applied sciences.

Applications of Scientific Knowledge

Important Note: Students taking any of the courses listed below with an asterisk must meet specific requirements to earn this General Education Requirement. View the full course descriptions to learn specifically how these courses award this General Education Requirement.

- ANT 210 - Biological Anthropology Credits: 3
- ANT 260 - Forensic Anthropology Credits: 3
- * AST 109 - Introduction to Astronomy Credits: 3
- AVS 211 - Introduction to Aquaculture Credits: 3
- BIO 117 - This is Life! Credits: 4
- * BIO 122 - Biology: The Living Science Credits: 3
- BMB 207 - Fundamentals of Chemistry Credits: 3
- BMB 208 - Elementary Physiological Chemistry Credits: 3
- * CHY 121 - General Chemistry I Credits: 3
- EES 140 - Soil Science Credits: 3
- ERS 103 - Dynamic Earth Credits: 3
- ERS 108 - Beaches and Coasts Credits: 3
- ERS 152 - Earth's Changing Climate Credits: 3
- ERS 107 - Energy, Environment, & Climate Credits: 3
- ERS 319 - Geohazards and Humans Credits: 3
- FSN 101 - Introduction to Food and Nutrition Credits: 3
- FSN 121 - Brewing with Food Science Credits: 3
- INT 125 - Experiential Program Innovation Central Credits: 3
- KPE 253 - Lifetime Fitness for Health Credits: 3
- PSE 105 - Principles of Sustainable Agriculture Credits: 3
- PSE 110 - Introduction to Horticulture Credits: 3
- SFR 215 - Introduction to Sustainable Materials and Technology Credits: 3
- SMS 100 - Introduction to Ocean Science Credits: 3
- SMS 108 - Beaches and Coasts Credits: 3
- SMS 110 - Concepts in Oceanography Credits: 3
- SMS 211 - Introduction to Aquaculture Credits: 3
- * WLE 200 - Ecology Credits: 3

Laboratory in the Basic or Applied Sciences

Important Note: Students taking any of the courses listed below with an asterisk must meet specific requirements to earn this General Education Requirement. View the full course descriptions to learn specifically how these courses award this General Education Requirement.

- * AST 109 - Introduction to Astronomy Credits: 3

- * AST 110 - Introduction to Astronomy Laboratory Credits: 1
- BIO 100 - Basic Biology Credits: 4
- * BIO 122 - Biology: The Living Science Credits: 3
- * BIO 123 - Biology: The Living Science Laboratory Credits: 1
- BIO 200 - Biology of Organisms Credits: 4
- BIO 205 - Field Natural History of Maine Credits: 4
- BIO 208 - Anatomy and Physiology Credits: 4
- BIO 310 - Plant Biology Credits: 4
- BIO 326 - General Entomology Credits: 4
- BIO 327 - Introductory Applied Entomology Credits: 4
- BIO 432 - Biology of the Fungi Credits: 4
- BIO 464 - Taxonomy of Vascular Plants Credits: 4
- * BMB 207 - Fundamentals of Chemistry Credits: 3
- * BMB 208 - Elementary Physiological Chemistry Credits: 3
- * BMB 209 - Fundamentals of Chemistry Laboratory Credits: 1
- * BMB 210 - Elementary Physiological Chemistry Laboratory Credits: 1
- CHY 104 - The Chemistry of Food and Cooking Credits: 4
- * CHY 121 - General Chemistry I Credits: 3
- * CHY 122 - General Chemistry II Credits: 3
- * CHY 123 - General Chemistry Laboratory I Credits: 1
- * CHY 124 - General Chemistry Laboratory II Credits: 1
- * EES 140 - Soil Science Credits: 3
- * EES 141 - Soil Science Laboratory Credits: 1
- ERS 101 - Introduction to Earth Science Credits: 4
- ERS 102 - Environmental Geology Credits: 4
- ERS 200 - Earth Systems Credits: 4
- ERS 201 - Global Environmental Change Credits: 4
- ERS 240 - The Atmosphere Credits: 4
- PHY 105 - Descriptive Physics Credits: 4
- PHY 107 - Technical Physics I Credits: 4
- PHY 108 - Technical Physics II Credits: 4
- PHY 111 - General Physics I Credits: 4
- PHY 112 - General Physics II Credits: 4
- PHY 121 - Physics for Engineers and Physical Scientists I Credits: 4
- PHY 122 - Physics for Engineers and Physical Scientists II Credits: 4
- PSE 100 - Plant Science Credits: 4
- * SFR 100 - Introduction to Forest Biology Credits: 3
- * SFR 101 - Introduction to Forest Resources Credits: 1
- * SFR 102 - Structure and Function of Woody Plants Laboratory Credits: 1
- * SMS 110 - Concepts in Oceanography Credits: 3
- * WLE 200 - Ecology Credits: 3
- * WLE 201 - Ecology Laboratory Credits: 3

Human Values and Social Contexts

Students must complete 18 credits in this broad area, selected from lists of approved courses to satisfy each of five sub-categories. (Courses that satisfy requirements in more than one sub-category may be counted in each appropriate sub-category, but credits may be counted only once.)

1. Western cultural tradition
2. Social contexts and institutions
3. Cultural diversity and international perspectives
4. Population and the environment
5. Artistic and creative expression

Completion of any of these courses (HON 111, 112, 211 or 212) satisfies either the General Education Western Cultural Tradition or the Cultural Diversity and International Perspectives requirement. Completion of any two satisfies the Western Cultural Tradition, Cultural Diversity and International Perspectives, and Ethics requirements. Completion of three satisfies the Western Cultural Tradition, Cultural Diversity and International Perspectives, Social Context and Institutions, and Ethics requirements. Completion of all four satisfies the Ethics requirement and all areas of the Human Values and Social Context requirements for 16 of the total 18 credits required in those areas.

1. Western Cultural Tradition

- ANT 221 - Introduction to Folklore Credits: 3
- ARH 155 - Art and Visual Culture in the Ancient and Medieval Worlds Credits: 3
- ARH 156 - Art and Visual Culture in the Modern Era Credits: 3
- ARH 251 - Classical Art and Architecture Credits: 3
- ARH 252 - Mediterranean Medieval Art and Architecture Credits: 3
- ARH 253 - Northern European Medieval Art and Architecture Credits: 3
- ARH 255 - Italian Renaissance Art Credits: 3
- ARH 257 - Northern Renaissance Art Credits: 3
- ARH 258 - Baroque Art and Architecture Credits: 3
- ARH 261 - Nineteenth-Century European Art Credits: 3
- ARH 264 - Themes and Issues in Contemporary Art Credits: 3
- ARH 265 - American Art Credits: 3
- CAN 101 - Introduction to Canadian Studies Credits: 3
- CLA 101 - Greek Literature in English Translation Credits: 3
- CLA 102 - Latin Literature in English Translation Credits: 3
- CMJ 201 - Rhetorical Theory Credits: 3
- CMJ 211 - Journalism and Media History Credits: 3
- ECO 160 - Freakonomics Credits: 3
- ECO 240 - Maine Economy Credits: 3
- ECO 391 - Introduction to Growth and Development Credits: 3
- ENG 131 - The Nature of Story Credits: 3
- ENG 222 - Reading Poems Credits: 3
- ENG 242 - Introduction to Native American Literature Credits: 3
- ENG 243 - Topics in Identity and Representation Credits: 3
- ENG 244 - Writers of Maine Credits: 3

- ENG 245 - American Short Fiction Credits: 3
- ENG 253 - Shakespeare: Selected Plays Credits: 3
- ENG 271 - The Act of Interpretation Credits: 3
- EDU 425 - Methods for Teaching Social Studies in the Elementary School Credits: 3
- FAS 170 - Transnational Beat, Jack Kerouac Credits: 3
- HON 101 - Foundations of Inquiry Credits: 3
- HTY 103 - Creating America to 1877 Credits: 3
- HTY 104 - United States History Since 1877 Credits: 3
- HTY 105 - History of Medieval Europe Credits: 3
- HTY 106 - History of Modern Europe Credits: 3
- HTY 109 - Introduction to Early Latin America Credits: 3
- HTY 110 - Introduction to Latin American History Credits: 3
- HTY 111 - The Classical World Credits: 3
- HTY 202 - Medieval Civilization Credits: 3
- HTY 210 - History of Maine Credits: 3
- HTY 211 - Maine and the Sea Credits: 3
- HTY 213 - History of the Maine Woods Credits: 3
- HTY 218 - History of Film Credits: 3
- HTY 221 - History and Comics Credits: 3
- HTY 235 - Heresy, Witchcraft, and Reform Credits: 3
- HTY 251 - Technology and Society from Ancient Times till the Present Credits: 3
- HTY 278 - American Military History Credits: 3
- HTY 279 - European Military History Credits: 3
- HTY 232 - Womanhood in America Credits: 3
- JST 200 - Introduction to Judaism Credits: 3
- MLC 210 - Introduction to Modern Languages Credits: 3
- MSL 301 - Training Management and the Warfighting Functions Credits: 3
- MSL 350 - The Evolution of American Warfare Credits: 3
- MUL 202 - The Art of Listening to Music: Historical Survey Credits: 3
- NAV 202 - Sea Power and Maritime Affairs Credits: 3
- NAV 310 - Evolution of Warfare Credits: 3
- PHI 100 - Contemporary Moral Problems Credits: 3
- PHI 102 - Introduction to Philosophy Credits: 3
- PHI 103 - Think! Credits: 3
- PHI 104 - Existentialism and Literature Credits: 3
- PHI 105 - Introduction to Religious Studies Credits: 3
- PHI 201 - Practicing Philosophy Credits: 3
- PHI 210 - Classical Greek & Roman Philosophy Credits: 3
- PHI 315 - 19th Century Philosophy Credits: 3
- PHI 222 - Philosophy of Games Credits: 3
- PHI 214 - Continental Philosophy Credits: 3
- PHI 230 - Ethics Credits: 3
- PHI 231 - Topics in Applied Ethics Credits: 3

- PHI 235 - Biomedical Ethics Credits: 3
- PHI 240 - Social and Political Philosophy Credits: 3
- PHI 244 - Philosophy of Law Credits: 3
- PHI 250 - Logic Credits: 3
- PHI 262 - Philosophy of Art Credits: 3
- PHI 336 - Feminist Philosophy Credits: 3
- POS 120 - Introduction to World Politics Credits: 3
- POS 201 - Introduction to Political Theory Credits: 3
- SFR 220 - Environment and Society Credits: 3
- SFR 480 - Wilderness and Protected Areas Management Credits: 3
- SVT 221 - Boundary Law Credits: 3
- THE 112 - Dramatic Literature Credits: 3

2. Social Context and Institutions

- ANT 101 - Introduction to Anthropology: Human Origins and Prehistory Credits: 3
- ANT 120 - Religions of the World Credits: 3
- ANT 249 - Religion and Violence Credits: 3
- ANT 252 - Civilization in South Asia Credits: 3
- ANT 256 - Ethnic Conflict Credits: 3
- ANT 270 - Environmental Justice Movements in the United States Credits: 3
- ARH 270 - Topical Survey in History of Art Credits: 3
- CHF 200 - Family Interaction Credits: 3
- CHF 201 - Introduction to Child Development Credits: 3
- CHF 351 - Human Sexuality Credits: 3
- CMJ 100 - Introduction to Media Studies Credits: 3
- CMJ 102 - Communication for Resilience and Connection Credits: 3
- CMJ 103 - Public Speaking Credits: 3
- CMJ 107 - Communication and the Environment Credits: 3
- CMJ 111 - Introduction to Journalism Credits: 3
- CMJ 202 - Communication Theory Credits: 3
- CMJ 211 - Journalism and Media History Credits: 3
- CRJ 114 - Survey of Criminal Justice Credits: 3
- CRJ 224 - Criminal Courts Credits: 3
- ECO 120 - Principles of Microeconomics Credits: 3
- ECO 121 - Principles of Macroeconomics Credits: 3
- ECO 180 - Citizens, Energy & Sustainability Credits: 3
- ECO 190 - World Food Supply, Population and the Environment Credits: 3
- ECO 160 - Freakonomics Credits: 3
- ECO 154 - Small Business Economics and Management Credits: 3
- ECO 285 - Economics of Sports Credits: 3
- ECO 221 - Intermediate Macroeconomics Credits: 3
- ECO 471 - Public Finance and Fiscal Policy Credits: 3

- ECO 404 - Behavioral Economics Credits: 3
- ECO 416 - Evolutionary Economics Credits: 3
- ECO 442 - Health Economics Credits: 3
- EET 484 - Engineering Economics Credits: 3
- ENG 280 - Introduction to Film Credits: 3
- ENG 320 - Technical Communication for Engineering Credits: 3
- FAS 101 - Introduction to the French cultures of North America Credits: 3
- FAS 140 - Searching for Family Origins: Genealogy, DNA, and Family Trees Credits: 3
- FAS 200 - SL: Primary Sources in Franco American Studies Credits: 3
- HON 170 - Currents and Context Credits: 1
- HTY 103 - Creating America to 1877 Credits: 3
- HTY 104 - United States History Since 1877 Credits: 3
- HTY 105 - History of Medieval Europe Credits: 3
- HTY 106 - History of Modern Europe Credits: 3
- HTY 107 - East Asian Civilization Credits: 3
- HTY 108 - India: Identities and Changes Credits: 3
- HTY 112 - Introduction to Africa Credits: 3
- HTY 205 - Introduction to Public History Credits: 3
- HTY 210 - History of Maine Credits: 3
- HTY 220 - North American Indian History Credits: 3
- HTY 235 - Heresy, Witchcraft, and Reform Credits: 3
- HTY 236 - Ancient Egypt and Mesopotamia Credits: 3
- HTY 240 - Creation of the Atlantic World, 1450-1888 Credits: 3
- HTY 241 - History of Globalization, 1900-Present Credits: 3
- HTY 251 - Technology and Society from Ancient Times till the Present Credits: 3
- HTY 261 - New England and Eastern Canada Since 1815: A Transnational Region Credits: 3
- HTY 278 - American Military History Credits: 3
- INA 101 - Introduction to International Affairs Credits: 3
- INV 405 - Innovation Leadership Credits: 4
- INV 121 - Fundamentals of Innovation Credits: 3
- INV 392 - Commercialize: Innovation Engineering III Credits: 3
- LBR 200 - Information Literacy Credits: 3
- LDR 100 - Foundations of Leadership Credits: 3
- LST 101 - Introduction to Labor Studies Credits: 3
- LST 201 - Work and Labor in a Global Economy Credits: 3
- MES 201 - The Maine Coast Credits: 3
- MGT 220 - The Legal Environment of Business Credits: 3
- MGT 331 - Labor-Management Relations Credits: 3
- MSL 350 - The Evolution of American Warfare Credits: 3
- MSL 401 - The Army Officer Credits: 4
- MSL 402 - Company Grade Leadership Credits: 4
- MSL 410 - Cadet Troop Leader Training Credits: 3
- NAS 101 - Introduction to Native American Studies Credits: 3

- NAS 102 - Introduction to Wabanaki Culture, History and Contemporary Issues Credits: 3
- NAS 270 - Gender in Native American Cultures Credits: 3
- NAS 220 - North American Indian History Credits: 3
- NAV 202 - Sea Power and Maritime Affairs Credits: 3
- NAV 310 - Evolution of Warfare Credits: 3
- NMD 100 - Introduction to New Media Credits: 3
- NUR 415 - Socio-Cultural Issues in Health and Health Care Credits: 3
- PAX 201 - Introduction to Peace and Reconciliation Studies Credits: 3
- PAX 250 - Peace and Pop Culture Credits: 3
- PAX 260 - Realistic Pacifism Credits: 3
- PHI 100 - Contemporary Moral Problems Credits: 3
- PHI 105 - Introduction to Religious Studies Credits: 3
- PHI 315 - 19th Century Philosophy Credits: 3
- PHI 214 - Continental Philosophy Credits: 3
- PHI 231 - Topics in Applied Ethics Credits: 3
- PHI 232 - Environmental Ethics Credits: 3
- PHI 235 - Biomedical Ethics Credits: 3
- PHI 244 - Philosophy of Law Credits: 3
- PHI 336 - Feminist Philosophy Credits: 3
- POS 100 - American Government Credits: 3
- POS 203 - American State and Local Government Credits: 3
- POS 241 - Introduction to Comparative Politics Credits: 3
- POS 243 - Canadian Government and Politics Credits: 3
- POS 335 - Major Governments of Western Europe Credits: 3
- PSY 100 - General Psychology Credits: 3
- PSY 230 - Social Psychology Credits: 3
- SFR 222 - Environmental Communication Skills Credits: 3
- SFR 444 - Forest Resources Economics Credits: 3
- SFR 446 - Forest Resources Policy Credits: 3
- SOC 101 - Introduction to Sociology Credits: 3
- SOC 201 - Social Inequality Credits: 3
- SOC 220 - Sociology of Deviance Credits: 3
- SOC 240 - Topics in Sociology Credits: 1-3
- SOC 314 - Law and Society Credits: 3
- SVT 451 - Survey Business Law Credits: 3
- SWK 220 - Introduction to Social Work Credits: 3
- WGS 101 - Introduction to Women's, Gender, and Sexuality Studies Credits: 3
- WGS 103 - Introduction to Lesbian, Gay, Bisexual, Transgender, and Queer Studies Credits: 3
- WGS 203 - Men and Masculinities Credits: 3
- WGS 205 - Introduction to Feminist and Critical Data Analysis Credits: 3
- WGS 270 - Gender in Native American Cultures Credits: 3

3. Cultural Diversity and International Perspectives

- ANT 101 - Introduction to Anthropology: Human Origins and Prehistory Credits: 3
- ANT 102 - Introduction to Anthropology: Diversity of Cultures Credits: 3
- ANT 120 - Religions of the World Credits: 3
- ANT 207 - Contemporary Archaeology Credits: 3
- ANT 212 - The Anthropology of Food Credits: 3
- ANT 221 - Introduction to Folklore Credits: 3
- ANT 245 - Sex and Gender in Cross-Cultural Perspective Credits: 3
- ANT 247 - Animals across Cultures Credits: 3
- ANT 249 - Religion and Violence Credits: 3
- ANT 250 - Conservation Anthropology: The Socio-Cultural Dimension of Environmental Issues Credits: 3
- ANT 252 - Civilization in South Asia Credits: 3
- ANT 256 - Ethnic Conflict Credits: 3
- ANT 270 - Environmental Justice Movements in the United States Credits: 3
- ARH 100 - Art and Human Experience Credits: 3
- ARH 155 - Art and Visual Culture in the Ancient and Medieval Worlds Credits: 3
- ARH 251 - Classical Art and Architecture Credits: 3
- ARH 252 - Mediterranean Medieval Art and Architecture Credits: 3
- ARH 253 - Northern European Medieval Art and Architecture Credits: 3
- ARH 255 - Italian Renaissance Art Credits: 3
- ARH 257 - Northern Renaissance Art Credits: 3
- ARH 258 - Baroque Art and Architecture Credits: 3
- ARH 270 - Topical Survey in History of Art Credits: 3
- CAN 101 - Introduction to Canadian Studies Credits: 3
- CLA 101 - Greek Literature in English Translation Credits: 3
- CLA 102 - Latin Literature in English Translation Credits: 3
- CSD 130 - Introduction to Communication Sciences and Disorders Credits: 3
- DIS 300 - Disability: Interaction of Human Diversity and Global Environment Credits: 3
- DIS 400 - Disability as Diversity I Credits: 3
- ECO 340 - The Canadian Economy: Issues and Policies Credits: 3
- EHD 202 - Education in a Multicultural Society Credits: 3
- ENG 242 - Introduction to Native American Literature Credits: 3
- ENG 131 - The Nature of Story Credits: 3
- ENG 236 - Intro to Canadian Literature Credits: 3
- ENG 243 - Topics in Identity and Representation Credits: 3
- FAS 101 - Introduction to the French cultures of North America Credits: 3
- FAS 170 - Transnational Beat, Jack Kerouac Credits: 3
- FAS 200 - SL: Primary Sources in Franco American Studies Credits: 3
- FRE 101 - Elementary French I Credits: 3 - 4
- FRE 102 - Elementary French II Credits: 3 - 4
- FRE 201 - Intermediate French I Credits: 3 - 4
- FRE 202 - Intermediate French II Credits: 3 - 4
- FSN 270 - World Food and Culture Credits: 3

- GEO 100 - World Geography Credits: 3
- GEO 265 - The Power of Maps Credits: 3
- GEO 275 - Geography of Globalization Credits: 3
- GER 101 - Elementary German I Credits: 3
- GER 102 - Elementary German II Credits: 3
- GER 203 - Intermediate German I Credits: 3
- GER 204 - Intermediate German II Credits: 3
- HBR 101 - Beginning Modern Hebrew Credits: 3
- HBR 102 - Beginning Modern Hebrew II Credits: 3
- HON 102 - Connect: Evidence & Argument Credits: 3
- HTY 107 - East Asian Civilization Credits: 3
- HTY 108 - India: Identities and Changes Credits: 3
- HTY 109 - Introduction to Early Latin America Credits: 3
- HTY 110 - Introduction to Latin American History Credits: 3
- HTY 112 - Introduction to Africa Credits: 3
- HTY 202 - Medieval Civilization Credits: 3
- HTY 218 - History of Film Credits: 3
- HTY 220 - North American Indian History Credits: 3
- HTY 222 - Maine Indian History in the Twentieth Century Credits: 3
- HTY 232 - Womanhood in America Credits: 3
- HTY 240 - Creation of the Atlantic World, 1450-1888 Credits: 3
- HTY 241 - History of Globalization, 1900-Present Credits: 3
- HTY 265 - The Power of Maps Credits: 3
- HTY 275 - Geography of Globalization Credits: 3
- HTY 281 - Military History of Modern Asia Credits: 3
- HTY 310 - Slavery, Politics, and Memory in American History Credits: 3
- JST 205 - Jewish History and Antisemitism from Antiquity to the Founding of the State of Israel Credits: 3
- KPE 411 - Ethics and Social Justice in Outdoor Leadership Credits: 3
- MGT 328 - Canadian/U.S. Business: A Comparison Credits: 3
- MLC 190 - Topics in Modern Languages Credits: 1-3
- MSL 302 - Training Applied Leadership in Small Unit Operations Credits: 3
- MSL 390 - Cultural Understanding and Language Proficiency Credits: 3
- MSL 402 - Company Grade Leadership Credits: 4
- MUH 150 - History of Jazz Credits: 3
- NAS 101 - Introduction to Native American Studies Credits: 3
- NAS 102 - Introduction to Wabanaki Culture, History and Contemporary Issues Credits: 3
- NAS 202 - Wabanaki Languages I Credits: 3
- NAS 203 - Wabanaki Language II Credits: 3
- NAS 220 - North American Indian History Credits: 3
- NAS 230 - Maine Indian History in the Twentieth Century Credits: 3
- NAS 270 - Gender in Native American Cultures Credits: 3
- NAV 310 - Evolution of Warfare Credits: 3
- NUR 415 - Socio-Cultural Issues in Health and Health Care Credits: 3

- PAX 201 - Introduction to Peace and Reconciliation Studies Credits: 3
- PAX 290 - Nonviolence: Perceptions and Perspectives Credits: 3
- PAX 350 - Buddhism, Peace and Contemplative Traditions Credits: 3
- PAX 491 - Forgiveness: Creating a Culture of Peace and Reconciliation Credits: 3
- PHI 221 - Classical Chinese Philosophy Credits: 3
- PHI 287 - Classical Indian Philosophy Credits: 3
- PHI 336 - Feminist Philosophy Credits: 3
- POS 120 - Introduction to World Politics Credits: 3
- POS 241 - Introduction to Comparative Politics Credits: 3
- POS 243 - Canadian Government and Politics Credits: 3
- SFR 226 - Park Systems of the World Credits: 3
- SOC 201 - Social Inequality Credits: 3
- SPA 101 - Elementary Spanish I Credits: 3
- SPA 102 - Elementary Spanish II Credits: 3
- SPA 109 - Spanish for the Medical Professions Credits: 3
- SPA 110 - Spanish for Medical Professions II Credits: 3
- SPA 203 - Intermediate Spanish I Credits: 3
- SPA 204 - Intermediate Spanish II Credits: 3
- SWK 230 - Contemporary Issues in Diversity and Pluralism Credits: 3
- VOX 101 - Beginning Spoken Chinese I Credits: 3
- VOX 106 - Beginning Spoken Italian I Credits: 3
- VOX 107 - Beginning Spoken Japanese I Credits: 3
- VOX 108 - Beginning Spoken Korean I Credits: 3
- VOX 109 - Beginning Spoken Portuguese I Credits: 3
- VOX 110 - Beginning Spoken Russian I Credits: 3
- VOX 136 - Beginning Spoken Italian II Credits: 3
- VOX 137 - Beginning Spoken Japanese II Credits: 3
- VOX 138 - Beginning Spoken Korean II Credits: 3
- VOX 139 - Beginning Spoken Portuguese II Credits: 3
- VOX 140 - Beginning Spoken Russian II Credits: 3
- VOX 167 - Beginning Spoken Japanese III Credits: 3
- VOX 190 - Critical Languages (Other) Credits: 3
- VOX 207 - Intermediate Spoken Japanese I Credits: 3
- VOX 290 - Intermediate Critical Languages (Other) Credits: 3
- WGS 101 - Introduction to Women's, Gender, and Sexuality Studies Credits: 3
- WGS 103 - Introduction to Lesbian, Gay, Bisexual, Transgender, and Queer Studies Credits: 3
- WGS 203 - Men and Masculinities Credits: 3
- WGS 250 - Women and Music Credits: 3
- WGS 270 - Gender in Native American Cultures Credits: 3
- WGS 280 - Intersectionality and Social Movements Credits: 3

4. Population and the Environment

Important Note: Students taking any of the courses listed below with an asterisk must meet specific requirements to earn this General Education Requirement. View the full course descriptions to learn specifically how these courses award this General Education Requirement.

- ANT 212 - The Anthropology of Food Credits: 3
- ANT 225 - Climate Change, Societies and Cultures Credits: 3
- ANT 235 - Cultural Perceptions of Nature Credits: 3
- ANT 250 - Conservation Anthropology: The Socio-Cultural Dimension of Environmental Issues Credits: 3
- AVS 254 - Introduction to Animal Microbiomes Credits: 3
- BIO 122 - Biology: The Living Science Credits: 3
- BIO 309 - Sustainability and Conservation Travel Study Credits: 3
- BIO 342 - Plants in Our World Credits: 3
- BIO 455 - Biological Invasions Credits: 3
- CET 412 - Sustainable Building Design and Construction Credits: 3
- CIE 210 - Sustainability in Engineering Credits: 3
- CMJ 107 - Communication and the Environment Credits: 3
- DIS 300 - Disability: Interaction of Human Diversity and Global Environment Credits: 3
- DIS 450 - Disability: Population-Environment Diversity Credits: 3
- ECO 180 - Citizens, Energy & Sustainability Credits: 3
- ECO 190 - World Food Supply, Population and the Environment Credits: 3
- ECO 377 - Environmental Economics and Policy Credits: 3
- ECO 381 - SL: Sustainability Science, Policy, and Action Credits: 3
- ECO 405 - SL: Sustainable Energy Economics & Policy Credits: 3
- ECO 477 - Natural Resource Economics and Policy Credits: 3
- EES 100 - Human Population and the Global Environment Credits: 3
- EES 324 - Environmental Protection Law and Policy Credits: 3
- EES 351 - Energy, Wealth, and Power: a Biophysical Systems view of Nature and Society Credits: 3
- EET 460 - Renewable Energy and Electricity Production Credits: 3
- ERS 102 - Environmental Geology Credits: 4
- ERS 103 - Dynamic Earth Credits: 3
- ERS 108 - Beaches and Coasts Credits: 3
- ERS 121 - Humans and Global Change Credits: 3
- ERS 201 - Global Environmental Change Credits: 4
- ERS 319 - Geohazards and Humans Credits: 3
- ERS 323 - Extreme Weather Credits: 3
- ERS 441 - Glaciers and Our Landscape Credits: 3
- FAS 120 - People, Places and Pasts Credits: 3
- FAS 240 - French Exploration and Settlement of Maine, 1604-1760 Credits: 3
- FSN 270 - World Food and Culture Credits: 3
- GEO 100 - World Geography Credits: 3
- GEO 212 - Geography of Maine Credits: 3
- GEO 275 - Geography of Globalization Credits: 3
- HTY 212 - Geography of Maine Credits: 3
- HTY 213 - History of the Maine Woods Credits: 3

- HTY 222 - Maine Indian History in the Twentieth Century Credits: 3
- HTY 261 - New England and Eastern Canada Since 1815: A Transnational Region Credits: 3
- HTY 275 - Geography of Globalization Credits: 3
- HTY 479 - North American Environmental History Credits: 3
- ECO 105 - Environmental Policy Credits: 3
- MES 101 - Introduction to Maine Studies Credits: 3
- MES 201 - The Maine Coast Credits: 3
- NAS 230 - Maine Indian History in the Twentieth Century Credits: 3
- NUR 452 - Community and Population Health Credits: 3
- PHI 132 - Life, Technology and Evolution Credits: 3
- PHI 232 - Environmental Ethics Credits: 3
- PSE 105 - Principles of Sustainable Agriculture Credits: 3
- SFR 215 - Introduction to Sustainable Materials and Technology Credits: 3
- SFR 220 - Environment and Society Credits: 3
- SFR 455 - Bioenergy Sources, Systems and Environmental Effects Credits: 3
- SMS 100 - Introduction to Ocean Science Credits: 3
- SMS 108 - Beaches and Coasts Credits: 3
- SMS 230 - Introduction to Marine Policy and Fisheries Management Credits: 3
- WGS 230 - Women, Health, and the Environment Credits: 3
- WLE 230 - Introduction to Wildlife Conservation Credits: 3
- WLE 323 - Introduction to Conservation Biology Credits: 3

5. Artistic and Creative Expression

- ARH 100 - Art and Human Experience Credits: 3
- ARH 155 - Art and Visual Culture in the Ancient and Medieval Worlds Credits: 3
- ARH 156 - Art and Visual Culture in the Modern Era Credits: 3
- ARH 251 - Classical Art and Architecture Credits: 3
- ARH 252 - Mediterranean Medieval Art and Architecture Credits: 3
- ARH 255 - Italian Renaissance Art Credits: 3
- ARH 257 - Northern Renaissance Art Credits: 3
- ARH 258 - Baroque Art and Architecture Credits: 3
- ARH 261 - Nineteenth-Century European Art Credits: 3
- ARH 264 - Themes and Issues in Contemporary Art Credits: 3
- ARH 265 - American Art Credits: 3
- ARH 270 - Topical Survey in History of Art Credits: 3
- ART 100 - Drawing I Credits: 3
- ART 110 - 2-D Design Credits: 3
- ART 120 - 3-D Design Credits: 3
- ART 180 - Photography I Credits: 3
- ART 182 - Photography and Digital Imaging Credits: 3
- ART 225 - Ceramics I Credits: 3
- ART 270 - Digital Art I Credits: 3

- CMJ 106 - Storytelling Credits: 3
- CMJ 261 - Photographic Reporting and Storytelling Credits: 3
- DAN 101 - Beginner Modern Dance I Credits: 2
- DAN 102 - Beginner Ballet I Credits: 2
- DAN 103 - Beginner Jazz I Credits: 2
- DAN 105 - Beginner Tap Credits: 2
- DAN 121 - Beginner Modern Dance II Credits: 2
- DAN 122 - Beginner Ballet II Credits: 2
- DAN 123 - Beginner Jazz II Credits: 2
- DAN 130 - Ballroom and World Dance Forms Credits: 2
- DAN 205 - Intermediate Tap Credits: 2
- DAN 297 - Introductory Topics in Dance Credits: 2
- ENG 296 - Investigating Equity through Technical and Professional Communication Credits: 3
- EET 115 - Creative Design Using CAD Credits: 3
- ENG 205 - An Introduction to Creative Writing Credits: 3
- ENG 206 - Descriptive and Narrative Writing Credits: 3
- ENG 222 - Reading Poems Credits: 3
- ENG 236 - Intro to Canadian Literature Credits: 3
- ENG 244 - Writers of Maine Credits: 3
- ENG 245 - American Short Fiction Credits: 3
- ENG 249 - American Sports Literature and Film Credits: 3
- ENG 253 - Shakespeare: Selected Plays Credits: 3
- ENG 280 - Introduction to Film Credits: 3
- GEO 265 - The Power of Maps Credits: 3
- HON 180 - A Cultural Odyssey Credits: 1
- HTY 221 - History and Comics Credits: 3
- HTY 265 - The Power of Maps Credits: 3
- INV 121 - Fundamentals of Innovation Credits: 3
- KPE 266 - Teaching Dance and Creative Movement Credits: 3
- MUH 150 - History of Jazz Credits: 3
- MUL 101 - The Art of Listening to Music: Elements Credits: 3
- MUL 150 - Rock'n Roll and other 20th Century Music Credits: 3
- MUO 101 - University Singers Credits: 0-1
- MUO 103 - Oratorio Society Credits: 0-1
- MUO 109 - Collegiate Chorale Credits: 0-1
- MUO 111 - Marching Band Credits: 0-1
- MUO 112 - Concert Band Credits: 0-1
- MUO 113 - Pep Band Credits: 0-1
- MUO 114 - Symphonic Band Credits: 0-1
- MUO 121 - University Orchestra Credits: 0-1
- MUO 132 - Opera Workshop Credits: 0-1
- MUO 141 - Brass Ensemble Credits: 0-1
- MUO 143 - UMAINE Jazz Ensemble Credits: 0-1

- MUO 149 - Chamber Music Credits: 0-1
- MUO 150 - Percussion Ensemble Credits: 0-1
- MUO 155 - Chamber Jazz Ensemble Credits: 0-1
- MUO 160 - Black Bear Men's Chorus Credits: 0-1
- MUS 201 - Applied Music Lessons Credits: 1
- MUS 210 - Applied Music Lessons Credits: 2
- MUS 298 - Special Subjects in Music Credits: 1-3
- MUY 101 - Fundamentals of Music Credits: 3
- NMD 104 - New Media Design Credits: 3
- NMD 170 - 3D Modeling and Animation Credits: 3
- NMD 225 - Digital Music Production Credits: 3
- NMD 241 - Documentary Photography and Storytelling Credits: 3
- NMD 250 - Electronic Music Composition I: Item and Arrangement Credits: 3
- NUR 150 - Scholarship of Wellness & Mindfulness Credits: 1
- NUR 214 - Mindfulness-Based Stress Reduction Credits: 2
- PAX 250 - Peace and Pop Culture Credits: 3
- PHI 104 - Existentialism and Literature Credits: 3
- PHI 222 - Philosophy of Games Credits: 3
- PHI 262 - Philosophy of Art Credits: 3
- POS 355 - Music and Politics in the American Context Credits: 3
- THE 111 - Introduction to Theatre Credits: 3
- THE 117 - Fundamentals of Acting Credits: 3
- THE 200 - Fundamentals of Design Credits: 3
- THE 216 - Fundamentals of Directing Credits: 3
- WGS 206 - Investigating Equity Credits: 3
- WGS 250 - Women and Music Credits: 3
- WGS 260 - Gardening as Social Justice Credits: 3

Quantitative Literacy

Students must complete at least six credit hours in Quantitative Literacy courses. Quantitative literacy is the ability to formulate, evaluate, and communicate conclusions and inferences from quantitative information through problems and analysis inside and outside the major.

Important Note: Students taking any of the courses listed below with an asterisk must meet specific requirements to earn this General Education Requirement. View the full course descriptions to learn specifically how these courses award this General Education Requirement.

- AVS 454 - DNA Sequencing Analysis Lab Credits: 2
- BIO 239 - Biostatistics Credits: 3
- COS 121 - Coding for Everyone Credits: 3
- COS 125 - Introduction to Problem Solving Using Computer Programming Credits: 4
- COS 220 - Introduction to C++ Programming Credits: 3
- ECO 385 - Econometrics Credits: 3
- ERS 152 - Earth's Changing Climate Credits: 3

- ERS 107 - Energy, Environment, & Climate Credits: 3
- ERS 323 - Extreme Weather Credits: 3
- INV 282 - Advanced Innovation Skills Credits: 4
- INV 392 - Commercialize: Innovation Engineering III Credits: 3
- MAT 101 - The Nature and Language of Mathematics Credits: 3
- MAT 103 - Elementary Algebraic Models in Our World Credits: 3
- MAT 109 - Elementary Descriptive Geometry Credits: 3
- MAT 108 - Elementary Numerical Mathematics From A Modern Perspective Credits: 3
- MAT 115 - Applied Mathematics for Business and Economics Credits: 3
- MAT 116 - Introduction to Calculus Credits: 3
- MAT 117 - Applications of Calculus Credits: 3
- MAT 122 - Pre-Calculus Credits: 4
- MAT 126 - Calculus I Credits: 4
- MAT 127 - Calculus II Credits: 4
- MAT 136 - Honors Level Calculus I Credits: 4
- MAT 137 - Honors Level Calculus II Credits: 4
- NMD 105 - Creative Coding I Credits: 3
- NUR 150 - Scholarship of Wellness & Mindfulness Credits: 1
- NUR 203 - Dosage Calculation for Nurses Credits: 1
- PHI 250 - Logic Credits: 3
- PSY 241 - Statistics in Psychology Credits: 4
- SFR 205 - Forest Measurements and Statistics Credits: 3
- SOC 293 - Statistical Reasoning in Sociology Credits: 3
- STS 132 - Principles of Statistical Inference Credits: 3
- STS 235 - Introduction to Statistical Methods Credits: 3
- WGS 205 - Introduction to Feminist and Critical Data Analysis Credits: 3
- WLE 220 - Introduction to Ecological Statistics Credits: 4

Writing Competency

The ability to write well is one of the most important attributes of an educated person. To help ensure this outcome the University requires its students to write throughout their academic careers, focusing both on general-purpose writing and professional writing within their majors. Students must complete:

1. ENG 101, College Composition: All students must complete this course with a grade of C or better, or be excused from this course on the basis of a placement exam or completion of HON 111 and HON 112 with a grade of C or better in each or completion of ENG 100 and ENG 106 with a grade of C or better in each
2. At least two courses designated as writing-intensive, at least one of which must be within the academic major.

Writing Intensive

Important Note: Students taking any of the courses listed below with an asterisk must meet specific requirements to earn this General Education Requirement. View the full course descriptions to learn specifically how these courses award this General Education Requirement.

- ACC 302 - Intermediate Accounting II Credits: 3

- AED 372 - Foundations of Art Education Credits: 3
- ANT 400 - Basic Theory in Cultural Anthropology Credits: 3
- ANT 464 - Ecological Anthropology Credits: 3
- ANT 466 - Economic Anthropology Credits: 3
- ANT 493 - Anthropology Senior Seminar & Capstone Research Project Credits: 3
- ARH 460 - Topics in Art History Credits: 3
- ARH 369 - Film and Video Theory Seminar Credits: 3
- ARH 451 - Art Theory and Criticism Credits: 3
- ARH 452 - Critical Methods in History of Art Credits: 3
- ARH 492 - Baroque Research Seminar Credits: 3
- ARH 493 - Medieval Research Seminar Credits: 3
- ARH 494 - Renaissance Research Seminar Credits: 3
- ARH 495 - Modern/Post-Modern Seminar Credits: 3
- ART 499 - Studio Art Senior Capstone Credits: 3
- AVS 401 - Capstone in Animal Science I Credits: 3
- BEN 361 - Biomedical Engineering Laboratory I Credits: 3
- BEN 363 - Biomedical Engineering Laboratory II Credits: 3
- * BIO 388 - Research Capstone in Biology Credits: 1-3
- * BIO 392 - Independent Study Capstone in Biology Credits: 1-3
- BIO 400 - Biological Sciences Writing Intensive Credits: 1-2
- BIO 402 - Capstone Experience in Biological Sciences Credits: 3
- BMB 426 - Clinical Microscopy and Special Topics Credits: 4
- BIO 431 - Emerging Infectious Diseases Credits: 3
- BIO 438 - Morphogenesis in Development and Disease Credits: 3
- BIO 439 - Integrated Pest Management Credits: 3
- BIO 450 - Histology Credits: 4
- BIO 463 - River Ecology Credits: 4

- BIO 476 - Paleoecology Credits: 4
- * BIO 480 - Cell Biology Credits: 3

  And
- * BIO 483 - Cell Biology Laboratory Credits: 2

- BIS 468 - Information Systems Strategy and Security Management Credits: 3
- BMB 150 - Phage Genome Discovery I Credits: 4
- BMB 460 - Advanced Biochemistry Credits: 3
- CET 356 - Construction Project Administration Credits: 3
- CHE 361 - Chemical Engineering Laboratory I Credits: 3
- CHE 363 - Chemical Engineering Laboratory II Credits: 3
- CHF 322 - Curriculum and Methods for Teaching Social Studies Credits: 3
- CHF 423 - Professional Seminar in Child Development and Family Relations Credits: 3
- CHY 393 - Undergraduate Seminar in Chemistry Credits: 3
- CHY 491 - Advanced Integrated Laboratory I Credits: 3

- CIE 412 - Engineering Decisions Credits: 3
- CLA 101 - Greek Literature in English Translation Credits: 3
- CLA 102 - Latin Literature in English Translation Credits: 3
- CMJ 136 - Journalism Writing and Editing Credits: 3
- CMJ 332 - Public Affairs Reporting and Research Credits: 3
- CMJ 347 - Argument and Critical Thinking Credits: 3
- CMJ 401 - Speech, Space, Event: Critical Applications Credits: 3
- CMJ 365 - SL: Narrative, Performance, and Social Change Credits: 3
- CMJ 483 - Capstone Seminar in Media Studies Credits: 3
- COS 490 - Computers, Ethics and Society Credits: 3
- CSD 490 - Senior Capstone: The Research Process Credits: 3
- ECE 214 - Electric Circuits II Credits: 4
- ECE 342 - Electronics I Credits: 4
- ECE 403 - Electrical and Computer Engineering Design Project Credits: 2
- ECO 416 - Evolutionary Economics Credits: 3
- * ECO 470 - Independent Capstone Credits: 3
- ECO 489 - Senior Capstone Credits: 3
- EES 489 - Critical Issues in Ecology and Environmental Sciences Credits: 4
- EET 100 - Introduction to Electrical Engineering Technology Credits: 4
- EET 452 - Senior Design Project III Credits: 1
- ENG 201 - Strategies for Writing Across Contexts Credits: 3
- EHD 202 - Education in a Multicultural Society Credits: 3
- ENG 205 - An Introduction to Creative Writing Credits: 3
- ENG 206 - Descriptive and Narrative Writing Credits: 3
- ENG 271 - The Act of Interpretation Credits: 3
- ENG 301 - Approaches to Teaching Writing Credits: 3
- ENG 307 - Writing Fiction Credits: 3
- ENG 308 - Writing Poetry Credits: 3
- ENG 309 - Writing Creative Nonfiction Credits: 3
- ENG 315 - Research Writing in the Disciplines Credits: 3
- ENG 317 - Business and Technical Writing Credits: 3
- ENG 320 - Technical Communication for Engineering Credits: 3
- ENG 395 - Writing Center Internship Credits: 3
- ENG 402 - Topics in Writing and Research Credits: 3
- ENG 405 - Topics in Creative Writing Credits: 3
- ENG 415 - Advanced Report & Proposal Writing Credits: 3
- ENG 416 - Document and Information Design Credits: 3
- ENG 418 - Topics in Professional Writing Credits: 3
- ENG 440 - American Seminar Credits: 3
- ENG 445 - Genre Seminar Credits: 3
- ENG 459 - British Seminar Credits: 3
- ENG 460 - Major Authors Credits: 3
- ENG 470 - Topics in Literary Theory and Criticism Credits: 3

- ENG 471 - Literature, Gender, and Gender Theory Credits: 3
- ENG 490 - Research Seminar in Literature Credits: 3
- ERS 200 - Earth Systems Credits: 4
- ERS 315 - Principles of Sedimentology and Stratigraphy Credits: 4
- ERS 316 - Structural Geology Credits: 4
- ERS 441 - Glaciers and Our Landscape Credits: 3
- EDU 426 - Methods for Teaching Science in the Elementary School Credits: 3
- ESC 452 - Methods for Teaching Science in the Secondary School Credits: 3
- FIN 351 - Valuation and Corporate Investment Decisions Credits: 3
- FRE 305 - French Conversation and Composition: Social Issues Credits: 3
- FRE 306 - French Conversation and Composition: Global Issues Credits: 3
- FRE 401 - Translation and Comparative Stylistics Credits: 3
- FRE 413 - Advanced Composition and Stylistics Credits: 3
- FSN 301 - Life Cycle Nutrition Credits: 3
- FSN 425 - Contemporary Issues in the Food Industry Credits: 1
- HON 102 - Connect: Evidence & Argument Credits: 3
- HON 150 - Phage Genome Discovery I Credits: 4
- HON 211 - Civilizations: Past, Present and Future III Credits: 4
- HON 212 - Civilizations: Past, Present and Future IV Credits: 4
- HON 499 - Honors Thesis/Research II Credits: 3
- * HTI 499 - Capstone in Interdisciplinary Studies in Multimodal Interaction Credits: 3-6
- HTY 311 - Research Seminar Credits: 3
- HTY 405 - Early Modern Europe: The Age of Reform Credits: 3
- HTY 461 - Colonial British America to 1763 Credits: 3
- HTY 498 - Senior Seminar in History Credits: 3
- INV 282 - Advanced Innovation Skills Credits: 4
- KPE 271 - Professional Dispositions and Research in Physical and Health Education Credits: 3
- KPE 425 - Health Promotion and Disease Prevention Credits: 3
- LAS 497 - Independent Study: Capstone for Bachelor of University Studies Credits: 3
- LDR 395 - Bipartisan Leadership: Lessons for William S. Cohen’s Career in Public Service Credits: 3
- MAT 261 - Introduction to Abstract Mathematics Credits: 3
- MEE 365 - Thermo-Fluids Laboratory Credits: 3
- MES 101 - Introduction to Maine Studies Credits: 3
- MES 201 - The Maine Coast Credits: 3
- MES 301 - Rachel Carson, Maine, and the Environment Credits: 3
- MET 234 - Mechanical Technology Laboratory I Credits: 3
- MGT 330 - Managing Human Resources Credits: 3
- MKT 480 - Managerial Marketing Credits: 3
- MSL 401 - The Army Officer Credits: 4
- MUH 201 - History of Western Music I Credits: 2
- NMD 498 - New Media Capstone I Credits: 3
- NUR 310 - Evidence Based Practice in Healthcare Credits: 3
- PAX 250 - Peace and Pop Culture Credits: 3

- PAX 260 - Realistic Pacifism Credits: 3
- PHI 201 - Practicing Philosophy Credits: 3
- PHI 475 - Philosophy Capstone Credits: 3
- PHY 364 - Modern Experimental Physics Credits: 2
- PHY 365 - Mechanics Laboratory Credits: 2
- POS 301 - Classical Political Thought Credits: 3
- POS 303 - Early Modern Political Thought Credits: 3
- POS 304 - American Political Thought Credits: 3
- POS 305 - Late Modern Political Thought Credits: 3
- POS 385 - Women and Politics Credits: 3
- POS 453 - Political Behavior and Participation Credits: 3
- POS 467 - African Politics Credits: 3
- POS 499 - Senior Seminar in Political Science Credits: 3
- PSE 360 - Agroecology and Sustainable Cropping Systems Credits: 4
- PSE 424 - Nursery Management Credits: 3
- PSE 425 - Landscape Management Credits: 3
- PSY 491 - Senior Seminar in Psychology Credits: 3
- * PSY 494 - Senior Research Project Credits: 1-3
- SFR 490 - Small Woodlot Management Credits: 3-4
- SFR 491 - Senior Capstone in Parks, Recreation and Tourism Credits: 3
- * SFR 492 - Capstone Directed Study Credits: 1-4
- SFR 493 - Sustainable Tourism Planning Credits: 3
- * SFR 498 - Senior Research I Credits: 2
- * SFR 499 - Senior Research II Credits: 2
- * SMS 400 - Capstone Research Experience in Marine Science Credits: 1-4
- * SMS 404 - Capstone Seminar in Marine Science Credits: 1
- SOC 290 - Research Foundations in Sociology Credits: 3
- SOC 311 - Rural Sociology: Sociology Beyond the City Credits: 3
- SPA 305 - Applied Spanish Credits: 3
- SPA 306 - Workshop in Speaking and Writing Spanish Credits: 3
- SPA 309 - Spanish for the Professions Credits: 3
- SPA 414 - History of the Spanish Language Credits: 3
- SPA 444 - Theory and Techniques of Translation Credits: 3
- SPT 250 - Introduction to Sport Management Credits: 3
- SVT 221 - Boundary Law Credits: 3
- SVT 451 - Survey Business Law Credits: 3
- SVT 475 - Small Business Management Credits: 3
- SWK 440 - Social Welfare Policy and Issues Credits: 3
- THE 360 - Global Theatre History Credits: 3
- THE 460 - Topics in Global Theatre Credits: 3
- UST 300 - Core Course in University Studies Credits: 3
- WGS 410 - Feminist, Gender and Queer Theory Credits: 3
- WLE 201 - Ecology Laboratory Credits: 3

- WLE 455 - Wildlife-Habitat Evaluation Credits: 2
- WLE 457 - Ecology and Management of Game Birds Credits: 3

Ethics

Students must complete at least one approved course or series of courses placing substantial emphasis on the discussion of ethical issues.

Important Note: Students taking any of the courses listed below with an asterisk must meet specific requirements to earn this Core Requirement. View the full course descriptions to learn specifically how these courses award this Core Requirement.

- ANT 102 - Introduction to Anthropology: Diversity of Cultures Credits: 3
- ANT 245 - Sex and Gender in Cross-Cultural Perspective Credits: 3
- ANT 247 - Animals across Cultures Credits: 3
- ANT 249 - Religion and Violence Credits: 3
- * BEN 477 - Elements of Biomedical Engineering Design Credits: 3
- * BEN 479 - Biomedical Engineering Design II Credits: 3
- * BEN 493 - Biomedical Engineering Seminar Credits: 0-1
- * CHE 477 - Elements of Chemical Engineering Design Credits: 3
- * CHE 479 - Chemical Engineering Design Projects Credits: 3
- * CHE 493 - Chemical Engineering Seminar Credits: 0-1
- CHF 351 - Human Sexuality Credits: 3
- CHF 452 - Violence in the Family Credits: 3
- CIE 210 - Sustainability in Engineering Credits: 3
- CIE 412 - Engineering Decisions Credits: 3
- COS 490 - Computers, Ethics and Society Credits: 3
- DIS 400 - Disability as Diversity I Credits: 3
- ECO 112 - Economics of Social Issues and Ethical Dilemmas Credits: 3
- ECO 381 - SL: Sustainability Science, Policy, and Action Credits: 3
- ENG 242 - Introduction to Native American Literature Credits: 3
- EET 484 - Engineering Economics Credits: 3
- ENG 236 - Intro to Canadian Literature Credits: 3
- ENG 238 - Introduction to Ecoliterature: Re-Imagining Nature and the Environment Credits: 3
- ENG 243 - Topics in Identity and Representation Credits: 3
- ENG 244 - Writers of Maine Credits: 3
- ENG 245 - American Short Fiction Credits: 3
- ENG 249 - American Sports Literature and Film Credits: 3
- ENG 253 - Shakespeare: Selected Plays Credits: 3
- ENG 296 - Investigating Equity through Technical and Professional Communication Credits: 3
- FAS 140 - Searching for Family Origins: Genealogy, DNA, and Family Trees Credits: 3
- FSN 436 - Food Laws and Regulations Credits: 3
- HON 308 - Visiting Scholar in Ethics Tutorial Credits: 3
- HTY 310 - Slavery, Politics, and Memory in American History Credits: 3
- HTY 479 - North American Environmental History Credits: 3

- INT 125 - Experiential Program Innovation Central Credits: 3
- JST 205 - Jewish History and Antisemitism from Antiquity to the Founding of the State of Israel Credits: 3
- KPE 411 - Ethics and Social Justice in Outdoor Leadership Credits: 3
- LDR 200 - Leadership Ethics Credits: 3
- * MGT 220 - The Legal Environment of Business Credits: 3
- * MGT 449 - Strategic Management Credits: 3
- MSL 302 - Training Applied Leadership in Small Unit Operations Credits: 3
- MSL 401 - The Army Officer Credits: 4
- MUE 210 - Introduction to Music Education Credits: 3
- NAV 304 - Leadership and Ethics Credits: 3
- NUR 455 - Senior Clinical Practicum Credits: 5
- PAX 290 - Nonviolence: Perceptions and Perspectives Credits: 3
- PAX 351 - This Sacred Earth: Ecology and Spirituality Credits: 3
- PAX 491 - Forgiveness: Creating a Culture of Peace and Reconciliation Credits: 3
- PHI 100 - Contemporary Moral Problems Credits: 3
- PHI 102 - Introduction to Philosophy Credits: 3
- PHI 104 - Existentialism and Literature Credits: 3
- PHI 210 - Classical Greek & Roman Philosophy Credits: 3
- PHI 221 - Classical Chinese Philosophy Credits: 3
- PHI 230 - Ethics Credits: 3
- PHI 231 - Topics in Applied Ethics Credits: 3
- PHI 232 - Environmental Ethics Credits: 3
- PHI 235 - Biomedical Ethics Credits: 3
- PHI 240 - Social and Political Philosophy Credits: 3
- PHI 244 - Philosophy of Law Credits: 3
- PHI 287 - Classical Indian Philosophy Credits: 3
- PHI 336 - Feminist Philosophy Credits: 3
- POS 201 - Introduction to Political Theory Credits: 3
- POS 282 - Introduction to American Law Credits: 3
- POS 305 - Late Modern Political Thought Credits: 3
- SFR 446 - Forest Resources Policy Credits: 3
- WGS 101 - Introduction to Women's, Gender, and Sexuality Studies Credits: 3
- WGS 206 - Investigating Equity Credits: 3
- WGS 230 - Women, Health, and the Environment Credits: 3

Capstone Experience (3 Credits Minimum)

Students must complete a capstone experience. The goal is to draw together the various threads of the undergraduate program that bear directly upon the academic major in an experience that typifies the work of professionals within the discipline. Normally, the Capstone would conclude at the end of the student's senior year. Students should consult closely with their academic advisor to explore the range of options available for meeting this requirement.

The University of Maine 2025-2026 Undergraduate Catalog

UM Machias Core Requirements

Our strong liberal arts core supports students as they develop the skills, knowledge, and values necessary for lifelong intellectual engagement, professional success, and responsible citizenship. The core experience provides students with opportunities to build an array of thinking and communication skills, while acquiring a broad base of knowledge from diverse disciplines and cultures. It promotes active learning and community engagement through scholarship and application of knowledge. The core fosters critical thinking, creativity, integrity and flexibility. The core experience complements each program of study so that students graduate from UMM ready to live full and interesting lives.

Artistic & Creative Expression - 4-6 credits

At least 4 credits from two different disciplines, one class must be studio/performance.

Courses indicated with an asterisk fulfill the studio/performance requirement.

Three Credit Options:

- * ART 106 - Art Fundamentals Credits: 3
- * ENG 205 - An Introduction to Creative Writing Credits: 3 *(was ENG 210)*
- MUL 101 - The Art of Listening to Music: Elements Credits: 3 *(was MUS 115)*
- MUL 104 - Music in Film: 20th Century & Beyond Credits: 3
- * CMY 110 - Downeast Documentary Credits: 3

  or
- * NMD 208 - Digital Video Production Credits: 3

  One Credit Options:
- MUS 103 - Applied Music: Private Lessons Credits: 1
- * MUS 201 - Applied Music Lessons Credits: 1 *(was MUS 103)*

Cultural Diversity & International Perspective - 3 credits

- ANT 102 - Introduction to Anthropology: Diversity of Cultures Credits: 3 *(was ANT 101)*
- EDU 217 - Working with Culturally Diverse Students Credits: 3
- MGT 343 - Introduction to International Business Credits: 3
- MHR 310 - Counseling Diverse Populations Credits: 3
- Any world Language Course Credits: 3

  Options that may require international travel:
- CMY 300 - Crossing Borders Credits: 3 *(was CMY 313)*

  or
- HON 300 - Crossing Borders Credits: 3 *(was HON 313)*
- REM 210 - Nature-Based Tourism & Sustainable Development Credits: 3

- Sustainable Development International Trip (ANT/ART/HTY/SOC)

Ethics - 3 credits

- BIO 240 - Introduction to Bioethics Credits: 3
- CRJ 201 - Ethics in Criminal Justice Credits: 3
- ENG 117 - Introduction to Literature and Ethics Credits: 3
- MGT 327 - Business and Society Credits: 3 *(was BUS 325)*
- PHI 100 - Contemporary Moral Problems Credits: 3 *(was PHI 102)*
- PHI 232 - Environmental Ethics Credits: 3 *(was ENV 213)*

Personal Wellness - 3 credits

- PHE 107 - Personal Wellness Credits: 3

Population & the Environment - 3 credits

- ANT 213 - Environmental Anthropology Credits: 3 *(was ANT 212)*
- ECO 105 - Environmental Policy Credits: 3
  (was ECO 223)
- EES 100 - Human Population and the Global Environment Credits: 3 *(was ENV 112)*
- GEO 100 - World Geography Credits: 3 *(was GEO 101)*
- ENG 120 - Apocalyptic Literature Credits: 3
- PSY 217 - The Psychology of Sustainability Credits: 3
- SFR 150 - Introduction to Tourism Credits: 3 *(was REM 219)*

Program Capstone Experience in Major - 3-6 credits

Students must complete a capstone experience. The goal is to draw together the various threads of the undergraduate program that bear directly upon the academic major in an experience that typifies the work of professionals within the discipline. Normally, the Capstone would conclude at the end of the student's senior year.

See Academic Program for Requirements

Quantitative Literacy - 3-8 credits

Algebra Requirements - 3-4 credits:

- MAT 103 - Elementary Algebraic Models in Our World Credits: 3 *(was MAT 103M)*
- MAT 104 - Workshop Credits: 1 (this is an optional workshop for MAT 103)
- MAT 111 - Algebra for College Mathematics Credits: 3 *(was MAT 111M)*
- MAT 112 - Workshop Credits: 1 (this is an optional workshop for MAT 111)

  Or establish equivalence by:
  - Score at least 530 on the SAT MSS exam or at least 21 on ACT math exam (no credit is awarded, but the requirement is satisfied).

- Score 50 or better on CLEP College Mathematics or College Algebra exam taken after 7/1/2001 or 500 or better on the same exam taken before that date.
- Score 61 or higher on the UM ALEKS placement test.
- Transfer in a course equivalent to pre-calculus, calculus, or any course with college algebra as the prerequisite.

Select one of the following - 3-4 credits:

- BIO 215 - Applied Statistics for Biologists Credits: 4 *(was MAT 215)*
- MAT 101 - The Nature and Language of Mathematics Credits: 3 *(was MAT 105)*
- MAT 108 - Elementary Numerical Mathematics From A Modern Perspective Credits: 3 *(was MAT 114)*
- MAT 122 - Pre-Calculus Credits: 4
- MAT 126 - Calculus I Credits: 4
- MAT 145 - Introduction to the History of Mathematics Credits: 3 *(was MAT 118)*
- SSC 124 - Statistics for the Social Sciences Credits: 3 *(was MAT 124)*
- STS 132 - Principles of Statistical Inference Credits: 3 *(was MAT 113)*

Service Learning Experience in Major - 3 credits

As a public institution of higher education, UMM has a responsibility to prepare students not only for their future careers, but also for their obligations as citizens in their communities and in the world. In addition to fostering students' intellectual development, UMM is also dedicated to the idea that students should develop ethically and socially, becoming responsible citizens. Students engage in service through program-specific activities designed into the required curriculum of degree programs.

See Academic Program for Requirements

Scientific Inquiry - 4 credits

- BIO 117 - This is Life! Credits: 4
- CHY 121 - General Chemistry I Credits: 3 *(CHY 121 and CHY 123 were CHY 101)*

  and
- CHY 123 - General Chemistry Laboratory I Credits: 1
- GIS 102 - Our Digital Earth Credits: 4
- PHY 111 - General Physics I Credits: 4
- PHY 121 - Physics for Engineers and Physical Scientists I Credits: 4
- SMS 103 - Oceanography Credits: 4 *(was ENV 103)*

Social Contexts & Institutions - 3 credits

- CRJ 114 - Survey of Criminal Justice Credits: 3 *(was CRJ 101)*
- EDU 112 - Foundations of Education Credits: 3
- MGT 111 - Introduction to Small Business Management Credits: 3 *(was BUS 111)*
- PSY 100 - General Psychology Credits: 3 *(was PSY 110)*
- SOC 101 - Introduction to Sociology Credits: 3 *(was SOC 114)*

Western Cultural Tradition - 3 credits

- ANT 221 - Introduction to Folklore Credits: 3 *(was ANT 216)*
- ARH 111 - Art History I Credits: 3 *(was ART 111)*
- ENG 226 - Literary Classics: A Wish List Credits: 3
- HTY 115 - World History to 1500 Credits: 3
- HTY 116 - World History since 1500 Credits: 3
- REM 110 - Foundations of Recreation and Parks Credits: 3

Writing Competency - 9-12 credits

- ENG 101 - College Composition Credits: 3
- ENG 111 - Composition & Presentation II Credits: 3
- Upper level writing intensive course in the major Credits: 3-6