

2016-2017 Undergraduate Catalog

Welcome to the University of Maine's undergraduate electronic catalog for the 2016-2017 academic year.

We've updated this catalog as of August 15th, 2016.

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 umrecord@maine.edu with any suggestions or ideas you would like to share with us.



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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

The University of Maine does not discriminate on the grounds of race, color, religion, sex, sexual orientation, including transgender status and gender expression, national origin, citizenship status, age, disability, genetic information or veteran's status in employment, education, and all other programs and activities. The following person has been designated to handle inquiries regarding non-discrimination policies: Director, Office of Equal Opportunity, 101 North Stevens Hall, 581-1226.

Sexual Harassment Policy

Sexual harassment of either employees or students is a violation of federal and state laws. It is the policy of the University of Maine System that no member of the University System community may sexually harass another. In accordance with its policy of complying with non-discrimination laws, the University System will regard freedom from sexual harassment as an individual employee and student right which will be safeguarded as a matter of policy. Any employee or student will be subject to disciplinary action for violation of this policy.

In conformance with this policy, the University of Maine System will ensure fair and impartial investigations that will protect the rights of the person(s) filing sexual harassment complaints, the person(s) complained against, and the institution or unit. Retaliation against anyone who makes a complaint of sexual harassment or who is involved in a complaint process will not be tolerated.

Consenting relationships may constitute sexual harassment under this policy. 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. 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.

Definitions:

Unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature constitute sexual harassment when:

1. submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment or education;
2. submission to or rejection of such conduct by an individual is used as the basis for academic or employment decisions affecting that individual; or
3. such conduct has the purpose or effect of interfering with an individual's academic or work performance or creating an intimidating, hostile or offensive employment, educational, or living environment.

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: Office of Equal Opportunity and Diversity, The University of Maine, Room 101, 5754 North Stevens Hall, Orono, ME 04469-5754; (207) 581-1226 (voice and TDD).

President's Message

Welcome to the University of Maine!

Education has the power to markedly change and improve lives. At the University of Maine, we are committed to empowering our more than 11,000 undergraduate and graduate students to make a difference in their lives and in the world around them through active learning and public service.

UMaine offers more than 90 undergraduate majors and academic areas, the only Graduate School in the University of Maine System, and one of the nation's oldest and most prestigious honors programs. Nationally and internationally recognized faculty, researchers and scholars interact with UMaine students, who come from across Maine, the United States and more than 65 countries, greatly enriching the undergraduate experience.

UMaine is ranked among the National Science Foundation's top research universities and has been recognized with the Community Engagement Classification from the Carnegie Foundation for the Advancement of Teaching. Undergraduate students have opportunities to be active participants in research in the laboratory and in the field. The UMaine student experience includes internships, co-ops, or study abroad or volunteer opportunities, as well as participation in some of the more than 200 student organizations.

The University of Maine is also home to the state's only Division I athletics program, unique cultural facilities and the state's largest library. UMaine is committed to developing and sustaining a multicultural and pluralistic educational community. It also is dedicated to environmental stewardship on campus and beyond as part of its leadership in sustainability.

This catalog is a primary source of information as you pursue your academic career at the University of Maine. We welcome you as part of our UMaine community and look forward to seeing just how far your aspirations will take you.

Susan J. Hunter, Ph.D.
President

Academic Year Calendar

2016-2017 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 2016

Classes begin	Monday, August 29
Last day to add courses	Friday, September 2
No Classes Labor Day	Monday, September 5
Last day to drop classes	Sunday, September 11
Classes dropped on or before this date will not appear on transcript	Thursday, September 29, 4:30 p.m.
Fall break begins	Monday, October 10
Classes resume	Wednesday, October 12
Registration for Spring 2016 (tentative)	October 24 - November 18
Veteran's Day (classes canceled except those that meet once a week)	Friday, November 11
Last day to withdraw from a class and receive 'W' grade (Withdrawn classes after this date will receive failing grade.)	Friday, November 11, 4:30 p.m.
Application for Graduation filing deadline (Dec)	Tuesday, November 15
Thanksgiving break begins	Wednesday, November 23
Classes resume	Monday, November 28

Classes end	Friday, December 9
Final exams begin	Monday, December 12
Final exams end	Friday, December 16

Winter Session: Tuesday, December 27, 2016 -- Saturday, January 14, 2017

Spring Semester 2017	
Classes begin	Tuesday, January 17
Last day to add courses	Monday, January 23
Last day to drop courses	Monday, January 30
Classes dropped on or before this date will not appear on transcript	Thursday, February 16, 4:30 p.m.
Spring recess begins	Monday, March 6
Application for Graduation filing deadline (May)	Wednesday, March 15
Classes resume	Monday, March 20
Registration for Fall 2016 (tentative)	March 27 - April 28
Last day to withdraw from a class and receive 'W' grade (Withdrawn classes after this date will receive failing grade.)	Wednesday, April 12, 4:30 p.m.
Maine Day (No classes except classes that meet two or fewer times per week)	Wednesday, May 3
Classes end	Friday, May 5
Final exams begin	Monday, May 8
Final exams end	Friday, May 12
Commencement	Saturday, May 13

Summer University: Monday, May 15 -- Friday, August 18, 2017

(Summer University classes have variable start and end dates)

University Overview

The University of Maine, established in Orono in 1865 under the provisions of the Morrill Act, celebrated its 150th anniversary in 2015. As Maine's land grant and sea grant institution with a statewide mission of teaching, research and community engagement, the university extends the resources of its learning community to address the educational, economic, cultural and social needs of Maine.

UMaine provides high-quality, affordable education that utilizes practices grounded in how people best learn. The university conducts research and scholarship that are critically evaluated within the disciplines and often leads to national and international recognition. And UMaine engages in outreach that is connected to and supportive of the people and the enterprises of the state of Maine. As part of the UMaine experience, students are involved in real-world enterprises that inform their academic work and provide growth opportunities.

The university has seven Signature Areas of Excellence in education and research - forestry and the environment, marine sciences, STEM education, climate change, advanced materials for infrastructure and energy, College of Engineering and Honors College. UMaine's Emerging Areas of Excellence focus on the Graduate School of Biomedical Science and Engineering, Northeastern Americas humanities, data science and engineering, sustainability solutions and technologies, aging research and finance education.

UMaine is one of the nation's major public institutions of higher education, and the state's center for research and graduate education. Maine's flagship university enrolls more than 11,000 undergraduate and graduate students from across the U.S. and more than 65 countries. The University of Maine offers doctoral degrees in 35 fields, representing the humanities, sciences, engineering and education; master's degrees in 70 disciplines; more than 90 undergraduate majors and academic programs. The research and scholarship of UMaine faculty members and graduate students greatly enrich the undergraduate experience. As a research university, UMaine offers undergraduates opportunities to be active participants in research, working with the university's world-class scholars.

The university has the state's largest mix of nationally and internationally recognized faculty, researchers and scholars, representing some of the most respected minds in their fields. Among the state's public universities, UMaine awards 37 percent of all four-year degrees, 47 percent of all master's degrees, and 82 percent of Maine's Ph.D.s and Ed.D.s. More than 1,600 students graduate from the university annually, joining approximately 107,000 alumni.

The University of Maine has the Maine Business School and five colleges - College of Engineering; College of Natural Sciences, Forestry, and Agriculture; College of Education and Human Development; and College of Liberal Arts and Sciences. UMaine's Honors College offers one of the oldest honors programs in the country.

The university's commitment to lifelong learning goes beyond its academic degree programs to include its statewide outreach through University of Maine Cooperative Extension and other public service programs and departments, its involvement in public schools, and its accessibility through continuing education opportunities.

The University of Maine conducts nationally and internationally recognized research, and is in partnership with the private and public sectors to stimulate and support the state's economic growth and development. The university makes an impact on Maine's quality of life through basic and applied research in venues from the Gulf of Maine and Maine's forestlands to the high-tech laboratories.

The University of Maine is also home to unique cultural facilities. The Collins Center for the Arts on campus is one of the state's premier performing arts facilities, attracting some of the world's most prestigious artists to the region. The university's School of Performing Arts and Department of Art are two of the strongest cultural forces in the academic arts in the state. The Museum of Art has the largest fine arts collection owned by the citizens of Maine. The Hudson Museum has one of the finest collections of pre-Columbian artifacts in North America. Page Farm and Home Museum celebrates Maine's history of farms and farming communities. The university also is the home of the state's largest library and the Emera Astronomy Center, with the state's largest planetarium and telescope.

Admission

Admission to the University of Maine is selective. The University seeks 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 of Maine 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 for a Campus Tour and Admissions Welcome. 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 <http://www.umaine.edu/visit/> or contact the Office of Admission toll-free at 1-877- 4UM-ADMIT (486-2364).

Academic Entrance Requirements

Academic course requirements for admission to the University of Maine are established by each of the five undergraduate colleges. 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 that did not complete requirements for the 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.

Applying for Admission

Candidates are encouraged to apply electronically by visiting our undergraduate admission website at www.go.umaine.edu. Application forms are also available to download from the website and may be available in many high school guidance offices, or by contacting the Office of Undergraduate Admission by calling toll-free at 877-4- UM-ADMIT (486-2364), or by e-mail at umaineadmissions@maine.edu. The University of Maine accepts the following forms of application: Common Application, University of Maine System Application, and Mobile Friendly App.

Permanent Resident Candidates

Candidates who are permanent residents of the United States, and hold a resident alien card issued by the United States Immigration and Naturalization Service, must submit their A number (at the time of application.) This is required to document the candidate's status with the I.N.S. 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 The English Language Proficiency Test (ELPT). 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.

Early Action Admission Program

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 1 st . 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.

Regular Admission and Recommended Filing Dates

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

Admission Condition

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.

Misconduct at another Institution or Conviction of a Misdemeanor, Felony or Other Crime

Two questions regarding misconduct at other institutions and misdemeanor, felony and other crimes are included on the application. These questions must be answered in order to be considered for admission. If either question is answered with a yes response, further review will be necessary which may delay the student's admission decision.

Admission Categories

First-year Students

Students applying directly from high school, and adult, non-traditional students who have never attended college, are considered first-year applicants.

In addition to the admission application and required \$40.00 fee, students must submit official high school transcripts complete through the most recent set of grades available at the time the application is submitted, results from the SAT or ACT standardized test* 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) and are encouraged to submit the results of SAT II subject exams in academic areas relevant to their intended major.

*not required of applicants who are at least 20 years of age at the time of application and who have never attended a post-secondary institution.

Standardized Test Policy

First year candidates are required to submit 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 Applicants

Candidates applying for transfer from other colleges or universities are encouraged to apply by December 1 for spring admission and March 1 for fall admission. 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 and required fee, transfer students must submit an official final high school transcript showing date of graduation and official transcripts of all attempted college-level coursework. Transfer students who have successfully completed 12 credits of college work are not required to submit SAT or ACT scores. 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.

New Media

First year and transfer admission to the New Media Program 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 NewMedia.

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.

Nursing Transfer Students

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.

College of Education and Human Development Transfer Students for Teaching Certification Programs

Effective January 2008, the College of Education and Human Development requires students who transfer into a teacher certificate program to successfully pass PRAXIS I, based on the state of Maine requirements, after 1 semester of attendance at UMaine. Transfer students with 45+ credits not passing PRAXIS I 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.

Readmission

Former University of Maine degree candidates planning to return to the campus to resume undergraduate work must complete a Re-admit Form and submit it to the academic dean of the undergraduate college or the director of the program in which enrollment is sought. Candidates will be notified by the dean's office of the re-admission decision.

On the Re-admit form students must answer three questions regarding misconduct at other institutions and misdemeanor, felony and other crimes. These questions must be answered in order to be considered for re-admission. If any question is answered with a yes response, further review will be necessary which may delay the student's re-entry date. 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.

Time Limitations of Course Work: Some subject areas have changed dramatically over time. Courses over ten years old will be subject to additional review to determine if they are in fields where there have been significant changes making the material outdated. Those courses that are determined to be missing important new material will be excluded from applying to the degree program upon re-admission.

Reactivation

Students who previously applied to the University, but did not enroll within two years of the original date of application, may request a reactivation of their application by completing a Request to Reactivate Admissions Application form. A \$40 application fee is required. 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.

On the Reactivation form students must answer two questions regarding misconduct at other institutions and misdemeanor, felony and other crimes. These questions must be answered in order to be considered for re-admission. If any question is answered with a yes response, further review will be necessary which may delay the student's re-entry date. 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.

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 submit 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 prior to graduation from high school are not eligible for federally funded financial aid.

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 not approved for candidates who enroll at any other college, university, or post-graduate year of secondary school study. Candidates approved for deferred admission will be required to submit a non-refundable deposit of \$150 to confirm their plans to attend the university, which will be held on account by the University Bursar's 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 1 st for fall semester enrollment and prior to January 1 st 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 1 st , for candidates who applied for the fall semester and by January 1 st for spring semester candidates.

Accepting the Offer of Admission - Enrollment Deposit

Students accepted to the University of Maine for fall entrance must confirm their plans to attend the University and submit a \$150 enrollment deposit by May 1 st . Students choosing to deposit before May 1 st may request a refund in writing postmarked no later than May 1 st . Deposits are not refundable after May 1 st . Students accepted after May 1 st must confirm their plans to attend and submit a non-refundable \$150 enrollment deposit within two weeks of notification. The enrollment deposit is credited to the student's account in the University Bursar's Office. Students accepted to the University of Maine for the spring semester are requested to submit a \$150 non-refundable enrollment deposit by January 1 st or two weeks from the date of acceptance if the acceptance is later than January 1 st . Questions about the enrollment deposit should be directed to the Admissions Office.

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. The major chosen must be one that is not available in the student's home state (as approved by the public institution in the home state) and is available for the tuition reduction by the institution the student plans to attend. For a current listing of qualifying majors by state, please visit the NEBHE website.

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, Wingate Hall Rm. 201. 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.

International Student Admission

The University of Maine welcomes applications from international students as first-year applicants or transfers. The Office of International Programs is the admissions office for undergraduate international applicants. Applicants can apply by downloading an application from their website (www.umaine.edu/international) or online at <http://apply.maine.edu/>. The Common Application is also accepted. A printed application may be requested from the Office of International Programs at 6727 Eastabrook Hall, Room 250, 15 Estabrooke Drive, Orono, ME 04469-5782. The telephone number of the Office of International Programs is (207) 581-2905 and the email address for an application or admission questions is umintadm@maine.edu.

Candidates are required to submit the completed application, an application fee of \$40.00 payable by check, money order, credit card or bank draft in US dollars, official results of TOEFL or IELTS (if English is not the candidate's native language), and official copies of transcripts, grade reports, etc., with certified English translations. Educational records must include subjects studied by year, grades or marks or percentage earned in year-end examinations, as well as copies of diplomas, degrees or certificates, and a description of the grading system. The SAT is suggested but not required. The Office of International Programs alerts students when they are academically admissible to the University. Financial documentation must then be forwarded and approved before immigration documents and the official admission letter are sent. Financial documents include copies of bank statements and official affidavits of support and must be less than one year old. These documents must be English. The University requires a TOEFL score of 580 paper/79 Internet based for regular admission.

Transfer students who have studied in the United States for at least two years are not required to submit a TOEFL score. Transfer students outside the U.S. must submit a TOEFL score of 580/79, or IELTS of 6.5 for regular admission, and professionally evaluated transcripts. Suggested evaluation services are listed on the website of the Office of International Programs at www.umaine.edu/international.

Students whose English does not meet the University of Maine's standard may be admitted to the Intensive English Institute for English preparation if their academic background meets regular admission standards. Information about the Intensive English Institute at UMaine is available at www.umaine.edu/iei

International applicants are urged to start the admission process early. The Office of International Programs reviews applications as they are received. To ensure living space on campus, the suggested deadline for Fall admission is no later than May 15.

International Students and their dependents MUST have appropriate medical health insurance that meets limits established and required by the University of Maine.

Applications for the International Student Tuition scholarship can be obtained from the Office of International Programs or by downloading an application as per the information provided above. International student applicants must submit a separate application for the scholarship if they wish to be considered. The deadline for applications is February 1.

Placement Tests

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. 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 <http://umaine.edu/mlandc/placement-exams/>.

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.

Division of Lifelong Learning Admission

The University of Maine offers a variety of academic programs through the Division of Lifelong Learning. Courses are taught on campus, at selected off-campus sites, and through distance technologies including television and the web. Categories of enrollment in Continuing Education include:

Part-time degree Students:

Students who have met all entrance requirements for either undergraduate or graduate degree enrollment may enroll in courses offered through the DLL. Students seeking admission must file applications with the undergraduate Office of Admission or the Graduate School.

Non-degree Students:

Students interested in taking University of Maine courses for personal or professional enrichment are advised to contact DLL office in Chadbourne Hall Rm. 122, for class schedules and registration information.

Baccalaureate Students:

The Division of Lifelong Learning offers the Bachelor of University Studies degree. Course offerings are through DLL and Summer Session division. Interested candidates should contact the DLL office for more detailed information regarding entrance requirements.

Information and registration materials may be obtained by writing to the Division of Lifelong Learning, 5713 Chadbourne Hall, Room 122, The University of Maine, Orono, ME 04469-5713, by calling (207) 581-3142, by faxing (207) 581-3141, or via the web at <http://dll.umaine.edu/>. All applications for admission and supporting documents should be submitted to the Office of Admission, 5713 Chadbourne Hall, The University of Maine, Orono, ME 04469-5713.

High School Aspirations Incentive Program

This program provides the opportunity for Maine high school students, who are attending a public Maine high school or a private Maine high school that has been authorized to receive public funds to attend college courses at the University of Maine and is designed to enhance, not replace, the students' high school curriculum. Tuition waivers (based on available funding) may be available for fall and spring courses. All registration information and grades earned will become a part of the student's permanent academic record; all grades earned will be included in the student's cumulative grade point average at the University of Maine in accordance with academic policy.

The High School Aspirations Incentive Program is designed for traditional Maine high school students who are attending Maine high schools that have been approved to participate in the Aspirations Program and who have reached at least the junior level (or equivalent), have permission from their high school and their parent or guardian, and have a minimum grade point average of "B" (3.0 on a 4.0 scale). The program is also open to non-traditional Maine high school students attending approved Maine high schools and who have the approval of an adult education director and/or high school counselor and have a minimum grade point average of "B" (3.0 on a 4.0 scale) on their adult education coursework.

Resident students may pay one-half of the in-state tuition cost per credit hour (most courses are three credits) depending on funds available for the program. Out-of- state students attending Maine high schools are eligible to participate, but will be charged based on the out-of- state tuition cost per credit hour. Funding is based on the availability of University financial resources and funding by the Maine State Department of Education. Courses successfully completed and credits earned may be applied toward a University of Maine undergraduate degree.

Courses may be taken during the fall and spring semesters, only rarely are funds available for summer courses. Approved students who wish to enroll in summer session courses will be charged at the full tuition rate. All students must meet the academic course prerequisites, and registration for classes is subject to space availability. Course selection is limited to classes taught by direct, on-site instruction.

Distance courses such as web based courses, compressed video (CV) and Interactive TV (ITV) are not approved for this program. Traditional high school students may enroll in a maximum of two courses or six credits, whichever is greater, per semester for their junior and senior years. Adult education students may enroll in a maximum of two courses or six credits, whichever is greater, per semester for up to two semesters only. Financial aid is not available to cover the cost of courses. All registration information and grades will become a part of the student's permanent academic record, all grades earned will be included in the student's cumulative grade point average at the University of Maine in accordance with academic policy.

For more information and application material contact the Office of Admission at (207) 581-1561.

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 127 East Annex. 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.

New England Regional Student Program

The University of Maine New England Regional Student Program

Qualified New England residents are given preferred consideration at other state institutions in degree programs unavailable in their home state. At UMaine, students are charged in-state tuition plus a 50 percent surcharge. Residents of states marked with an "X" are eligible for the RSP tuition break at The University of Maine in the programs listed below.

Please note: All programs listed are not eligible for students entering in all academic years, see footnotes below.

Major (subject to review & change)	Major Code	CT	MA	NH	RI	VT
Athletic Training	ATR-BS				X	
Bioengineering	BEN-BS	X	X	X	X	X
Botany	BOT-BS/BA		X			
Chemical Engineering	CHE-BS					X
Child Development and Family Relations	CHF-BS		X*			
Construction Engineering Technology	CTE-BS		X	X	X	
Electrical Engineering Technology	BET-BS	X		X	X	X#
Engineering Physics	EPS-BS			X	X	X
Environmental Horticulture###	ENH-BS					X
Financial Economics	FIE-BS/BA					X
Food Science & Human Nutrition	FSN-BS			X	X	
Forest Ecosystem Science & Conservation##	FEC-BS				X	
Forest Operations, Bioproducts, and Bioenergy	FBB-BS	X	X		X	X
Forest Operations Science##	FSC-BS	X	X		X	X
Forestry	FTY-BS	X	X		X	
Landscape Horticulture##	LHC-BS			X		
Marine Science	MAS-BS	X	X			X

Mechanical Engineering Technology	BMT-BS		X	X	X	X
New Media	NMD-BA	X		X		X
Parks, Recreation & Tourism	PRT-BS		X		X	
Pulp & Paper Technology	PPA-BS / PPA-5YPP	X	X	X	X	X
Survey Engineering Technology	BST-BS	X	X	X	X	X
Sustainable Agriculture	SAG-BS	X	X	X#	X	
Wildlife Ecology	WLE-BS	X	X*			
Wood Science & Technology##	WSC-BS	X	X	X	X	X
Zoology	ZOL-BS/BA	X	X			

Footnotes:

**Beginning in the Fall of 2014*

These programs are no longer eligible for the RSP program for new students entering as of Fall 2012.

No new students are being admitted into these programs.

This program is no longer eligible for the RSP program for students entering as of the Fall 2014.

Information in this chart is current as of August 2013. Please check www.nebhe.org using their RSP database on-line look-up feature for the most up to date information.

Advance Placement Table

The University of Maine
Advanced Placement Credit Table

AP Exam	Score	UMaine Course	Credits
Art (<i>drawing/studio</i>)		based on portfolio review	
Art History		no credit given	
*Biology	3	BIO100	4
Biology	4 5	BIO100/200	8
Calculus AB	3 4 5	MAT126	4
Calculus BC	3 4 5	MAT126/127	8
Chemistry	3 4 5	CHY121/123 & 122-124	8
Computer Science A	3 4 5	COS 120	3
Computer Science AB	3 4 5	COS 120/100X	6
Economics-Micro	3 4 5	ECO 120	3
Economics-Macro	3 4 5	ECO121	3
English Language & Comp	3	ENG101	3
English Language & Comp	4 5	ENG101/129	6
English Literature & Comp	3	ENG101	3
English Literature & Comp	4 5	ENG101/129	6
Environmental Sciences	3 4 5	EES100	3
Foreign Lang. - French Lang.	3 4 5	FRE305/306	6
Foreign Lang. - French Lit.	3 4 5	FRE310	3
Foreign Lang. - German Lang.	3 4 5	GER203/204	6
Foreign Lang. - Latin Lit.	3 4 5	LAT453	3

Foreign Lang. - Latin, Virgil	3 4 5	LAT481/482	6
Foreign Lang. - Spanish Lang.	3 4 5	SPA305/306	6
Foreign Lang. - Spanish Lit.	3 4 5	SPA307/308	6
Gov't/Politics, U.S.	3 4 5	POS100	3
Gov't/Politics, Comparative	3 4 5	POS241	3
History, European	3 4 5	HTY105/106	6
History, U.S.	3 4 5	HTY103/104	6
History, World	3 4 5	HTY100X	3
Human Geography	3 4 5	GEO201	3
Music Listening/Literature	3 4 5	by special arrangement	
Music Theory	3 4 5	MUY101	3
Music Theory	5	by special arrangement	4
**Physics B	3 4 5	PHY111/112	8
Physics C - Mechanics	3 4 5	PHY121	4
Physics C - Elec./Magnetism	3 4 5	PHY122	4
Psychology	3 4 5	PSY100	3
Statistics	3 4 5	MAT232	3
	3 4 5	MAT215 (business majors)	3

*Students majoring in Biology, Botany, Medical Lab Sciences, or Zoology who have a score of 3 will not receive credit for BIO 100. However, they will receive credit for BIO 100 and BIO 200 if they have a score of 4 or 5.

**Students in the College of Engineering will not receive credit for AP Physics B; they are required to take PHY 121 and PHY 122 and would meet those requirements with AP Physics C-Mechanics and AP Physics C-Elect/Magnetism.

Academic Requirements for Admission

The University of Maine
Academic Requirements for Admission (in units)

All students selected for admission to the University of Maine must meet the admission requirements listed below. Students may fulfill certain math and foreign language requirements in middle school. High school level computer sciences and fine arts courses are strongly recommended but not required.

English	Algebra 1 and 2	Geometry	History / Social Sciences	Computer Sciences	Fine Arts
4	2	1	2	S-1	S-1

College / School	Degree(s)	Senior Math	Foreign Language	Lab Biology	Lab Chemistry	Lab Physics	Physical Education
The Maine Business School Accounting Finance Management Marketing International Business	B.S.	1	2	2 lab sciences			
Education and Human Development	B.S.						
Child Development and Family Relations	B.S.		2				
All education majors	B.S.		2	1			
Engineering	B.S.	1			1	1	
School of Engineering Technology	B.S.	1			S-1	1	
Liberal Arts and Sciences	B.A. / B.F.A.		2	1	1 additional lab science		
Liberal Arts and Sciences	B.S.	1		2 lab sciences including Chemistry or Physics			
Natural Science Forestry and Agriculture	B.A.	S-1	2	1	1 Either Chemistry or Physics		

Natural Science Forestry and Agriculture	B.S.	S-1		1		
Nursing	B.S.	S-1		1	1	

Units marked as "S-1" are strongly recommended by faculty for success in the program, but not required.

Please refer to the Academic Program Fact Sheets for more specific degree entrance requirements.

College Level Examination Program Table

The University of Maine
College Level Examination Program Table

To register for a CLEP exam, go to: <http://umaine.edu/csp/clep/>

The following CLEP tests are approved by all colleges as substitutions for University of Maine courses. Other tests may be considered on an individual basis.

Name of Examination	Passing Score	Substitutes for	Credit Hours
American Government	50	POS 100	3
Analyzing and Interpreting Literature (w/essay)	50	ENG 129/170	6
Biology	50	BIO 100	4
Calculus	50	MAT 126	4
Chemistry	50	CHY121/123, CHY 122/124	8
College Algebra	50	MAT 111	3
History of the United States I: Early Colonization to 1877	50	HTY 103	3
History of the United States II: 1865 to the Present	50	HTY 104	3
Human Growth and Development	50	CHF 201	3
Macroeconomics, Principles of	50	ECO 121	3
Microeconomics, Principles of	50	ECO 120	3
Precalculus	50	MAT 122	4
Psychology, Introductory	50	PSY 100	3
Sociology, Introductory	50	SOC 101	3
Western Civilization I: Ancient Near East to 1648	50	HTY 105	3
Western Civilization II: 1648 to Present	50	HTY 106	3

Financial Aid

Financial Aid and Scholarships

The Office of Student Financial Aid 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. Advisors are available on a walk-in basis between 10:00 a.m. and 3:30 p.m. Monday, Tuesday, Wednesday and Friday. Student contact hours are weekdays throughout the year from 10:00 a.m. to 4:30 p.m., with expanded hours during peak seasons.

All correspondence concerning financial aid should be addressed to the Office of Student Financial Aid, 5781 Wingate Hall, Orono, ME 04469-5781. For assistance with the application process, status updates, or answers to other questions about financial aid, visit their website at <http://www.umaine.edu/stuaid/>, contact the office at (207) 581-1324, or via e-mail (umfinaid@maine.edu).

Merit Scholarships

The Admissions Office presents scholarships to first-time undergraduate students based on academic performance, with the highest achieving students eligible for the greatest financial award. For specific eligibility for Merit Scholarships visit the Office of Admission's website at <http://go.umaine.edu/apply/scholarships>.

Financial Aid Programs

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

Federal Pell Grants are awarded based on need to eligible students enrolled in a degree program, and do not have to be repaid.

Federal Supplemental Grants are awarded based on exceptional need to eligible students enrolled in a degree program at least half-time, and do not have to be repaid.

University Grants are awarded based on need to eligible students enrolled in a degree program at least half time, and do not have to be repaid.

Scholarships are awarded to eligible students based on merit/talent and/or need as defined by the eligibility criteria for each scholarship, and do not have to be repaid.

Federal Work-Study is awarded based on need to eligible students enrolled in a degree program at least half-time and gives 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) are available through the U.S. Department of Education to eligible 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 an Entrance Counseling and Master Promissory Note (MPN) before the loan proceeds will be released. The Entrance Interview and MPN are completed electronically.

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 Aid's website at <http://umaine.edu/stuaid/loans/>, the interest begins to accrue or to 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) 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 awards are adjusted if necessary. The student is notified by email if the financial aid award 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 now 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 place limits on the total amount that can be borrowed by any student, called "aggregate" limits. These limits are specified in the U.S. Department of Education's Student Guide, available for free from the Office of Student Financial Aid, or from the Department of Education's financial aid web site (http://studentaid.ed.gov/students/publications/student_guide/index.html).

Starting with the 2013-2014 academic year, students who borrow a Federal Direct Subsidized loan for the first-time will only be able to borrow up to 150% of the published length of the program of study. For a 4-year bachelor's degree program, the maximum period of subsidized loan eligibility is 6 years. More information on this regulation is available on the Federal Student Aid website (<http://ifap.ed.gov/eannouncements/attachments/051613DirectSubsidizedLoanLimit150PercentAnnounce1Attach.pdf>).

Applying for Financial Aid

To allow the Office of Student Financial Aid 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. Continuing students who applied for financial aid during the previous academic year should receive a reminder that their **FAFSA** can be accessed electronically with their FAFSA ID.

FAFSA application submitted over the Web (www.fafsa.gov) is strongly encouraged. For prior year applicants, some information can be "pre-filled" from a prior year's application by using his/her FAFSA ID. Signatures from students and their parents (if the student is dependent) must be provided before the FAFSA can be processed. There are two ways in which the application can be signed: both the student and the parent can use their individual FAFSA ID to electronically sign the FAFSA or a paper signature page can be printed from FAFSA on the Web, that then needs to be signed and mailed to the address provided.

Certain types of financial aid, including University Grant, Federal Supplemental Educational Opportunity Grant, 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 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 you provided on your FAFSA. This information could include, but is not limited to, using the IRS Data Retrieval Tool, an official tax transcript*, your parent's official tax transcript* and independent or dependent verification forms.

Requests for information will be through your MaineStreet To Do List and will include detailed instructions and links to specific forms. It is very important you respond to these requests by our document due date of May 15th and follow instructions closely otherwise your aid could be affected. Financial aid is still available for applicants who apply after the deadline, but may be limited.

After applying, the student will receive a **Student Aid Report (SAR)**, or an e-mail that tells them how to access their SAR on the Web, from the federal processing center. The student is expected to review the SAR and make any necessary corrections immediately, or contact the University of Maine Office of Student Financial Aid for assistance. As long as the University of Maine is listed on the SAR in the school section, the Office of Student Financial Aid will receive the application data within 2-3 business days. The application will be reviewed and the student will be notified if any additional information (such as IRS Data Retrieval, verification forms, or other information) is required. Additional information requests, processes and documents are due by May 15th.

Once the student's file is complete, an offer of financial aid will be made available to the student. The student should accept (or reject) each type of aid offered, and follow all instructions to ensure continued processing and disbursement of funds to the student's account at the University of Maine Bursar's Office.

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 (including 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 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 experience 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 Awards

Changes to awards can occur even after a financial aid award has been offered, and aid can be retracted even after it has been posted to a student's account with the Bursar's Office. Students are notified whenever their financial aid award is adjusted.

Changes to awards 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 to discuss the impact on their financial aid eligibility before their status changes, if at all possible.

Financial Aid for Summer Session

Summer Session is considered to be the end of the University's academic year. To be eligible for Summer Session aid, students must have applied for federal financial aid for the previous year. Generally, financial aid is limited to any remaining Federal Pell Grant (if eligible) and/or any remaining Federal Direct Loan eligibility (subsidized and/or unsubsidized). Federal Work-Study or a University work program 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. Students are encouraged to contact the Student Financial Aid Office to request further information. The best time to discuss specific eligibility is midway through the spring semester and after the student is pre-registered for 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 pro-rated 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 by the University's Bursar's Office. Students considering withdrawing from

all classes must contact their academic area who will collaborate with the Office of Student Financial Aid to determine the impact of the withdrawal on financial aid. A copy of the policy is available in the Office of Student Financial Aid.

Institutional (Unofficial) Withdrawal

Federal regulations require the Office of Student Financial Aid 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. A copy of this policy is available in the Office of Student Financial Aid.

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 Aid. Students and families can meet with an advisor or contact the office at (207)581-1324 to explain their circumstances

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 to complete the degree within a maximum time-frame. You can lose eligibility for aid if you are not doing well in your classes and/or frequently withdraw from classes and/or 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 on 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 in the Office of Student Financial Aid, as well as on the Office of Student Financial Aid website at umaine.edu/stuaid/sap/.

Satisfactory Academic Progress Appeal Procedure

If you are not meeting the Satisfactory Academic Progress Policy, you can appeal if you believe that you have special circumstances that cause undue hardship. Appeals are considered by a committee. Please use the SAP Undergraduate Appeal Form (available at umaine.edu/stuaid/sap/), and submit along with appropriate supporting documentation. Students approved for appeal may 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.

Questions about the policy or the appeal procedure can be referred to the Office of Student Financial Aid 207. 581.1324.

Expenses and Fees

Billing Information and Related Policies

[Click here to view the Estimated Expenses for 2016/2017.](#)

[Click here to view the Explanation of University Fees.](#)

Invoices and Due Dates

One paper bill is mailed to the student's home address each semester. Charges are calculated using pre-registrations, room sign-up information, and data supplied by the Admissions Office. After the initial semester paper bill is sent, the student will be sent periodic monthly on line updates regarding their financial status and will be notified via email to the student's @Maine.edu email address. Students may view their accounts on Student Self-Service on Maine Street. Students may authorize parents or other third parties to view and pay on their accounts on line. Instruction for adding an authorized user can be found at umaine.edu/bursar/user/.

Late Payment Fee

A \$100 late payment fee will be assessed to students who fail to pay their bills or fail to notify the Bursar's Office of any third party sponsorship or anticipated resources by the due date, (see Anticipated Resources) To avoid being charged the late fee, students who have not received a bill should contact the Bursar's Office.

Anticipated Resources

With the first bill for the fall, spring and summer semesters, the student will use the Anticipated Resources area of Student-Self-Service on Maine Street (Path: Student Self-Service / Self Service / Campus Finances / Anticipated Resources) to notify the University of any credits from other sources that are not shown on the billing statement (i.e. third party/sponsor payments, waivers, payroll deduction, loans). Instructions for entering anticipated resources can be found at umaine.edu/bursar/resources/

3rd Party/Sponsor Billing

The student receives an invoice. The student will use the Anticipated Resources area of Student Self-Service on Maine Street to notify the Bursar's Office of any third party sponsorship.

It is the student's responsibility to provide authorization (purchase order/authorization form) from the third party/sponsor.

The student sends the purchase order/authorization form, which indicates how much the third party/sponsor will be paying and any payment due for charges not being paid by the third party/sponsor to the Bursar's Office 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.

Tuition Payment Plan

For those who find it convenient to make monthly payments, the University of Maine is pleased to offer the tuition payment plan administered by Higher One. Enrolling in a tuition payment plan is easy. Simply visit tuitionpaymentplan.com/umaine, choose the payment plan option that is best for you and follow the easy steps to complete your enrollment.

Please call Higher One at 1-800-635-0120 if you have any questions about the plan, and a specialist will be happy to assist you.

Please call the Bursar's Office with any billing questions at (207)581-1521.

Please direct financial aid questions to the Office of Student Financial Aid (207)581-1324.

Financial Aid Refunds

A credit balance created by the disbursement of financial aid is normally disbursed to you by the start of each semester, unless you have requested that funds be held on your account. Excess financial aid will be held on your account if your financial aid award is based on full-time enrollment and your current enrollment is not full-time. Full-time enrollment for undergraduate students is 12 or more credits. For more information please visit umaine.edu/bursar/refunds/.

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 whose starting and ending dates do not coincide with the starting and ending dates of the Fall or Spring semester including all Summer University classes. These classes fall into two groups:
 1. Classes with duration of less than 12 weeks in length.
 2. Classes with duration of 12 weeks or longer.
- 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 drop period ends:
September 11, 2016 for Fall 2016

January 30, 2017 for Spring 2017
- 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.
- A "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.
- 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.

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" short classes - 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 <ul style="list-style-type: none"> • Fall 2016 - September 11, 2016 • Spring 2017 - January 30, 2017 	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

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 he/she is 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 he/she is withdrawing.

These policies are available on-line at <http://umaine.edu/bursar/dropwithdrawal-refund-policy>

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 and after June 1 (January 1 for Spring) for room charges for students withdrawing from a University of Maine System institution. 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.

Statute of Limitations

Appeals for the exception to the established refund practice may be made to the designated university official. 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.

Definitions and Guidelines for Involuntary and Voluntary Withdrawals

Involuntary withdrawal - 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. 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 individuals 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, regardless of the source of payment. Bills and statements are mailed to the student, not the parent.

All charges are payable in full by the due date on the invoice. After that, a \$100.00 late fee is assessed.

Delinquent students will be subject to the following administrative sanctions:

1. They are prevented from receiving an official certified copy of their transcript and diploma.
2. They are prevented from registration or pre-registration at any university in the University of Maine System.
3. 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.
4. 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 may, from time to time, be necessary in the opinion of the Board of Trustees up to the date of final registration for a given academic term. The applicant acknowledges this reservation and agrees to the financial terms and conditions of the University by the submission of an application or by registration.

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 University Bursar or other designated university official 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 Bursar should respond in writing to the student's complaint within 30 days of the receipt of the appeal.
- If the Bursar's 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

Residency Classification: There are many factors which will be considered in determining 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 matriculated undergraduate students, the Continuing & Distance Education office for non-matriculated 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 such 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, 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. To change tuition status, the following procedures are to be followed:

1. "Request for Change in Tuition Status" cover sheet and application must be filed with the Associate Bursar at The University of Maine, Bursar's Office, 5703 Alumni Hall, Orono, Maine 04469-5703 before the first day of classes for the summer session, fall or spring semester for which residency is requested. All applications are prospective.

2. If the Associate Bursar'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, in the following order.
 - a. Bursar & Senior Finance Officer. After receiving a written decision from this level within 30 days, the student has 30 days to submit a written appeal to:
 - b. The Chief Business Officer. 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).
 - c. The President (or designee) will issue a final decision within 30 days.

In the event that the Associate Bursar, or other designated official, 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 of the Senior Associate Bursar or other designated official 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. 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 50 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 50 percent above the resident tuition rate at The University of Maine.

Explanation of University Fees

Explanation of University Fees

Activity Fee: Activity fee funds are used by the Student Government associations to support various activities. For Undergraduates, the fee is \$45.00 per semester; if you are registered for 6 or more credit hours. This fee will only be assessed for credit hours taken on the University of Maine campus.

Communications Fee: The communications fee provides support to the student newspaper, The Maine Campus, WMEB, the student radio station and ASAP. The fee is \$15.00 per semester. This fee will only be assessed for credit hours taken on the University of Maine campus.

Unified Fee: The Unified fee is used to cover fixed costs of providing educational services that may not be directly related to the number of credit hours for which a student is enrolled. This fee supports activities such as student services, the operation of facilities such as student centers, and student-utilized, instruction-related technologies.

Credit Hours	Per Semester
Less than 6	125.00
At least 6 but less than 12	381.00
At least 12 but less than 16	934.00
16 or more	958.00

Recreation Center Fee - The Recreation fee includes access to the Student Recreation and Fitness Center, The Maine Bound Adventure Center, open swims at Wallace Pool, and open recreation times in the Dome, Lengyel Gym, and Memorial Gym. This fee also includes unlimited Level I adult group exercise classes (excludes some classes) and Intramural Sports and Sport Club participation. Also included are reduced program fees for specialty fitness programs, Maine Bound Trips and courses, equipment rental, and other programs. This fee will only be assessed for credit hours taken on the University of Maine campus.

Credit Hours	Per Semester
Less than 6	81.00
6 or more	135.00

Student Health Insurance: Student Health Insurance Plan (SHIP): In response to the new federal health insurance requirements for the college-age population, the University of Maine, in collaboration with the University of Maine System, is pleased to offer an affordable Student Health Insurance Plan (SHIP) for 2016.

All non-international undergraduate students enrolled in 9 credit hours or more and graduate students enrolled in 6 credit hours or more are required to show proof of adequate health insurance coverage. An annual health insurance charge of \$1,644 will be billed to eligible students in the fall semester. The cost for students eligible in the spring semester only is \$955. Students with adequate health insurance may complete an online waiver process to opt out of the plan before October 1. The coverage period is from August 1, 2016 through July 31, 2017. The spring semester only coverage period is January 1 to July 31.

Complete eligibility and enrollment criteria, the SHIP benefit summary, as well as the opt-out waiver/enrollment process are available online: crossagency.com/umaineinsurance

International Student Health Insurance: International Student Health Insurance is mandatory for all international students, unless proof of insurance is provided to the Office of International Programs. International students are not eligible for the SHIP plan described above. Cost of 2016/2017 individual student coverage from August 1, 2016 through July 31, 2017.

First Year Residential Experience Fee: The First Year Residential Experience Fee is a one-time fee of \$50.00 is assessed to all first year residential students taking any credit hours on the UMaine campus. The First Year Residential Experience environment requires cutting-edge programming. The goals of the First Year Residential Experience fall into three broad categories: academic achievement, social integration, and student development. Specifically, the goals of the First Year Residential Experience include:

- Increase student-to-student interactions.
- Increase student-to-faculty interactions.
- Create study environments in the Residence halls and promote/reinforce student academic endeavors.
- Develop strong student study skills and study habits.
- Create opportunities for altruism, activism, and citizenship development in the First Year Residential Experience.
- Create social engagement opportunities between students.
- Promote diversity and discussion around racial, ethnic, and social issues.
- Create and promote mentoring and tutoring connections between students.
- Support UMaine traditions, history, and lore.

Please contact Assistant Director for Residence Life, Kelly Beers, by email at kelly.beers@umit.maine.edu or by phone at 581-1420 with any questions concerning this fee.

Program Fees

Business Program Fee: A fee of \$33 per credit hour will be charged for each "BUA" course within the Maine Business School. The Business Program Fee is to cover the differential costs associated with Business Courses.

Nursing Program Fee: A fee of \$50 per credit hour will be charged for all nursing clinicals and labs. The **Nursing Program Fee is to cover the differential costs associated with Nursing Courses.**

Social Work Program Fee: A fee of \$50 per course will be charged for all Social Work practicums (Field Internships), within the School of Social Work. The Social Work Program Fee is to cover the differential costs associated Social Work Courses.

Engineering Program Fee: A fee of \$100 per course will be charged for all Engineering course designators within the College of Engineering. Military Science and Naval Science courses within the College of Engineering will not be charged this program fee. The Engineering Program Fee is to cover the differential costs associated with Engineering Courses.

Applied Music Course Fee: Music majors and some music minors will be charged a fee of \$100 for half hour private lessons or \$200 for one hour private lessons. Non music majors will be charged a fee of \$300 for half hour private lessons or \$600 for one hour private lessons.

Travel Study Course Fee: Travel Study Course Fee will be charged to students who choose to participate in a travel study course. The Travel Study Course Fee is to cover the differential costs associated with each travel study course and will vary by course.

Tk20 Fee: The College of Education uses Tk20 highered™ as a comprehensive online data management system for all student activities related to teacher or administrator certification for specific programs. Students enrolled in any these programs are required to purchase an account within Tk20 which will enable them to complete course assignments, build professional portfolios, and provide information regarding field experiences, student teaching and administrative internships. There is a one-time, \$100 fee for a Tk20 account which will be assessed to the student's account when he/she activates the Tk20 account. The Tk20 account will be active for seven years after the date of activation.

Online Fee: A fee of \$25 per credit hour will be charged for all online courses. The Online Fee is used to support and enhance the quality of online programming and the student learning experience. Supported student services include, but are not limited to: online orientation, online tutoring, online proctoring, online library resources, universal design, and online Advisor support. In addition to these student services, the online fee helps foster excellence in course quality by supporting online faculty in learning design, adaptive learning tools, production assistance, and the use of emerging technologies and communications.

* Note: Depending on your individual course of study additional program or course fees not listed here may apply.

Distance Education Fees*

Distance Education Technology fee: A fee of \$6 per credit hour is assessed to all students enrolled in Interactive Television and Conference Video classes at sites, centers, and campus receive locations and to students enrolled in on-site courses (live instruction) at University College centers and sites. This fee is assessed to support up-to-date student computer labs and clusters at University College centers, and to ensure student access to internet-connected computers at Interactive Television receive locations. It also supports the phone bridge which many Interactive Television instructors use in their classes, and contributes to 1-800 access to help through Tech Support.

Distance Education Support course fee: A fee of \$12 per credit hour is assessed to all students enrolled in Interactive Television and Conference Video classes at sites, centers, and campus receive locations and to students enrolled in on-site courses (live instruction) at University College centers and sites. The Distance Education Support fee is to cover the differential costs associated with Interactive Television and Conference Video courses such as the handling and mailing of hand out materials, homework, and tests.

* On behalf of University College (an administrative unit of The University of Maine at Augusta) the Distance Education Fees are charged on all Live, Interactive Television, Conference Video and online distance courses held at sites & centers and receive campuses of The University of Maine at Augusta. For questions concerning the assessment of these two (2) fees, please call the University College Tele Service line at 1-800-868-7000.

Estimated Expenses

The University of Maine
Expenses 2016/2017

EXPENSES & FEES FOR MATRICULATING (DEGREE PROGRAM) STUDENTS

[Click here to view the Explanation of University Fees.](#)

EXPENSE OR FEE	SEMESTER	ANNUAL	ONE-TIME
TUITION-Based on 15 Credits per Semester			
MAINE RESIDENT \$279.00/CREDIT HOUR	\$4,185.00	\$8,370.00	
NON RESIDENT \$908.00/CREDIT HOUR	\$13,620.00	\$27,240.00	
NEW ENGLAND EXCHANGE (NEBHE) \$432.00/CREDIT HOUR	\$6,480.00	\$12,960.00	
CANADIAN RESIDENT \$432.00/CREDIT HOUR	\$6,480.00	\$12,960.00	
ROOM AND BOARD			
DOUBLE ROOM HOUSING	\$2,502.00	\$5,004.00	
PREMIUM/LARGESINGLE	\$3,505.00	\$7,010.00	
SINGLE ROOM HOUSING	\$3,126.00	\$6,252.00	
SUITE DOUBLE HOUSING	\$2,804.00	\$5,608.00	
SUITE SINGLE HOUSING	\$3,555.00	\$7,110.00	
<u>MEAL PLANS PER SEMESTER*</u>			
UNLIMITED MEALS + \$0.00 ON MAINECARD	\$2,286.00	\$4,572.00	
UNLIMITED MEALS + \$150.00 ON MAINECARD	\$2,436.00	\$4,872.00	
UNLIMITED MEALS + \$400.00 ON MAINECARD	\$2,686.00	\$5,372.00	
120 MEALS + \$1,100.00 on MAINECARD	\$2,407.00	\$4,814.00	

**Meals and dining funds carry over from the Fall semester to the Spring semester*

<u>SENIORS FLEX PLAN</u> -\$2,436 on MAINECARD	\$2,436.00	\$4,872.00	
<u>MEALS ONLY (DTAV/PATCH RESIDENTS)</u>			
75 MEALS + \$817.00 ON MAINECARD	\$1,484.00	\$2,968.00	
50 MEALS	\$445.00	\$890.00	
25 MEALS	\$222.00	\$444.00	
STUDENT FEES			
UNIFIED FEE			
1-5 CREDIT HOURS	\$125.00	\$250.00	
6-11 CREDIT HOURS	\$381.00	\$762.00	
12-15 CREDIT HOURS	\$934.00	\$1,868.00	
16 OR MORE CREDIT HOURS	\$958.00	\$1,916.00	
COMMUNICATIONS FEE*	\$15.00	\$30.00	
STUDENT ACTIVITY FEE*	\$45.00	\$90.00	
RECREATION CENTER FEE *			
1-5 CREDIT HOURS	\$81.00	\$162.00	
6+ CREDIT HOURS	\$135.00	\$270.00	
*This fee will only be assessed for credit hours taken on the University of Maine campus.			
OTHER FEES			
Student Health Insurance Plan (SHIP) Full-year - billed in the Fall semester		\$1,644.00	

Student Health Insurance Plan - Spring Semester only		\$955.00	
LATE PAYMENT FEE	\$100.00		
NON-REFUNDABLE CHARGES/CREDITS			
APPLICATION FEE			\$40.00
ADVANCE DEPOSIT (CREDIT)			\$150.00

BOOKS AND SUPPLIES APPROXIMATELY \$1,000.00 PER YEAR

TUITION AND FEES (SUBJECT TO CHANGE) BY BOARD OF TRUSTEES ACTION.

Auxiliary Services

Auxiliary Services provides on-campus housing for single students in residence halls and for students with families at University Park. Auxiliary Services also operates University of Maine Dining that provides dining services for the entire campus community.

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. 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
- have \$25 per semester in laundry funds included in the room rate
- have several living/learning lifestyle options for first year-students (see www.umaine.edu/fye for more information)
- Suite Style (for upper class only)
- Graduate

Residency Requirement

Living on campus maximizes students' opportunities for social, cultural and extra-curricular involvement and is positively linked to students' persistence toward attaining a degree. Because the University of Maine believes that residence hall living is an educational opportunity that all new students should experience, living on campus is required for all newly admitted first-year students who

- are aged 20 or younger
- do not live within easy commuting distance (30 miles)
- do not have exceptional circumstances that prevent this option

Please note: This requirement does not apply when campus housing is not available.

Housing Eligibility requires that all

- undergraduate students be 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 please call

(207) 581-4854; email: jkosnow@maine.edu 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 Community 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, Black Bear Dining offers several meal plans designed specifically for the commuter student. The Community Meal Plan Application can be found at or contact University of Maine Dining at (207) 581-4576 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.

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
- 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.

Fax: (207) 581-3663.

E-mail: um.housing@maine.edu

Student Services and Facilities

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.

Student Wellness Resource Center (formerly Alcohol and Drug Education Programs)

Located in Room 235 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 with drug and alcohol education, resources and assessment, general health and wellness support, and a great variety of programs and events through the peer educators program called Lead Well. You can contact the Student Wellness Center at (207) 581-1423 or visit them on the web at www.umaine.edu/studentlife.

Bodwell Center for Service and Volunteerism

The Bodwell Center for Service and Volunteerism is located in Room 311 of the Memorial Union. The Center is the hub for student volunteerism, service learning and much more. Center activities include: Alternative Spring Break, Black Bear Mentors, Black Bear Exchange, Maine Day, First Year Day of Service, AmeriCorp VISTA and blood drives. Contact the Center at (207) 581-3091 www.umaine.edu/volunteer.

Campus Activities and Student Engagement (CASE)

CASE is located on the second floor of the Memorial Union and is charged with offering student social and educational programs. These programs are offered throughout the week during the academic year (movies, concerts, comedians, LATE nights, music and more). CAB, Campus Activities Board, is a student group that works closely with CASE. Contact CASE at (207) 581-1793 or visit their site: www.umaine.edu/case/

Campus Recreation

Campus Recreation is located in the New Balance Student Recreation Center (NBSRC) on Hilltop Road. Campus Recreation also operates the Maine Bound Adventure Center located just northeast of the Memorial Union. Offerings include: Intramural Sports, group fitness classes, personal training, sport clubs, children's programs, and the latest in fitness equipment (treadmills, elliptical, weights, etc.) at the NBSRC Center. The indoor climbing wall is the main feature of the Maine Bound Adventure Center which also offers exciting and cutting edge outdoor recreation opportunities. Contact Campus Recreation at (207) 581-1082 or Maine Bound at (207) 581-1794 or visit their website www.umaine.edu/campusrecreation.

Career Center

Located on the third floor of the Memorial Union, 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. Special assistance and guidance are available to students going into health and legal professions. The Health and Legal Professions Advising Office is part of the Career Center and maintains information on admission requirements of selected professional schools and application forms for standardized national exams, and other useful information. For more information,

visit their web site: www.umaine.edu/healthcareers/. The Career Center also offers support and career advising for students considering law school upon graduation. For more information about pre-law options and services, visit the web site www.umaine.edu/career/studentalumni/prelaw.html. Contact the Career Center for a consultation or simply drop in (207) 581-1359 or visit the website: www.umaine.edu/career.

Community Standards, Rights and Responsibilities (CSRR)

The Office of Community Standards administers the Student Conduct Code through referrals to its office from around campus. 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 www.umaine.edu/studentaffairs.

Commuter/Non-Traditional Student Programs (CNTSP)

The Commuter/Non-Traditional Student Programs Office located in the Wade Leadership Center in the Memorial Union provides personal advising, support and referral services, as well as serving as the home-away-from-home for many non-residential and non-traditional students. Listings for off-campus housing are also available from CNTSP. For additional information call (207) 581-1734 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. Judith 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 and their immediate family members 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 and Spring 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-Language 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. Two Specialty Clinics at the Conley Speech Language and Hearing Center offer clients and families additional service options. The Stuttering Clinic and The Family-Based Treatment Clinic are coordinated and supervised by clinical and academic faculty with special clinical expertise and research interests in these areas.

For further information on services please call (207) 581-2006.

Counseling Center

The University of Maine Counseling Center is a department in the Division of Student Life. Members of the clinical staff provide short term, confidential counseling free of charge for undergraduate students enrolled in 6 or more credits. Initial appointments during the academic year are available Monday through Thursday afternoons and students are asked to call on the morning of the day they wish to be seen to schedule an appointment. The Counseling Center is open M-F, 8:00 am to 4:30 pm and is located on the Northeast side of Cutler Health Center Building (across from Gannett Hall). The Counseling Center Outreach and Education Office at 120 Memorial Union (adjacent to the ATM machines) operates the Mind Spa, a place to learn stress management skills. To learn more about Counseling Center services and to access on line resources please visit our website at: www.umaine.edu/counseling.

Desktop/Laptop Computing Services

The Department of Information Technologies has facilities in several locations on campus to provide computing services. More information is available at: www.umaine.edu/it/.

The IT Help Center, (17 Shibles Hall) provides walk-in, telephone and email assistance regarding the use of the FirstClass email/conferencing system, UMaineNet (residence hall network), MaineStreet UMS accounts (PeopleSoft, Wireless access, Blackboard), software applications and all operating systems. The Help Center is also an excellent resource for the detection and removal of computing viruses and malware and with disc recovery. The Help Center provides remote control and on-site support (house calls) for software configuration problems, software installations, network connectivity and UMaineNet setup. Phone (207) 581-2506, or e-mail: help.center@umit.maine.edu.

Public Computer Clusters - Windows and Macintosh computers are available in the Memorial Union cluster and Windows computers are available in the Fogler Library information commons. All clusters provide a wide variety of software and Internet applications, including academic-related software, Microsoft Office, FirstClass, Firefox, URSUS, and MaineStreet. Scanners and Black & White printers are available in each cluster. The Memorial Union cluster is open 24 hours a day during the academic year for student and staff use. You may access the lab after hours by swiping your Mainecard. For updated listing of software and locations, please visit the IT Support website: <http://it.umaine.edu/support>.

Collaborative Media Lab - The CML was designed to provide space specifically for high-end graphics, video and audio production for the University of Maine community. This lab contains some of the best equipment and programs needed for Multimedia, Web and Graphic Design. The lab has video conferencing available and a relaxing lounge with a 52" flatscreen monitor and surround sound for viewing your work. The lab has a HP Banner z5200ps color laser jet printer, used for large format printing in color (posters and presentations). There is a render farm available for large file video rendering. Please visit the CML website at <http://it.umaine.edu/cml> or call (207) 581-4641 for more information or reservations.

UMaineNet provides students living in all UMaine residence halls with high-speed Internet connections. For information and/or assistance, phone (207) 581-2506 or email help.center@umit.maine.edu.

FirstClass is UMaine's communications system that provides our users with the ability to effectively communicate and share valuable resources and information via email, conferencing (public, private or courses) directories, individual and shared calendars and online chats. Users also have the ability to build their own web pages, whether personal or course related, and to share documents and files. For information and/or assistance, phone (207) 581-2506 or email: help.center@umit.maine.edu.

Faculty Development Center provides a wide array of services to the University of Maine community, including workshops on a variety of computer products and technologies. Schedules and registration information are posted on the following website: <http://umaine.edu/it/forms/workshops.php/>

One-on-one assistance is also offered for any of your technological needs, as well as phone/email support at 207-581-1925, fdc@umit.maine.edu

Phone Service - Each residence hall room is equipped with a working telephone jack. However, students must provide their own touch-tone phone. Students living in the residence halls also have access to voice mail.

Video Services provides onsite and remote technical support for many public room based videoconference classrooms managed by IT. The campus community may contact IT for information how to schedule a facility, training and support resources. Courses and one-time events using Polycom and Tandberg systems are supported.

Engineering services are also available to consult, design and install digital video equipment systems. For more information call (207) 581-1609

Media Services, room 19 Shibles Hall - Provides audiovisual equipment (LCD & overhead projectors, monitors, TVs and video players, cameras & computers, microphones & P.A. systems, etc.) for classroom and department use on the UMaine campus. For a complete list of equipment that can be scheduled, please call (207) 581-2500. Media Services also provides support for the high-tech classrooms such as those in the Donald P. Corbett Business Building.

Disability Support Services for Students

The office of Disability Support Services facilitates the education of students with physical, emotional or learning disabilities. DSS provides a point of coordination for accommodations and special services students with disabilities need while attending the University of Maine. No qualified individual with a disability will be denied access to or participation in services or programs at UMaine. Some of the services provided or coordinated for students with disabilities include special orientation to campus, alternative format textbooks, note takers, classroom relocation, classroom accommodations, as well as personal and educational counseling. Students believed to be learning disabled without documentation can be screened through this office and referred for assessment outside of the University at their own expense. For further information please contact Disability Support Services at (207) 581-2319, (TTY (207)581-2325) or visit our website at <http://www.umaine.edu/disability>.

Division of Student Life

Members of the Vice President for Student Life and Dean of Students staff serve as advocates for students, offer them counsel and advice, and help them cut through red tape. Please call here if you're not sure who to call. For additional information call (207) 581-1406 or visit the web site at www.umaine.edu/studentlife.

Fraternity and Sorority Affairs

Fraternity and Sorority Affairs assumes the advisory function for all recognized social fraternities and sororities; develops programming to enhance personal growth, health and safety, chapter management, recruitment, new member programs, leadership, scholarship, friendship and service to the University of Maine and the surrounding communities; and serves as a resource center and focal point for all Greek-related activities and events. For more information visit the website at www.umaine.edu/greek or call them at (207) 581-4183.

LGBT Services/Rainbow Resource Center

LGBT Services serves as an on-campus resource for students, faculty and staff by working with the LGBT Allies Council, managing the Safe Zone Project and advising Wilde Stein, UMaine's student LGBT group. The Rainbow Resource Center in the Memorial Union features a lending library with a collection of resource books and films available to the campus community. The Center also includes a safe and cozy space for students to read, hold meetings or relax between classes. Please call (207) 581-1439 or visit the website www.umaine.edu/lgbt.

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.

Multicultural Student Life/Multicultural Center

The Office of Multicultural Student Life is located on the third floor of the Memorial Union and provides programming, resources and support that empowers students, staff and faculty in the areas of multiculturalism. The office promotes inclusiveness and diversity by creating programs which facilitate positive race relations and celebrate culture. For more information call (207) 581-1425 or visit our web site at www.umaine.edu/multicultural.

Ombudsperson

The Ombudsperson for UMaine students is in the Vice President for Student Life's 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.

Off-campus Housing

Off-campus housing assistance is available to all students and staff at the University through a listing of available living quarters in the Orono, Old Town, Bangor and Veazie areas. For more information call (207) 581-1734 or visit the CNTSP web site at www.umaine.edu/cntsp.

Religious Life Team

Religious programming, worship, study, and conversation are provided by more than a dozen active student organizations. Chaplains and other religious representatives are available for counseling and/or instruction. For more information call (207) 581-1423 or visit our web site at www.umaine.edu/studentlife.

Residence Life

In all 18 of the residence halls, student growth and development are promoted. 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. All first-year students live in the First Year Experience (FYE) where the enriched environment helps connect them to the academic and social life of UMaine. Please visit the website at www.umaine.edu/reslife or call us at (207) 581-4801.

Office of Sexual Assault and Violence Prevention

The Office of Sexual Assault and Violence Prevention, located on the third floor of the Memorial Union, provides education support for students, advocacy and many other resources. Please contact them for more information, or to report any incidents of sexual harassment, assault, stalking, or relationship violence. For more information contact (207) 581-1406 or www.umaine.edu/OSAVP/.

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 - Friday, 10am - 4:30pm at (207) 581-1349, by email at student.employ@umit.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 administrative staff representing student needs and promoting student rights. Visit us on the web site at www2.umaine.edu/StudentGovernment.

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. 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.

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 Norumbega Medical Specialists, Ltd, a subsidiary of 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, skin cancer screening and many other health promotion programs including consultations performed by local specialists. Cutler Health Center also provides students with an on-site laboratory, massage therapy, and x-ray.

The clinical staff includes physicians, nurse practitioners, nurses, consultants, wellness educator, athletic trainer, radiographer, medical assistants, practice schedulers and an insurance verification representative. Cutler Health Center's practice schedulers provide assistance with access to care by scheduling appointments, coordinating services, and assisting with insurance company authorization 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 at least 10 to 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. Students are required to register for each appointment at Cutler by providing an up-to-date mailing address, insurance information and emergency contact information.

Walk-in Care: Cutler Health Center has walk-in care hours from 10:00 am to 3:00 pm Monday through Friday for acute injuries and illness. Walk-in care services are provided based on the order you arrive. You can monitor the daily wait time of the walk-in care services by downloading the Campus SideKick mobile app for both Apple and Android devices at <http://umaine.edu/auxservices/app/>

Online Appointment Request: Although you can always call to make an appointment, another effective way to request an appointment is through our online service, myCutler Provider Online. Our professional staff continually monitors this service to effectively meet your healthcare requests. Appointment requests are processed prior to office opening in the morning. You may complete a web visit any time of the day or night and we will provide you with recommendations or an appointment on the same day or a day in the near future depending on your web visit. Visit our website www.umaine.edu/cutler or contact our office for additional information or to enroll with myCutler Provider Online.

Appointment Cancellation Policy: (Notify Us in Advance). Students who make an appointment and cannot keep the allotted appointment time have the responsibility to call the Cutler Health Center appointment line at 207-581-4000 or send a secure message via myCutler Provider Online 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.

Specialty Clinics: The specialty clinic provides campus access to a wide array of professional healthcare services. Orthopedic and podiatry consultations are offered by local physicians for easy student access and convenience. Massage therapy is available during the week for students to ease the muscle tension associated with a busy academic schedule.

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, biopsy for abnormal pap evaluation call 207-581-4000.

Emergency Services: In an EMERGENCY or you require emergency 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; 7 days a week/24 hours a 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 Organizations and Leadership Development (SOLD)

Student Organizations and Leader Development, located in the Memorial Union, is dedicated to assisting student organizations, student leaders and organization advisors to optimize their full potential by providing resources, education and consulting assistance. The goal is to help the 200+ student organizations, their members and advisors carry out their purpose in adding exciting, fulfilling and enriching opportunities and experiences for UMaine students and the campus community. The Wade

Leadership Center is also located in the Memorial Union. This is where many student organizations congregate. For more information about this office or student organizations, please call (207) 581-4183 or visit the web site at www.umaine.edu/sold.

Student Publications and Media

The award-winning student newspaper since 1875, **The Maine Campus**, is printed once/week throughout the academic school year but is updated regularly on line. 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@umit.maine.edu

Ursa Literary Review is an annual literary magazine edited and published by graduate students in the Department of English. The Review includes a wide variety of work, including poetry and fiction by the graduate community, interviews with nationally recognized writers, photography, and visual art. Writers from outside the university also contribute.

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, talkshows, interviews, and live music performances. The station is located on the ground floor of the Memorial Union.

The Tutor Program

For complete information about the Tutor Program, contact The Tutor Program, 104 Dunn Hall, (207) 581-2351 or see College Success Programs at <http://www.umaine.edu/tutorprogram/>.

University Bookstore

The University Bookstore serves the academic community by selling the books and supplies required for course work and by offering a wide selection of general books, supplies, clothing, and other merchandise and services. For more information call (207) 581-1700 or e-mail us at UMBook@maine.edu or check our website at www.bookstore.umaine.edu.

University of Maine Police 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. Recently certified by IACLEA (International Association of College Law Enforcement Association), UMPD provides a 24-hr/day, 365 day presence on the UMaine campus. 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 is part of the Division of Student Life and located on the first floor of the Memorial Union. The center 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 or visit their site: www.umaine.edu/veterans.

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/>

Facilities and Centers

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

The Raymond H. Fogler Library, Maine's largest research library, contains more than 1.4 million print volumes, 2.3 million microforms, over 1,700 manuscript collections, and access to more than 557,000 e-books, 98,000 online serials, and 420 online databases. Fogler Library is the regional depository for federal government publications and provides access to approximately 2.39 million U.S. Federal, Maine State and Canadian federal and provincial documents. It is also the Science, Technology and Business Research Library for the State of Maine and serves to meet the needs of the citizens of the state of Maine in these areas. The Darling Marine Center Library in Walpole, Maine has a collection of more than 18,000 volumes focused on marine studies.

Through URSUS, the online union catalog of the University of Maine System Libraries and other participating libraries - the Maine State Library, the Maine State Law and Legislative Reference Library, and the Bangor Public Library - faculty and students have access to more than two million volumes. URSUS indexes the majority of the print and non-print materials for the libraries, including books, serials, microforms, sound recordings, maps, government documents, and other audiovisual formats. In addition to a bibliographic description of each item, URSUS provides location and status information. Fogler Library also participates in the MaineCat catalog, a statewide catalog that includes URSUS along with most of the other library collections in the state.

Fogler Library provides access to electronic resources available to the university community. The electronic resources include indexes, databases, electronic reserves, electronic journals, electronic books, web sites, and other material selected or created by librarians. The library also provides online reference service through Ask-a-Librarian at: library.umaine.edu/refchat.htm and also allows patrons to view their own record and renew their books through URSUS at: <https://ursus.maine.edu/patroninfo/>

The Reference Services Department is the contact point for general reference assistance. The Department provides research assistance, database searching, and conducts instruction in the sciences, social sciences, humanities, business, and education. Individual research assistance is available by appointment. The Department is also the service point for Federal and Canadian documents and provides access to Maine's only Patent and Trademark Depository Library.

The Special Collections Department contains an extensive collection of published bibliographical, historical, and descriptive works on Maine, as well as literary titles by its authors. These books, pamphlets, and state documents provide extensive important insights into Maine cities, towns, counties, people, and institutions. A substantial body of original source materials complements them. The department also houses rare books and university publications and records. Since 1998 it has been the home of the William S. Cohen Papers.

Students and faculty may borrow books from any of the UM System campus libraries using the online requester function in URSUS, and through MaineCat, which allows online borrowing among the member libraries. Other materials may be requested from Fogler's Interlibrary Loan Department, which provides desktop delivery for many requests.

Additional information about materials and services can be found at the Fogler Library web site: <http://library.umaine.edu>. Please use the web site to access URSUS, the online indexes and databases, electronic resources, and other collections. The web site also gives detailed information on the library departments, collections, services, and contacts. The general telephone number for the library is 207-581-1666 and the number for hours is 581-1664.

University of Maine Museum of Art

The University of Maine Museum of Art, located at 40 Harlow Street in Downtown Bangor, has four galleries which feature changing exhibitions (new shows every three months) of primarily modern and contemporary art, as well as frequent rotations of

the Museum's Permanent Collection. The Museum Collection consists of over 3,600 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, Edward Hopper, Käthe Kollwitz, Ralph Blakelock, George Inness, Mary Cassatt, Pablo Picasso, and Diego Rivera. The Museum 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 is comprised of 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.

The Department of Art Gallery

The Department of Art Gallery, on campus in Lord Hall, displays traveling exhibits as well as work by UMaine students and members of the faculty.

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 new Museum features three galleries: the Merritt Gallery for temporary exhibits, a World Cultures Gallery and a Maine Indian Gallery, as well as the Minsky Culture Lab.

The Museum offers guided tours and gallery programs, lectures, workshops and an annual Maine Indian Basketmakers Sale and Demonstration. 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.

University of Maine Hutchinson Center

The Hutchinson Center, located in Belfast, one hour south of the University of Maine's Orono campus, provides educational opportunities including access to courses that meet UMaine general education requirements, bachelor's degrees and graduate degrees. Credit and non-credit courses are delivered live, online or via videoconferencing technology. A state-of-the-art telecommunications facility, with high tech biology and chemistry labs, art studio, and air-conditioned classrooms, the Hutchinson Center also hosts many community conferences and meetings. For future information: The Hutchinson Center, 80 Belmont Avenue, Belfast, ME 04915, (207)338-8000/1-800-753-9044, Fax: (207)338-8013 or on the web at <http://www.hutchinsoncenter.umaine.edu>.

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 includes an historic one-room schoolhouse, a carriage house, blacksmith shop and two heirloom gardens. The Museum is open Tuesday through Saturday, 9-4. FMI: call 581-4100 or visit us on the web: <http://www.umaine.edu/pagefarm/>

Collins Center for the Arts

The Collins Center for the Arts is the cultural centerpiece of eastern and northern Maine. Now in its 30th season, the Collins Center continues to present world-class performances in a wide variety of art forms and cultures, appealing to diverse interests and age groups. Each season brings a wide variety of events, including Broadway tours, nationally-known comedians, legendary singers, renowned dancers, family shows, live theatre, and everything in between. The 1,435 Hutchins Concert Hall provides the perfect venue to see your favorite events. In addition to presenting some of the world's most exciting live events in its Mainstage Series, the Collins Center allows you to get up close and personal with some of history's most prolific instrumental and vocal music in a Chamber Music Series, primarily presented in the intimate Minsky Recital Hall. The Collins Center is home to one of

the largest broadcast screens in Maine, where they present two thrilling series: The Met: Live in HD and National Theatre Live. The Metropolitan Opera's Peabody and Emmy Award-winning series The Met: Live in HD broadcasts the best of British theatre recorded live from the London stage. The Collins Center for the Arts is proud to be the home of the Bangor Symphony Orchestra, one of the oldest, continually-operating community orchestras in the nation. Each year, the Symphony performs the Nutcracker, and other selections for thousands of fans. The Collins Center is also the perfect place to see arts education in action with symphonic, jazz and vocal concerts performed by music students from the University of Maine School of Performing Arts. Annually, more than 100,000 people visit the Collins Center for the Arts for a variety of events. Whatever your interest, we have something for you!

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 is the marine laboratory and field station of the University of Maine. Located in Walpole, on the shore of the pristine Damariscotta River Estuary, just 100 miles south of the Orono campus, the DMC is a full-service field station with diverse marine habitats in the immediate area. The 170-acre facility has over one mile of waterfront, two flowing seawater laboratories for culturing marine organisms, an aquaculture lease site, and analytical laboratories with a wide variety of state-of-the-art instrumentation, as well as a fleet of coastal research vessels, oceanographic sampling gear, SCUBA support, classrooms, and a marine library. Housing, meal service and meeting space are available for researchers, class field trips, or scientific and educational conferences.

The DMC is closely associated with UMaine's School of Marine Sciences. Together they offer many great opportunities for students to study and research the marine realm. In the unique Semester-by-the-Sea (SBS) program, undergraduate marine science majors spend a semester in residence at the DMC exploring the organisms, habitats and maritime history of the Gulf of Maine in experiential, field-oriented classes. Internships and capstone opportunities provide research experiences for undergraduates during the summer months. Intensive hands-on undergraduate and graduate level field courses are also offered at the DMC through UMaine's Summer University.

Emera Astronomy Center

The new Maynard F. Jordan Planetarium and Observatory in the Emera Astronomy Center on Rangeley Road opened in 2014 as Maine's largest and most advanced astronomy facilities of their kind. They were built by the generous contributions of private donors. Intended for the use of students, researchers, and the public they offer programs throughout the year and are a resource of the Department of Physics and Astronomy. Even on cloudy days, audiences in the Planetarium can enjoy a view of the stars and journeys of adventure through space and to the limits of the imagination. Public showings (free to UMaine students) are offered on weekends and private star shows can be arranged for school classes, private groups, and families.

The Jordan Observatory, a small, domed building behind the Emera 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. Public observing nights are staffed by volunteer and student staff, typically on Friday and Saturday. Interested visitors can call in advance to check on schedule and weather conditions for the evening. Astronomy students use the facility for studies on weeknights, and student volunteers operate it on weekends for the general public.

For more information visit the Emera Astronomy Center web site: <http://astro.umaine.edu/observatory/>.

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, who taught in the Departments of English and Anthropology from 1964-1999. 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 participates in many national and regional events such as the American Folk Festival in Bangor.

MFC houses the nationally distinguished Northeast Archives of Folklore and Oral History, founded by Sandy Ives in 1958. This digitized collection of several thousand audio recordings of oral histories and musical performances, plus thousands of photographs, documents such subjects as traditions of the Maine lumber woods and river drives, women's folklife, coastal and maritime occupations, and textile arts and artists. MFC publishes the scholarly monograph *Northeast Folklore* and the semiannual newsletter, *Maine Folklife*. The Center is in South Stevens Hall on the Orono campus; our phone number is 207-581-1891. 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 representing diverse disciplines, engage in a broad range of initiatives that enhance the quality of life for individuals with developmental and other disabilities. The 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, child care, health, employment, housing, 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 Disability 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: Maine Relay 711, or website: www.ccids.umaine.edu.

Women's Resource Center

The Women's Resource Center (WRC) promotes and maintains a close relationship between the women on the University of Maine campus and women in the larger Maine community. Located at 102 Fernald Hall, the WRC works with women of all ages and offers mentoring opportunities with women activists; organizes initiatives to support economic equity for women including support for women in underrepresented career fields; gender equity programs for college students, staff, pre-college girls and educators; and organizes education and action to support reproductive rights. Leadership, skill development and research opportunities are available to undergraduate and graduate students through the WRC. The Center serves as a resource for individuals and organizations, offering information and referrals for women's programs and services, on and off campus in order to create a broader understanding of the diverse experiences of all women. The Center provides an accessible meeting space for small groups, collaboration with the Student Women's Association, and information about events of interest to women. For more information: www.wrc.umaine.edu/ or call (207) 581-1508.

Abbreviations

Course Prefixes

AED - Art Education
ANT - Anthropology
ARA - Arabic
ARH - Art History
ARP - Academic Recovery Program
ART - Art
AST - Astronomy
AVS - Animal and Veterinary Sciences
BIO - Biological Sciences
BEN - Bioengineering
BMB - Biochemistry, Microbiology and Molecular Biology
BMS - Biomedical Sciences
BUA - Business Administration
CAN - Canadian Studies
CEC - Education-Counseling
CET - Civil Engineering Technology
CHE - Chemical Engineering
CHF - Child Development and Family Relations
CHI - Chinese
CHY - Chemistry
CIE - Civil and Environmental Engineering
CLA - Classics
CMJ - Communication and Journalism
COS - Computer Science
CSD - Communication Sciences and Disorders
CSP - College Success Program
DAN - Dance
DIG - Digital Curation
DIS - Disability Studies
EAD - Education-Administration
ECE - Electrical and Computer Engineering
ECO - Economics
ECP - Engineering Communication Project
EDA - Education-Measurement and Testing
EDB - Education-Basic Professional
EDC - Education-Curriculum
EDG/EDU - Education-General
EDH - Education-History and Philosophy
EDM - Education Methods
EDS - Education-Research
EDT - Education-Telecommunications
EDU - Education
EDW - Education-Workshops
EEL - Education-Early Literacy
EES - Ecology and Environmental Science
EET - Electrical Engineering Technology
EGS - Education-Gender Studies
EHD - Education-Human Development
ELL - Education-Language Learning

ELS - English Language Skills
EMA - Education-Mathematics
EML - Education-Middle Level
ENG - English
EPT - Education-Psychology
EPY - Educational Psychology
ERL - Education-Literacy
ERR - Education-Reading Recovery
ERS - Earth Sciences
ESC - Education-Science
ESS - Education-Social Studies
FAS - Franco American Studies
FES - Forest Ecosystem Science
FND - Foundations Seminar
FRE - French
FSC - Forest Operations Science
FSN - Food Science and Nutrition
FTY - Forestry
FYS - First-Year Seminar
GEE - General Engineering
GEL - General Transfer Courses
GEO - Geography
GER - German
GPS - Global Positioning Systems
GRD - Graduate School
GRE - Greek
GRN - Gerontology
GRR - Graduate Readings
HBR - Hebrew
HED - Education-Higher Education
HON - Honors
HTY - History
HUD - Human Development
ICD - Innovative Communication Design
IDS- Interdisciplinary Studies
IEI - Intensive English Institute
IEN - Integrated Engineering
IMD - Intermedia
INA - International Affairs
IND - Independent Study
INT - Interdisciplinary Studies
INV - Innovation Engineering
ISE - Information Systems Engineering
JST - Judaic Studies
KPE - Kinesiology and Physical Education
LAS - Liberal Arts and Sciences
LAT - Latin
LBR - Library
LDR - Leadership Studies
LHC - Landscape Horticulture
LIB - Liberal Studies
LST - Labor Studies
MAT - Mathematics
MEE - Mechanical Engineering

MES - Marine Studies
MET - Mechanical Engineering Technology
MLC - Modern Languages and Classics
MSE - Museum Education
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
ONE - Onward-English
ONM - Onward-Mathematics
ONO - Onward-Orientation
ONR - Onward-Reading
ONS - Onward-Science
PAA - Public Administration
PAX - Peace Studies
PHI - Philosophy
PHY - Physics
POS - Political Science
PPA - Pulp and Paper Technology
PRT - Parks, Recreation and Tourism
PSE - Plant, Soil and Environmental Science
PSY - Psychology
QUS - Quaternary Studies
REP - Resource Economics and Policy
RUS - Russian
SAR - Students at Risk
SED - Education-Special Education
SEI - Special Education-Early Intervention
SFR - School of Forest Resources
SIE - Spatial Information Engineering
SMS - Marine Sciences
SMT - Science and Mathematics
SOC - Sociology
SPA - Spanish
SPI - School of Policy and International Affairs
STS - Statistics
STT - Education-Student Teaching
SVT - Surveying Engineering Technology
SWK - Social Work
THE - Theatre
TME - Technical Mathematics for Engineering
TSO - Technology and Society
UGR - Center for Undergraduate Research
UST - University Studies
VOX - Critical Language

WGS - Women's, Gender, Sexuality Studies
WLE - Wildlife Ecology
WSC - Wood Science and Technology

College Abbreviations

BPPH - College of Business, Public Policy and Health
EDHD - College of Education and Human Development
EGR - College of Engineering
LAS - College of Liberal Arts and Sciences
NSFA - College of Natural Sciences, Forestry and Agriculture
DLL - Division of Lifelong Learning

Department and Discipline Abbreviations

AVS - Animal and Veterinary Sciences
ANT - Anthropology
ART - Art
BLS - Black Studies
BMB - Biochemistry, Microbiology and Molecular Biology
CAN - Canadian Studies
CHB - Chemical and Biological Engineering
CHY - Chemistry
CIE - Civil and Environmental Engineering
CMJ - Communication and Journalism
COS - Computer Science
CSD - Communication Sciences and Disorders
DAN - Dance
DIS - Disability Studies
ECE - Electrical and Computer Engineering
ECO - Economics
EDU - Education
EES - Ecology and Environmental Sciences
ENG - English
ERS - Earth Sciences
EXP - Explorations
FAS - Franco American Studies
FES - Forest Ecosystem Science
FSC - Forest Operations Science
FSN - Food Science and Human Nutrition
GEE - General Engineering
HDF - Human Development and Family Studies
HON - Honors
HTY - History
IEI - Intensive English Institute
INT - Interdisciplinary Studies
KPE - Kinesiology and Physical Education
LBR - Library
LED - Labor Education
MBS - Maine Business School
MAT - Mathematics and Statistics
MEE - Mechanical Engineering
MLC - Modern Languages and Classics
MSL - Military Science and Leadership

MST - Center for Science and Mathematics Education Research
MUS - Music
NAS - Native American Studies
NAV - Naval Science
NFA - Natural Sciences, Forestry and Agriculture
NMD - New Media
NUR - School of Nursing
ONW - Onward
PAA - Public Administration
PAX - Peace Studies
PHI - Philosophy
PHY - Physics and Astronomy
POS - Political Science
PRT - Parks, Recreation and Tourism
PSE - Plant, Soil and Environmental Sciences
PSY - Psychology
REP - Resource Economics and Policy
SBE - School of Biology and Ecology
SET - School of Engineering Technology
SFR - School of Forest Resources
SIE - Spatial Information Engineering
SMS - School of Marine Science
SOC - Sociology
SSWK - School of Social Work
THE - Theatre
TSO - Technology and Society
UST - University Studies
WLE - Wildlife Ecology
WGS - Women's Studies
WSC - Wood Science and Technology

Colleges and Programs

The Maine Business School

The Maine Business School offers programs in business administration and public management. Each of these professional programs 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

Minors:

Accounting

Business Administration

Management

Marketing

Concentrations:

Management of Information Science

Entrepreneurship

International Business

Each Business Administration concentration is open only to Accounting, Finance, Management or Marketing majors. Please be aware that some of the courses in each concentration have prerequisites.

Management of Information Science Concentration:

Required Courses:

- BUA 267 - Databases for Decision Making
 - BUA 363 - Network Design and Applications
 - BUA 468 - Electronic Business
- Electives - choose a stream (programming or creative project-oriented) and select 2 courses:

Programming (choose 2 courses):

- COS 120 - Introduction to Programming I
- COS 125 - Introduction to Problem Solving Using Computer Programming
- COS 220 - Introduction to C++ Programming

OR

Creative Project-Oriented (choose 2 courses):

- NMD 102 - Introduction to New Media Technologies, Interaction Design and Prototyping
- NMD 104 - Design Basics for New Media
- NMD 306 - Project Design Workshop II
- NMD 342 - Interaction Design & Physical Computing

- NMD 442 - User Experience Design

Entrepreneurship Concentration:

Required Courses:

- INV 180 - Create: Innovation Engineering I
 - BUA 344 - Entrepreneurship and New Venture Creation
 - BUA 342 - Small Business Management
- Electives - (choose 2 courses):
- BUA 330 - Human Resource Management
 - BUA 460 - Leadership
 - ECO 254 - Small Business Economics and Management
 - PSY 230 - Social Psychology
 - ENG 418 - Communication for Small Business and Nonprofits

International Business Concentration:

Required Courses:

- BUA 376 - International Marketing
 - BUA 445 - International Management
 - BUA 455 - International Finance
 - POS 120 - Introduction to World Politics
- Electives - Two internationally-oriented non-business elective courses

A study abroad international experience

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.

Academic Advising:

Faculty in the Maine Business School are committed to ensuring that students receive thoughtful 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.

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. In addition, as an institution accredited by AACSB International-the Association to Advance Collegiate Schools of Business, the Maine Business School evaluates transfer credit consistent with AACSB accreditation policies. The following transfer policies apply:

1. Transfer credit is granted for business courses taken at institutions accredited by AACSB.
 2. For business courses taken at institutions not accredited by AACSB, transfer credit is not granted automatically. Contact the Associate Dean's office or the MBS undergraduate office for information.
- 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.

Course Fees:

In an effort to continue to improve the quality of the MBS in an era of steady or declining state support, additional funding is important. Growth in student numbers has resulted in a need for more faculty, changes in staffing, and other modifications to the MBS. To continue to increase the quality of the MBS, a course fee of \$100.00 will be assessed to all students in business courses.

The revenue generated will be used to continue to upgrade the computer lab, to use experienced adjunct faculty in targeted areas, allowing full-time faculty to teach more upper level courses, to support students participating in business competitions in the United States and Canada, and for other items that will directly benefit you and other students. A portion of the fee revenue will be expended based on the recommendations of the Dean's Student Advisory Board. This will insure that we are focusing on those items that contribute to a positive learning environment for our students.

Program Contacts*Business Administration*

Niclas Erhardt
Maine Business School
211 Donald P. Corbett Business Building
(207) 581-1968
niclas.erhardt@maine.edu

Major**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: BUA 101, BUA 201, BUA 202, BUA 220, BUA 235, BUA 270, BUA 325, BUA 337, BUA 343, BUA 350, and BUA 449. 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 BUA and ECO 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: BUA 449

Contact Information: Niclas Erhardt, Associate Dean, 211 DP Corbett, (207)581-1968

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. Rarely do business courses from a non-AACSB accredited institution transfer to the MBS other than as electives. Thus the transfer student may be required to take more than 120 credit hours to graduate. Such students are strongly encouraged to check with MBS well in advance about how business courses will transfer.

First year accounting students should take BUA 101, BUA 201, BUA 202 and BUA 235. Sophomores (24 or more degree hours) may take BUA 325, BUA 220, BUA 301, BUA 302 and BUA 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 (54 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 (33 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. A concentration Concentrations in International Business, Management of Information Systems, and Entrepreneurship can be elected in addition to a major.

Note: The remaining 15-18 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.

General Foundation - 54 credits

I. Arts and Sciences Core (37 credits)

- CMJ 103 - Fundamentals of Public Communication Credits: 3
Note: CMJ 103 will not count towards this major if taken online
- COS 211 - Principles of Data Processing Credits: 3
or
- COS 213 - Advanced Excel Spreadsheet Design Credits: 3
- ECO 120 - Principles of Microeconomics Credits: 3
- ECO 121 - Principles of Macroeconomics Credits: 3
- ENG 101 - College Composition Credits: 3
- ENG 317 - Business and Technical Writing Credits: 3
- Any other English Class Credits: 3
- MAT 115 - Applied Mathematics for Business and Economics Credits: 3
or
- MAT 126 - Calculus I Credits: 4
- STS 215 - Introduction to Statistics for Business and Economics Credits: 3
or
- STS 232 - Principles of Statistical Inference Credits: 3
- PSY 100 - General Psychology Credits: 3
- Lab Science (General Education) Credits: 4
- Lab or Applied Science (General Education) Credits: 3

II. Outside Electives (17 credits)

These 17 credits may be chosen from the offerings of the College of Liberal Arts and Sciences from the School of Economics, or any non-business course that satisfies a general education requirement. Students should use these credits to complete the University's general education requirements that are not satisfied by the courses above (3 credits each in Western Cultural Tradition, Population and the Environment, Artistic and Creative Expression, and Cultural Diversity and International Perspectives) as well as to complete a minor or pursue an area of interest.

Core Requirements in Business (33 Credits)

A C- or better is required in each. These courses may only be repeated once.

- BUA 101 - Introduction to Business Credits: 3
- BUA 201 - Principles of Financial Accounting Credits: 3
- BUA 202 - Principles of Managerial Accounting Credits: 3
- BUA 220 - The Legal Environment of Business Credits: 3
- BUA 235 - Information Systems and Technology for Business Credits: 3
- BUA 270 - Marketing Credits: 3
- BUA 325 - Principles of Management and Organization Credits: 3
- BUA 337 - Production and Operations Management Credits: 3
- BUA 343 - Introduction to International Business Credits: 3
- BUA 350 - Business Finance Credits: 3
- BUA 449 - Strategic Management Credits: 3

Accounting (18 Credits)

- BUA 301 - Intermediate Accounting I Credits: 3
- BUA 302 - Intermediate Accounting II Credits: 3
- BUA 305 - Cost Accounting Credits: 3
- BUA 310 - Auditing Credits: 3
- BUA 312 - Federal Taxation of Individuals Credits: 3

Plus either:

- BUA 406 - Advanced Managerial Accounting Credits: 3
- or
- BUA 409 - Accounting for Governmental and Not-For-Profit Entities Credits: 3

Free Electives (15 credits)

Any courses offered at the University of Maine will fill these electives.

Required Courses in Suggested Sequence for a B.S. in Business Administration in Accounting

Although the following is a suggested curriculum, upper-level Accounting classes are offered only once a year. Students should adhere to the sequence of accounting classes.

Note: Students may take BUA 301 and BUA 302 in their third year if BUA 201 and BUA 202 have been completed

successfully. Students anticipating an Accounting internship in their senior year should plan their program carefully to free one semester for the full work.

First Year - First Semester (15 credits)

- BUA 101 - Introduction to Business Credits: 3
- BUA 235 - Information Systems and Technology for Business Credits: 3
- ECO 120 - Principles of Microeconomics Credits: 3
- ENG 101 - College Composition Credits: 3
- PSY 100 - General Psychology Credits: 3

First Year - Second Semester (15 credits)

- CMJ 103 - Fundamentals of Public Communication Credits: 3
 - ECO 121 - Principles of Macroeconomics Credits: 3
 - MAT 115 - Applied Mathematics for Business and Economics Credits: 3
- or**
- MAT 126 - Calculus I Credits: 4
(math placement test **MUST** be taken)
 - Elective (General Education)
 - Elective (General Education)

Second Year - First Semester (15-16 credits)

Students should note that several courses satisfy more than one general education requirement allowing for a wider selection of electives later. Accounting students should take BUA 301 and 302 during the sophomore year.

- BUA 201 - Principles of Financial Accounting Credits: 3
 - BUA 220 - The Legal Environment of Business Credits: 3
 - STS 215 - Introduction to Statistics for Business and Economics Credits: 3
- or**
- STS 232 - Principles of Statistical Inference Credits: 3
 - Gen Ed: Population and Environment
 - Gen Ed: Lab or Applied Science

Second Year - Second Semester (15-16 credits)

- BUA 202 - Principles of Managerial Accounting Credits: 3
- BUA 270 - Marketing Credits: 3
- BUA 325 - Principles of Management and Organization Credits: 3
- COS 213 - Advanced Excel Spreadsheet Design Credits: 3
- Gen Ed: Lab or Applied Science
- Gen Ed: Artistic and Creative Expression

Note: the Artistic & Creative Expression and Cultural Diversity electives may be satisfied by a careful choice of an English Elective.

Third Year - First Semester (15 credits)

- BUA 305 - Cost Accounting Credits: 3
- BUA 350 - Business Finance Credits: 3
- ENG 317 - Business and Technical Writing Credits: 3
- Six additional credits

Third Year - Second Semester (15 credits)

- BUA 337 - Production and Operations Management Credits: 3
- BUA 343 - Introduction to International Business Credits: 3
- BUA 406 - Advanced Managerial Accounting Credits: 3
- **or**
- BUA 409 - Accounting for Governmental and Not-For-Profit Entities Credits: 3
- Three additional credits
- An English Course

Fourth Year - First Semester (15 credits)

- BUA 310 - Auditing Credits: 3
- BUA 312 - Federal Taxation of Individuals Credits: 3
- BUA 449 - Strategic Management Credits: 3
- Six additional credits

Fourth Year - Second Semester (13-18 credits)

- BUA 396 - Field Experience/Internship Credits: 1-6 (recommended)
- 12 additional credits

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 core business classes, with only one opportunity to repeat a class.

Other GPA requirements to graduate: Must earn a minimum overall GPA of 2.0 in all BUA and ECO 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: BUA 449

Contact Information: Niclas Erhardt, 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. Rarely do business courses from a non-AACSB accredited institution transfer to the MBS other than as electives. Thus the transfer student may be required to take more than 120 credit hours to graduate. Such students are strongly encouraged to check with MBS well in advance about how business courses will transfer.

First year finance students may take BUA 101, BUA 201 and BUA 235. Sophomores (24 or more degree hours) may take BUA 201, BUA 202, BUA 267, BUA 325, and BUA 220. 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 (54 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 (33 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 Entrepreneurship can be elected in addition to a major. Note: The remaining 15-18 credits needed to qualify for graduation can be filled with any course offered at the University.

General Foundation (54 credits)

I. Arts and Sciences Core (37 credits)

- CMJ 103 - Fundamentals of Public Communication Credits: 3
Note: CMJ 103 will not count towards this major if taken online.
- COS 211 - Principles of Data Processing Credits: 3
or
- COS 213 - Advanced Excel Spreadsheet Design Credits: 3
- ECO 120 - Principles of Microeconomics Credits: 3
- ECO 121 - Principles of Macroeconomics Credits: 3
- ENG 101 - College Composition Credits: 3
- ENG 317 - Business and Technical Writing Credits: 3
- Any other English Class Credits:3
- MAT 115 - Applied Mathematics for Business and Economics Credits: 3
or
- MAT 126 - Calculus I Credits: 4
- STS 215 - Introduction to Statistics for Business and Economics Credits: 3
or
- STS 232 - Principles of Statistical Inference Credits: 3
- PSY 100 - General Psychology Credits: 3
- Lab Science (General Education) Credits: 4
- Lab or Applied Science (General Education) Credits:3

II. Outside Electives (17 Credits)

These 17 credits may be chosen from the offerings of the College of Liberal Arts and Sciences from the School of Economics, or any non-business course that satisfies a general education requirement. Students should use these credits to complete the University's general education requirements that are not satisfied by the courses above (3 credits each in Western Cultural Tradition, Population and the Environment, Artistic and Creative Expression, and Cultural Diversity and International Perspectives) as well as to complete a minor or pursue an area of interest.

Core Requirements in Business (33 credits)

A C- or better is required in each. These courses may only be repeated once.

- BUA 101 - Introduction to Business Credits: 3
- BUA 201 - Principles of Financial Accounting Credits: 3
- BUA 202 - Principles of Managerial Accounting Credits: 3
- BUA 220 - The Legal Environment of Business Credits: 3

- BUA 235 - Information Systems and Technology for Business Credits: 3
- BUA 270 - Marketing Credits: 3
- BUA 325 - Principles of Management and Organization Credits: 3
- BUA 337 - Production and Operations Management Credits: 3
- BUA 343 - Introduction to International Business Credits: 3
- BUA 350 - Business Finance Credits: 3
- BUA 449 - Strategic Management Credits: 3

Finance (15 Credits)

- BUA 351 - Valuation and Corporate Investment Decisions Credits: 3
- BUA 352 - Financial Institutions Credits: 3
- BUA 353 - Investment Strategy Credits: 3
- BUA 454 - Financial Derivatives Credits: 3

Plus one of the following:

- BUA 267 - Database Management Credits: 3
- BUA 301 - Intermediate Accounting I Credits: 3
- BUA 305 - Cost Accounting Credits: 3
- BUA 455 - International Corporate Finance Credits: 3
- BUA 468 - Electronic Business Credits: 3
- ECO 339 - International Finance Credits: 3
- ECO 350 - Intermediate Microeconomic Theory Credits: 3
- ECO 366 - Applied Economic Data Analysis Credits: 3
- ECO 488 - Spreadsheet Modeling and Decision Analysis Credits: 3

Free Electives (18 credits)

Any courses offered at the University of Maine will fill these electives

Required Courses in Suggested Sequence for a B. S. in Business Administration in Finance

Students should be aware that upper-level Finance classes (not including BUA 350) are offered only once a year. Students are responsible for the successful completion of prerequisites to upper-level courses.

First Year - First Semester (15 credits)

- BUA 101 - Introduction to Business Credits: 3

- BUA 235 - Information Systems and Technology for Business Credits: 3
- ECO 120 - Principles of Microeconomics Credits: 3
- ENG 101 - College Composition Credits: 3
- PSY 100 - General Psychology Credits: 3

First Year - Second Semester (15 credits)

- CMJ 103 - Fundamentals of Public Communication Credits: 3
- ECO 121 - Principles of Macroeconomics Credits: 3
- MAT 115 - Applied Mathematics for Business and Economics Credits: 3
- **or**
- MAT 126 - Calculus I Credits: 4
(math placement test MUST be taken)
- Elective (General Education)
- Elective (General Education)

Second Year - First Semester (15-16 credits)

Students should note that several courses satisfy more than one general education requirement allowing for a wider selection of electives later.

- BUA 201 - Principles of Financial Accounting Credits: 3
- BUA 220 - The Legal Environment of Business Credits: 3
- STS 215 - Introduction to Statistics for Business and Economics Credits: 3
- **or**
- STS 232 - Principles of Statistical Inference Credits: 3
- Gen Ed: Population and Environment
- Gen Ed: Lab or Applied Science

Second Year - Second Semester (15-16 credits)

- BUA 202 - Principles of Managerial Accounting Credits: 3
 - BUA 270 - Marketing Credits: 3
 - BUA 325 - Principles of Management and Organization Credits: 3
 - COS 213 - Advanced Excel Spreadsheet Design Credits: 3
 - Gen Ed: Lab or Applied Science
 - Gen Ed: Artistic and Creative Expression
- Note: the Artistic and Creation Expression and Cultural Diversity electives may be satisfied by a careful choice of an English elective.

Third Year - First Semester (15 credits)

- BUA 337 - Production and Operations Management Credits: 3
- BUA 350 - Business Finance Credits: 3

- ENG 317 - Business and Technical Writing Credits: 3
- Six additional credits

Third Year - Second Semester (15 credits)

- BUA 343 - Introduction to International Business Credits: 3
- BUA 351 - Valuation and Corporate Investment Decisions Credits: 3
- Six additional credits
- An English Course

Fourth Year - First Semester (15 credits)

- BUA 352 - Financial Institutions Credits: 3
- BUA 353 - Investment Strategy Credits: 3
- Nine additional credits

Fourth Year - Second Semester (15 credits)

- BUA 449 - Strategic Management Credits: 3
- BUA 454 - Financial Derivatives Credits: 3
- Finance Elective
- 6 additional credits

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 better is required in all business core classes and those classes may be repeated only once. 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 BUA and ECO 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: BUA 449

Contact Information: Niclas Erhardt, Associate Dean, 211 DP Corbett, (207)581-1968

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. Rarely do business courses from a non-AACSB accredited institution transfer to the MBS other than as electives. Thus the transfer student may be required to take more than 120 credit hours to graduate. Such students are strongly encouraged to check with MBS well in advance about how business courses will transfer.

First year management students may take BUA 101 and BUA 235. Sophomores (24 or more degree hours) may take BUA 201, BUA 202, BUA 220, BUA 270, BUA 290, and BUA 325. 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 (54 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 (33 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 Entrepreneurship can be elected in addition to a major. Note: The remaining 15-18 credits needed to qualify for graduation can be filled with any course offered at the University.

General Foundation - 54 credits

I. Arts and Sciences Core (37 credits)

- CMJ 103 - Fundamentals of Public Communication Credits: 3
Note: CMJ 103 will not count towards this major if taken online.
- COS 211 - Principles of Data Processing Credits: 3
or
- COS 213 - Advanced Excel Spreadsheet Design Credits: 3

- ECO 120 - Principles of Microeconomics Credits: 3
- ECO 121 - Principles of Macroeconomics Credits: 3
- ENG 101 - College Composition Credits: 3
- ENG 317 - Business and Technical Writing Credits: 3
- Any other English class Credits: 3
- MAT 115 - Applied Mathematics for Business and Economics Credits: 3
or
- MAT 126 - Calculus I Credits: 4
- STS 215 - Introduction to Statistics for Business and Economics Credits: 3
or
- STS 232 - Principles of Statistical Inference Credits: 3
- PSY 100 - General Psychology Credits: 3
- Lab Science (General Education) Credits: 4
- Lab or Applied Science (General Education) Credits: 3

II. Outside Electives (17 credits)

These 17 credits may be chosen from the offerings of the College of Liberal Arts and Sciences from the School of Economics, or any non-business course that satisfies a general education requirement. Students should use these credits to complete the University's general education requirements that are not satisfied by the courses above (3 credits each in Western Cultural Tradition, Population and the Environment, Artistic and Creative Expression, and Cultural Diversity and International Perspectives) as well as to complete a minor or pursue an area of interest.

Core Requirements in Business (33 credits)

A C- or better is required in each. These courses may only be repeated once.

- BUA 101 - Introduction to Business Credits: 3
- BUA 201 - Principles of Financial Accounting Credits: 3
- BUA 202 - Principles of Managerial Accounting Credits: 3
- BUA 220 - The Legal Environment of Business Credits: 3
- BUA 235 - Information Systems and Technology for Business Credits: 3
- BUA 270 - Marketing Credits: 3
- BUA 325 - Principles of Management and Organization Credits: 3
- BUA 337 - Production and Operations Management Credits: 3
- BUA 343 - Introduction to International Business Credits: 3
- BUA 350 - Business Finance Credits: 3
- BUA 449 - Strategic Management Credits: 3

Management (15 credits)

- BUA 326 - Organizational Behavior Credits: 3
- BUA 327 - Business and Society Credits: 3
- BUA 330 - Human Resource Management Credits: 3

Plus two from the following:

- BUA 267 - Database Management Credits: 3
- BUA 328 - Canadian/U.S. Business: A Comparison Credits: 3
- BUA 331 - Labor-Management Relations Credits: 3
- BUA 342 - Small Business Management Credits: 3
- BUA 344 - Entrepreneurship and New Venture Creation Credits: 3
- BUA 445 - International Management Credits: 3
- BUA 460 - Leadership Credits: 3

Free Electives (18 Credits)

Any courses offered at the University of Maine will fill these electives.

Required Courses in Suggested Sequence for a B. S. in Business Administration in Management

Note that, although the following is a suggested curriculum, students should be aware that the upper-level management classes noted above as requirements are offered only once a year. Students must take responsibility for ensuring they meet all course prerequisites. Taking BUA 325 in the sophomore year is assumed.

First Year - First Semester (15 credits)

- BUA 101 - Introduction to Business Credits: 3
- BUA 235 - Information Systems and Technology for Business Credits: 3
- ECO 120 - Principles of Microeconomics Credits: 3
- ENG 101 - College Composition Credits: 3
- PSY 100 - General Psychology Credits: 3

First Year - Second Semester (15 credits)

- CMJ 103 - Fundamentals of Public Communication Credits: 3
- ECO 121 - Principles of Macroeconomics Credits: 3

- MAT 115 - Applied Mathematics for Business and Economics Credits: 3
or
- MAT 126 - Calculus I Credits: 4
(math placement test MUST be taken)
- Elective (general education)
- Elective (general education)

Second Year - First Semester (15-16 credits)

Students should note that several courses satisfy more than one general education requirement allowing for a wider selection of electives later.

- BUA 201 - Principles of Financial Accounting Credits: 3
- BUA 220 - The Legal Environment of Business Credits: 3
- STS 215 - Introduction to Statistics for Business and Economics Credits: 3
or
- STS 232 - Principles of Statistical Inference Credits: 3
- Gen Ed: Population and Environment
- Gen Ed: Lab or Applied Science

Second Year - Second Semester (15-16 credits)

- BUA 202 - Principles of Managerial Accounting Credits: 3
 - BUA 270 - Marketing Credits: 3
 - BUA 325 - Principles of Management and Organization Credits: 3
 - COS 213 - Advanced Excel Spreadsheet Design Credits: 3
 - Gen Ed: Lab or Applied Science
 - Gen Ed: Artistic and Creative Expression
- Note: the Artistic and Creative Expression and Cultural Diversity Electives may be satisfied by a careful choice of an English elective.

Third Year - First Semester (15 credits)

- BUA 326 - Organizational Behavior Credits: 3
- BUA 330 - Human Resource Management Credits: 3
- BUA 350 - Business Finance Credits: 3
- ENG 317 - Business and Technical Writing Credits: 3
- Three additional credits

Third Year - Second Semester (15 credits)

- BUA 327 - Business and Society Credits: 3
- BUA 337 - Production and Operations Management Credits: 3
- BUA 343 - Introduction to International Business Credits: 3

- An English Course Credits: 3
- 3 additional credits

Fourth Year - First Semester (15 credits)

- Management Elective
- 12 additional credits

Fourth Year - Second Semester (15 credits)

- BUA 449 - Strategic Management Credits: 3
- Management Elective
- Nine additional credits

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 better is required in all business core classes and those classes may be repeated only once. 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 BUA and ECO 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: BUA 449

Contact Information: Niclas Erhardt, Associate Dean, 211 DP Corbett, (207)581-1968

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. Rarely do business courses from a non-AACSB accredited institution transfer to the MBS other than as electives. Thus the transfer student may be required to take more than 120 credit hours to graduate. Such students are strongly encouraged to check with MBS well in advance about how business courses will transfer.

First year marketing students may take BUA 101 and BUA 235. Sophomores (24 or more degree hours) may take BUA 201, BUA 202, BUA 220, BUA 270, and BUA 325. 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 (54 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 (33 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 Entrepreneurship can be elected in addition to a major. Note: The remaining 15-18 credits needed to qualify for graduation can be filled with any course offered at the University.

General Foundation - 54 credits

I. Arts and Sciences Core (37 credits)

- CMJ 103 - Fundamentals of Public Communication Credits: 3
Note: CMJ 103 will not count towards this major if taken online.
- COS 211 - Principles of Data Processing Credits: 3
or
- COS 213 - Advanced Excel Spreadsheet Design Credits: 3
- ECO 120 - Principles of Microeconomics Credits: 3
- ECO 121 - Principles of Macroeconomics Credits: 3
- ENG 101 - College Composition Credits: 3
- ENG 317 - Business and Technical Writing Credits: 3
- Any other English Class Credits: 3
- MAT 115 - Applied Mathematics for Business and Economics Credits: 3
or
- MAT 126 - Calculus I Credits: 4

- STS 215 - Introduction to Statistics for Business and Economics Credits: 3
or
- STS 232 - Principles of Statistical Inference Credits: 3
- PSY 100 - General Psychology Credits: 3
- Lab Science (General Education) Credits: 4
- Lab or Applied Science (General Education) Credits: 3

II. Outside Electives (17 credits)

These 17 credits may be chosen from the offerings of the College of Liberal Arts and Sciences from the School of Economics, or any non-business course that satisfies a general education requirement. Students should use these credits to complete the University's general education requirements that are not satisfied by the courses above (3 credits each in Western Cultural Tradition, Population and the Environment, Artistic and Creative Expression, and Cultural Diversity and International Perspectives) as well as to complete a minor or pursue an area of interest.

Core Requirements in Business (33 credits)

A C- or better is required in each. These courses may only be repeated once.

- BUA 101 - Introduction to Business Credits: 3
- BUA 201 - Principles of Financial Accounting Credits: 3
- BUA 202 - Principles of Managerial Accounting Credits: 3
- BUA 220 - The Legal Environment of Business Credits: 3
- BUA 235 - Information Systems and Technology for Business Credits: 3
- BUA 270 - Marketing Credits: 3
- BUA 325 - Principles of Management and Organization Credits: 3
- BUA 337 - Production and Operations Management Credits: 3
- BUA 343 - Introduction to International Business Credits: 3
- BUA 350 - Business Finance Credits: 3
- BUA 449 - Strategic Management Credits: 3

Marketing

- BUA 371 - Services Marketing Credits: 3
- BUA 378 - Marketing Research Credits: 3
- BUA 382 - Consumer Behavior Credits: 3
- BUA 480 - Managerial Marketing Credits: 3

Plus one of the following:

- BUA 372 - Integrated Marketing Communication Credits: 3
- BUA 374 - Personal Selling and Sales Management Credits: 3
- BUA 375 - Retail Management Credits: 3
- BUA 376 - International Marketing Credits: 3

Free Electives (18 credits)

Any courses offered at the University of Maine will fill theselectives.

Required Courses in Suggested Sequence for a B. S. in Business Administration in Marketing

Note that the although the following is a suggested curriculum, students should be aware that upper-level marketing classes (not including BUA 270) are offered only once a year. Taking BUA 270 in the sophomore year is assumed.

First Year - First Semester (15 credits)

- BUA 101 - Introduction to Business Credits: 3
- BUA 235 - Information Systems and Technology for Business Credits: 3
- ECO 120 - Principles of Microeconomics Credits: 3
- ENG 101 - College Composition Credits: 3
- PSY 100 - General Psychology Credits: 3

First Year - Second Semester (15 credits)

- CMJ 103 - Fundamentals of Public Communication Credits: 3
- ECO 121 - Principles of Macroeconomics Credits: 3
- MAT 115 - Applied Mathematics for Business and Economics Credits: 3
- or**
- MAT 126 - Calculus I Credits: 4
(math placement test MUST be taken)
- Elective (general education)
- Elective (general education)

Second Year - First Semester (15-16 credits)

Students should note that several courses satisfy more than one general education requirement allowing for a wider selection of electives later.

- BUA 201 - Principles of Financial Accounting Credits: 3
- BUA 220 - The Legal Environment of Business Credits: 3
- STS 215 - Introduction to Statistics for Business and Economics Credits: 3
- or**

- STS 232 - Principles of Statistical Inference Credits: 3
- Gen Ed: Population and Environment
- Gen Ed: Lab or Applied Science

Second Year - Second Semester (15-16 credits)

- BUA 202 - Principles of Managerial Accounting Credits: 3
 - BUA 270 - Marketing Credits: 3
 - BUA 325 - Principles of Management and Organization Credits: 3
 - COS 213 - Advanced Excel Spreadsheet Design Credits: 3
 - Gen Ed: Lab or Applied Science
 - Gen Ed: Artistic and Creative Expression
- Note: The Artistic and Creative expression and Cultural Diversity electives may be satisfied by a careful choice of an English elective.

Third Year - First Semester (15 credits)

- BUA 343 - Introduction to International Business Credits: 3
- BUA 350 - Business Finance Credits: 3
- BUA 382 - Consumer Behavior Credits: 3
- ENG 317 - Business and Technical Writing Credits: 3
- Three additional credits

Third Year - Second Semester (15 credits)

- BUA 337 - Production and Operations Management Credits: 3
- BUA 371 - Services Marketing Credits: 3
- Six additional credits
- An English Course

Fourth Year - First Semester (12 credits)

- BUA 378 - Marketing Research Credits: 3
- Marketing Elective
- Nine additional credits

Fourth Year - Second Semester (15 credits)

- BUA 480 - Managerial Marketing Credits: 3
- BUA 449 - Strategic Management Credits: 3
- Nine additional credits

Minor

Minor: Accounting

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 BUA 201 and BUA 202.

Contact Information: Niclas Erhardt, Associate Dean, 211 DP Corbett, (207) 581-1968

Complete the following Required Courses:

- BUA 201 - Principles of Financial Accounting Credits: 3
- BUA 202 - Principles of Managerial Accounting Credits: 3
- BUA 301 - Intermediate Accounting I Credits: 3
- BUA 302 - Intermediate Accounting II Credits: 3
- BUA 305 - Cost Accounting Credits: 3
- BUA 310 - Auditing Credits: 3
- BUA 312 - Federal Taxation of Individuals Credits: 3
- BUA 406 - Advanced Managerial Accounting Credits: 3
- or
- BUA 409 - Accounting for Governmental and Not-For-Profit Entities Credits: 3

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 BUA credit hours at UMaine.

All BUA classes must be taken for a grade (no pass/fail permitted).

Minor: Business Administration

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 BUA/ECO courses.

Minimum Grade requirements for courses to count toward minor: Must earn a minimum of a C- in BUA 201, BUA 270, BUA 325, and BUA 350 with only one opportunity to repeat a class.

Contact Information: Niclas Erhardt, Associate Dean, 211 DP Corbett, (207) 581-1968

Complete the following Required Courses:

- BUA 201 - Principles of Financial Accounting Credits: 3
 - BUA 270 - Marketing Credits: 3
 - BUA 325 - Principles of Management and Organization Credits: 3
 - BUA 350 - Business Finance Credits: 3
 - ECO 120 - Principles of Microeconomics Credits: 3
 - ECO 121 - Principles of Macroeconomics Credits: 3
 - PSY 100 - General Psychology Credits: 3
 - BUA XXX One additional Business course for which prerequisites have been met Credits: 3
- 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 second semester of a student's enrollment
Must earn at least 50% of the BUA and ECO credit hours at UMaine
All BUA classes must be taken for a grade (no pass/fail permitted)

Students wishing to pursue the MBA

Students applying for admission to the MBA program in their fifth year should take:

- BUA 201 - Principles of Financial Accounting Credits: 3
- BUA 202 - Principles of Managerial Accounting Credits: 3
- ECO 120 - Principles of Microeconomics Credits: 3
- ECO 121 - Principles of Macroeconomics Credits: 3

In addition, the student should take the GMAT (Graduate Management Admissions Test) during the senior year

Minor: Management

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 BUA/ECO courses.

Minimum Grade requirements for courses to count toward minor: Must earn a minimum of a C- in BUA 325 and BUA 343, with only one opportunity to repeat a class.

Contact Information: Niclas Erhardt, Associate Dean, 211 DP Corbett, (207) 581-1968

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.

Complete the following required courses:

- BUA 325 - Principles of Management and Organization Credits: 3
- BUA 326 - Organizational Behavior Credits: 3
- BUA 330 - Human Resource Management Credits: 3
- BUA 343 - Introduction to International Business Credits: 3
- BUA 460 - Leadership Credits: 3
- ECO 120 - Principles of Microeconomics Credits: 3
- ECO 121 - Principles of Macroeconomics Credits: 3
- PSY 100 - General Psychology Credits: 3

Must earn at least 50% of the BUA and ECO credit hours at UMaine.
All BUA classes must be taken for a grade (no pass/fail permitted).

Students wishing to pursue the MBA

Students applying for admission to the MBA program in their fifth year should take the following courses:

- BUA 201 - Principles of Financial Accounting Credits: 3
- BUA 202 - Principles of Managerial Accounting Credits: 3
- ECO 120 - Principles of Microeconomics Credits: 3
- ECO 121 - Principles of Macroeconomics Credits: 3

In addition, the student should take the GMA (Graduate Management Admissions Test) during the senior year.

Minor: Marketing

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 BUA/ECO courses.

Minimum Grade requirements for courses to count toward minor: Must earn a minimum of a C- in BUA 270, with only one opportunity to repeat a class.

Contact Information: Niclas Erhardt, Associate Dean, 211 DP Corbett, (207) 581-1968

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 BUA and ECO credit hours at UMaine.

All BUA classes must be taken for a grade (no pass/fail permitted).

Required Courses (seven):

- BUA 270 - Marketing Credits: 3
- BUA 371 - Services Marketing Credits: 3
- BUA 378 - Marketing Research Credits: 3
- BUA 382 - Consumer Behavior Credits: 3
- ECO 120 - Principles of Microeconomics Credits: 3
- STS 232 - Principles of Statistical Inference Credits: 3
- PSY 100 - General Psychology Credits: 3
- PSY 230 - Social Psychology Credits: 3

Marketing Elective

One from the following list of courses:

- BUA 372 - Integrated Marketing Communication Credits: 3
- BUA 374 - Personal Selling and Sales Management Credits: 3
- BUA 375 - Retail Management Credits: 3
- BUA 376 - International Marketing Credits: 3
- BUA 490 - Special Topics in Business Administration Credits: 1-3

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 address concerns and changing needs of schools, children and families.

Undergraduate majors are offered in Athletic Training, Child Development and Family Relations with an academic specialization option in Early Childhood Education, Elementary and Secondary Education, and Kinesiology and Physical Education with academic specialization options of Teaching/Coaching and Exercise Science. All majors emphasize a diverse liberal arts background and highly relevant professional training.

Educator preparation programs are accredited by the National Council for Accreditation of Teacher Education and approved by the Maine Department of Education. A partnership with area PreK-12 schools provides a Professional Development School model and realistic teaching and learning settings for students and faculty. In addition, a campus nursery school and kindergarten

serves as a lab school where Early Childhood and Education students can observe and learn about the behaviors of young children.

The Human Development curriculum meets the standards and requirements of the National Council of Family Relations' Certified Family Life Educator designation, which enables graduates to quickly complete the application process for Certified Family Life Educator status.

The curriculum-and clinical-based Athletic Training major is accredited by the Commission on Accreditation of Athletic Training Education (CAATE). These academic and broad clinical experiences are required for eligibility for the National Athletic Trainers Association Board of Certification exam, the professional credential required by most employers.

The College of Education and Human Development requires external transfer students wishing to enroll in any of the teaching certification programs to successfully pass PRAXIS I/Core based on State of Maine requirements. All transfer students for any College of Education and Human Development program must have a minimum 2.75 GPA from an accredited institution.

ACADEMIC PROGRAMS:

Bachelor of Science in:

Athletic Training

Child Development and Family Relations

Early Childhood Education option

Elementary Education

With concentrations available in:

English as a Second Language

French

Human

Life

Mathematics

Social

Spanish

and

Physical

Development

Sciences

Studies

Kinesiology

and

Physical

Education

Exercise

Science

(administration

or

science

option)

Teaching/Coaching

Secondary

With

concentrations

available

Education

in:

English

Foreign

Mathematics

Science

Social Studies

Languages

Minors:

Child Development and Family Relations

Education

Exercise Science in Kinesiology and

Physical Education

College of Education and Human Development Notes:

Teacher Certification:

The College of Education and Human Development's Elementary, Early Childhood, and Secondary Education program and the teacher preparation program in Kinesiology and Physical Education have been approved by the Maine Department of Education and the National Council for Accreditation of Teacher Education. Upon successful completion of these programs, students are recommended for Maine Teacher Certification in their area of study. Additionally, students need to successfully pass state-identified examinations and all other state requirements to receive teacher certification in Maine.

Those with a Bachelor's degree seeking to become Art, Music, or Physical Education teachers may apply for the Teacher Certification Option.

Note: The Maine Department of Education charges \$100.00 for initial certification. Certification requirements are subject to change. For updated information, check with the Information Desk in the College of Education and Human Development. Contact: Erin Straine

Undergraduate Program Contact

Mary Mahoney-O'Neil
101 Shibles Hall
(207) 581-2485
Mary.MahoneyONeil@maine.edu

Graduate Program

The College offers a full range of graduate programs leading to the master's degree, the Certificate of Advanced Study (CAS) and the doctoral degree.

Graduate Program Contact

Jim Artesani

144 Shibles Hall

(207) 581-4061

arthur.artesani@maine.edu

Major

Athletic Training

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 126

Minimum Cumulative GPA required to graduate: 2.5

Minimum Grade requirements for courses to count toward major: A B- or higher is required in KPE 250, KPE 273, and all professional education classes.

Other GPA requirements to graduate: None.

Required Course(s) for fulfilling Capstone Experience: KPE 427

Contact Information: The Advising Center, 100 Shibles Hall, (207) 581-2412 or email the Advising Center at advisingcenter@maine.edu

The Athletic Training Program (ATP) is nationally accredited by the Commission on Accreditation of Athletic Training Education. UMaine's ATP is designed to provide a thorough understanding of anatomy, physiology, health and other academic subjects necessary for effective prevention, recognition, evaluation, and management of injuries and illnesses. Students work directly with UMaine and the community Athletic Trainers and Health Care Providers once admitted into the program. With a wide variety of Clinical Experiences, Athletic Training Students are exposed to athletic training at the high school level, college and university levels, at private practices, and in local hospitals and health care facilities. Hands-on learning begins as early as the second year of college for these students.

Students enter ATP after being accepted in the "professional" aspect of the education program. This consists of successfully completing several courses and a Candidacy Application. Students must maintain a 2.5 overall GPA and a B- or better in all Athletic Training courses to remain in the ATP once accepted. All transfer students must apply to the ATP and complete all Athletic Training Clinical Experience courses offered by UMaine. Learn of our competitive admissions policy on our website.

Required Courses in Suggested Sequence for the B.S. in Athletic Training

First Year - First Semester

- BIO 100 - Basic Biology Credits: 4
- EHD 100 - New Student Seminar in Education and Human Development Credits: 1
(waived for transfer students)
- ENG 101 - College Composition Credits: 3
- KPE 100 - Introduction to Athletic Training Credits: 1
- PSY 100 - General Psychology Credits: 3
- General Education Course Credits: 3

First Year - Second Semester

- BIO 208 - Anatomy and Physiology Credits: 4
- KPE 250 - Prevention and Care for Sports Injuries Credits: 3
- KPE 253 - Lifetime Fitness for Health Credits: 3
- MAT 122 - Pre-Calculus Credits: 4
or a higher level Mathematics Course
- General Education Course Credits: 3

Second Year - First Semester

- FSN 101 - Introduction to Food and Nutrition Credits: 3
- KPE 201 - Athletic Training-Clinical Skills I Credits: 3
- KPE 270 - Motor Development and Learning Credits: 3
- KPE 273 - Anatomy and Pathologies of Injuries and Conditions Credits: 3
- PHY 111 - General Physics I Credits: 4

Second Year - Second Semester

- KPE 202 - Athletic Training-Clinical Skills II Credits: 3
- KPE 276 - Manual Muscle Testing and Goniometry Credits: 3
- KPE 386 - Evaluation of Lower Extremity Injuries and Conditions Credits: 3
- KPE 388 - Therapeutic Modalities Credits: 4
- General Education Course Credits: 3

Summer

- KPE 262 - Methods of Teaching Physical Activity Credits: 3
- KPE 262 is a May Term Course that should be taken between the 2nd and 3rd Academic Years.

Third Year - First Semester

- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- KPE 301 - Athletic Training-Clinical Skills III Credits: 3
- KPE 385 - Evaluation of Upper Extremity Injuries and Conditions Credits: 3
- KPE 387 - Therapeutic Exercise for Musculoskeletal Injuries Credits: 4
- KPE 400 - General Medical Conditions and Disabilities in Sport Credits: 3

Third Year - Second Semester

- KPE 300 - Professionalism in Athletic Training Credits: 1
- KPE 302 - Athletic Training-Clinical Skills IV Credits: 3
- KPE 303 - Pharmacology in Athletic Training Credits: 1
- KPE 376 - Kinesiology Credits: 3
- KPE 378 - Physiology of Exercise Credits: 3
- KPE 383 - Organization and Administration in Athletic Training Credits: 3
- KPE 389 - Aquatherapy Credits: 1

Fourth Year - First Semester

- ENG 317 - Business and Technical Writing Credits: 3
- KPE 372 - Statistical Methods and Assessments in Physical Education Credits: 3
- KPE 401 - Athletic Training Seminar Credits: 3
- KPE 426 - Exercise Prescription and Leadership Credits: 3
- General Education Course Credits: 3

Fourth Year - Second Semester

- KPE 367 - Adapted Physical Education Credits: 3
- KPE 427 - Health Fitness Internship Credits: 3-6
- KPE 490 - Nutrition for Sports and Exercise Credits: 3
- General Education Course Credits: 3

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 321, CHF 322, CHF 329, CHF 331 or EHD 203, CHF 304 or EDG 400, EDT 400, EHD 101, EHD 202, EHD 204, EHD 301, ERL 317, ERL 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 or 424

Contact Information: Mary Mahoney-O'Neil, Assistant Dean, 144 Shibles Hall 581-2484 or 581-2435

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. Students not meeting these minimum GPAs should submit an application consisting of a resume, and an essay identifying their professional goals. A faculty committee will review applications. Application packets should be submitted to 118 Merrill Hall. All other students need to apply through the Admissions Office.

Requirements:

English:

Early Childhood Education concentration requires 1 ENG literature course Credits: 3

Communication:

CMJ 102, 103 or 106

Math:

MAT 107 and 108 are required for the Early Childhood Education concentration. The Research concentration requires STS 232

Psychology:

PSY 100

Required Courses in Suggested Sequence for B.S. in Child Development and Family Relations, Individual and Family Studies concentration

The sequence for each concentration is adjusted as needed to meet requirements.

First Year - First Semester

- CHF 200 - Family Interaction Credits: 3
- CHF 201 - Introduction to Child Development Credits: 3
- EHD 100 - New Student Seminar in Education and Human Development Credits: 1
- ENG 101 - College Composition Credits: 3
- General Education Requirement Credits: 3

First Year - Second Semester

- CMJ 102 - Fundamentals of Interpersonal Communication Credits: 3
or
- CMJ 103 - Fundamentals of Public Communication Credits: 3
or
- CMJ 106 - Storytelling Credits: 3
- PSY 100 - General Psychology Credits: 3
- CHF Elective Credits: 3
- General Education Requirement Credits: 6

Second Year - First Semester

- CHF Elective Credits: 3
- General Education Requirements Credits: 13

Second Year - Second Semester

- CHF Elective Credits: 3
- General Education Requirements Credits: 12

Third Year - First Semester

- CHF Elective Credits: 6
- General Education Requirements Credits: 9

Third Year - Second Semester

- CHF Elective Credits: 6
- General Education Requirements Credits: 3
- Electives Credits: 6

Fourth Year - First Semester

- CHF 423 - Professional Seminar in Child Development and Family Relations Credits: 3
- CHF 496 - Field Experience in Human Development and Family Studies Credits: 1-6
- General Education Requirements Credits: 3
- CHF Elective Credits: 3
- Electives Credits: 3

Fourth Year - Second Semester

- CHF Elective Credits: 3-6
- General Education Requirements Credits: 3
- Electives Credits: 9

Child Development and Family Relations Concentrations

CORE COURSES

- CHF 200 - Family Interaction Credits: 3
- CHF 201 - Introduction to Child Development Credits: 3
- CHF 423 - Professional Seminar in Child Development and Family Relations Credits: 3
- **or**
- CHF 424 - Professional Seminar for Early Childhood Specialists Credits: 3

Field Experience (choice determined by your concentration:)

- CHF 421 - Student Teaching in Early Childhood Credits: 12
- **or**
- CHF 422 - Field Placement in Early Childhood Education Credits: 3-6
- **or**
- CHF 496 - Field Experience in Human Development and Family Studies Credits: 1-6

1. Individual and Family Studies Concentration

This concentration supports professional preparation to work with children and families in community settings.

Course Requirements: 21 credit hours chosen from the following possible elective CHF courses:

- CHF 203 - Practicum in Early Childhood Programs Credits: 3
- CHF 303 - Infant/Toddler Care and Development Credits: 3
- CHF 311 - Creativity and the Young Child Credits: 3
- CHF 321 - Curriculum and Methods for Teaching Young Children Science Credits: 3
- CHF 322 - Curriculum and Methods for Teaching Social Studies Credits: 3
- CHF 329 - Curriculum and Methods for Teaching Young Children Math Credits: 3
- CHF 331 - Cognitive Development Credits: 3
- CHF 351 - Human Sexuality Credits: 3
- CHF 381 - Family Resource Management Credits: 3

- CHF 385 - Personal and Family Finance Credits: 3
- CHF 401 - Peer Education Credits: 3
- CHF 404 - Selected Topics in Child Development and Family Life Credits: 3
- CHF 406 - Introduction to Research Methods in Child Development and Family Relations Credits: 3
- CHF 409 - Special Problems in Child Development and Family Life Credits: Ar
- CHF 417 - Introduction to Leadership in Early Childhood Education Credits: 3
- CHF 431 - Parenting Credits: 3
- CHF 432 - Socialization of the Child Credits: 3
- CHF 433 - Adolescence Credits: 3
- CHF 434 - Adult Development and Aging Credits: 3
- CHF 441 - Family Life Education Methods Credits: 3
- CHF 442 - Helping Skills Credits: 3
- CHF 450 - Early Childhood Special Education - Inclusion in the Early Childhood Classroom Credits: 3
- CHF 451 - Family Relationships Credits: 3
- CHF 452 - Violence in the Family Credits: 3
- CHF 488 - Family Legal Issues Credits: 3
- CHF 496 - Field Experience in Human Development and Family Studies Credits: 1-6

2. Certified Family Life Educator Concentration

This concentration allows students to apply for provisional certification from the National Council on Family Relations (NCFR) for the profession of family life education. Family life education focuses on healthy family functioning with the goal of teaching and fostering the skills to enable individuals and families to function optimally.

Course Requirements: 24 credit hours in the following eight required CHF courses:

- CHF 351 - Human Sexuality Credits: 3
- CHF 381 - Family Resource Management Credits: 3
- CHF 431 - Parenting Credits: 3
- CHF 434 - Adult Development and Aging Credits: 3
- CHF 441 - Family Life Education Methods Credits: 3
- CHF 442 - Helping Skills Credits: 3
- CHF 451 - Family Relationships Credits: 3
- CHF 488 - Family Legal Issues Credits: 3

3. Early Childhood Education (Maine public school teaching certification) Concentration

This concentration allows students to apply for the state of Maine Endorsement 029: Early Elementary Teacher (public school grades K-3) and to be State eligible to apply for the Endorsement 081: Early Childhood Teacher. The Endorsement 081, on a Maine teacher certificate, allows the holder to teach students birth to school age 5. A 2.75 accumulative grade point average is required to apply for teacher candidacy.

Course Requirements: 61 credit hours in the following 17 required courses:

- CHF 203 - Practicum in Early Childhood Programs Credits: 3
- CHF 303 - Infant/Toddler Care and Development Credits: 3
- CHF 304 - Practicum in Early Childhood Education K-3 Credits: 3

- CHF 321 - Curriculum and Methods for Teaching Young Children Science Credits: 3
- CHF 322 - Curriculum and Methods for Teaching Social Studies Credits: 3
- CHF 329 - Curriculum and Methods for Teaching Young Children Math Credits: 3
- CHF 331 - Cognitive Development Credits: 3
- or
- CHF 421 - Student Teaching in Early Childhood Credits: 12
- CHF 450 - Early Childhood Special Education - Inclusion in the Early Childhood Classroom Credits: 3
- EDT 400 - Integrating Technology for Teaching and Learning Credits: 3
- EHD 101 - The Art and Science of Teaching Credits: 3
- EHD 202 - Education in a Multicultural Society Credits: 3
- EHD 203 - Educational Psychology Credits: 3
- EHD 204 - Teaching and Assessing for Student Learning Credits: 3
- EHD 301 - Classroom-based Prevention and Intervention: Supporting Positive Behavior and Academic Achievement Credits: 3
- ERL 319 - Teaching Reading and Language Arts in Preschool to Grade 3 Credits: 4
- SED 302 - Adapting Instruction for Students with Disabilities Credits: 3

Social Studies (6 credits) : Social Studies = 2 courses from the areas of History (HTY), Anthropology (ANT), Geography (GEO), Economics (ECO); Political Science/Government (POS) and/or Native American Studies (NAS)- NAS 101, 102, 201, 298, 401, 498. Students enrolled in the Honors College achieve the Social Studies Requirement by successfully completing two of the following courses: HON 111, HON 112, HON 170, HON 211, HON 212

Additional Requirements:

Students must:

- Pass Praxis CORE
- Be admitted to Teacher Candidacy
- Pass Praxis II prior to the student teacher semester
- Provide proof of fingerprinting; and
- Have a background check authorization by the Maine Department of Education

4. Early Childhood Professional Concentration

This concentration prepares students to work in social service agencies supporting young children and their families, or as an early educator in childcare, Headstart, or private pre-K. This concentration does not lead to State teaching certification.

Course Requirements: a minimum of 27 credit hours in CHF courses including:
21 credit hours in the following seven required CHF courses:

- CHF 203 - Practicum in Early Childhood Programs Credits: 3
- CHF 303 - Infant/Toddler Care and Development Credits: 3
- CHF 321 - Curriculum and Methods for Teaching Young Children Science Credits: 3
- CHF 322 - Curriculum and Methods for Teaching Social Studies Credits: 3
- CHF 329 - Curriculum and Methods for Teaching Young Children Math Credits: 3
- CHF 450 - Early Childhood Special Education - Inclusion in the Early Childhood Classroom Credits: 3
- EHD 462 - Workshop in Elementary Education (Activity) Credits: 1-6

6 additional credit hours chosen from the following possible elective CHF courses:

- CHF 311 - Creativity and the Young Child Credits: 3
- CHF 331 - Cognitive Development Credits: 3
- CHF 417 - Introduction to Leadership in Early Childhood Education Credits: 3
- CHF 431 - Parenting Credits: 3
- CHF 432 - Socialization of the Child Credits: 3
- CHF 451 - Family Relationships Credits: 3
- CHF 452 - Violence in the Family Credits: 3
- CHF 488 - Family Legal Issues Credits: 3

Additional Requirement:

Students must

- complete the core course of CHF 422: Field Experience in Early Childhood Settings (3-6 cr) in a program/agency that supports young children birth to age 8.

5. Research Concentration

This concentration provides students with direct experiences in the conduct of applied research in human, family and relationship development. Students typically work closely with a faculty member on a research project of mutual interest, and are well positioned for future graduate study.

Course Requirements: a minimum of 24 credit hours in CHF or HUD courses including:
9 credit hours in the following three required courses:

- STS 232 - Principles of Statistical Inference Credits: 3
and
- CHF 406 - Introduction to Research Methods in Child Development and Family Relations Credits: 3
and
- CHF 409 - Special Problems in Child Development and Family Life Credits: Ar

15 additional credit hours chosen from either CHF courses or advanced HUD courses

- CHF 203 - Practicum in Early Childhood Programs Credits: 3
- CHF 303 - Infant/Toddler Care and Development Credits: 3
- CHF 311 - Creativity and the Young Child Credits: 3
- CHF 321 - Curriculum and Methods for Teaching Young Children Science Credits: 3
- CHF 322 - Curriculum and Methods for Teaching Social Studies Credits: 3
- CHF 329 - Curriculum and Methods for Teaching Young Children Math Credits: 3
- CHF 331 - Cognitive Development Credits: 3
- CHF 351 - Human Sexuality Credits: 3
- CHF 381 - Family Resource Management Credits: 3
- CHF 385 - Personal and Family Finance Credits: 3
- CHF 401 - Peer Education Credits: 3
- CHF 404 - Selected Topics in Child Development and Family Life Credits: 3
- CHF 417 - Introduction to Leadership in Early Childhood Education Credits: 3
- CHF 431 - Parenting Credits: 3
- CHF 432 - Socialization of the Child Credits: 3
- CHF 433 - Adolescence Credits: 3
- CHF 434 - Adult Development and Aging Credits: 3
- CHF 441 - Family Life Education Methods Credits: 3
- CHF 442 - Helping Skills Credits: 3

- CHF 450 - Early Childhood Special Education - Inclusion in the Early Childhood Classroom Credits: 3
- CHF 451 - Family Relationships Credits: 3
- CHF 452 - Violence in the Family Credits: 3
- CHF 488 - Family Legal Issues Credits: 3
- CHF 496 - Field Experience in Human Development and Family Studies Credits: 1-6
- See Graduate Catalog for Advanced level HUD courses.

Elementary 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 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 490 for students in the Teaching option or EHD 493 for students in the Non-Teaching option.

Contact Information: The Advising Center, 100 Shibles Hall (207) 581-2412 or email the Advising Center at: advisingcenter@maine.edu

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 National Council for Accreditation of Teacher Education (NCATE) 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.

Students preparing to be elementary teachers spend the first two years building solid liberal arts background, technological competencies and subject area concentrations. They are also guided in the examination of public school classrooms and other settings that provide educational and related service to children and youth.

In their second year of study students apply for teacher candidacy by submitting a portfolio (efolio) 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, and documentation of passing the state required PRAXIS I examination. **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 prior to student teaching. For more information about the state required PRAXIS exam, visit <http://www.umaine.edu/edhd/academic-programs/praxis-test-series/>.

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
*Science
*Social Studies
*Math
*ESL
*Languages (Spanish and French)
Child Development and Family Relations

*Indicates that this Specialization leads to either Highly Effective Status or a teaching endorsement

General Requirements

- MAT 107 - Elementary Descriptive Geometry Credits: 3
- MAT 108 - Elementary Numerical Mathematics From A Modern Perspective Credits: 3
- PSY 100 - General Psychology Credits: 3

Professional Education-Prior to Teacher Candidacy

In order to be admitted to Teacher Candidacy and upper level courses in education, students must complete the following prerequisite courses with a minimum grade of C-, and achieve an overall cumulative GPA of 2.75. They must also fulfill all portfolio requirements, including passing Praxis I and documentation of the field experience.

- CHF 201 - Introduction to Child Development Credits: 3
- EHD 202 - Education in a Multicultural Society Credits: 3
- EHD 203 - Educational Psychology Credits: 3
- EDT 400 - Integrating Technology for Teaching and Learning Credits: 3

Core Courses

All core courses require a grade of B- or better. Core classes are as follows:

- CHF 201 - Introduction to Child Development Credits: 3
- EDT 400 - Integrating Technology for Teaching and Learning Credits: 3
- EHD 202 - Education in a Multicultural Society Credits: 3
- EHD 203 - Educational Psychology Credits: 3
- SED 302 - Adapting Instruction for Students with Disabilities Credits: 3
Student Teaching and seminar when applicable.
Equivalent courses at UMaine are acceptable providing they use the same Key Assessment as used in the Core Course.

Professional Courses

All Professional courses will require a grade of B- or better.

Professional courses include:

- EHD 400 - Field Observation (Activity) Credits: 1-6

- EMA 314 - Teaching Mathematics in Elementary School Credits: 3
- ERL 317 - Children's Literature Credits: 3
- ERL 319 - Teaching Reading and Language Arts in Preschool to Grade 3 Credits: 4
- ERL 320 - Teaching Reading and Language Arts in Grades 4-8 Credits: 3
- ESC 316 - Teaching Science in the Elementary School (K-8) Credits: 3
- ESS 315 - Teaching Social Studies in the Elementary School Credits: 3

Required Courses in Suggested Sequence for the B.S. in Elementary Education

First Year

- EHD 100 - New Student Seminar in Education and Human Development Credits: 1
(waived for transfer students)
- EHD 101 - The Art and Science of Teaching Credits: 3
- CHF 201 - Introduction to Child Development Credits: 3
- ENG 101 - College Composition Credits: 3
- PSY 100 - General Psychology Credits: 3
- General Education Requirements and Concentration Electives Credits: 18-21
- Take and Pass Praxis I and Fingerprinting

Second Year

- EHD 202 - Education in a Multicultural Society Credits: 3
- EHD 203 - Educational Psychology Credits: 3
- MAT 107 - Elementary Descriptive Geometry Credits: 3
- MAT 108 - Elementary Numerical Mathematics From A Modern Perspective Credits: 3
- General Education Requirements and Concentration Electives Credits: 18
--Apply for Teacher Candidacy--

Third Year

- ERL 317 - Children's Literature Credits: 3
- ERL 319 - Teaching Reading and Language Arts in Preschool to Grade 3 Credits: 4
- SED 302 - Adapting Instruction for Students with Disabilities Credits: 3
- General Education Requirements and Concentration Electives Credits: 15-18
--Fingerprinting must be obtained prior to applying for EDG 400--
--Take & Pass Praxis II prior to applying for STT 490--

Fourth Year - Fall Semester

- EHD 400 - Field Observation (Activity) Credits: 1-6
- EMA 314 - Teaching Mathematics in Elementary School Credits: 3
- ERL 320 - Teaching Reading and Language Arts in Grades 4-8 Credits: 3
- ESC 316 - Teaching Science in the Elementary School (K-8) Credits: 3
- ESS 315 - Teaching Social Studies in the Elementary School Credits: 3

Fourth Year - Spring Semester

- EHD 490 - Full-Day Student Teaching (Elementary) Credits: 1 - 12
- EHD 498 - Seminar for Interns Credits: 1-3

Academic Specialization

- 24 credits hours
- GPA of 2.5 in the specialization to graduate
- No more than 2 courses may come from courses listed as either General Education or COEHD requirements.
- At least 12 credits must be in courses at the 200 level or above with the exception of Mathematics and Science specializations.
- Academic advisors may approve up to 2 related courses in departments outside the department of the specialization.

Areas of Specialization

*1) English

- 24 credits of ENG
- 12 of those credits must be at 200 level or above

*2) Social Studies

- 24 credits of ANT, GEO, HTY, ECO, POS, NAS
- 12 of those credits must be at 200 level or above

*3) Math

- 24 credits of MAT

*4) Science

24 credits of science courses, of those 9 required Life Science and 9 required Physical Science (to qualify for middle level endorsement)

Life Science recommended courses

- BIO 100 - Basic Biology Credits: 4
- BIO 200 - Biology of Organisms Credits: 4
- BIO 208 - Anatomy and Physiology Credits: 4
- BIO 222 - Biology: The Living Science Credits: 3
- BIO 223 - Biology: The Living Science Laboratory Credits: 1
- SMS 100 - Introduction to Ocean Science Credits: 3
- biology, ecology, botany, zoology, anatomy, physiology, environmental science, entomology, ornithology

Physical Science recommended courses:

- CHY 101 - Chemistry for Everyday Living Credits: 3
- CHY 102 - Chemistry for Everyday Living Laboratory Credits: 1
- ERS 102 - Environmental Geology Credits: 4
- PHY 101 - Physics by Inquiry I Credits: 4
- PHY 102 - Physics by Inquiry II Credits: 4
- PSE 100 - Plant Science Credits: 4
- chemistry, physics, geology, earth science, soil science, astronomy, meteorology, oceanography

*5) ESL

Required CORE ESL courses

- ELL 470 - The Teaching of English As A Second Language Credits: 3
 - ELL 475 - Curriculum Development in English As A Second Language/English As A Foreign Language Contexts Credits: 3
 - ELL 480 - Testing and Assessment in English As A Second Language/English As A Foreign Language Contexts Credits: 3
 - ELL 485 - Applied Linguistics and Second Language Acquisition Principles for ESL/EFL Teachers Credits: 3
 - * ELL 491 - Multiculturalism and Diversity for ESL/EFL Contexts Credits: 3
- *or other MDOE approved courses

Electives (9 credits):

- ANT 102 - Introduction to Anthropology: Diversity of Cultures Credits: 3
- ANT 400 - Basic Theory in Cultural Anthropology Credits: 3
- CHF 331 - Cognitive Development Credits: 3
- CSD 381 - Later Language Development Credits: 3
- DIS 300 - Disability: Interaction of Human Diversity and Global Environment Credits: 3
- EHD 202 - Education in a Multicultural Society Credits: 3
- EHD 425 - Field Experience: Urban and Rural Education Credits: 3
- INT 410 - (ANT, ENG, MLC) Introduction to the Study of Linguistics Credits: 3
- MLC 175 - Multiculturalism in America Credits: 3
- PSY 230 - Social Psychology Credits: 3
- PSY 425 - Social Issues in Developmental Psychology Credits: 3
- SOC 201 - Social Inequality Credits: 3
- SWK 330 - Contemporary Issues in Diversity and Pluralism Credits: 3

- SWK 350 - Human Behavior and the Social Environment I Credits: 3

*6) Languages

Spanish

- 24 credits of SPA
- 12 of those credits must be at the 200 level or higher

French

- 24 credits of FRE
- 12 of those credits must be at the 200 level or higher

7) Child Development and Family Relations

- 24 credits of CHF including CHF 200 and CHF 201

Kinesiology and Physical Education

OVERVIEW OF DEGREE REQUIREMENTS - Teaching/Coaching Concentration

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 B- or higher in EHD 201, EHD 203, EDT 400, KPE 262 and KPE 367 is required.

Other GPA requirements to graduate: In order to be admitted to teacher candidacy and upper level KPE courses, students must have a cumulative GPA of 2.5 and a GPA of 2.7 in KPE coursework.

Required Course(s) for fulfilling Capstone Experience: 12 credits STT 499 for students in the Teaching Option; 3 credits of EDG 499 for students in the non-teaching option.

Contact Information: The Advising Center, 100 Shibles Hall, (207) 581-2412 or email the Advising Center at: advisingcenter@maine.edu

OVERVIEW OF DEGREE REQUIREMENTS - Exercise Science (Administration)

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 courses in the minor must be completed with a minimum GPA of 2.0.

Other GPA requirements to graduate: Students must declare a business minor. In order to declare it, students must have a cumulative average of 2.5

Required Course(s) for fulfilling Capstone Experience: KPE427

Contact Information: The Advising Center, 100 Shibles Hall, (207) 581-2412 or email the Advising Center at: advisingcenter@maine.edu

OVERVIEW OF DEGREE REQUIREMENTS ■ Exercise Science (Science)

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: Admission to advanced standing (Junior year) and acceptance for final internship requires a cumulative GPA of 2.0.

Required Course(s) for fulfilling Capstone Experience: KPE427

Contact Information: The Advising Center, 100 Shibles Hall, (207) 581-2412 or email the Advising Center at: advisingcenter@maine.edu

OVERVIEW OF DEGREE REQUIREMENTS ■ Exercise Science (Innovation Engineering)

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: Students must declare the Innovation Engineering Minor. All courses within the minor must be completed with a minimum GPA of 2.9

Required Course(s) for fulfilling Capstone Experience: KPE427

Contact Information: The Advising Center, 100 Shibles Hall, (207) 581-2412 or email the Advising Center at: advisingcenter@maine.edu

OVERVIEW OF DEGREE REQUIREMENTS ■ Exercise Science (Outdoor Sports Science)

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: Students must declare the Outdoor Education minor.

Required Course(s) for fulfilling Capstone Experience: KPE427

Contact Information: The Advising Center, 100 Shibles Hall, (207) 581-2412 or email the Advising Center at: advisingcenter@maine.edu

Students in the Kinesiology and Physical Education (KPE) programs pursue Teacher Certification or Exercise Science. Each career preparation path leads to a thorough physiological, mechanical and developmental understanding of human health and physical performance. Upon graduation, students become teachers, coaches, fitness specialists/administrators, athletic trainers 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 biomechanical 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.

Teacher Certification

Teacher Certification emphasizes putting theory into practice. Even before they begin student teaching, students are active participants in K-12 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 degree program is approved by the Maine Department of Education and accredited by the National Council of Accreditation of Teacher Education.

Exercise Science

Within our Exercise Science program there are four concentration areas:

Sciences 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.

Business Management Option: Students graduate with an academic minor in Business. They are prepared for careers in allied health as well as the private health/fitness industry, with an emphasis on operational management. Students seeking careers in the field of outdoor recreation can graduate from our Exercise Science program with an academic minor in outdoor education.

Outdoor Sports Science Option: Along with this degree, students earn no less than four national certifications including Wilderness First Responder (WFR). This curriculum choice also prepares students to sit for the rigorous Maine Guide exam for Recreation offered by the Maine Department of Inland Fisheries & Wildlife.

Innovation Engineering Option: This program allows students to create, communicate, and realize/commercialize unique ideas in the field of exercise science. The objective is to give students the tools and confidence needed to create their own opportunities, and to lead within their careers.

Required Courses in Suggested Sequence for the B.S. in Kinesiology and Physical Education - Teacher Certification

During their third year of study students are admitted to candidacy in the Teacher Preparation Program by successfully submitting an e-portfolio which includes documentation of one school experience, an essay addressing a topic in education, verification of technology competence, and a transcript, which indicates a 2.75 grade point average and completion of

the PRAXIS I examination. **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 prior to student teaching.

First Year - First Semester

- BIO 100 - Basic Biology Credits: 4
- EHD 100 - New Student Seminar in Education and Human Development Credits: 1
- ENG 101 - College Composition Credits: 3
- KPE 237 - Swimming Skills Credits: 1
- KPE 253 - Lifetime Fitness for Health Credits: 3
- General Education Course Credits: 3

First Year - Second Semester

- BIO 208 - Anatomy and Physiology Credits: 4
- KPE 250 - Prevention and Care for Sports Injuries Credits: 3
- General Education Courses Credits: 9

Second Year - First Semester

- EHD 202 - Education in a Multicultural Society Credits: 3
- KPE 262 - Methods of Teaching Physical Activity Credits: 3
- KPE 270 - Motor Development and Learning Credits: 3
- KPE 271 - History and Philosophy of Kinesiology and Physical Education Credits: 3
- KPE 273 - Anatomy and Pathologies of Injuries and Conditions Credits: 3
- PSY 100 - General Psychology Credits: 3
- Take Praxis I and Fingerprinting

Second Year - Second Semester

- EHD 203 - Educational Psychology Credits: 3
- KPE 344 - Principles of Coaching Credits: 3
- KPE required skills Credits: 3
- Computer or Math Course Credits: 3
- Self-Initiated Field Observation-Five (5) full days (During Spring Break or end of Spring semester)

Third Year - First Semester

- KPE 367 - Adapted Physical Education Credits: 3
- KPE 376 - Kinesiology Credits: 3
- Concentration Courses Credits: 6
- KPE Required Skills Credits: 3

- Submit Teacher Candidacy E-Folio by semester deadline.

Third Year - Second Semester

- KPE 364 - Elementary School Physical Education Credits: 3
- KPE 350 - Educational Gymnastics, Games and Dance Credits: 3
- KPE 378 - Physiology of Exercise Credits: 3
- Concentration Courses Credits: 6
- Take Praxis II before September 1st

Fourth Year - First Semester

- KPE 365 - Curriculum and Instruction in Secondary Physical Education Credits: 3
- KPE 372 - Statistical Methods and Assessments in Physical Education Credits: 3
- KPE Required Skills Credits: 3
- Concentration Course Credits: 3

Fourth Year - Second Semester

- EHD 498 - Seminar for Interns Credits: 1-3
- EHD 499 - Student Teaching K-12 (Kinesiology and Physical Education) Credits: 1 - 12

Required Courses in Suggested Sequence for the B.S. in Kinesiology and Physical Education - Exercise Science (Administration Option)

First Year - First Semester

- BIO 100 - Basic Biology Credits: 4
- ENG 101 - College Composition Credits: 3
- EHD 100 - New Student Seminar in Education and Human Development Credits: 1
- Gen Ed - Cultural Diversity Credits: 3
- Gen Ed Elective Credits: 3
- KPE 253 - Lifetime Fitness for Health Credits: 3

First Year - Second Semester

- BIO 208 - Anatomy and Physiology Credits: 4
- Gen Ed - Quantitative
- Western Cultural Tradition.

- KPE 270 - Motor Development and Learning Credits: 3
- PSY 100 - General Psychology Credits: 3

Second Year - First Semester

- BMB 207 - Fundamentals of Chemistry Credits: 3
- BMB 209 - Fundamentals of Chemistry Laboratory Credits: 1
- Concentration ECO 120 Credits: 3
- KPE 250 - Prevention and Care for Sports Injuries Credits: 3
- KPE 262 - Methods of Teaching Physical Activity Credits: 3
- KPE 372 - Statistical Methods and Assessments in Physical Education Credits: 3

Second Year - Second Semester

- Concentration ECO 121 Credits: 3
- EDT 400 - Integrating Technology for Teaching and Learning Credits: 3
- Gen Ed ENG 317 Credits: 3
- KPE 273 - Anatomy and Pathologies of Injuries and Conditions Credits: 3
- KPE 376 - Kinesiology Credits: 3

Third Year - First Semester

- Concentration BUA 201 Credits: 3
- Elective Credits: 3
- KPE 286 - Challenge Course Facilitator Skills Credits: 3
- KPE 377 - Biomechanics Credits: 3
- KPE 378 - Physiology of Exercise Credits: 3
- Gen Ed Population and the Environment Credits: 3

Third Year - Second Semester

- Concentration BUA 325 Credits: 3
- Concentration BUA 350 Credits: 3
- FSN 101 - Introduction to Food and Nutrition Credits: 3
- KPE 367 - Adapted Physical Education Credits: 3
- KPE 425 - Health Promotion and Disease Prevention Credits: 3

Fourth Year - First Semester

- Gen-Ed Artistic and Creative Expression Credits: 3
- Concentration BUA 370 Credits: 3
- Concentration BUA Elective Credits: 3

- KPE 426 - Exercise Prescription and Leadership Credits: 3
- KPE 490 - Nutrition for Sports and Exercise Credits: 3

Fourth Year - Second Semester

- Electives Credits: 4-7
- KPE 427 - Health Fitness Internship Credits: 3-6

Required Courses in Suggested Sequence for the B.S. in Kinesiology and Physical Education - Exercise Science (Sciences Option)

The following courses may be used to fulfill the additional 12-15 hours of laboratory sciences required for those looking towards post-graduate programs in allied health as part of the Exercise Science Option.

- KPE 303 - Pharmacology in Athletic Training Credits: 1
 - KPE 385 - Evaluation of Upper Extremity Injuries and Conditions Credits: 3
 - KPE 386 - Evaluation of Lower Extremity Injuries and Conditions Credits: 3
 - KPE 387 - Therapeutic Exercise for Musculoskeletal Injuries Credits: 4
 - KPE 388 - Therapeutic Modalities Credits: 4
 - KPE 389 - Aquatherapy Credits: 1
 - KPE 400 - General Medical Conditions and Disabilities in Sport Credits: 3
- Graduate Level courses may also be taken:
- KPE 560-Assessment & Evaluation of Human Performance 3 credits
 - KPE 575-Current Studies in KPE 3 credits
 - KPE 580-Human Biomechanics 3 credits
 - KPE 588-Advanced Exercise Physiology
 - KPE 588-Advanced Exercise Physiology 3 credits

First Year - First Semester

- BIO 100 - Basic Biology Credits: 4
- Gen Ed Cultural Diversity and International Perspectives Credits: 3
- ENG 101 - College Composition Credits: 3
- EHD 100 - New Student Seminar in Education and Human Development Credits: 1
- Gen Ed Elective Credits: 3
- KPE 253 - Lifetime Fitness for Health Credits: 3

First Year - Second Semester

- BIO 208 - Anatomy and Physiology Credits: 4
- KPE 270 - Motor Development and Learning Credits: 3
- Gen Ed-Quantitative Credits: 3 or 4
- PSY 100 - General Psychology Credits: 3

- Gen Ed Western Cultural Tradition Credits: 3

Second Year - First Semester

- BMB 207 - Fundamentals of Chemistry Credits: 3
and
- BMB 209 - Fundamentals of Chemistry Laboratory Credits: 1
or
- CHY 121 - Introduction to Chemistry Credits: 3
and
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- KPE 250 - Prevention and Care for Sports Injuries Credits: 3
- KPE 262 - Methods of Teaching Physical Activity Credits: 3
- KPE 372 - Statistical Methods and Assessments in Physical Education Credits: 3
- Elective Credits: 3

Second Year - Second Semester

- Concentration Lab Science Credits: 4
- EDT 400 - Integrating Technology for Teaching and Learning Credits: 3
- Gen Ed ENG 317 Credits: 3
- KPE 273 - Anatomy and Pathologies of Injuries and Conditions Credits: 3
- KPE 376 - Kinesiology Credits: 3

Third Year - First Semester

- Concentration Lab Science Credits: 4
- KPE 377 - Biomechanics Credits: 3
- KPE 378 - Physiology of Exercise Credits: 3
- PHY 111 - General Physics I Credits: 4
- Gen Ed Population and the Environment Credits: 3

Third Year - Second Semester

- Concentration Lab Science Credits: 4
- Elective Credits: 3
- FSN 101 - Introduction to Food and Nutrition Credits: 3
- KPE 367 - Adapted Physical Education Credits: 3
- KPE 425 - Health Promotion and Disease Prevention Credits: 3

Fourth Year - First Semester

- Gen Ed Artistic and Creative Expression Credits: 3
- Concentration Lab Science Credits: 4
- KPE 426 - Exercise Prescription and Leadership Credits: 3
- KPE 490 - Nutrition for Sports and Exercise Credits: 3

Fourth Year - Second Semester

- Elective Credits: 2-5
- KPE 427 - Health Fitness Internship Credits: 3-6

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: A 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 EHD 493 for students in the non-teaching option.

Contact Information: The Advising Center, 100 Shibles Hall, (207) 581-2412 or email the Advising Center at: advisingcenter@maine.edu

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 National Council for Accreditation of Teacher Education (NCATE/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 (eFolio) 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 7-12 classroom, and documentation of passing the state required PRAXIS I examination. **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 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.

Secondary Education concentrations include: English, mathematics, world languages (i.e., French, Spanish), science (i.e., life or physical), and social studies.

Professional Courses (Grade of B- or higher required)

In order to be admitted to Teacher Candidacy and upper level courses in education, students must complete the following prerequisite courses with a minimum grade of B-, and achieve an overall cumulative GPA of 2.75. Students must also fulfill all portfolio requirements, including passing Praxis I and documentation of the field experience.

- EDT 400 - Integrating Technology for Teaching and Learning Credits: 3
 - EHD 101 - The Art and Science of Teaching Credits: 3
 - EHD 202 - Education in a Multicultural Society Credits: 3
 - EHD 203 - Educational Psychology Credits: 3
 - PSY 224 - Psychology of Adolescence Credits: 3
- OR**
- CHF 433 - Adolescence Credits: 3

Pre-Education Semester (Grade of B- or higher required)

These classes are taken upon admission to Teacher Candidacy; a grade of B- or higher is required in each.

- EHD 204 - Teaching and Assessing for Student Learning Credits: 3
- EHD 301 - Classroom-based Prevention and Intervention: Supporting Positive Behavior and Academic Achievement Credits: 3
- EHD 421 - Literacy Across the Curriculum Credits: 3 This course is NOT required for the English Specialization.
- SED 302 - Adapting Instruction for Students with Disabilities Credits: 3

Student Teaching Internship Courses (Grade of B- or higher required)

Student must have a cumulative GPA of 2.5 in order to be eligible for the Student Teaching Internship. A grade of B- or higher is required in each class.

- EHD 491 - Full-Day Student Teaching (Secondary) Credits: 1 - 12
- EHD 493 - Alternative Practicum and Seminar in Education Credits: 3 - 6 *
- EHD 498 - Seminar for Interns Credits: 1-3

*Taken only if not student teaching

Required Courses in Suggested Sequence for the B.S. in Secondary Education

Sequence varies based on concentration (i.e., English, mathematics, world languages, sciences, or social studies).

First Year

- EHD 100 - New Student Seminar in Education and Human Development Credits: 1
- EHD 101 - The Art and Science of Teaching Credits: 3
- ENG 101 - College Composition Credits: 3
- PSY 100 - General Psychology Credits: 3

- Specialization Courses
- General Education Courses
- Take and pass Praxis I (must be done before applying for Teacher Candidacy)
- Fingerprinting (must be obtained prior to the Teacher Candidacy Field Experience)

Second Year

- CHF 433 - Adolescence Credits: 3
or
- PSY 224 - Psychology of Adolescence Credits: 3
- EDT 400 - Integrating Technology for Teaching and Learning Credits: 3
- EHD 202 - Education in a Multicultural Society Credits: 3
- EHD 203 - Educational Psychology Credits: 3
- Specialization Courses
- General Education Courses
--Apply for teacher candidacy--

Third Year

Students must be accepted into Teacher Candidacy prior to taking the courses below.

- EHD 204 - Teaching and Assessing for Student Learning Credits: 3
- EHD 301 - Classroom-based Prevention and Intervention: Supporting Positive Behavior and Academic Achievement Credits: 3
- EHD 421 - Literacy Across the Curriculum Credits: 3 This course is NOT required for the English Specialization.
- SED 302 - Adapting Instruction for Students with Disabilities Credits: 3
- Specialization Courses
- General Education Courses
--Fingerprinting must be obtained prior to applying for EHD 400 -
--Take & Pass Praxis II prior to applying for EHD 491 --

Fourth Year - Fall Semester

Methods courses in a Discipline Area are available FALL SEMESTER ONLY.

- EHD 400 - Field Observation (Activity) Credits: 1-6
- Concentration Requirements. Credits 6-12
Methods Courses:
English Concentration: ERL 440, ERL 418, EHD 472 and EHD 400
Social Studies Concentration: ESS 441, EHD 400
Science Concentration (Life or Physical): ESC 452, EHD 400
Math Concentration: MAT 305, EHD 400
World Language Concentration: MLC 466, EHD 400

Fourth Year - Spring Semester

- EHD 491 - Full-Day Student Teaching (Secondary) Credits: 1 - 12
- EHD 498 - Seminar for Interns Credits: 1-3

English Specialization

A total of at least 42 credit hours are required. Students must have a minimum GPA of a 2.5 in their academic specialization to graduate.

1. Knowledge of Literature (18 total hours)

A. Foundations of Literary Analysis

- ENG 170 - Foundations of Literary Analysis Credits: 3

B. One genre-based course

(other than narrative fiction (e.g. a course based primarily on texts in genres such as drama, poetry, non-fiction, hypertext))

- ENG 222 - Reading Poems Credits: 3
- ENG 243 - Topics in Multicultural Literature 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 256 - British Women's Literature Credits: 3
- ENG 280 - Introduction to Film Credits: 3

C. One course in multicultural or feminist literature

or based on a syllabus that is inclusive of a wide range of cultural, racial, and gender perspectives)

- ENG 237 - Coming of Age in America Credits: 3
- ENG 243 - Topics in Multicultural Literature Credits: 3
- ENG 246 - American Women's Literature Credits: 3
- ENG 341 - Colonial and Early National American Literature Credits: 3
- ENG 342 - Native American Literature Credits: 3
- ENG 471 - Literature, Gender, and Gender Theory Credits: 3 *

*Denotes Writing Intensive Course

D. Two courses in historical or interdisciplinary literary studies

(these may be surveys of national literatures)

- ENG 231 - Western Tradition in Literature: Homer Through the Renaissance Credits: 3
- ENG 235 - Literature and the Modern World Credits: 3
- ENG 236 - Intro to Canadian Literature Credits: 3
- ENG 238 - Nature and Literature Credits: 3
- ENG 251 - English Literature Survey: Beginnings Through Neoclassicism Credits: 3
- ENG 336 - Canadian Literature Credits: 3
- ENG 343 - Nineteenth-Century American Literature Credits: 3
- ENG 351 - Medieval English Literature Credits: 3
- ENG 353 - Shakespeare and the English Renaissance Credits: 3
- ENG 355 - Restoration and Eighteenth-Century British Literature Credits: 3
- ENG 357 - Nineteenth-Century British Literature Credits: 3
- ENG 361 - Modernism Credits: 3
- ENG 363 - Literature of the Postmodern Period Credits: 3
- ENG 364 - Contemporary Literature Credits: 3
- ENG 382 - Major Genres in Historical Perspective Credits: 3
- ENG 440 - American Seminar Credits: 3 *
- ENG 445 - The American Novel Credits: 3 *

*Denotes Writing Intensive Course

E. One elective literature course

- ENG 129 - Topics in English Credits: 3
- ENG 131 - The Nature of Story Credits: 3
- ENG 229 - Topics in Literature Credits: 3
- ENG 244 - Writers of Maine Credits: 3
- ENG 245 - American Short Fiction Credits: 3
- ENG 271 - The Act of Interpretation Credits: 3 *

*Denotes Writing Intensive Course

2. Knowledge of Language Development, History of Language, Grammar, Dialogues, Purposes of Language (3 hours with advisor's approval)

- EHD 472 - Workshop in Secondary Education (Activity) Credits: 1-6

3. Knowledge of Written and Oral Discourse 12 hours (6 written, 6 oral)

- a. Written: ENG 101 and one at the Intermediate level

b. Oral discourse (6 credits)

(for example CMJ, 102, Interpersonal Communication; CMJ 103, Public Speaking; CMJ 106 Oral Interpretation)

4. Educational Technology/Media Literacy (non-print) 3 hours

(for example, EHD 400, Computers in Education; EDT 520 Technology Tools for K-12 Schools)

5. English Elective Coursework 6 hours at 300 level or higher

Methods Courses: English

- EHD 400 - Field Observation (Activity) Credits: 1-6 Must apply the semester prior to observation. Fingerprints are required at time of application.
- EHD 472 - Workshop in Secondary Education (Activity) Credits: 1-6
- ERL 440 - Teaching Reading in the Secondary School Credits: 3

All courses in this section are offered only in the Fall.

World Languages Specialization

Students wishing to major in French or Spanish require a total of 30 credits hours above the intermediate level (i.e. at the 300 and 400 level); at least 18 credits must be at the 400 level. Students must have a minimum GPA of a 2.5 in their academic specialization to graduate. In addition, all world language students are required to take INT 410: Linguistics. Coursework will be taken in the following areas: applied skills in the language, literature, linguistics, and culture. If students enter college with some degree of language proficiency, they are required to take the placement test administered by the Department of Modern Languages and Classics prior to enrolling in a language class.

Specialization in French (Required Courses):

- FRE 305 - French Conversation and Composition I Credits: 3
OR
- FRE 306 - French Conversation and Composition II Credits: 3

- FRE 309 - Readings in French Literature Credits: 3
OR
- FRE 310 - Readings in Francophone Literature Credits: 3

- FRE 320 - French Pronunciation Credits: 3

- FRE 397 - French (May Term) Credits: 3
OR
- FRE 398 - French Immersion: Western France Credits: 3

- FRE 400 - Advanced French Grammar Credits: 3
- INT 410 - (ANT, ENG, MLC) Introduction to the Study of Linguistics Credits: 3

Other courses

In addition to the courses above, students can fulfill the remaining French credits by taking any of the other courses offered in the Department of Modern Languages and Classics.

Note: The French capstone for Secondary Education/French majors is voluntary and may be substituted with any 400-level French course. Highly recommended, but not required: HTY 105, HTY 106 (History of European Civilization I and II) and HTY 460 (Modern Canada).

Specialization in Spanish (Required Courses):

- SPA 305 - Applied Spanish Credits: 3
- SPA 307 - Readings in Peninsular Literature Credits: 3
OR
- SPA 308 - Readings in Spanish American Literature Credits: 3
- INT 410 - (ANT, ENG, MLC) Introduction to the Study of Linguistics Credits: 3

Other courses

In addition to the above courses, students can choose the remaining credits of Spanish from any of the other courses offered in the Department of Modern Languages and Classics.

Note: The French capstone for Secondary Education/French majors is voluntary and may be substituted with any 400-level French course. Highly recommended, but not required: HTY 105 and HTY 106 (History of European Civilization I and II), HTY 110 (Introduction to Modern Latin America) and an immersion or study abroad experience in a Spanish-speaking country.

Methods Courses: World Languages

- MLC 466 - The Teaching of Modern Languages Credits: 3
- EHD 400 - Field Observation (Activity) Credits: 1-6
Must apply the semester prior to observation. Fingerprints are required at time of application.

Mathematics Specialization

A total of at least 45 credit hours are required. Students must have a 2.5 in their academic specialization to graduate.

Courses

The following courses require a C or higher: MAT 126, 127, 228, 261, 262

- MAT 126 - Calculus I Credits: 4
- MAT 127 - Calculus II Credits: 4
- MAT 228 - Calculus III Credits: 4
- MAT 261 - Introduction to Abstract Mathematics Credits: 3
- MAT 262 - Linear Algebra Credits: 3
- STS 434 - Introduction to Statistics Credits: 4
- MAT 445 - History of Mathematics Credits: 3
Spring semester only
- MAT 463 - Introduction to Abstract Algebra I Credits: 3
Fall semester only
- MAT 471 - Differential Geometry Credits: 3
OR
- MAT 475 - Higher Geometry Credits: 3

- MAT 481 - Discrete Mathematics Credits: 3
Fall semester only
OR
- COS 250 - Discrete Structures Credits: 3

Computer Science Course (Choose one)

- COS 120 - Introduction to Programming I Credits: 3
- COS 220 - Introduction to C++ Programming Credits: 3
- COS 221 - Data Structures in C++ Credits: 3

Math Electives (two required)

Recommended Math Electives:

- MAT 300 - Topics in Mathematics Credits: 1-3
- MAT 400 - Topics in Mathematics Credits: 1-3
- MAT 425 - Introduction to Real Analysis I Credits: 3
(needed for Math double major)
- MAT 465 - Theory of Numbers Credits: 3

Note: One Intensive Writing course must be an English course

Methods Courses: Mathematics

- EHD 400 - Field Observation (Activity) Credits: 1-6 Must apply the semester prior to observation. Fingerprints are required at time of application.
- MAT 305 - Mathematics for Secondary School Teachers Credits: 3

Science Specializations: Life Sciences

A total of at least 50 credit hours are required. Students must have a minimum GPA of a 2.5 in their academic specialization to graduate. All students in secondary life sciences education must complete the General Requirements, and then select one concentration (general biology, natural history and ecology, or aquatic and marine ecology).

General Requirements:

- General Biology
- Organic Chemistry
- Anatomy and Physiology
- Botany
- Ecology
- Genetics and Evltn
- Intro to Chemistry:
CHY 121/123
CHY 122/124
- Mathematics: MAT 232

Option 1: General Biology Concentration

- Biochemistry: BMB 322
- Field Biology
- Intro to Physics
- Microbiology: BMB 300
- Elective (Sci.)

Option 2: Natural History and Ecology Concentration

- Biodiversity
- Ecosystems
- Environmental Geol.
- Fld Ecol/Nat Hist
- Elective (Sci.)

Option 3: Aquatic and Marine Ecology Concentration

- Aquatic Biology
- Marine Ecology
- Biol - Verts
- Biol - Inverts: Bio 353
- Field Marine Bio.

- Elective (Sci.)

Methods Courses: Life Sciences

- EHD 400 - Field Observation (Activity) Credits: 1-6 Must apply the semester prior to observation. Fingerprints are required at time of application.
- ESC 452 - Teaching Science in the Secondary School Credits: 3

Science Specializations: Physical Sciences

A total of at least 50 credit hours are required. Students must have a minimum GPA of a 2.5 in their academic specialization to graduate. All students in secondary physical science education must complete the General Requirements, and then select one concentration (chemistry, earth science, or physics).

General Requirements (27 credits)

- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
- MAT 126 - Calculus I Credits: 4
- MAT 127 - Calculus II Credits: 4
- STS 232 - Principles of Statistical Inference Credits: 3
- PHY 111 - General Physics I Credits: 4
- PHY 112 - General Physics II Credits: 4

Option 1: Chemistry Concentration (must be at least 23 credits)

- CHY 242 - Principles of Quantitative Analysis and Solution Equilibria Credits: 5
- CHY 251 - Organic Chemistry I Credits: 3
- CHY 252 - Organic Chemistry II Credits: 3
- CHY 471 - Physical Chemistry I Credits: 3
- Chemical Elective #1
- Chemical Elective #2
- MAT 228 - Calculus III Credits: 4

Option 2: Earth Science Concentration (must be at least 23 credits)

- AST 109 - Introduction to Astronomy Credits: 3
- ERS 101 - Introduction to Geology Credits: 4
- ERS 240 - The Atmosphere Credits: 4
- ERS 330 - Earth Materials Credits: 4
- Geol-N.America
- Earth Processes

- Earth History
- Elective (Sci)

Option 3: Physics Concentration (must be at least 23 credits)

- MAT 228 - Calculus III Credits: 4
- MAT 259 - Differential Equations Credits: 3
- PHY 236 - Introductory Quantum Physics Credits: 3
- PHY 238 - Mechanics Credits: 3
- Physics Elective #1
- Physics Elective #2
- Physics Elective #3

Methods Courses: Physical Sciences

- EHD 400 - Field Observation (Activity) Credits: 1-6 Must apply the semester prior to observation. Fingerprints are required at time of application.
- ESC 452 - Teaching Science in the Secondary School Credits: 3

Social Studies Specialization

A total of at least 45 credit hours required. Students must have a 2.5 in their academic specialization to graduate.

- ANT 101 - Introduction to Anthropology: Human Origins and Prehistory Credits: 3
- or**
- ANT 102 - Introduction to Anthropology: Diversity of Cultures Credits: 3
(ANT 101 or 102 meets the Gen Ed requirement for Cultural Diversity & International Perspectives)
- HTY 103 - Creating America to 1877 Credits: 3
- HTY 104 - United States History Since 1877 Credits: 3
- HTY 105 - History of Ancient and Medieval Europe Credits: 3
- HTY 106 - History of Modern Europe Credits: 3
(HTY 103-106 meets the Gen Ed requirement for Western Cultural Tradition)
- ECO 120 - Principles of Microeconomics Credits: 3
- or**
- ECO 121 - Principles of Macroeconomics Credits: 3
- POS 100 - American Government Credits: 3
- SOC 101 - Introduction to Sociology Credits: 3

Specialization

A minimum of 9 credit hours at the 300-level or above selected from **one** of the following areas:

- Anthropology (ANT)
- History (HTY)
- Economics (ECO)
- Government/Political Science (POS)

Social Studies

A minimum of 9 credit hours required at the 300-level or above, choosing from any of the following areas:

- Anthropology (ANT)
- History (HTY)
- Government/Political Science (POS)
- Economics

You must have a minimum of 24 hours in History, Economics, Government/Political Science or Anthropology to be Highly Qualified

Note: One Intensive Writing course must be an English course

Methods Courses: Social Studies

- EHD 400 - Field Observation (Activity) Credits: 1-6 Must apply the semester prior to observation. Fingerprints are required at time of application.
- ESS 441 - Teaching Social Studies in the Secondary School Credits: 3

Minor

Minor: Child Development and Family Relations

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: Mary Mahoney-O'Neil, Assistant Dean, 144 Shibles Hall 581-2484 or 581-2435

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. Applications are available in 118 Merrill Hall.

Required Courses:

- CHF 200 - Family Interaction Credits: 3
- CHF 201 - Introduction to Child Development Credits: 3
- Additional CHF courses Credits: 12

Minor: Education

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: A grade of C- or better in all education courses.

Contact Information: The Advising Center, 100 Shibles Hall, (207) 581-2412 or email the Advising Center at: advisingcenter@maine.edu

The College of Education and Human Development offers an 18-credit minor in Education for undergraduate students in other colleges of the University of Maine who wish to explore the field of education. Students must apply for the minor, optimally during the second semester of the second year of study. Applications are available in the Advising Center (Room 101 Shibles Hall) and are accepted throughout the academic year. Application requirements include the following elements:

- A cumulative GPA of 2.5 or better,
- Successful completion of EHD 202 - Education in a Multicultural Society, EHD 203 - Educational Psychology, and an education related elective,
- A grade of C- or better in all education courses,
- Statement addressing your reasons for pursuing the minor, and
- Formal 2-page application.

The optimal time to apply for a minor is during the second semester of sophomore year of study.

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 Education does not lead to certification.**

An alternative route to a teaching career for Liberal Arts majors is the Master of Arts in Teaching (MAT) Program that is sponsored by the College. The fifth year program is competitive and application should be made by February 1. Please contact the Advising Center if you have interest or questions about this program.

Tier I: Courses to be taken prior to application for the minor (9 credits)

- EHD 202 - Education in a Multicultural Society Credits: 3
- EHD 203 - Educational Psychology Credits: 3
- One education related elective (see examples below)

Tier II: Courses to complete the minor (9 credits)

- EHD 204 - Teaching and Assessing for Student Learning Credits: 3
- SED 302 - Adapting Instruction for Students with Disabilities Credits: 3
- One education related elective (see examples below)

Examples of Education Related Electives

- CHF 201 - Introduction to Child Development Credits: 3
- CHF 433 - Adolescence Credits: 3
- EDT 400 - Integrating Technology for Teaching and Learning Credits: 3
- EHD 101 - The Art and Science of Teaching Credits: 3
- EHD 301 - Classroom-based Prevention and Intervention: Supporting Positive Behavior and Academic Achievement Credits: 3
- PSY 224 - Psychology of Adolescence Credits: 3

Minor: English as a Second Language (ESL)

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 18

Minimum Cumulative GPA required to graduate: 2.67 (B-)

Minimum Grade requirements for courses to count toward major: Students must earn a minimum grade of B- (2.67) or better in ELL 470, ELL 475, ELL 480 and ELL 485.

Contact Information: Mary Mahoney-O'Neil, Assistant Dean, 144 Shibles Hall 581-2484 or 581-2435

Note: if a student is pursuing an ESL area of specialization for the B.S. degree in Elementary Education, they cannot also obtain an ESL minor.

A minor in English as a Second Language (ESL) would provide students with the opportunity to explore this unique population and examine diversity, language acquisition, and culture differences. In addition to studying the ESL field, the minor also provides students with the required coursework to receive endorsement 660 from the Maine Department of Education in ESL, after successful completion of the minor coursework and the ESL Praxis 2 exam.

The English as a Second Language (ESL) minor is offered through the College of Education and Human Development and consists of 18 credits distributed among ESL courses (12 credits), a multicultural course (3 credits) and an elective course (3 credits). Students must earn a minimum grade of B- (2.67) or better in ELL 470, ELL 475, ELL 480 and ELL 485 and the overall GPA for the 18 credit ESL minor must average a B- (2.67). If a student is pursuing an ESL area of specialization for the B.S. degree in Elementary Education, they cannot also obtain an ESL minor.

Required ESL Courses (12 credits):

- ELL 470 - The Teaching of English As A Second Language Credits: 3
- ELL 475 - Curriculum Development in English As A Second Language/English As A Foreign Language Contexts Credits: 3
- ELL 480 - Testing and Assessment in English As A Second Language/English As A Foreign Language Contexts Credits: 3
- ELL 485 - Applied Linguistics and Second Language Acquisition Principles for ESL/EFL Teachers Credits: 3

Required Multiculturalism Course (3 credits):

- EHD 202 - Education in a Multicultural Society Credits: 3
- EHD 425 - Field Experience: Urban and Rural Education Credits: 3
- EHD 491 - Full-Day Student Teaching (Secondary) Credits: 1 - 12

Required Elective Course (3 credits):

- ANT 102 - Introduction to Anthropology: Diversity of Cultures Credits: 3
- ANT 400 - Basic Theory in Cultural Anthropology Credits: 3
- CHF 331 - Cognitive Development Credits: 3
- CSD 381 - Later Language Development Credits: 3
- DIS 300 - Disability: Interaction of Human Diversity and Global Environment Credits: 3
- INT 410 - (ANT, ENG, MLC) Introduction to the Study of Linguistics Credits: 3
- PSY 230 - Social Psychology Credits: 3
- PSY 425 - Social Issues in Developmental Psychology Credits: 3
- SOC 201 - Social Inequality Credits: 3
- SWK 330 - Contemporary Issues in Diversity and Pluralism Credits: 3
- SWK 350 - Human Behavior and the Social Environment I Credits: 3

Minor: Exercise Science

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.

Contact Information: Mary Mahoney-O'Neil, Assistant Dean, 144 Shibles Hall, 581-2484 or 581-2435.

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) and BIO 208 (Anatomy and Physiology). Students must maintain a 2.5 in the minor.

Complete the following required courses:

- KPE 270 - Motor Development and Learning Credits: 3
- KPE 376 - Kinesiology Credits: 3
- KPE 378 - Physiology of Exercise Credits: 3
- KPE 490 - Nutrition for Sports and Exercise Credits: 3

Also choose 2 of the following courses:

- KPE 377 - Biomechanics Credits: 3
- KPE 425 - Health Promotion and Disease Prevention Credits: 3
- KPE 426 - Exercise Prescription and Leadership Credits: 3

Minor: Outdoor Education

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: Jan Kristo, 141 Shibles Hall, 581-2448

Complete the following Required Courses:

- KPE 209 - Wilderness First Responder Credits: 3
- KPE 280 - Introduction to Paddle Sports Credits: 3
- KPE 285 - Climbing Wall Instructor Credits: 3
- KPE 286 - Challenge Course Facilitator Skills Credits: 3
- KPE 311 - Maine Wilderness Guide Credits: 3
- KPE 384 - Practicum in Kinesiology and Physical Education Credits: 1-3
(Students must take 3 credits of KPE 384)

College of Engineering

The mission of the University of Maine College of Engineering is to be the state's engineering and engineering technology center of learning, discovery, and service. The goals of the College are to provide quality undergraduate and graduate engineering instruction; to conduct quality research directed toward the discovery and advancement of knowledge in engineering and engineering science; and to provide applied research, development and education for industry and individuals.

Engineering is practiced in a social context. Everything engineers produce affects the way individuals and societies function. To allow its graduates to work successfully in this setting, the University of Maine's engineering programs are designed to educate students in: the design and development of devices, processes and systems for the benefit of individuals and society; the understanding of social, ethical, safety and health related issues which pertain to the practice of engineering; and the dynamic nature of engineering developments and practice which require lifelong maintenance and updating of professional competence. The specific educational objectives are to:

- Provide students with a sound knowledge of the fundamental principles of engineering and engineering 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 or engineering technology.
- 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 implications of technology.
- Ensure that programs in the College of Engineering remain technically current and responsive to the changing needs of society. In addition, the College has research and public service objectives in the tradition of the Land Grant University Mission. These objectives are to:
 - Apply engineering 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, internships and industry.
 - Provide assistance to industry, government agencies and other groups in the solution of engineering related problems.
 - Provide assistance in the implementation of research findings and advanced engineering methods.

ACADEMIC PROGRAMS:

Bachelor of Science in:

Biological Engineering

Chemical Engineering

Civil Engineering

Computer Engineering

Construction Engineering Technology

Electrical Engineering
Electrical Engineering Technology
Engineering Physics
Mechanical Engineering
Mechanical Engineering Technology
Surveying Engineering Technology

Minors:

Biomedical Engineering
Computer Engineering
Construction Engineering Technology
Electrical Engineering
Electrical Engineering Technology
Engineering Entrepreneurial
Engineering Leadership and Management
Mechanical Engineering Technology
Military Science and Leadership
Naval Science
Ocean and Marine Engineering
Power
Process Engineering
Robotics
Surveying Engineering Technology

General Education Requirements:

All engineering students must meet university-wide general education requirements. Notes specific to engineering follow:

Science: Any program in the college will easily exceed this standard with the required chemistry and physics courses.

Human Values and Social Context: It is required that engineering and technology students carefully select these electives so that an ethics elective is included within the 18 credits required. Civil and Environmental Engineering majors satisfy the ethics requirement by taking the required CIA 410 - Engineering Ethics.

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.

Ethics: The only approved engineering ethics course is CIE 410 - Engineering Ethics. CIE 410 is required of civil and environmental engineering majors, however, other majors must select a Human Values and Social Context (HVSC) elective that also qualifies as an ethics elective, such as ISE 213.

Senior Capstone Experience: Students are required to complete a capstone experience within the major.

College of Engineering Notes:

Cooperative Work-Study Opportunities:

A number of cooperative work-study programs are available in the College of Engineering. Details of each program may be obtained from the appropriate department.

Engineering Leadership and Management Minor

Most engineering graduates will find themselves in a leadership position at some point during their career. In order to prepare for this eventually we encourage our undergraduate students to pursue a minor in Engineering Leadership and Management.

Transfer Credit:

Evaluation of courses for degree credit and possible equivalency rests with the Dean of the College of Engineering. Credits from military service will be evaluated on a case by case basis. Normally credits transferred from associate degree programs may be used for elective credits only. Associate Degree level mathematics and science courses typically do not fulfill the requirements for BS engineering program.

Pass/Fail:

Students enrolled in the College of Engineering 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 nearly 150 companies located in 25 states as well as several hundred individual donations and endowment gifts, the foundation encourages a strong teaching and research program in chemical engineering, with a significant undergraduate merit based scholarship program available to qualified students throughout the College of Engineering, School of Engineering Technology and the forest management program in the College of Natural Sciences, Forestry and Agriculture.

Program Contacts

Biological Engineering

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Information - Engineering Technology Programs

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Surveying Engineering Technology

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Major

Bioengineering

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 BEN courses

Other Requirements: Entrance into the Bioengineering 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 479

Contact Information: Hemant Pendse, Chair, 115 Jenness Hall, 501-2290pendse@maine.edu

The mission of the Bioengineering program reflects the mission of Maine's Land Grant University, specifically to provide teaching, research and public service in the discipline of Bioengineering. 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 Bioengineering. 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 Bioengineering. 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.

Program Description

The field of Bioengineering encompasses a broad range of topics, all of which focus on the interface between biology and engineering. Bioengineers use engineering skills to design devices or develop methods that interface with biological systems to benefit society. For example, Bioengineers might be involved in the design of artificial organs, development of new methods to detect or treat cancer, production of devices to measure biological agents, or formulation of materials for the controlled release of drugs. Bioengineers work at the forefront of research and industry and frequently address clinical, diagnostic, and therapeutic applications of engineering. Students entering UMaine's Bioengineering 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 knowledgebase, students develop the skills to engineer solutions to real world problems. Additional information about the program is available on our website.

Bioengineering majors interested in production of biofuels, biopharmaceuticals and biopolymers may take advantage of a Bioprocess Engineering Concentration. Additionally, UMaine's College of Engineering 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 132 credits with a cumulative grade point average of not less than 2.0 in Bioengineering (BEN) courses.

Summer Internships, Undergraduate Research Experiences, and the Cooperative Work Experience Program Option in Bioengineering

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 Bioengineering 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 projects such as these 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. 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 coursework during a summer term. Participating students must register for six credits which, in general, cannot be substituted for the courses required for the BS degree.

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 medical degree programs. For students who wish to pursue advanced postgraduate studies in this area, UMaine also offers a Master of Science degree in Biological Engineering, in addition to a Ph.D. in Biomedical Engineering through the Graduate School of Biomedical Sciences <http://gsbs.umaine.edu/>

Computers

Students entering the Bioengineering program are required to have a PC-compatible laptop computer capable of running Microsoft Office®, Mathcad®, Labview®, and Solidworks®. Visit the departmental website for recommended configuration details.

Scholarships

Many Bioengineering undergraduates enjoy some degree of scholarship support. The following scholarships are offered on a competitive basis:

Howard D. Bartlett '44 and Phyllis White Bartlett '45 Scholarship

Charles A. Brautlecht Scholarship

Eileen M. Byrnes Scholarship

Louis Calder Foundation Scholarship

Richard E. Durst Scholarship

S.T. Han Memorial Scholarship

Thomas G. Mangan and John W. Mangan Scholarship

Omar F. and Lenora L. Tarr Memorial Scholarship

Required Courses in Suggested Sequence for the B.S. in Bioengineering

The recommended sequence of the four-year curriculum is outlined below. Under special circumstances course sequencing may be adapted to a student's scheduling needs in consultation with their academic advisor.

NOTE:

Incoming students who have credit for MAT 126/127, CHY 121/122/123/124 and PHY 121, will be given the option to waive BEN 111 and 112. It is recommended that Bioengineering (BEN) students continue to take BEN 112. Students will need to make up the credits for these courses as well as fulfill the General Education Ethics requirement through another course.

First Year - First Semester

- BEN 111 - Introduction to Bioengineering I Credits: 2
- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- ENG 101 - College Composition Credits: 3
- MAT 126 - Calculus I Credits: 4
- PHY 121 - Physics for Engineers and Physical Scientists I Credits: 4

First Year - Second Semester

- BEN 112 - Introduction to Bioengineering II Credits: 2
- BMB 280 - Introduction to Molecular and Cellular Biology Credits: 3
- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
- MAT 127 - Calculus II Credits: 4
- PHY 122 - Physics for Engineers and Physical Scientists II Credits: 4

Second Year - First Semester

- BEN 201 - Fundamentals of Bioengineering Credits: 4
- CHY 251 - Organic Chemistry I Credits: 3
- CHY 253 - Organic Chemistry Laboratory I Credits: 2
- MAT 228 - Calculus III Credits: 4
- Human Values and Social Context Elective 1 Credits: 3

Second Year - Second Semester

- BEN 202 - Transport Processes in Bioengineering Systems Credits: 4
- BIO 208 - Anatomy and Physiology Credits: 4
- CHY 252 - Organic Chemistry II Credits: 3
- MAT 258 - Introduction to Differential Equations with Linear Algebra Credits: 4
- Human Values and Social Context Elective 2 Credits: 3

Third Year - First Semester

- BEN 401 - Applications of Bioengineering Credits: 3
- BEN 402 - Biomaterials and the Cellular Interface Credits: 3
- ECE 209 - Fundamentals of Electric Circuits Credits: 3

- Technical Elective 1 Credits: 3
- Human Values and Social Context Elective 3 Credits: 3

Third Year - Second Semester

- BEN 361 - Bioengineering Laboratory I Credits: 4
- BEN 403 - Instrumentation in Bioengineering Credits: 4
- BMB 322 - Biochemistry Credits: 3
- BMB 323 - Biochemistry Laboratory Credits: 2
- CHE 350 - Statistical Process Control and Analysis Credits: 3
- Human Values and Social Context Elective 4 Credits: 3

Fourth Year - First Semester

- BEN 363 - Bioengineering Laboratory II Credits: 1-16
- BEN 477 - Elements of Bioengineering Design Credits: 3
- BEN 493 - Bioengineering Seminar Credits: 0-1
- MEE 252 - Statics and Strength of Materials Credits: 3
- Human Values and Social Context Elective 5 Credits: 3
- Technical Elective 2. Credits: 3

Fourth Year - Second Semester

- BEN 479 - Bioengineering Design Projects Credits: 4
- BEN 493 - Bioengineering Seminar Credits: 0-1
- Human Values and Social Context Elective 6 Credits: 3
- Technical Elective 3 Credits: 3
- Technical Elective 4 Credits: 4

Special Requirements

Engineering Credits (minimum of 48 credits):

The program requires a minimum of 48 credits in engineering topics. Courses with engineering program designators meet this criterion. For students following the recommended curriculum (eg non-transfer students) these credits may be met by taking 3 of the 12 required technical elective credits within an engineering topic.

Approved Technical Electives (12 credits):

The program requires 12 credits of technical elective courses. These courses may be selected from a list of pre-approved 300, 400, and 500 level courses offered within science and engineering programs; a list of pre-approved courses may be found at http://www.umche.maine.edu/chb/undergrad/Technical_Electives_and_Advanced_Chemistry.pdf . Students may select alternate courses with approval of the Curriculum Committee of the Department of Chemical and Biological Engineering.

Course Equivalency:

Students may substitute MAT 332 Statistics for Engineers, for CHE 350 Statistical Process Control and Analysis. However, the

total minimum credits of engineering topics (48 credits) must be satisfied, for example through judicious use of technical electives.

Ethics

The course sequence BEN 111, BEN 477, BEN 479 and BEN 493 satisfies the University of Maine general education requirement for ethics. Transfer students who do not complete this sequence of courses should make sure that they satisfy the ethics requirement through their choice of Human Values and Social Context electives.

Fundamentals of Engineering Examination

Students are encouraged to take the FE examination.

Chemical 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 cumulative GPA not less than 2.0 in CHE courses including technical electives.

Other Requirements: Entrance into the Chemical Engineering program requires that students have a PC-compatible laptop computer capable of running Mathcad ©, Microsoft Office © and Aspen ©.

Required Course(s) for fulfilling Capstone Experience: CHE479

Contact Information: Hemant Pendse, Chair, 115 Jenness Hall, 581-2290 pendse@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. The program educational objectives are to provide graduates with:

- a sound foundation in the principles of chemical engineering and an understanding of the scientific principles on which chemical engineering is based.
- engineering problem solving skills enabling them to pursue careers in industry, government agencies, consulting firms, educational institutions, business, law, and medicine.
- a broad understanding of the chemical engineering profession provided by practical training and cooperative education opportunities.
- an awareness of their moral, ethical, legal, and professional obligations to hold paramount the safety, health, and welfare of the

public.

- the ability to function effectively in the workplace through teamwork and effective communication of technical and professional information.
- the ability to use modern computer tools, including advanced process simulation programs, and apply them to solve chemical engineering problems.
- an appreciation of the necessity for and the ability to engage in lifelong learning.

Chemical Engineers design, operate and manage processes that transform raw materials into valuable products. In the design and operation of such facilities the two competing concerns are maximizing profits while minimizing environmental impact. Since chemical engineers are employed in many different industries, the basic training is general and not industry-specific.

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/>

Chemical Engineering majors interested in production of biofuels, biopharmaceuticals and biopolymers may take advantage of a Bioprocess Engineering Concentration. Additionally, UMaine's College of Engineering 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 see http://catalog.umaine.edu/preview_program.php?catoid=51&pooid=4623&returnto=1099

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.

Degrees are awarded upon satisfactory completion of 130 credits with a cumulative grade point average of not less than 2.0 and a cumulative grade point average in Chemical Engineering courses, including technical electives, of not less than 2.0. The program in Chemical Engineering is accredited by the Engineering Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012 - telephone: (410) 347-7700.

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. Participating students must register for six credits but, in general, these 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 chemicals, pharmaceuticals, 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.

Computers

Students entering the Chemical Engineering program are required to have a PC-compatible laptop computer capable of running Mathcad ©, Microsoft Office, and Aspen. Visit our website for recommended configuration details.

Scholarships

Many Chemical Engineering undergraduates enjoy some degree of scholarship support. The following scholarships are offered on a competitive basis:

Charles A. Brautlecht Scholarship
Eileen M. Byrnes Scholarship
Louis Calder Foundation Scholarship
Richard E. Durst Scholarship
S.T. Han Memorial Scholarship
Thomas G. Mangan and John W. Mangan Scholarship
Omar F. and Lenora L. Tarr Memorial Scholarship
Les Trois Amis Scholarship

In addition, the University of Maine Pulp and Paper Foundation supports undergraduate students with full tuition 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 online or call 207-581-2297.

Required Courses in Suggested Sequence for the B.S. in Chemical Engineering

The recommended sequence of the four-year curriculum is shown below. Copies can also be obtained in the Department of Chemical and Biological Engineering office with detailed explanations of the requirements. This program can be adapted to a student's special scheduling needs in consultation with an academic advisor.

NOTE:

Incoming students who have credit for MAT 126/127, CHY 121/122/123/124 and PHY 121, will be given the option to waive CHE 111 and 112. Students will need to make up the credits for these courses as well as fulfill the General Education Ethics requirement through another course.

First Year - First Semester

- CHE 111 - Introduction to Chemical Engineering I Credits: 2
- CHY 121 - Introduction to Chemistry Credits: 3
with
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- MAT 126 - Calculus I Credits: 4
- PHY 121 - Physics for Engineers and Physical Scientists I Credits: 4

- Human Values and Social Context Elective 1 Credits:3

First Year - Second Semester

- CHE 112 - Introduction to Chemical Engineering II Credits: 2
- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
with
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
- MAT 127 - Calculus II Credits: 4
- PHY 122 - Physics for Engineers and Physical Scientists II Credits: 4
- ENG 101 - College Composition Credits: 3

Second Year - First Semester

- CHE 200 - Fundamentals of Process Engineering Credits: 4
- CHY 251 - Organic Chemistry I Credits: 3
with
- CHY 253 - Organic Chemistry Laboratory I Credits: 2
- MAT 228 - Calculus III Credits: 4
- Human Values and Social Context Elective 2 Credits: 3

Second Year - Second Semester

- CHE 350 - Statistical Process Control and Analysis Credits: 3
 - CHE 385 - Chemical Engineering Thermodynamics I Credits: 3
 - CHY 252 - Organic Chemistry II Credits: 3
 - ECE 209 - Fundamentals of Electric Circuits Credits: 3
or
 - PPA 264 - Introduction to the Pulp and Paper Industry¹
 - MAT 258 - Introduction to Differential Equations with Linear Algebra Credits: 4
 - Human Values and Social Context Elective 3 Credits: 3
- ¹Students who are Co-oping in pulp and paper related industry should take PPA 264 as a technical elective in place of ECE 209 in the fourth term of the program. They should take ECE 209 in place of one of the technical electives later in the program.

Third Year - First Semester

- CHE 352 - Process Control Credits: 3
- CHE 360 - Elements of Chemical Engineering I Credits: 4
- CHE 386 - Chemical Engineering Thermodynamics II Credits: 3
- MEE 252 - Statics and Strength of Materials Credits: 3
- Advanced Chemistry Elective Credits: 3

Third Year - Second Semester

- CHE 361 - Chemical Engineering Laboratory I Credits: 3
- CHE 362 - Elements of Chemical Engineering II Credits: 4
- CHE 368 - Kinetics and Reactor Design Credits: 3
- CHY 472 - Physical Chemistry II Credits: 3
- Technical Elective 1 Credits: 3

Fourth Year - First Semester

- CHE 363 - Chemical Engineering Laboratory II Credits: 3
- CHE 477 - Elements of Chemical Engineering Design Credits: 3
- CHE 478 - Analysis, Simulation and Synthesis of Chemical Processes Credits: 3
- CHE 493 - Chemical Engineering Seminar Credits: 0-1
- Human Values and Social Context Elective 4 Credits: 3
- Technical Elective 2 Credits: 3

Fourth Year - Second Semester

- CHE 479 - Chemical Engineering Design Projects Credits: 4
- CHE 493 - Chemical Engineering Seminar Credits: 0-1
- Human Values and Social Context Elective 5 Credits 3
- Human Values and Social Context Elective 6 Credits 3
- Technical Elective 3 Credits:3

Special Requirements:

Approved Technical Electives (12 credits):

The technical electives program requires 3 credits of an appropriate 300, 400 or 500 course with a major emphasis on chemistry plus 9 credits of approved technical electives . A list of preapproved electives is available at <http://www.umche.maine.edu/chb/undergrad/techelec.htm>. Students may also select other courses with approval of the Curriculum Committee of the Department of Chemical and Biological Engineering.

Ethics

The course sequence CHE 111, CHE 477, CHE 479 and CHE 493 satisfies the University of Maine general education requirement for ethics. Transfer students who do not complete this sequence of courses should make sure that they satisfy the ethics requirement through their choice of General Education Human Values and Social Context electives or by taking the course CIE 410.

Fundamentals of Engineering Examination

Students are encouraged to take the FE examination.

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: 2.0 average in all CIE courses.

Required Course(s) for fulfilling Capstone Experience: CIE 411, 413

Contact Information: Bill Davids, Professor and Chair, 5711 Boardman Hall, Room 105, Tel: (207) 581-2170, email: william.davids@maine.edu

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, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012 - telephone (410) 347-7700.

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 College of Engineering and departmental scholarships through the department.

Required Courses in Suggested Sequence for the B.S. in Civil Engineering

The recommended sequence of the four-year curriculum is outlined below. Copies can also be obtained in the Civil and Environmental Engineering office with detailed explanation of the requirements. This program can be adapted to a student's special scheduling needs in consultation with an academic advisor.

First Year - First Semester

- CHY 131 - Chemistry for Civil, Electrical and Mechanical Engineers Credits: 3
- CHY 133 - Chemistry for Civil, Electrical and Mechanical Engineers Laboratory Credits: 1
- CIE 100 - Introduction to Civil and Environmental Engineering Credits: 1
- CIE 110 - Materials Credits: 3
- CIE 111 - Materials Laboratory Credits: 1
- ENG 101 - College Composition Credits: 3
- MAT 126 - Calculus I Credits: 4

First Year - Second Semester

- CIE 101 - Civil Engineering Graphics Credits: 3
- CIE 115 - Computers in Civil Engineering Credits: 3
- MAT 127 - Calculus II Credits: 4
- PHY 121 - Physics for Engineers and Physical Scientists I Credits: 4
- Human Values and Social Context Elective Credits: 3 (footnote 1)

Second Year - First Semester

- MAT 228 - Calculus III Credits: 4
- MEE 150 - Applied Mechanics: Statics Credits: 3
- PHY 122 - Physics for Engineers and Physical Scientists II Credits: 4
- SVT 102 - Surveying Principles for Civil Engineers Credits: 3
- Human Values and Social Context Elective Credits: 3 (footnote 1)

Second Year - Second Semester

- CIE 225 - Transportation Engineering Credits: 3
(footnote 2)
- ECP 225 - Civil Engineering Technical Writing I Credits: 1
- MAT 258 - Introduction to Differential Equations with Linear Algebra Credits: 4
- MEE 251 - Strength of Materials Credits: 3
- Approved Science Elective Credits: 4 (footnote 7)

Third Year - First Semester

- CIE 331 - Fundamentals of Environmental Engineering Credits: 3
- CIE 340 - Introduction to Structural Analysis Credits: 4
- CIE 350 - Hydraulics Credits: 3
- CIE 351 - Hydraulics Laboratory Credits: 1
- CMJ 103 - Fundamentals of Public Communication Credits: 3
- Human Values and Social Context Elective Credits: 3 (footnote 1)

Third Year - Second Semester

- CIE 365 - Soil Mechanics Credits: 3
- CIE 366 - Soil Mechanics Laboratory Credits: 1
- STS 332 - Statistics for Engineers Credits: 3
- Civil Engineering Elective Credits: 3 (footnotes 3 and 4)
- Engineering Science Elective Credit: 3 (footnote 5)

Fourth Year - First Semester

- CIE 412 - Engineering Decisions Credits: 2 (footnote 6)
- CIE 413 - Project Management Credits: 2 (footnote 6)
- Civil Engineering Elective Credits: 3 (footnotes 3 and 4)
- Civil Engineering Elective Credits: 3 (footnotes 3 and 4)
- Human Values and Social Context Elective Credits: 3 (footnote 1)
- Civil Engineering or Technical Elective Credits: 3 (footnote 3 and 4)
- ECP 413 - Civil Engineering Technical Writing II Credits: 1

Fourth Year - Second Semester

- CIE 410 - Engineering Ethics Credits: 1
- ECP 411 - Civil Engineering Technical Writing III Credits: 1
- CIE 411 - Engineering Project Design Credits: 3
- Civil Engineering Elective Credits: 3 (footnotes 3 and 4)
- Civil Engineering or Technical Elective Credits: 3 (footnotes 3 and 4)
- Human Values and Social Context Elective Credits: 3 (footnote 1)

Explanation of Requirements - footnotes:

1. Students are assisted by faculty advisors in developing an elective program to meet their individual needs within the University's general education requirements. While most of the general education requirements are automatically met with a civil engineering degree, a student is required to select an additional 15 credit hours of electives to help meet the 18 credit hour "Human Values and Social Context" requirement (the required CMJ 103 satisfies the other three credit hours),
2. General education requirements mandate two writing intensive courses. CIE 225 and CIE 413 are designated as writing intensive courses within the CIE major, while ECP 411 meets the outside the major writing intensive course. NOTE: CIE225 must be taken concurrently with ECP 225 and CIE 413 must be taken concurrently with ECP 413 for CIE 225 and CIE 413 to count as writing intensive courses.
3. Civil Engineering and technical electives must be a minimum of 21 credit hours with no more than two technical elective courses. Civil engineering electives are advanced (400 or 500 level) civil engineering courses. The technical elective is an advanced Civil Engineering course or CIE 394 Civil Engineering Practice or other advanced level engineering, science, or mathematics course relevant to Civil Engineering. In addition, either ERS 101 Intro. to Geology or BIO 100 Basic Biology can be taken as the technical elective.
4. An additional requirement of the CIE Electives is that students take a CIE elective course in three of the five civil engineering subdisciplines: Transportation (CIE 42X), Environmental (CIE 43X), Structural (CIE44X), Water Resources (CIE 45X), and Geotechnical (CIE 46X).
5. Three credits of approved engineering science electives, usually in mechanical or electrical engineering, are required. Civil Engineering courses cannot be used for these three specific credit hours. Typical courses taken are:
MEE 230 Thermodynamics I
MEE 270 Dynamics
ECE 209 Fundamentals of Electric Circuits
6. CIE 413 must be taken in the Fall semester immediately preceding CIE 411.
7. Courses that will satisfy the Approved Science Elective are: BIO 100 Basic Biology, ERS 101 Introduction to Geology, ERS 102 Environmental Geology of Maine, and PSE 140/141 Soil Science.

SPECIAL NOTE:

Sixteen credit hours of engineering design courses are required. Eleven hours are earned in the required courses. At least five additional design credits must be included in the electives selected by the student. The College of Engineering only allows seniors whose "advancement in the field will permit their taking a graduate level course among graduate students without disadvantage to themselves" to take 500-level courses. The design content of CIE electives are as follows:

Engineering Science and Design Content of Departmental Electives

Course	Engineering Design	Engineering Science	Subject Area
CIE 394	1-3	0	----
CIE 424	2	1	Transportation
CIE 425	1	2	Transportation
CIE 426	3	0	Transportation
CIE 427	1	0	Transportation
CIE 430	3	1	Environmental
CIE 431	3	1	Environmental
CIE 432	4	0	Environmental
CIE 434	4	0	Environmental
CIE 439	0	3	Environmental
CIE 440	0	4	Structures
CIE 442	4	0	Structures
CIE 443	4	0	Structures
CIE 450	1	2	Water Resources
CIE 455	1	2	Water Resources
CIE 456	1	2	Water Resources
CIE 460	3	0	Geotechnical
CIE 533	0	3	Environmental
CIE 534	0	3	Environmental
CIE 537	0	3	Environmental
CIE 540	0	3	Structures
CIE 543	2	1	Structures
CIE 544	4	0	Structures

CIE 545	0	3	Structures
CIE 547	3	0	Structures
CIE 548	3	0	Structures
CIE 549	0	3	Structures
CIE 556	1	2	Water Resources
CIE 562	3	0	Geotechnical
CIE 563	1	1	Geotechnical
CIE 564	3	0	Geotechnical
CIE 565	3	0	Geotechnical
CIE 566	3	0	Geotechnical
CIE 567	3	0	Geotechnical

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: Repeating any ECE course for which a grade of F, L, or WF has been recorded requires a grade of C- or better in prerequisites for the course. 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 a grade of AU, L, or WF is 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. Minimum of a cumulative 2.0 GPA for all Computer courses taken.

Required Course(s) for fulfilling Capstone Experience: ECE 403

Contact Information: Donald Hummels, Professor and Chair, Electrical and Computer Engineering, 101 Barrows Hall, (207) 581-2223.

The Department of Electrical and Computer Engineering offers undergraduate and graduate degrees in both Electrical Engineering and Computer Engineering. Additional and more detailed information about the Department, its programs, career opportunities, scholarships, and a wealth of other materials are available at www.ece.umaine.edu.

The mission of the Computer Engineering program is to ensure that students obtain a solid educational background in computer engineering so that they are nationally competitive and successful in their chosen profession and are prepared for future graduate training. To achieve this, within two to five years of graduation, graduates of the computer engineering program will:

1. Demonstrate a solid foundation in computer engineering by holding positions that utilize their engineering training, advancing in their job responsibilities, or be pursuing postgraduate education.

2. Demonstrate the ability to function in the workplace through independent thought, problem solving, teamwork, and effective communication.
3. Be working as engineering professionals, acting ethically, adhering to standards, and be committed to the welfare of employees and the general population.
4. Participate in lifelong learning activities to continue 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 in addition to 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.

The curriculum adopts a practical hands-on approach that combines classroom theory and laboratory experience to produce graduates who can carry a technical project from inception through to implementation. The process begins in the first year of the program when students learn to prototype digital circuits and program a microcontroller. It continues through the senior year when they complete their capstone design projects. In this latter case, students usually work in two-person teams over three semesters where they propose, specify, create, present, and demonstrate a solution to a technical problem of their choosing.

To obtain a BS degree in Computer Engineering, a student must: (1) meet all University academic requirements, (2) meet all Computer Engineering curriculum requirements, (3) have 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. Repeating any ECE course for which a grade of F, L, or WF has been recorded requires a grade of C- or better in prerequisites for the course. 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 may petition the ECE faculty for exceptions to any program requirements. The program in Computer Engineering is accredited by the Engineering Accreditation Commission of ABET, www.abet.org.

Computer Engineering Degree Requirements

University General Education Requirements

Mathematics, Science, and Writing Competency: covered by required Computer Engineering courses

Capstone Experience: Fulfilled by completing ECE 405 , ECE 406 , and ECE 403

Human Values and Social Context (HV&SC) (18 cr. covering the areas below):

1. Western cultural tradition
 2. Social context and institutions
 3. Cultural diversity and international perspectives
 4. Population and the environment
 5. Artistic and creative expression
- Ethics: A separate course, or a course in HV&SC category within the General Education requirements.

Required Courses

- CMJ 103 - Fundamentals of Public Communication Credits: 3
(Note: counts towards HV&SC requirement as well)

- COS 221 - Data Structures in C++ Credits: 3
- ENG 101 - College Composition Credits: 3
- PHY 121 - Physics for Engineers and Physical Scientists I Credits: 4
- PHY 122 - Physics for Engineers and Physical Scientists II Credits: 4
- MAT 126 - Calculus I Credits: 4
- MAT 127 - Calculus II Credits: 4
- MAT 228 - Calculus III Credits: 4
- MAT 258 - Introduction to Differential Equations with Linear Algebra Credits: 4

- MAT 481 - Discrete Mathematics Credits: 3
or
- COS 250 - Discrete Structures Credits: 3

- ECE 100 - Electrical and Computer Engineering Seminar Credits: 1
- ECE 101 - Introduction to Electrical and Computer Engineering Credits: 3
- ECE 177 - Introduction to Programming for Engineers Credits: 4
- ECE 210 - Electric Circuits Credits: 4
- ECE 214 - Electrical Circuits Laboratory Credits: 2
- ECE 271 - Microcomputer Architecture and Applications Credits: 3
- ECE 275 - Sequential Logic Systems Credits: 3
- ECE 314 - Signals and Systems Credits: 3

- ECE 316 - Random Signal Analysis Credits: 3
or
- STS 332 - Statistics for Engineers Credits: 3
or
- CHE 350 - Statistical Process Control and Analysis Credits: 3

- ECE 331 - Introduction to Unix Systems Administration Credits: 3
or
- COS 331 - Operating Systems Credits: 3

- ECE 342 - Electronics I Credits: 4
- ECE 403 - Electrical and Computer Engineering Design Project Credits: 2
- ECE 405 - Computer Engineering Design Project Credits: 1
- ECE 406 - Computer Engineering Design Project Credits: 4

- ECE 471 - Embedded Systems Credits: 3
or
- ECE 477 - Hardware Applications Using C Credits: 3

- ECE 473 - Computer Architecture and Organization Credits: 4
- ECE 486 - Digital Signal Processing Credits: 4
- ECP 214 - Technical Writing Workshop for Electrical Networks I Credits: 1
- ECP 342 - Technical Writing Workshop for Electrical Networks II Credits: 1
- ECP 403 - Technical Writing Workshop for Electrical and Computer Engineering Design Project Credits: 1

ECE/COS Technical Electives

16 total credits of ECE or COS courses at the 300, 400, or 500 level, excluding ECE 394. At least 10 credits of these must be from the list of Computer Engineering Focus Courses:

Computer Engineering Focus Course

- ECE 417 - Introduction to Robotics Credits: 3
- ECE 471 - Embedded Systems Credits: 3
or
- ECE 477 - Hardware Applications Using C Credits: 3
- ECE 478 - Industrial Computer Control Credits: 3
- COS 300 and 400 level courses with advisor approval
- ECE 498 - Selected Topics in Electrical and Computer Engineering Credits: 1-3 (with advisor approval)

Generic Technical Electives

3 credits with advisor approval, typically 300 level or higher.

Mathematics & Science Courses

Students must earn a minimum of 31 credits in Mathematics and Science Courses.

Construction Engineering Technology

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 126

Minimum Cumulative GPA required to graduate: 2.0

Minimum Grade requirements for courses to count toward major: The three course math sequence (MAT 122, TME 152, TME 253) requires a "C" or better in each class to move to the next class.

Other GPA requirements to graduate: CET majors must accumulate a GPA of 2.0 in all required CET classes including SVT 121.

Required Course(s) for fulfilling Capstone Experience: CET 458

Contact Information: Will Manion, 112 Machine Tool Lab, (207) 581-2184, wmanion@maine.edu

The Construction Engineering Technology program is a blend of civil engineering technology and construction business management. This is achieved by applying principles in civil engineering technology and management to the construction process. The Construction Engineering Technology program provides quality instruction in construction engineering technology and management to enable graduates to be professional constructors. This mission is fulfilled by providing students with a

foundation in mathematics, science, communications, social science and humanities; which are coupled with civil engineering technology and management principles leading to a rewarding career in the construction industry. The specific program educational objectives are to prepare graduates to:

- Demonstrate a practical understanding of skills in mathematics, basic physical sciences, business, surveying, and engineering sufficient to pass the associate constructor exam.
- Show proficiency in using equipment and gathering experimental data for the use of analytical and problem-solving skills reasonably expected for construction practice necessary to be in responsible charge of construction or engineering operations.
- Be able to apply design skills sufficient to meet employer and client expectations in the areas of construction operations.
- Conduct themselves ethically and professionally and exhibit personal integrity and responsibility in construction practices.
- Be proficient in written, oral, and graphic communication to deal with promotion of services, business communications, reporting to employers, interacting with peers, and addressing client matters in public forums.
- Have an 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.
- Be able to work in a multi-disciplinary team environment, and lead when necessary to accomplish a given mission or project when providing services to employers and the public.
- 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 civil engineering and management topics in a technical and rigorous curriculum. The primary focus is surveying, materials testing, structural analysis and design, highways, estimating, and heavy-highway/building methods and equipment. The curriculum features management courses that may lead to a minor in business. There is extensive use of computer applications throughout the program.

Degrees are awarded upon satisfactory completion of 126 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 CET courses. Students must take the Associate Constructor Level I exam and pass at least four of the content areas. The CMT program is accredited by Engineering Technology Accreditation Commission of ABET.

Student Outcomes

Prior to graduation, students are required to demonstrate the following learned capabilities:

- a. an ability to select and apply the knowledge, techniques, skills, and modern tools of the discipline to broadly-defined engineering technology activities
- b. an ability to select and apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied procedures or methodologies
- c. an ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes
- d. an ability to design systems, components, or processes for broadly-defined engineering technology problems appropriate to program educational objectives
- e. an ability to function effectively as a member or leader on a technical team
- f. an ability to identify, analyze, and solve broadly-defined engineering technology problems
- g. an ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature
- h. an understanding of the need for and an ability to engage in self-directed continuing professional development
- i. an understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity
- j. a knowledge of the impact of engineering technology solutions in a societal and global context
- k. a commitment to quality, timeliness, and continuous improvement.

Computers

Incoming students are required to have a laptop computer. Visit our website for recommended configuration details.

Employment Opportunities

With a Bachelor of Science degree, graduates are prepared to initially perform technical/supervisory tasks in the field and office, and to then advance to management positions. Prospective employers include construction contractors and subcontractors, private and public construction inspection agencies, contract administrators, and major facility owners. There may also be similar employment opportunities in other project-oriented industries, such as aircraft, aerospace, and shipbuilding. On the purely technical side, there are employment opportunities in soils, foundations, and building materials testing firms.

The recommended sequence of the four-year curriculum is outlined below. Copies can be obtained in the School of Engineering Technology office.

Required Courses in Suggested Sequence for the B.S. in Construction Engineering Technology

First Year - First Semester

- CET 100 - Introduction to Construction Management Credits: 1
- CMJ 103 - Fundamentals of Public Communication Credits: 3
See Footnote 1
- MAT 122 - Pre-Calculus Credits: 4
- PHY 107 - Technical Physics I Credits: 4
- SVT 121 - AutoCAD for Surveyors I Credits: 3

First Year - Second Semester

- CET 101 - Plane Surveying Credits: 3
- ENG 101 - College Composition Credits: 3
- PHY 108 - Technical Physics II Credits: 4
- TME 152 - Introductory Calculus for Engineering Technology Credits: 3

Second Year - First Semester

- CET 202 - Construction Surveying Credits: 3
- CET 228 - Introduction to Construction Estimating and Planning Credits: 3
- CIE 110 - Materials Credits: 3
- CIE 111 - Materials Laboratory Credits: 1
- TME 253 - Applied Calculus for Engineering Technology Credits: 4

Second Year - Second Semester

- CET 221 - Construction Methods Credits: 3

- CET 224 - Construction Safety Credits: 3
- ECO 120 - Principles of Microeconomics Credits: 3
OR
- ECO 121 - Principles of Macroeconomics Credits: 3
See Footnote 1
- STS 215 - Introduction to Statistics for Business and Economics Credits: 3
Or
- STS 232 - Principles of Statistical Inference Credits: 3
- HVSC Elective Credits: 3
(See Footnote 1)

Third Year - First Semester

- BUA 201 - Principles of Financial Accounting Credits: 3
- CET 326 - Soil Mechanics and Foundations Credits: 3
- CET 327 - Soil Mechanics and Foundations Laboratory Credits: 1
- CET 356 - Construction Project Administration Credits: 3
- CET 451 - Construction Law Credits: 3
See Footnote 1
- ENG 317 - Business and Technical Writing Credits: 3

Third Year - Second Semester

- CET 332 - Civil Infrastructure Credits: 3
- CET 360 - Preconstruction Services Credits: 3
- CET 413 - Statics and Strength of Materials Credits: 4
- CMJ 257 - Business and Professional Communication Credits: 3
See Footnote 2
- Technical Elective: 3 credits

Fourth Year - First Semester

- CET 412 - Sustainable Population and Environmental Design and Construction Credits: 3
See Footnote 1
- CET 458 - SL: Management of Construction Credits: 3
- CET 462 - Construction Planning and Scheduling Credits: 3
- Construction Elective Credits: 3
- HVSC Elective Credits: 3
See Footnote 1

Fourth Year - Second Semester

- CET 414 - Structural Design Credits: 4
- MET 484 - Engineering Economics Credits: 3
- Technical Elective Credits: 3
- Construction Elective Credits: 3
- HVSC Elective Credits: 3
- Ethics Requirement
See Footnote 3

Students must see their advisors for approval of all electives

Lists of approved courses that meet the General Education requirements and Technical Electives are available in 119 Boardman Hall.

¹The Human Values and Social Context (HVSC) general education requirements are a minimum of 18 credits covering five areas: 1. Western cultural tradition; 2. Social context and institutions (covered with CMJ 103, ECO 120 or 121, CET 451); 3. Cultural diversity and international perspectives; 4. Population and the environment (covered with CET 412); and 5. Artistic and creative expression. For more detail about the General Education Requirements, see Degree / Graduation Requirements

²Other communication classes such as CMJ 345, CMJ 347, or CMJ 367 may be substituted for CMJ 257 with advisor permission.

³The General Education Ethics requirement can be satisfied with an HVSC elective or other such designated course.

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: Repeating any ECE course for which a grade of F, L, or WF has been recorded requires a grade of C- or better in prerequisites for the course. 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 a grade of AU, L, or WF is 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: Donald Hummels, Professor and Chair, Electrical and Computer Engineering, 101 Barrows Hall, (207) 581-2223.

The Department of Electrical and Computer Engineering offers undergraduate and graduate degrees in both Electrical Engineering and Computer Engineering. Additional and more detailed information about the Department, its programs, career opportunities, scholarships, and a wealth of other materials are available on the Web at www.ece.umaine.edu.

The mission of the Electrical Engineering program is to ensure that students obtain a solid educational background in electrical engineering so that they are nationally competitive and successful in their chosen profession and are prepared for future graduate training. To achieve this, within two to five years of graduation, graduates of the electrical engineering program will:

1. Demonstrate a solid foundation in electrical engineering by holding positions that utilize their engineering training, advancing in their job responsibilities, or be pursuing postgraduate education.
2. Demonstrate the ability to function in the workplace through independent thought, problem solving, teamwork and effective communication.
3. Be working as engineering professionals, acting ethically, adhering to standards and be committed to the welfare of employees and the general population.
4. Participate in lifelong learning activities to continue 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 in addition to providing a diverse background in the humanities and social sciences.

The curriculum adopts a practical hands-on approach that combines classroom theory and laboratory experience to produce graduates who can carry a technical project from inception through to implementation of a successful solution. The process begins in the first year of the program when students learn to prototype digital circuits and program a microcontroller. It continues through the senior year when they complete their capstone design projects. In this latter case, students usually work in two-person teams over three semesters where they propose, specify, create, present, and demonstrate a solution to a technical problem of their choosing.

To obtain a BS degree in Electrical Engineering, a student must: (1) meet all University academic requirements; (2) meet all Electrical Engineering curriculum requirements; and (3) have a GPA of 2.0 or better in all ECE courses. Repeating any ECE course for which a grade of F, L, or WF has been recorded requires a grade of C- or better in prerequisites for the course. 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 may petition the ECE faculty for exceptions to any program requirements. The program in Electrical Engineering is accredited by the Engineering Accreditation Commission of ABET.

Electrical Engineering Degree Requirements

University General Education Requirements

Mathematics, Science, and Writing Competency: covered by required Electrical Engineering courses

Capstone Experience: Fulfilled by completing ECE 401, ECE 402, and ECE 403

Human Values and Social Context (HV&SC) (18 cr. covering the areas below):

1. Western cultural tradition
 2. Social context and institutions
 3. Cultural diversity and international perspectives
 4. Population and the environment
 5. Artistic and creative expression
- Ethics: A separate course, or a course in HV&SC category within the General Education requirements.

Required Courses

- CMJ 103 - Fundamentals of Public Communication Credits: 3

(Counts towards HV&SC requirement as well)

- CHY 131 - Chemistry for Civil, Electrical and Mechanical Engineers Credits: 3
- CHY 133 - Chemistry for Civil, Electrical and Mechanical Engineers Laboratory Credits: 1
- ENG 101 - College Composition Credits: 3
- MAT 126 - Calculus I Credits: 4
- MAT 127 - Calculus II Credits: 4
- MAT 228 - Calculus III Credits: 4
- MAT 258 - Introduction to Differential Equations with Linear Algebra Credits: 4
- PHY 121 - Physics for Engineers and Physical Scientists I Credits: 4
- PHY 122 - Physics for Engineers and Physical Scientists II Credits: 4
- ECE 100 - Electrical and Computer Engineering Seminar Credits: 1
- ECE 101 - Introduction to Electrical and Computer Engineering Credits: 3
- ECE 177 - Introduction to Programming for Engineers Credits: 4
- ECE 210 - Electric Circuits Credits: 4
- ECE 214 - Electrical Circuits Laboratory Credits: 2
- ECE 271 - Microcomputer Architecture and Applications Credits: 3
- ECE 275 - Sequential Logic Systems Credits: 3
- ECE 314 - Signals and Systems Credits: 3

- ECE 316 - Random Signal Analysis Credits: 3
Or
- STS 332 - Statistics for Engineers Credits: 3
Or
- ECE 342 - Electronics I Credits: 4
- ECE 343 - Electronics II Credits: 4
- ECE 351 - Fields and Waves Credits: 3
- ECE 401 - Electrical Engineering Design Project Credits: 1
- ECE 402 - Electrical Engineering Design Project Credits: 4
- ECE 403 - Electrical and Computer Engineering Design Project Credits: 2
- ECE 414 - Feedback Control Systems Credits: 3
- ECE 486 - Digital Signal Processing Credits: 4
- ECP 214 - Technical Writing Workshop for Electrical Networks I Credits: 1
- ECP 342 - Technical Writing Workshop for Electrical Networks II Credits: 1
- ECP 403 - Technical Writing Workshop for Electrical and Computer Engineering Design Project Credits: 1

ECE Technical Electives

15 total credits of ECE 300,400, or 500 level courses, excluding ECE 394. At least 9 credits of these must be from the list of Electrical Engineering focus courses:

Electrical Engineering Focus Courses

- ECE 323 - Electric Power Conversion Credits: 3
- ECE 427 - Electric Power Systems Credits: 3
- ECE 450 - Power Electronics Credits: 3

- ECE 451 - Power Electronics Lab Credits: 1
- ECE 444 - Analog Integrated Circuits Credits: 3
- ECE 445 - Analysis and Design of Digital Integrated Circuits Credits: 3
- ECE 453 - Microwave Engineering Credits: 4
- ECE 455 - Electric Drives Credits: 3
- ECE 456 - Electric Drives Lab Credits: 1
- ECE 462 - Introduction to Basic Semiconductor Devices and Associated Circuit Models Credits: 3
- ECE 464 - Microelectronics Science and Engineering Credits: 3
- ECE 465 - Introduction to Sensors Credits: 3
- ECE 484 - Communications Engineering Credits: 3
- ECE 498 - Selected Topics in Electrical and Computer Engineering Credits: 1-3

Generic Technical Electives

- 6 credits with advisor approval, typically 300 level or higher

Concentration in Power Engineering

The Power Concentration for Electrical Engineering majors reflects an increased background in the generation and delivery of electric energy. Students complete a collection of core and elective courses with emphasis in the design, control, and application of power and energy systems. This concentration prepares 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, renewable energy, and other electric energy related technologies.

To complete a Concentration in Power Engineering, students receiving the B.S. degree in Electrical Engineering must complete the required power concentration core courses, and at least six credits of approved power elective courses. Of the courses used to complete the concentration, at least seven credits must be beyond the base requirements for the Electrical Engineering degree.

Power Concentration Required Core Courses

- EET 321 - Electro-Mechanical Energy Conversion Credits: 4
- ECE 427 - Electric Power Systems Credits: 3

Power Concentration Approved Elective Courses

6 credits required from the Approved Elective Course list.

- EET 276 - Programmable Logic Controllers Credits: 4
- ECE 450 - Power Electronics Credits: 3
- ECE 455 - Electric Drives Credits: 3
- EET 460 - Renewable Energy and Electricity Production Credits: 3
- EET 498 - Selected Topics in Electrical Engineering Technology Credits: 1-4 *
- ECE 498 - Selected Topics in Electrical and Computer Engineering Credits: 1-3 *

* "Selected Topics" courses must be related to the power engineering area, and are accepted at the discretion of the ECE chair.

Electrical Engineering Technology

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 126 EET option; 125 IT option

Minimum Cumulative GPA required to graduate: 2.0

Minimum Grade requirements for courses to count toward major: The four course math sequence (MAT122, MAT126, MAT127, MAT258) requires a "C" or better in each class to move to the next class.

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 EET452

Contact Information: Paul Villeneuve, 7 Barrows Hall (207) 581-2271, paul.villeneuve@maine.edu

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 industrial equipment, internship experience and design project experience.
- To prepare students in the business of engineering technology through the understanding of economic and business principles and effective project management techniques.
- To prepare students for the increasing computer requirements of 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.

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 "hands-on" 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 extra concentration in subject areas that are particularly important to industry in the Northeast. These subject areas are: electrical power and renewable energy, electronic design, integrated motion control, and microcomputer applications. 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, statistical process control 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. Thus,

students learn first-hand about current industry trends and the latest engineering equipment.

A very important part of the education of all EET students is a Senior Design Project course that is spread over three semesters finishing in their senior year. Design projects are required in most of the EET courses to prepare students for their capstone project. The Senior Design Project requires student teams to solve a design problem while utilizing good engineering design and reporting procedures.

Degrees are awarded upon satisfactory completion of 126 credits in the EET Option and 128 credits in the IT Option with 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 EET courses. The EET program is accredited by the Engineering Technology Accreditation Commission of ABET.

Student Outcomes

Prior to graduation, students are required to demonstrate the following learned capabilities:

- a. an ability to select and apply the knowledge, techniques, skills, and modern tools of the discipline to broadly-defined engineering technology activities
- b. an ability to select and apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied procedures or methodologies
- c. an ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes
- d. an ability to design systems, components, or processes for broadly-defined engineering technology problems appropriate to program educational objectives
- e. an ability to function effectively as a member or leader on a technical team
- f. an ability to identify, analyze, and solve broadly-defined engineering technology problems
- g. an ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature
- h. an understanding of the need for and an ability to engage in self-directed continuing professional development
- i. an understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity
- j. a knowledge of the impact of engineering technology solutions in a societal and global context
- k. a commitment to quality, timeliness, and continuous improvement.

Concentration and Minor Options

Students who wish to pursue the degree but gain extra experience in computer and data networking applications may pursue a concentration in information technology. To achieve the concentration students are required to take 12 credits of approved courses offered by the computer engineering, information science and computer science departments for their free and technical elective choices. EET students can also enrich their academic experience by completing minors that complement their program such as engineering entrepreneurial, business administration, or pulp and paper technology.

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 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. Typically, they take jobs that involve designing and manufacturing a product or operating a plant. EET graduates are the electrical back-bone of the manufacturing community and often manage project and maintenance teams of electricians and engineers. Their responsibilities lean toward design and production rather than research. The electrical power field is another area where EET graduates are employed. Many in-state and out-of-state companies rely on our graduates to fill positions in design plants, substations, and

transmission lines.

Scholarships

The program offers scholarships for outstanding students majoring in Electrical Engineering Technology. In addition, students can apply for scholarships through the College of Engineering.

The recommended sequence of the four-year curriculum is outlined below. Copies can be obtained in the School of Engineering Technology office.

Required Courses in Suggested Sequence for the B.S. in Electrical Engineering Technology

First Year - First Semester

- EET 100 - Introduction to Electrical Engineering Technology Credits: 3
- ENG 101 - College Composition Credits: 3
- PHY 107 - Technical Physics I Credits: 4
- MAT 122 - Pre-Calculus Credits: 4

First Year - Second Semester

- EET 111 - Circuit Analysis I Credits: 4
- EET 275 - Digital Communications Credits: 4
- MAT 126 - Calculus I Credits: 4
- PHY 108 - Technical Physics II Credits: 4

Second Year - First Semester

- EET 112 - Circuit Analysis II Credits: 4
- EET 276 - Programmable Logic Controllers Credits: 4
- MAT 127 - Calculus II Credits: 4
- Western Cultural Tradition Elective¹ Credits: 3

Second Year - Second Semester

- CMJ 103 - Fundamentals of Public Communication Credits: 3
- MAT 258 - Introduction to Differential Equations with Linear Algebra Credits: 4
- EET 174 - Introduction to Microcomputers Credits: 4
- EET XXX AutoCAD Credits: 2
- EET 241 - Analog Circuit Fundamentals Credits: 4

Students must declare Electrical or Information Technology Option at this point.

Electrical Engineering Technology Option:

Third Year - First Semester

- EET 242 - Advanced Analog Circuit Design Credits: 4
- EET 324 - Network Analysis and Applications Credits: 4
- EET 386 - Project Management Credits: 3
- ENG 317 - Business and Technical Writing Credits: 3
- Cultural Diversity and International Perspectives Elective¹: 3

Third Year - Second Semester

- CHE 350 - Statistical Process Control and Analysis Credits: 3
See Footnote 2
- EET 321 - Electro-Mechanical Energy Conversion Credits: 4
- EET 325 - Design and Applications of Control Systems Credits: 4
- EET 350 - Senior Design Project I Credits: 1
- Technical Elective Credits: 3

Fourth Year - First Semester

- EET 323 - Power Systems Analysis Credits: 4
- EET 451 - Senior Design Project II Credits: 1
- MET 433 - Thermodynamics Credits: 3
- Population & Environment Elective¹ Credits: 3
- EET Technical Elective Credits: 3
- Ethics Elective¹ Credits: 3

Fourth Year - Second Semester

- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- EET 452 - Senior Design Project III Credits: 2
- MET 484 - Engineering Economics Credits: 3
- Artistic and Creative Expression Elective¹ - Credits: 3
- Technical Elective Credits: 3

Information Engineering Technology Option:

Third Year - First Semester

- COS 220 - Introduction to C++ Programming Credits: 3
- EET 386 - Project Management Credits: 3
- ENG 317 - Business and Technical Writing Credits: 3
- Technical Elective Credits: 3
- Cultural Diversity Elective¹ Credits: 3

Third Year - Second Semester

- CHE 350 - Statistical Process Control and Analysis Credits: 3
See Footnote 2
- EET 350 - Senior Design Project I Credits: 1
- Artistic and Creative Expression Elective¹ Credits: 3
- IT Elective 1** Credits: 3
- IT Elective 2** Credits: 3
- Technical Elective Credits: 3

Fourth Year - First Semester

- EET 451 - Senior Design Project II Credits: 1
- MET 433 - Thermodynamics Credits: 3
- Population and Environmental Elective¹ Credits: 3
- IT Elective 3** Credits: 3
- IT Elective 4** Credits: 3
- IT Elective 5** Credits: 3

Fourth Year - Second Semester

- EET 452 - Senior Design Project III Credits: 2
- MET 484 - Engineering Economics Credits: 3
- IT Elective 6** Credits: 3
- Human Values/Social Context Elective¹ Credits: 3
- Technical Elective Credits: 3
- Ethics Requirement

Students must see their advisor for approval of all electives.

- ¹ Students are assisted by faculty advisors in developing an elective program to meet their individual needs within the University's general education requirements. While most of the general education requirements are automatically met with an electrical engineering technology degree, a student is required to select an additional 12 credit hours of electives to help meet the 18 credit hour "Human Values and Social Context" requirement (the required CMJ 103 and ENG 317 courses satisfy the other three credit hours. One of the General Education electives must also satisfy the ethics requirement of the General Education Requirements.
- ² MAT 232 or MAT 332 may be substituted for CHE 350
- Lists of approved courses that meet the General Education requirements and Technical Electives are available in 119 Boardman Hall.
- ** Approved IT Electives are listed below or can be obtained from the SET Office in 119 Boardman Hall.

Approved Information Technology (IT) Electives

- COS 120 - Introduction to Programming I Credits: 3
- COS 215 - Introduction to Computing Using FORTRAN Credits: 3
- COS 221 - Data Structures in C++ Credits: 3
- COS 225 - Object-Oriented Design, Programming and Data Structures Credits: 4
- COS 226 - Introduction to Data Structures Credits: 3
- COS 250 - Discrete Structures Credits: 3
- COS 235 - Computer Architecture Credits: 4
- COS 415 - Computer Simulation and Modeling, from Development to Display Credits: 3
- COS 420 - Introduction to Software Engineering Credits: 3
- COS 331 - Operating Systems Credits: 3
- COS 440 - Computer Networks I Credits: 3
- ECE 331 - Introduction to Unix Systems Administration Credits: 3
- ECE 417 - Introduction to Robotics Credits: 3
- ECE 471 - Embedded Systems Credits: 3
- ECE 473 - Computer Architecture and Organization Credits: 4
- ECE 477 - Hardware Applications Using C Credits: 3
- ECE 478 - Industrial Computer Control Credits: 3
- NMD 202 - Information Design Credits: 3
- NMD 302 - Interaction Design in New Media Credits: 3

Engineering Physics

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 the 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.

Graduates of the University of Maine Engineering Physics Program are able to:

- 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.

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.

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 122 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 specialization, 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 sequence is chosen from the engineering major offerings (Chemical and Bioengineering, Civil and Environmental, Electrical and Computer, Mechanical) of the College of Engineering. Engineers teach all engineering courses taken by engineering physics majors.

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 College of Engineering. Most experiments require written laboratory reports. 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 and our required PHY 476. Approximately 50% of graduating Engineering Physics majors earn a minor in mathematics.

The Engineering Physics program requires satisfactory completion of at least 122 credits at an accumulative grade point average of not less than 2.0. The program in Engineering Physics is accredited by the Engineering Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012 - telephone: (207) 347-7700.

The Department of Physics and Astronomy 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).

Scholarships

The Department of Physics and Astronomy has several large scholarship endowments. The Department awards between 25 and 35 scholarships each year to its undergraduate majors. The College of Engineering also offers scholarships and awards supported by endowments within the College and from Maine industries.

Required Courses in Suggested Sequence for the B.S. in Engineering Physics

The recommended sequence of the four-year curriculum is shown below. Copies of the curriculum, with detailed explanations of the recommendations, can be obtained in the Office of the Department of Physics and Astronomy. There are possible alterations to this schedule and substitutions may be made for some courses on approval of the Chair of the Department of Physics and Astronomy. Students desiring to transfer from another engineering program in their first or second year, into Engineering Physics, may do so without loss of credit or delays in graduation. The considerable flexibility in the Engineering Physics program will allow a student to design an individual curriculum with the assistance of her/his advisor.

First Year - First Semester

- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- MAT 126 - Calculus I Credits: 4
- PHY 100 - Introduction to Physics and Astronomy Credits: 1
- PHY 121 - Physics for Engineers and Physical Scientists I Credits: 4
- Human Values/Social Context and Ethics Elective I³ Credits: 3

First Year - Second Semester

- COS 220 - Introduction to C++ Programming Credits: 3
See Footnote 1
- ENG 101 - College Composition Credits: 3
- MAT 127 - Calculus II Credits: 4
- PHY 122 - Physics for Engineers and Physical Scientists II Credits: 4
- Engineering Sequence I² Credits: 3

Second Year - First Semester

- MAT 228 - Calculus III Credits: 4
- PHY 229 - Physical Measurements Laboratory I Credits: 2
- PHY 236 - Introductory Quantum Physics Credits: 3
- Engineering Sequence II² Credits: 3
- Human Values/Social Context and Ethics Elective II³ Credits: 3

Second Year - Second Semester

- MAT 259 - Differential Equations Credits: 3
- PHY 200 - Career Preparation in Physics and Engineering Physics I Credits: 1
- PHY 223 - Special Relativity Credits: 1
- PHY 230 - Physical Measurements Laboratory II Credits: 2
- PHY 238 - Mechanics Credits: 3
- Engineering Sequence III² Credits: 3
- Human Values/Social Context and Ethics Elective III³ Credits: 3

Third Year - First Semester

- PHY 441 - Physical Electronics Laboratory Credits: 2
- PHY 454 - Electricity and Magnetism I Credits: 3
- PHY 476 - Mathematical Methods in Physics Credits: 3
See Footnote 7
- Engineering Sequence IV² Credits: 3
- Human Values/Social Context and Ethics Elective IV³ Credits: 3

Third Year - Second Semester

- PHY 442 - Modern Experimental Physics Credits: 2
- PHY 455 - Electricity and Magnetism II Credits: 3
- Engineering Sequence V² Credits: 3
- MAT Elective⁴ Credits: 3
- Human Values/Social Context and Ethics Elective V³ Credits: 3

Fourth Year - First Semester

- PHY 400 - Career Preparation in Physics and Engineering Physics II Credits: 1
- PHY 469 - Quantum and Atomic Physics Credits: 3
- PHY 481 - Project Laboratory in Physics I Credits: 3
- PHY Elective I⁵ Credits: 3
- Engineering Sequence VI² credits: 3
- Human Values/Social Context and Ethics Elective VI³ Credits: 3

Fourth Year - Second Semester

- PHY 482 - Project Laboratory in Physics II Credits: 3
- Technical Elective⁶ Credits: 3
- Engineering Sequence VII and VIII² Credits: 6
- PHY Elective II⁵ Credits: 3

Special Requirements:

¹ Other course substitutions require the permission of the student's academic advisor and approval of the Chair.

² The Engineering Sequence consists of at least eight three-credit engineering courses, of which a maximum of seven courses are from the engineering concentration: Chemical and Biological, Civil and Environmental, Electrical and Computer, or Mechanical, and one course from an engineering area other than your engineering concentration. Engineering Technology courses cannot be used for the Engineering sequence, nor the technical electives. Engineering sequence courses can not be used for either the computer programming elective or the technical elective. All students must take either ECE 209, Fundamentals of Electric Circuits, or ECE 210 (Electrical Networks I). Students concentrating in electrical or computer engineering will need to take ECE 210, a pre-requisite for upper level ECE courses.

³ Human Values/Social Context and Ethics, part of the university's general education requirements, can be satisfied by careful selection of at least six three-credit courses.

⁴ Choose from MAT 262, MAT 332, MAT 434, MAT 452, MAT 454, MAT 459, MAT 471, PHY 574 or approved similar mathematics courses. PHY 574 may be counted as either a mathematics elective or a physics elective, but not both.

⁵ The two physics electives can be any physics or astronomy course at the 400 level or higher. Students may elect to take PHY 462, Physical Thermodynamics, instead of MEE 230, Thermodynamics I; however, PHY 462 can not be used as one of the eight required Engineering sequence courses.

⁶ A technical elective can be an Astronomy, Physics, Engineering, Chemistry, Mathematics, Computer Science or other approved science course, at the 300-level or higher.

⁷ PHY 476 can be used as one of the courses needed to obtain a minor in mathematics, provided it is the only non-MAT course used for the minor.

Physics Electives

For more detail, please see <http://physics.umaine.edu/undergraduate-programs/degree-programs/>

Fall Semester

- AST 451 - Astrophysics Credits: 1-3
(may be offered in either spring or the fall semester)
- PHY 462 - Physical Thermodynamics Credits: 3 - 4
- PHY 470 - Nuclear Physics Credits: 2
- PHY 471 - Nuclear Physics Laboratory Credits: 1
- PHY 495 - Engineering Physics Practice Credits: 1-6
- PHY 501 - Mechanics Credits: 3

Spring Semester

- PHY 447 - Molecular Biophysics Credits: 3 - 4
- PHY 463 - Statistical Mechanics Credits: 3
- PHY 472 - Geometrical and Fourier Optics Credits: 3
- PHY 480 - Physics of Materials Credits: 3
- PHY 495 - Engineering Physics Practice Credits: 1-6

Biological Engineering Option in Engineering Physics - Required Courses in Suggested Sequence first two years

First Year - First Semester

- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- MAT 126 - Calculus I Credits: 4
- PHY 100 - Introduction to Physics and Astronomy Credits: 1
- PHY 121 - Physics for Engineers and Physical Scientists I Credits: 4
- Human Values/Social Context and Ethics Elective I Credits: 3

First Year - Second Semester

- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
- COS 220 - Introduction to C++ Programming Credits: 3
- ENG 101 - College Composition Credits: 3
- MAT 127 - Calculus II Credits: 4
- PHY 122 - Physics for Engineers and Physical Scientists II Credits: 4

Second Year - First Semester

- CHE 200 - Fundamentals of Process Engineering Credits: 4
- MAT 228 - Calculus III Credits: 4
- PHY 229 - Physical Measurements Laboratory I Credits: 2
- PHY 236 - Introductory Quantum Physics Credits: 3
- Human Values/Social Context and Ethics Elective I Credits: 3

Second Year - Second Semester

- BIO 100 - Basic Biology Credits: 4
- MAT 259 - Differential Equations Credits: 3
- PHY 200 - Career Preparation in Physics and Engineering Physics I Credits: 1
- PHY 223 - Special Relativity Credits: 1
- PHY 230 - Physical Measurements Laboratory II Credits: 2
- PHY 238 - Mechanics Credits: 3
- Human Values/Social Context and Ethics Elective II Credits: 3

Chemical Engineering Option in Engineering Physics - Required Courses in Suggested Sequence first two years

First Year - First Semester

- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- MAT 126 - Calculus I Credits: 4
- PHY 100 - Introduction to Physics and Astronomy Credits: 1
- PHY 121 - Physics for Engineers and Physical Scientists I Credits: 4
- Human Values/Social Context and Ethics Elective Credits: 3

First Year - Second Semester

- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
- COS 220 - Introduction to C++ Programming Credits: 3
- ENG 101 - College Composition Credits: 3
- MAT 127 - Calculus II Credits: 4
- PHY 122 - Physics for Engineers and Physical Scientists II Credits: 4

Second Year - First Semester

- CHE 200 - Fundamentals of Process Engineering Credits: 4
- MAT 228 - Calculus III Credits: 4
- PHY 229 - Physical Measurements Laboratory I Credits: 2
- PHY 236 - Introductory Quantum Physics Credits: 3
- Human Values/Social Context and Ethics Elective Credits: 3

Second Year - Second Semester

- CHE 385 - Chemical Engineering Thermodynamics I Credits: 3
- MAT 259 - Differential Equations Credits: 3
- PHY 200 - Career Preparation in Physics and Engineering Physics I Credits: 1
- PHY 223 - Special Relativity Credits: 1
- PHY 230 - Physical Measurements Laboratory II Credits: 2
- PHY 238 - Mechanics Credits: 3
- Human Values/Social Context and Ethics Elective Credits: 3

Civil and Environmental Engineering Options in Engineering Physics - Required Courses in Suggested Sequence first two years

First Year- First Semester

- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- MAT 126 - Calculus I Credits: 4
- PHY 100 - Introduction to Physics and Astronomy Credits: 1
- PHY 121 - Physics for Engineers and Physical Scientists I Credits: 4
- Human Values/Social Context and Ethics Elective Credits: 3

First Year - Second Semester

- COS 220 - Introduction to C++ Programming Credits: 3
- ENG 101 - College Composition Credits: 3
- MAT 127 - Calculus II Credits: 4
- MEE 150 - Applied Mechanics: Statics Credits: 3
- PHY 122 - Physics for Engineers and Physical Scientists II Credits: 4

Second Year - First Semester

- MAT 228 - Calculus III Credits: 4
- MEE 230 - Thermodynamics I Credits: 3
- PHY 229 - Physical Measurements Laboratory I Credits: 2
- PHY 236 - Introductory Quantum Physics Credits: 3
- Human Values/Social Context and Ethics Elective II Credits: 3

Second Year Second Semester

- CIE 225 - Transportation Engineering Credits: 3
- MAT 259 - Differential Equations Credits: 3
- PHY 200 - Career Preparation in Physics and Engineering Physics I Credits: 1
- PHY 223 - Special Relativity Credits: 1
- PHY 230 - Physical Measurements Laboratory II Credits: 2
- PHY 238 - Mechanics Credits: 3
- Human Values/Social Context and Ethics Elective III Credits: 3

Computer Engineering Options in Engineering Physics - Required Courses in Suggested Sequence first two years

First Year - First Semester

- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- MAT 126 - Calculus I Credits: 4
- PHY 100 - Introduction to Physics and Astronomy Credits: 1
- PHY 121 - Physics for Engineers and Physical Scientists I Credits: 4
- Human Values/Social Context and Ethics Elective I Credits: 3

First Year - Second Semester

- COS 220 - Introduction to C++ Programming Credits: 3
- ECE 177 - Introduction to Programming for Engineers Credits: 4
- ENG 101 - College Composition Credits: 3
- MAT 127 - Calculus II Credits: 4
- PHY 122 - Physics for Engineers and Physical Scientists II Credits: 4

Second Year - First Semester

- ECE 210 - Electric Circuits Credits: 4
- MAT 228 - Calculus III Credits: 4
- PHY 229 - Physical Measurements Laboratory I Credits: 2
- PHY 236 - Introductory Quantum Physics Credits: 3
- Human Values/Social Context and Ethics Elective II Credits: 3

Second Year - Second Semester

- ECE 271 - Microcomputer Architecture and Applications Credits: 3
- MAT 259 - Differential Equations Credits: 3
- PHY 200 - Career Preparation in Physics and Engineering Physics I Credits: 1
- PHY 223 - Special Relativity Credits: 1
- PHY 230 - Physical Measurements Laboratory II Credits: 2
- PHY 238 - Mechanics Credits: 3
- Human Values/Social Context and Ethics Elective III Credits: 3

Electrical Engineering Options in Engineering Physics - Required Courses in Suggested Sequence first two years

First Year -First Semester

- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- MAT 126 - Calculus I Credits: 4
- PHY 100 - Introduction to Physics and Astronomy Credits: 1
- PHY 121 - Physics for Engineers and Physical Scientists I Credits: 4
- Human Values/Social Context and Ethics Elective I Credits: 3

First Year -Second Semester

- COS 220 - Introduction to C++ Programming Credits: 3
- ECE 177 - Introduction to Programming for Engineers Credits: 4
- ENG 101 - College Composition Credits: 3
- MAT 127 - Calculus II Credits: 4
- PHY 122 - Physics for Engineers and Physical Scientists II Credits: 4

Second Year -First Semester

- ECE 210 - Electric Circuits Credits: 4
- MAT 228 - Calculus III Credits: 4
- PHY 229 - Physical Measurements Laboratory I Credits: 2
- PHY 236 - Introductory Quantum Physics Credits: 3
- Human Values/Social Context and Ethics Elective II Credits: 3

Second Year -Second Semester

- ECE 214 - Electrical Circuits Laboratory Credits: 2
- ECE 314 - Signals and Systems Credits: 3
- MAT 259 - Differential Equations Credits: 3
- PHY 200 - Career Preparation in Physics and Engineering Physics I Credits: 1
- PHY 223 - Special Relativity Credits: 1
- PHY 230 - Physical Measurements Laboratory II Credits: 2
- PHY 238 - Mechanics Credits: 3

Mechanical Engineering Option in Engineering Physics - Required Courses in Suggested Sequence first two years

First Year - First Semester

- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- MAT 126 - Calculus I Credits: 4
- PHY 100 - Introduction to Physics and Astronomy Credits: 1
- PHY 121 - Physics for Engineers and Physical Scientists I Credits: 4
- Human Values/Social Context and Ethics Elective I Credits: 3

First Year - Second Semester

- COS 215 - Introduction to Computing Using FORTRAN Credits: 3
- ENG 101 - College Composition Credits: 3
- MAT 127 - Calculus II Credits: 4
- MEE 150 - Applied Mechanics: Statics Credits: 3
- PHY 122 - Physics for Engineers and Physical Scientists II Credits: 4

Second Year - First Semester

- MAT 228 - Calculus III Credits: 4
- MEE 251 - Strength of Materials Credits: 3
- PHY 229 - Physical Measurements Laboratory I Credits: 2
- PHY 236 - Introductory Quantum Physics Credits: 3
- Human Values/Social Context and Ethics Elective II Credits: 3

Second Year - Second Semester

- ECE 209 - Fundamentals of Electric Circuits Credits: 3
- MAT 259 - Differential Equations Credits: 3
- MEE 230 - Thermodynamics I Credits: 3
- PHY 200 - Career Preparation in Physics and Engineering Physics I Credits: 1
- PHY 223 - Special Relativity Credits: 1
- PHY 230 - Physical Measurements Laboratory II Credits: 2
- PHY 238 - Mechanics Credits: 3

Mechanical 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: 2.0 GPA in all MEE courses

Required Course(s) for fulfilling Capstone Experience: MEE 487 and MEE488

Contact Information: David Dvorak, Interim Chair, 5711 Boardman Hall, Tel: 581 4120.

The mission of the Department of Mechanical Engineering is to educate men and women to be future leaders in industry, academia, and government; to conduct basic and applied research in mechanical engineering and related interdisciplinary fields; and, to provide service to the engineering profession, to the State of Maine, to the country, and to the future development of engineering. The undergraduate program has been developed in order to prepare the student for the initiation of a professional career in mechanical engineering or for the continuation of studies in graduate school. Additional information can be found at the mechanical engineering web site.

The objectives of the Mechanical Engineering Program are:

1. Prepare students to become professional practitioners of mechanical engineering;
2. To provide the students with a solid foundation in mechanical engineering;
3. To educate students to become aware of their moral, ethical, legal and professional obligations and to hold paramount the safety, health and welfare of the public;
4. To develop fundamental science, mathematics, computer, and engineering knowledge necessary for mechanical engineering;
5. To ensure that the students obtain a solid educational background in mechanical engineering so that they are nationally competitive and successful in their chosen profession and are prepared for future graduate training. Train students to develop the ability to function in the workplace through teamwork and effective communication;
6. To provide broad education to understand the relationship between mechanical engineering and, other engineering professionals and society as a whole;
7. To prepare students to communicate facts and ideas;
8. To prepare and encourage students to continue learning beyond the undergraduate years;

In summary, the objectives of the program are to prepare students for successful careers and lifelong learning by providing a solid foundation in the principles of mechanical engineering; to train students in the mathematical and computational skills appropriate for engineers to use when solving problems; to help students develop skills pertinent to the design process—ability to formulate problems, to think creatively, to communicate effectively, to synthesize information and to work collaboratively; and, to implant in the student an understanding of their professional and ethical responsibilities.

Program Description

This program develops the student's creative potential to meet the increasingly complex needs of industry, government and education. It provides a foundation of knowledge in mathematics, basic physical sciences, thermal sciences, dynamic systems, material science, fluid and solid mechanics and design of systems.

Engineers must address problems which raise issues requiring awareness of economical, ethical, political, social and legal issues as well as the technical issues of the profession. Therefore, preparation for a career in mechanical engineering 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 following recommended curriculum. The format is a recommended program that can be modified within the constraints of all the departmental, college, and university requirements and course prerequisites to satisfy scheduling needs or student preferences.

The curriculum has ten elective courses among the 44 courses (130 credits) required for the degree. Of the ten electives required one must be a basic science elective; one must be an engineering science elective; two must be mechanical engineering design electives; and, six of the electives must satisfy the Human Values and Social Context areas of the general education requirements. Students must also complete a course placing substantial emphasis on the discussion of ethics, if not part of the 18 credits in HVSC electives. Lists of courses qualifying for these electives are available in the Department of Mechanical Engineering Office, 219 Boardman Hall. By careful use of this flexibility in electives, students may pursue in some depth their particular interests in both technical and non-technical subjects. Some mechanical engineering electives will not be offered every year.

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 B.S. Program in Mechanical Engineering is accredited by the Engineering Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012 - telephone: (410) 347-7700.

Employment Opportunities

Mechanical engineers work in industry, consulting practices, universities and governmental agencies. Many mechanical engineers are employed by equipment manufacturers, aerospace companies, shipbuilding firms, material processing plants, utilities, transportation companies, petroleum companies, and a host of other firms. Mechanical engineers work in the nuclear energy field on the design of underwater vessels, electrical power plants equipped with reactors, pressure piping, heat exchangers and other specialized components. Mechanical engineers working with government agencies conduct research on solar energy, advanced composite materials, radioactive waste removal, magnetic-levitation trains, and components associated with the space program.

Scholarships

The department has several scholarships available on a competitive basis for students majoring in mechanical engineering. Outstanding incoming students should apply for college and departmental scholarships through the College of Engineering.

Required Courses in Suggested Sequence for the B.S. in Mechanical Engineering

The recommended sequence of the four-year curriculum is shown below. Copies can also be obtained in the Department of Mechanical Engineering Office with detailed explanations of the requirements. This program can be adapted to a student's special scheduling needs in consultation with an academic advisor.

First Year - First Semester

- ENG 101 - College Composition Credits: 3
- MAT 126 - Calculus I Credits: 4
- MEE 101 - Introduction to Mechanical Engineering Credits: 1
- MEE 120 - Engineering Graphics and Computer Aided Design Credits: 2
- PHY 121 - Physics for Engineers and Physical Scientists I Credits: 4
- Human Values and Social Context Elective Credits: 3 (Footnote 2)

First Year - Second Semester

- A Computer Programming Course Credits: 3 or 4 (Footnote 3)
- MAT 127 - Calculus II Credits: 4
- MEE 150 - Applied Mechanics: Statics Credits: 3
- PHY 122 - Physics for Engineers and Physical Scientists II Credits: 4
- Human Values and Social Context Elective Credits: 3

Second Year - First Semester

- CHY 121 - Introduction to Chemistry Credits: 3
 - CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- OR**
- CHY 131 - Chemistry for Civil, Electrical and Mechanical Engineers Credits: 3

- CHY 133 - Chemistry for Civil, Electrical and Mechanical Engineers Laboratory Credits: 1
- MAT 228 - Calculus III Credits: 4
- MEE 230 - Thermodynamics I Credits: 3
- MEE 251 - Strength of Materials Credits: 3
- Human Values and Social Context Elective Credits: 3

Second Year - Second Semester

- ECE 209 - Fundamentals of Electric Circuits Credits: 3
- MAT 258 - Introduction to Differential Equations with Linear Algebra Credits: 4
- MEE 231 - Thermodynamics II Credits: 3
- MEE 270 - Applied Mechanics: Dynamics Credits: 3
- Basic Science Elective Credits: 4 (Footnote 4)

Third Year - First Semester

- STS 332 - Statistics for Engineers Credits: 3
- MEE 360 - Fluid Mechanics Credits: 3
- MEE 370 - Modeling, Analysis and Control of Mechanical Systems Credits: 3
- MEE 380 - Design I Credits: 3
- Human Values and Social Context Elective Credits: 3

Third Year - Second Semester

- ECP 341 - Technical Writing for Mechanical Engineers I Credits: 1
- MEE 320 - Materials Engineering and Science Credits: 3
- MEE 341 - Mechanical Laboratory I Credits: 3
- MEE 381 - Design II Credits: 3
- MEE 456 - Introduction to the Finite Element Method Credits: 3
- MEE 471 - Mechanical Vibrations Credits: 3

Fourth Year - First Semester

- ECP 487 - Technical Writing for Mechanical Engineers II Credits: 1
- MEE 432 - Heat Transfer Credits: 3
- MEE 442 - Mechanical Laboratory II Credits: 2
- MEE 487 - Design III Credits: 4
- Engineering Science Elective Credits: 3 (Footnote 5)
- Mechanical Engineering Design Elective Credits: 3 (Footnote 6)

Fourth Year - Second Semester

- ECP 488 - Technical Writing for Mechanical Engineers III Credits: 1
- MEE 443 - Mechanical Laboratory III Credits: 2
- MEE 488 - Design IV Credits: 4
- MEE Mechanical Engineering Design Elective
- Human Values and Social Context Elective
- Human Values and Social Context Elective

Special Requirements and Footnotes:

¹General education requirements mandate English 101 and two writing intensive courses. ECP 341, ECP 487, and ECP 488 are designated as writing intensive courses within the MEE major. NOTE: MEE 341 must be taken concurrently with ECP 341, MEE 487 must be taken concurrently with ECP 487, and MEE 488 must be taken concurrently with ECP 488.

²Students are assisted by faculty advisors in developing an elective program to meet their individual needs within the University's general education requirements. While most of the general education requirements are automatically met with a mechanical engineering degree, a student is required to select an additional 18 credit hours of electives to meet the "Human Values and Social Context" requirement (including ethics).

³Either one of the following courses are acceptable:

COS 215 - Introduction to Computing Using FORTRAN, Credits: 3

COS 220 - Introduction to C++ Programming, Credits: 3

ECE 177 - Introduction to Programming for Engineers, Credits: 4

⁴Courses that will satisfy the Approved Science Elective are but are not limited to: AST 109/110 (General Astronomy I with Lab), BIO 100 (Basic Biology), BIO 208 (Anatomy and Physiology), BIO 326 (General Entomology), BMB300/305 (General Microbiology with lab), CHY 122/124 (The Molecular basis Of Chemical Change), CHY 132/134 (Applications of Chemistry with Laboratory), ERS 101 (Intro to Geology), ERS 102 (Environmental Geology of Maine), ERS XXX (Geology for Engineers), PHY 223/PHY 236 (Special Relativity/Introductory Quantum Physics).

⁵Acceptable Engineering Science Electives include but are not limited to: MEE 444 (Robot Dynamics and Control), MEE445 (Aeronautics), MEE 446 (Astronautics), MEE 447 (Flight Dynamics and Control), MEE 450 (Intro to Mechanics of Composite Materials), MEE 453 (Experimental Mechanics), MEE 455 (Advanced Strength of Materials) and MEE462 (Fluid Mechanics II)

⁶Acceptable Design Electives include but are not limited to: MEE 433 (Solar-Thermal Engng), MEE 434 (Thermodynamic Design of Engines), MEE 445 (Aeronautics), MEE 446 (Astronautics), MEE 447 (Flight Dynamics and Control), MEE 448 (Fixed Wing Aircraft), MEE483 (Turbomachine Design), MEE484 (Power Plant Design and Engineering), either MEE485 (Heating and Ventilation System Design) or MEE 486 (Refrigeration & Air Conditioning Systems Design), and MEE489 (Offshore Floating System Design).

Students may use these courses to broaden their knowledge base or to specialize in areas like engineering design, dynamic systems control, smart materials and structures, computer software, CAD/CAM and robotics, biomedical engineering, computer graphics, energy, cultural diversity, ethics and artistic and creative works.

Students may pursue an Aerospace concentration by taking three tech electives. Details may be found on the Department Website.

Mechanical Engineering Majors: A grade of C or better is required in MEE 150, MEE 230, MEE 251, and MEE 270 for those courses to be used as prerequisites for other courses.

Fundamentals of Engineering (FE) Examination - Students are recommended (but not required) to take the FE examination in their senior year before graduation.

Mechanical Engineering Technology

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 128

Minimum Cumulative GPA required to graduate: 2.0

Minimum Grade requirements for courses to count toward major: The 4-course math sequence (MAT122, TME152, TME253, TME354) requires a C or better in each class to move on to the next class.

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 462 and MET 463 and MET 464 and MET 465

Contact Information: Prof. Karen Horton, 211 Boardman Hall, (207) 581-2136

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. The specific program educational objectives are to:

- Provide students with a sound knowledge of the fundamental principles of mathematics, science, and mechanical engineering technology.
- 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 technology.
- Provide a well-balanced educational experience that will help the student develop communication and teamwork skills, an appreciation of social values and an understanding of the implications of technology.
- Ensure that courses required for a degree in the program remain technically current and responsive to the changing needs of society.

Program Description

In their first year students learn to create 3D computer models and communicate with 2D drawings. Then they learn to bring drawings to reality in our workshop. Students acquire math and science skills through a structured math sequence and courses in physics and chemistry.

The second and third years 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 issues as well as measure all things mechanical.

In the fourth year 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.

The MET program is accredited by Engineering Technology Accreditation Commission of ABET.

Student Outcomes

Prior to graduation, students are required to demonstrate the following learned capabilities:

- a. an ability to select and apply the knowledge, techniques, skills, and modern tools of the discipline to broadly-defined engineering technology activities
- b. an ability to select and apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied procedures or methodologies
- c. an ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes
- d. an ability to design systems, components, or processes for broadly-defined engineering technology problems appropriate to program educational objectives
- e. an ability to function effectively as a member or leader on a technical team
- f. an ability to identify, analyze, and solve broadly-defined engineering technology problems;
- g. an ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature
- h. an understanding of the need for and an ability to engage in self-directed continuing professional development
- i. an understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity
- j. a knowledge of the impact of engineering technology solutions in a societal and global context
- k. a commitment to quality, timeliness, and continuous improvement.

Computers

Incoming students are required to have a laptop computer. Visit our website for requirements.

Required Courses in Suggested Sequence for the B.S. in Mechanical Engineering Technology

First Year - First Semester

- ENG 101 - College Composition Credits: 3
- MET 100 - Introduction to Mechanical Engineering Technology Credits: 2
- MET 121 - Technical Drawing Credits: 3
- PHY 107 - Technical Physics I Credits: 4
- MAT 122 - Pre-Calculus Credits: 4

First Year - Second Semester

- MET 107 - Machine Tool Laboratory I Credits: 3
- MET 126 - Machine Drawing Credits: 3
- MET 150 - Statics Credits: 3
- PHY 108 - Technical Physics II Credits: 4
- TME 152 - Introductory Calculus for Engineering Technology Credits: 3

Second Year - First Semester

- EET 330 - Electrical Applications Credits: 4
- MET 219 - Strength of Materials Credits: 4
- MET 233 - Thermal Science Credits: 3
- MET 270 - Manufacturing Technology Credits: 3
- TME 253 - Applied Calculus for Engineering Technology Credits: 4

Second Year - Second Semester

- CMJ 103 - Fundamentals of Public Communication Credits: 3 ¹
- COS 120 - Introduction to Programming I Credits: 3
- MET 213 - Introduction to CAM Credits: 2
- MET 234 - Mechanical Technology Laboratory I Credits: 3
- MET 236 - Thermal Applications Credits: 3
- Free Elective (Please take WEL 161, Welding from EMCC) Credits:1

Third Year - First Semester

- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- ENG 317 - Business and Technical Writing Credits: 3
- MET 312 - Machine Tool Processing II Credits: 3
- MET 317 - Dynamics Credits: 4
- MET Laboratory-based Technical Elective² Credits: 3

Third Year - Second Semester

- MET 325 - Fluid Flow Technology Credits: 3
- MET 355 - Engineering Materials Credits: 3
- TME 354 - Ordinary Differential Equations With Engineering Applications Credits: 3
- MET Technical Elective² Credits: 3
- Cultural Diversity and International Perspectives Elective¹ Credits: 3

Fourth Year - First Semester

- MET 462 - Design I Credits: 3
- MET 464 - Senior Design Project I Credits: 2
- MET 484 - Engineering Economics Credits: 3
- Population and the Environment Elective¹ Credits: 3
- Western Cultural Tradition Elective¹ Credits: 3
- MET Technical Elective² Credits: 3

Fourth Year - Second Semester

- MET 463 - Design II Credits: 3
- MET 465 - Senior Design Project II Credits: 2
- Artistic and Creative Expression Elective¹ Credits: 3
- Ethics Elective¹ Credits: 3
- Technical Elective Credits: 3

Student must see their advisor for approval of all electives.

¹These 6 courses provide the required distribution of 18 General Education credits so long as the Ethics Elective also satisfies one of the 5 General Education sub-categories. These 6 courses do not have to be taken in the semesters or order shown.

²Three technical electives must be chosen from a list of approved Mechanical Engineering Technology or Electrical Engineering Technology courses, one of which must include a laboratory component. General Education and Technical Elective course lists are available in 119 Boardman Hall.

Pulp and Paper Technology

Please note: This major is currently suspended for potential elimination and is not accepting new students. Students currently in this major should refer to the catalog in effect when they entered the program.

Survey Engineering Technology

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 126

Minimum Cumulative GPA required to graduate: 2.0

Minimum Grade requirements for courses to count toward major: The three course math sequence (MAT122, TME152, TME253) requires a "C" or better in each class to move to the next class.

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

Contact Information: Prof. Raymond Hintz, 125 Boardman Hall; (207)581-2189; raymond.hintz@umit.maine.edu

The Survey Engineering Technology program trains individuals to enter a career in professional surveying. The program is designed to provide a graduate with sufficient skills to enter surveying practice and succeed.

The Survey Engineering Technology program provides quality instruction in surveying and engineering topics blended with business and communications. The objective of the program is fulfilled by providing students with a foundation in mathematics, science, communications, social science, and humanities; coupled with topics in plane surveying, construction surveying,

photogrammetry, remote sensing, boundary law, civil engineering technology, cadastral surveying, global positioning systems, land development design, and geographic information systems. The specific program educational objectives are to prepare graduates to:

- Demonstrate a practical understanding of skills in mathematics, basic physical sciences, business, surveying, and engineering sufficient to pass professional registration exams.
- 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.
- Be able to apply design skills sufficient to meet employer and client expectations in the areas of land development and survey operations planning.
- Conduct themselves ethically and professionally and exhibit personal integrity and responsibility in surveying practice.
- 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.
- 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.
- 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.
- 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 126 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/CET courses. The SVT program is accredited by Engineering Technology Accreditation Commission of ABET for more information see their website.

The recommended sequence of the four-year curriculum is outlined below. Copies can be obtained in the School of Engineering Technology office.

Student Outcomes

Prior to graduation, students are required to demonstrate the following learned capabilities:

- a. an ability to select and apply the knowledge, techniques, skills, and modern tools of the discipline to broadly-defined engineering technology activities
- b. an ability to select and apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied procedures or methodologies
- c. an ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes
- d. an ability to design systems, components, or processes for broadly-defined engineering technology problems appropriate to program educational objectives
- e. an ability to function effectively as a member or leader on a technical team

- f. an ability to identify, analyze, and solve broadly-defined engineering technology problems
- g. an ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature
- h. an understanding of the need for and an ability to engage in self-directed continuing professional development
- i. an understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity
- j. a knowledge of the impact of engineering technology solutions in a societal and global context
- k. a commitment to quality, timeliness, and continuous improvement.

Computers

Incoming students are required to have a laptop computer. Visit our website for recommended configuration details.

Special Option for foreign students receiving a BS in Surveying Engineering Technology (SVT)

The courses,

- SVT 221 Boundary Surveying 3 cr.,
 - SVT 322 Preparing Effective Property Descriptions 1 cr.,
 - SVT 329 Site Planning and Subdivision Design 1 cr.,
 - SVT 418 Fundamentals of Surveying Exam Overview 1 cr.,
 - Fundamentals of Surveying Exam 0 cr. required for graduation, are preparation for licensure as a land surveyor in the United States and may not apply to a foreign student who plans on surveying outside of the United States. Therefore it is possible for a foreign student to substitute for the course from the following list. The total number of credits taken from this list must equal or exceed 6 credits. Note these courses are also program electives but in this case cannot be counted towards that total if substituting for the above 6 credits.
 - CET 413 Static & Strengths of Materials 4 cr.
 - CET 414 Structural Design 4 cr.
 - CIE 110/11 Materials & Materials Lab 4 cr.
 - EET 111 Circuit Analysis I 4 cr.
 - EET 330 Electrical Applications 4 cr.
 - MET 433 Thermodynamics 3 cr.
 - any SIE course (adding to Geographic Information Systems knowledge)
- Obviously a foreign student can choose the present curriculum taken by U.S. students. These substitutions must be approved by the SVT program coordinator before they are taken.

Suggested Curriculum for the B.S. in Surveying Engineering Technology

First Year - First Semester

- CMJ 103 - Fundamentals of Public Communication Credits: 3
- COS 103 - Introduction to Spreadsheets Credits: 1
- MAT 122 - Pre-Calculus Credits: 4
- PHY 107 - Technical Physics I Credits: 4

- SVT 100 - Introduction to Surveying Technology Credits: 1
- SVT 110 - Instrumentation and Data Collectors Credits: 1
- SVT 121 - AutoCAD for Surveyors I Credits: 3

First Year - Second Semester

- CET 101 - Plane Surveying Credits: 3
(See Footnote 3)
- ENG 101 - College Composition Credits: 3
- PHY 108 - Technical Physics II Credits: 4
- TME 152 - Introductory Calculus for Engineering Technology Credits: 3

Second Year - First Semester

- CET 202 - Construction Surveying Credits: 3
- STS 215 - Introduction to Statistics for Business and Economics Credits: 3
or
- STS 232 - Principles of Statistical Inference Credits: 3
- SVT 122 - AutoCAD for Surveyors II Credits: 3
See Footnote 5
- TME 253 - Applied Calculus for Engineering Technology Credits: 4
- Artistic and Creative Expression Elective Credits: 3
(See Footnote 2)
- Program Elective Credits: 3

Second Year - Second Semester

- CET 332 - Civil Infrastructure Credits: 3
- ENG 212 - Persuasive and Analytical Writing Credits: 3
(See Footnote 4)
- SVT 201 - Adjustment Computations Credits: 3
- SVT 221 - Boundary Law Credits: 3
(See Footnote 5)
- SVT 331 - Photogrammetry Credits: 3

Third Year - First Semester

- BUA 201 - Principles of Financial Accounting Credits: 3
- ENG 317 - Business and Technical Writing Credits: 3
- SVT 322 - Preparing Effective Property Descriptions Credits: 1
SVT Majors must take the in class section
- SVT 329 - Site Planning and Subdivision Design Credits: 1
- SVT 341 - Advanced Surveying Credits: 3

- Law or Environmental Elective (BUA 220 or CET 451) Credits: 3
- Population and the Environment Elective Credits: 3
(See Footnote 2)

Third Year - Second Semester

- Advanced Communication Elective Credits: 3
(See Footnote 6)
- ECO 120 - Principles of Microeconomics Credits: 3
or
- ECO 121 - Principles of Macroeconomics Credits: 3
- SVT 352 - Practical Field Operations Credits: 3
- Cultural Diversity Elective Credits: 3
(See Footnote 2)
- Program Elective Credits:3
(See Footnote 1)

Fourth Year - First Semester

- MET 484 - Engineering Economics Credits: 3
- SVT 418 - Fundamentals of Surveying Exam Overview Credits: 1
- SVT 437 - Practical GPS Credits: 3
- SVT 475 - Small Business Management Credits: 3
- Program Elective Credits: 3
(See Footnote 1)
- Program Elective Credits: 3
(See Footnote 1)

Fourth Year - Second Semester

- SFR 400 - Applied Geographic Information Systems Credits: 4
or
- ECO 473 - Economic and Policy Applications of GIS Credits: 3
- SVT 490 - Surveying Capstone Credits: 3
- Program Elective Credits: 3
(See Footnote 1)
- Program Elective Credits: 4
(See Footnote 1)
- Ethics Elective Credits: 1
(See Footnote 1)
- Fundamentals Surveying Exam (passing not required) Credits: 0

Students must see their advisor for approval of all electives.

¹Lists of approved courses that meet the General Education requirements and Program Electives are available in 119 Boardman Hall.

²General Education Requirement Electives do not have to be taken in the order shown. One of the Human Values/Social Context electives must fulfill the Ethics requirement. List of approved courses that meet the General Education requirements are available in 119 Boardman Hall.

³May substitute SFR 208 - Geomatics, Coordinate Geometry, and GPS with permission of advisor.

⁴ENG 417, ENG 418, and ENG 496 can be substituted for ENG 212 - Persuasive and Analytical Writing - only with advisor approval.

⁵SVT 221 fulfills Western Cultural Traditions Elective.

⁶Communication classes such as CMJ201, CMJ202, CMJ236, CMJ257, CMJ324, CMJ345, CMJ347, CMJ367 may fulfill the Advanced Communication elective.

⁷Students can switch CET202 and Eng212

Minor

Minor: Biomedical Engineering

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: Mohsen Shahinpoor, Professor and Chair, 219 Boardman Hall, 207-581-2143, mohsen.shahinpoor@maine.edu

The curriculum seeks to introduce engineering students to the growing applications of engineering in the field of biomedical engineering. This minor is important for students who want to get involved with applications of engineering tools to medicine and surgery and especially in connection with robotic surgery and medical implants. The future job prospects look great in connection with these disciplines.

Core Courses (9-11 credit hours)

- BIO 208 - Anatomy and Physiology Credits: 4
- INT 121 - (CHB) Introduction to Biomedical Engineering Credits: 1
- INT 421 - (CHB) Directed Study in Biomedical Engineering Credits: 1-3
- PHI 235 - Biomedical Ethics Credits: 3

Lecture/Laboratory Course Pairs

The student must select one of the following lecture/laboratory course pairs (4-5 cr.):

- BMB 221 - Organic Chemistry Credits: 3
- BMB 222 - Laboratory in Organic Chemistry Credits: 1
or
- BMB 300 - General Microbiology Credits: 3
- BMB 305 - General Microbiology Laboratory Credits: 2
or
- BMB 322 - Biochemistry Credits: 3
- BMB 323 - Biochemistry Laboratory Credits: 2
or
- CHY 251 - Organic Chemistry I Credits: 3
- CHY 253 - Organic Chemistry Laboratory I Credits: 2

Optional Courses (minimum 6 credit hours)

- BLE 497 - Special Problems in Bioengineering Credits: Ar
- CHE 498 - Special Topics in Chemical Engineering Credits: 1-3
- ECE 314 - Signals and Systems Credits: 3
(See Footnote 2)
- ECE 343 - Electronics II Credits: 4
- ECE 417 - Introduction to Robotics Credits: 3
- ECE 465 - Introduction to Sensors Credits: 3
- MEE 270 - Applied Mechanics: Dynamics Credits: 3
(See Footnote 1 and 3)
- MEE 320 - Materials Engineering and Science Credits: 3
(See Footnote 3)
- MEE 453 - Experimental Mechanics Credits: 3
- MEE 471 - Mechanical Vibrations Credits: 3
- PHY 447 - Molecular Biophysics Credits: 3 - 4

¹cannot be used for minor by students in BLE program

²cannot be used for minor by students in ECE program

³cannot be used for minor by students in MEE program

Minor: Computer Engineering

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 and Chair, 101 Barrows Hall, (207) 581 -2223, donald.hummels@maine.edu

PLEASE NOTE: This minor is not available to Electrical Engineering and/or Computer Engineering majors.

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 consists of 13 credit hours of required courses and a minimum of six credit hours of ECElective courses.

Core Courses (13 credit hours)

- ECE 177 - Introduction to Programming for Engineers Credits: 4
- ECE 271 - Microcomputer Architecture and Applications Credits: 3
- ECE 275 - Sequential Logic Systems Credits: 3
- ECE 331 - Introduction to Unix Systems Administration Credits: 3

Examples of Optional Courses: (Six credit hours minimum)

Generally any Computer focused 300 or 400 level ECE course counts as an optional course.

- ECE 417 - Introduction to Robotics Credits: 3
- ECE 471 - Embedded Systems Credits: 3
- ECE 473 - Computer Architecture and Organization Credits: 4
- ECE 477 - Hardware Applications Using C Credits: 3
- ECE 478 - Industrial Computer Control Credits: 3
- ECE 486 - Digital Signal Processing Credits: 4
- ECE 498 - Selected Topics in Electrical and Computer Engineering Credits: 1-3

Note for Computer Science Majors

For students majoring in Computer Science:

- ECE 177 can be substituted by COS 225 (Introduction to Object-Oriented Design, Programming and Data Structures) Credits: 4
- ECE 271 can be substituted by COS 235 (Computer Architecture) Credits: 4
- ECE 331 can be substituted by COS 331 (Operating Systems) Credits: 3

Minor: Construction Engineering Technology

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-.

Contact Information: Philip Dunn, Coordinator, Construction Engineering Technology, 132 Boardman Hall, 207-581-2326, philip.dunn@umit.maine.edu

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 bidding 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.

Core courses: 6 Credits

- CET 360 - Preconstruction Services Credits: 3
- CET 462 - Construction Planning and Scheduling Credits: 3

Examples of Optional Courses: Minimum of 12 Credits

- CET 101 - Plane Surveying Credits: 3
- CET 202 - Construction Surveying Credits: 3
- CET 221 - Construction Methods Credits: 3
- CET 356 - Construction Project Administration Credits: 3
- CET 451 - Construction Law Credits: 3

Minor: Electrical Engineering

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 22

GPA requirements to earn minor: 2.0

Minimum Grade requirements for courses to count toward minor: No grades below C-.

Contact Information: Donald Hummels, Chair and Castle Professor, 101 Barrows Hall, 207-581-2223, donald.hummels@maine.edu

PLEASE NOTE: This minor is not available to Electrical Engineering and/or Computer Engineering majors.

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 consists of 15 credit hours of required courses and a minimum of six credit hours of ECElective courses.

Core Courses: (16 credit hours)

- ECE 177 - Introduction to Programming for Engineers Credits: 4
- ECE 210 - Electric Circuits Credits: 4
- ECE 214 - Electrical Circuits Laboratory Credits: 2
- ECE 275 - Sequential Logic Systems Credits: 3
- ECE 314 - Signals and Systems Credits: 3

Examples of Optional Courses: (6 credit hours minimum)

Generally, any 300 or 400 level ECE course can be used as an optional course

- ECE 316 - Random Signal Analysis Credits: 3
- ECE 342 - Electronics I Credits: 4
- ECE 343 - Electronics II Credits: 4
- ECE 351 - Fields and Waves Credits: 3
- ECE 417 - Introduction to Robotics Credits: 3
- ECE 427 - Electric Power Systems Credits: 3
- ECE 453 - Microwave Engineering Credits: 4
- ECE 462 - Introduction to Basic Semiconductor Devices and Associated Circuit Models Credits: 3
- ECE 464 - Microelectronics Science and Engineering Credits: 3
- ECE 450 - Power Electronics Credits: 3
- ECE 451 - Power Electronics Lab Credits: 1
- ECE 455 - Electric Drives Credits: 3
- ECE 456 - Electric Drives Lab Credits: 1
- ECE 465 - Introduction to Sensors Credits: 3

Minor: Electrical Engineering Technology

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: Judith Pearse, Coordinator, Electrical Engineering Technology, 7 Barrows Hall, 207-581-2346, jude.pearse@umit.maine.edu

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.

Required Courses (8 credit hours)

- EET 111 - Circuit Analysis I Credits: 4
or
- ECE 209 - Fundamentals of Electric Circuits Credits: 3
or
- EET 330 - Electrical Applications Credits: 4
- EET 112 - Circuit Analysis II Credits: 4

Recommended Courses (4-8 credit hours)

Although not required, it is recommended that students take one or both of the following:

- EET 276 - Programmable Logic Controllers Credits: 4
- EET 321 - Electro-Mechanical Energy Conversion Credits: 4

Elective Courses (3-11 credit hours)

Additionally, students may take any of the following electives to fulfill the 19 credit hour requirement:

- EET 174 - Introduction to Microcomputers Credits: 4
- EET 241 - Analog Circuit Fundamentals Credits: 4
- EET 242 - Advanced Analog Circuit Design Credits: 4
- EET 386 - Project Management Credits: 3

Minor: Engineering Entrepreneurial

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-.

Contact Information: Judith Pearse, Coordinator, Electrical Engineering Technology, 7 Barrows Hall, 207-581-2346, jude.pearse@umit.maine.edu

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.

Required Courses:

With permission of the administrator of the minor, a student can substitute other courses for the following courses.

- BUA 201 - Principles of Financial Accounting Credits: 3
- BUA 220 - The Legal Environment of Business Credits: 3
(See Footnote 1)
- ECO 120 - Principles of Microeconomics Credits: 3
or
- ECO 121 - Principles of Macroeconomics Credits: 3
- EET 386 - Project Management Credits: 3
(See Footnote 2)
- MET 484 - Engineering Economics Credits: 3
(See Footnote 3)
- SVT 475 - Small Business Management Credits: 3

¹CET 451 - Construction Law Credits: 3 has been approved by BUA to substitute for BUA 220

²Students may substitute CET 462 - Construction Planning and Scheduling Credits: 3 or CIE 413 - Project Management Credits: 2 (plus one credit), for this course

³Students may substitute CIE 412 - Engineering Decisions Credits: 2 plus CIE 410 - Engineering Ethics Credits: 1

Minor: Engineering Leadership and Management

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-.

Contact Information: Momamad T. Musavi, Associate Dean, College of Engineering, 205 AMC, 207-581-2218, musavi@maine.edu

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.

Required courses

- GEE 230 - Introduction to Engineering Leadership and Management Credits: 1
- GEE 430 - Engineering Leadership and Management Internship Credits: 3

Select courses from each of the following categories:

Communication - Choose 1

- CMJ 257 - Business and Professional Communication Credits: 3
- CMJ 345 - SL: Small Group Communication Credits: 3

Decision Making - Choose 1

- BEN 477 - Elements of Bioengineering Design Credits: 3
- BUA 325 - Principles of Management and Organization Credits: 3
- CET 458 - SL: Management of Construction Credits: 3
- CHE 350 - Statistical Process Control and Analysis Credits: 3
- CHE 477 - Elements of Chemical Engineering Design Credits: 3
- CIE 412 - Engineering Decisions Credits: 2
- CIE 413 - Project Management Credits: 2
- CMJ 347 - Argument and Critical Thinking Credits: 3
- EET 386 - Project Management Credits: 3
- MET 484 - Engineering Economics Credits: 3

Leadership - Choose 2

- NAV 304 - Leadership and Ethics Credits: 3
- PSY 251 - Psychology of Motivation Credits: 3

Professionalism and Ethics - Choose 1

- PHI 232 - Environmental Ethics Credits: 3
- PHI 233 - Business Ethics Credits: 3

Minor: Environmental Engineering

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-.

Contact Information: Dr. Hemant Pendse, Chair, Chemical and Biological Engineering, 207-581-2277, hermant.pendse@maine.edu

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.

Prerequisite Courses (8 credits)

- CHY 121 - Introduction to Chemistry Credits: 3
with
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
with
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1

Core Courses (13 credits)

- CHE 200 - Fundamentals of Process Engineering Credits: 4
- CHY 251 - Organic Chemistry I Credits: 3
- CIE 331 - Fundamentals of Environmental Engineering Credits: 3
- CIE 350 - Hydraulics Credits: 3
- or
- MEE 360 - Fluid Mechanics Credits: 3
- or
- CHE 360 - Elements of Chemical Engineering I Credits: 4

Elective Courses (12 credits minimum)

- CHE 368 - Kinetics and Reactor Design Credits: 3
- CIE 430 - Water Treatment Credits: 4
- CIE 431 - Pollutant Fate and Transport Credits: 4
- CIE 434 - Wastewater Process Design Credits: 4
- CIE 439 - Solid Waste and Air Pollution Credits: 3
- CIE 450 - Open Channel Hydraulics Credits: 3
- CIE 455 - Hydrology Credits: 3
- CIE 456 - Groundwater Hydrology and Hydraulics Credits: 3
- ECO 377 - Introduction to Natural Resource Economics and Policy Credits: 3
- ECO 381 - Sustainable Development Principles and Policy Credits: 3
- EES 324 - Environmental Protection Law and Policy Credits: 3

Minor: Mechanical Engineering

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-.

Contact Information: Mohsen Shahinpoor, Chair, 119 Boardman Hall, 207-581-2143, mohsen.shahinpoor@maine.edu

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.

Core Courses: (15 credit hours)

- MEE 150 - Applied Mechanics: Statics Credits: 3
- MEE 230 - Thermodynamics I Credits: 3
- MEE 251 - Strength of Materials Credits: 3
- MEE 270 - Applied Mechanics: Dynamics Credits: 3
- MEE 360 - Fluid Mechanics Credits: 3

Examples of Optional Courses: (6 credit hours minimum)

- MEE 320 - Materials Engineering and Science Credits: 3
- MEE 370 - Modeling, Analysis and Control of Mechanical Systems Credits: 3
- MEE 432 - Heat Transfer Credits: 3
- MEE 433 - Solar-Thermal Engineering Credits: 3
- MEE 445 - Aeronautics Credits: 3
- MEE 446 - Astronautics Credits: 3
- MEE 450 - Mechanics of Composite Materials Credits: 3
- MEE 455 - Advanced Strength of Materials Credits: 3
- MEE 456 - Introduction to the Finite Element Method Credits: 3
- MEE 462 - Fluid Mechanics II Credits: 3
- MEE 471 - Mechanical Vibrations Credits: 3
- MEE 483 - Turbomachine Design Credits: 3
- MEE 484 - Power Plant Design and Engineering Credits: 3

Minor: Mechanical Engineering Technology

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 more than one grade less than a C-

Contact Information: S. David Dvorak, Machine Tool Lab, Room 114, 207-581-2338, david.dvorak@umit.maine.edu

Core Courses

- MET 150 - Statics Credits: 3
or
- MEE 150 - Applied Mechanics: Statics Credits: 3

- MET 219 - Strength of Materials Credits: 4
or
- MEE 251 - Strength of Materials Credits: 3

- MET 317 - Dynamics Credits: 4
or
- MEE 270 - Applied Mechanics: Dynamics Credits: 3

- MET 433 - Thermodynamics Credits: 3
Note:
- MET 233 - Thermal Science Credits: 3
and
- MET 236 - Thermal Applications Credits: 3 (both required)
or
- MEE 230 - Thermodynamics I Credits: 3 can be taken in place of MET 433
- METXXX Credits: 3
- METXXX Credits: 3

Electives (6 credits)

- MET 107 - Machine Tool Laboratory I Credits: 3
- MET 121 - Technical Drawing Credits: 3
- MET 126 - Machine Drawing Credits: 3
- MET 213 - Introduction to CAM Credits: 2
- MET 234 - Mechanical Technology Laboratory I Credits: 3
- MET 270 - Manufacturing Technology Credits: 3
- MET 313 - CAD / CAM Projects Credits: 3
- MET 320 - Selected Topics in Mechanical Engineering Technology II Credits: 1-3
- MET 321 - Industrial Vibrations Credits: 3

- MET 325 - Fluid Flow Technology Credits: 3
or
- MEE 360 - Fluid Mechanics Credits: 3

- MET 327 - Automotive Engineering Credits: 3
- MET 355 - Engineering Materials Credits: 3
- MET 391 - Heating, Ventilating and Air Conditioning Credits: 3

- MET 394 - Mechanical Engineering Technology Practice Credits: 3
- MET 427 - Energy Management Credits: 3
- MET 462 - Design I Credits: 3
- MET 463 - Design II Credits: 3
- MET 475 - Fuel Cell Science and Technology Credits: 3

The School of Engineering Technology must approve the minor of any substitutions other than those listed above. To elect a minor, the student should complete a Declaration of Minor form available in Room 119 Boardman Hall or your department office.

Minor: Military Science and Leadership

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-.

Contact Information: Paulette Ferland, Administrative Associate, 114 Armory, 207-581-1121, UMArmyROTC@umit.maine.edu

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 LDAC (Leadership Development and Assessment Course). Students successfully completing this minor will have the opportunity to 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.

Required Courses:

- MSL 105 - Leadership and Physical Fitness Credits: 1
- MSL 301 - Adaptive Team Leadership Credits: 3
- MSL 302 - Applied Team Leadership Credits: 3
- MSL 350 - The Evolution of American Warfare Credits: 3
- or
- HTY 278 - American Military History Credits: 3
- or
- American Military History course approved by Professor of Military Science Credits: 3
- MSL 401 - Mission Command and the Army Profession Credits: 4

- MSL 402 - Mission Command and the Company Grade Officer Credits: 4

Minor: Nanotechnology

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-.

Contact Information: Dr. Rosemary Smith, Professor, Electrical & Computer Engineering

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.

Core Courses (9 credit hours)

- CHY 477 - Nanoscience Credits: 3
or
- ECE 457 - Nanoscience Credits: 3

- CHE 420 - Colloid Technology Credits: 3
or
- PHY 236 - Introductory Quantum Physics Credits: 3

- HON 398 - Honors Independent Research Credits: 1-3
or
- INT 398 - (BEN, CHE, CHY, ECE) Undergraduate Research Participation Credits: 1-3

The undergraduate research must pertain to nanoscale science or engineering. A research proposal must be submitted to the academic advisor for the minor for review and be approved for acceptance of fulfillment of this requirement for the minor. A student may choose either PHY236 or CHE 420 to fulfill the core course requirements for this minor. The choice will likely depend on the student's major, research project and/or interests. PHY 236 is excellent preparation for all students who are interested in nanotechnology, but is especially relevant for those who are interested in nanoscale electronic devices and materials (e.g. ECE and Engr Phys majors). Students who are interested in nanoparticle synthesis and properties (e.g. BLE and CHE majors) are recommended to take CHE 420. These courses are also on the list of elective courses, so that a student may take both

courses, applying one towards fulfilling the core course requirements and the other towards fulfilling the elective course requirements.

Elective Courses: 3 courses

(9 credit hours selected from the courses below:)

As described above, students must take either PHY 236 or CHE 420 as a core course for the minor. At least three courses, in addition to either PHY 236 or CHE 420 must be taken from the list below.

- BEN 402 - Biomaterials and the Cellular Interface Credits: 3
- CHE 410 - Advanced Materials Credits: 3
- CHE 420 - Colloid Technology Credits: 3
- CHE 460 - Biochemical Engineering Credits: 3
- ECE 462 - Introduction to Basic Semiconductor Devices and Associated Circuit Models Credits: 3
- ECE 464 - Microelectronics Science and Engineering Credits: 3
- EES 324 - Environmental Protection Law and Policy Credits: 3
- GEE 298 - Introduction to Nanoscale Science and Engineering Credits: 3
- GEE 398 - Special Topics in Engineering Credits: Ar
- MEE 320 - Materials Engineering and Science Credits: 3
- MEE 450 - Mechanics of Composite Materials Credits: 3
- PHY 236 - Introductory Quantum Physics Credits: 3
- PHY 447 - Molecular Biophysics Credits: 3 - 4
- PHY 469 - Quantum and Atomic Physics Credits: 3

Other Conditions

Students may petition to apply Engineering Practice (e.g. ECE 394 or MEE 394) or Engineering Physics Practice (PHY 495) credit in place of undergraduate research credit, if the work experience involves Nanotechnology. The academic advisors for the minor will review the student's petition, which will include a description of the work experience and a letter from his/her employer, and determine if it qualifies.

Minor: Naval Science

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-.

Contact Information: Joshua Firkin, Assistant Professor of Naval Science, 378 College Ave, 207-581-1551, nrotc@mma.edu

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 Comissioned 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.

Core Courses

- NAV 101 - Introduction to Naval Science Credits: 2
- NAV 102 - Naval Ships Systems I (Engineering) Credits: 3
- NAV 201 - Naval Ships Systems II (Weapons) Credits: 3
- NAV 202 - Sea Power and Maritime Affairs Credits: 3
- NAV 303 - Leadership and Management Credits: 3
- NAV 304 - Leadership and Ethics Credits: 3

Additional Courses

Choose one of the following combinations: (6 credits)

- NAV 301 - Navigation and Naval Operations I Credits: 3
with
- NAV 302 - Navigation and Naval Operations II Credits: 3
OR
- NAV 310 - Evolution of Warfare Credits: 3
with
- NAV 410 - Amphibious Warfare Credits: 3

Minor: Ocean and Marine Engineering

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

Contact Information: Dr. Krish Thiagarajan, Professor and Alston D. and Ada Lee Correll Presidential Chair in Energy, 229 Boardman Hall, 207-581-2167, krish.thiagarajan@maine.edu

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.

Required Core Courses (15 credits)

- CIE 350 - Hydraulics Credits: 3
OR
- MEE 360 - Fluid Mechanics Credits: 3
OR
- MET 325 - Fluid Flow Technology Credits: 3

- CIE 394 - Civil Engineering Practice Credits: 1-3
OR
- MEE 394 - Mechanical Engineering Practice Credits: 3
OR
- MET 394 - Mechanical Engineering Technology Practice Credits: 3

- CIE 498 - Selected Studies in Civil Engineering Credits: 1-3
Topic: Coastal Engineering
or
Topic: Offshore Geotechnics and Foundation design
- MEE 489 - Offshore Floating System Design Credits: 3
- SMS 302 - Oceanography Credits: 3

Elective Courses (at least 6 credits)

- CIE 365 - Soil Mechanics Credits: 3
- CIE 460 - Geotechnical Engineering Credits: 3
- CIE 480 - Wind Energy Engineering Credits: 3
OR
- MEE 480 - Wind Energy Engineering Credits: 3

- MEE 450 - Mechanics of Composite Materials Credits: 3
- MEE 456 - Introduction to the Finite Element Method Credits: 3
- MEE 471 - Mechanical Vibrations Credits: 3
- MET 321 - Industrial Vibrations Credits: 3
- NA 372 Naval Architecture I (Maine Maritime Academy) Credits: 3
- NA 430 Naval Architecture II (Maine Maritime Academy) Credits: 3

Professional Practice

Students earn credits for CIE 394, MEE 394 and MET 394 by completing a summer internship. University of Maine has entered into an education partnership agreement with the US Department of Navy, which entitles students to preferentially apply for internships through their website. Students may alternatively find internships at the Advanced Structures and Composites Center, or with companies in Maine and elsewhere.

Minor: Power

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, Chair and Catle Professor, 101 Barrows Hall, 207-581 -2223,
donald.hummels@maine.edu

PLEASE NOTE: This minor is not available to Electrical Engineering and/or Computer Engineering majors.

The objective of Power minor is to educate students about generation and delivery of electric energy. There are four core sources from which the first two provide fundamental knowledge in understanding electrical circuits and networks and the last two deal with generation and conversion, transmission and distribution, design and analysis of power and energy systems. The optional courses 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.

Core courses: 9 or 10 Credits

- ECE 209 - Fundamentals of Electric Circuits Credits: 3
or
- ECE 210 - Electric Circuits Credits: 4
- ECE 427 - Electric Power Systems Credits: 3
- ECE 450 - Power Electronics Credits: 3
or
- ECE 455 - Electric Drives Credits: 3

Examples of Optional Courses: Minimum of 9 Credits using ECE 210 or Minimum of 10 Credits using ECE 209

- ECE 314 - Signals and Systems Credits: 3
- ECE 414 - Feedback Control Systems Credits: 3
- ECE 450 - Power Electronics Credits: 3
(If not used as a required)
- ECE 451 - Power Electronics Lab Credits: 1
- ECE 455 - Electric Drives Credits: 3
(If not used as a required)

- ECE 456 - Electric Drives Lab Credits: 1

Minor: Process Engineering

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.

Contact Information: Hemant Pendse, Chair, 115 Jenness Hall, 207-581-2290, pendse@maine.edu

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.

Required Courses:

- CHE 200 - Fundamentals of Process Engineering Credits: 4
- CHE 352 - Process Control Credits: 3
- CHE 360 - Elements of Chemical Engineering I Credits: 4
- CHE 362 - Elements of Chemical Engineering II Credits: 4
- CHE 368 - Kinetics and Reactor Design Credits: 3
- CHE 385 - Chemical Engineering Thermodynamics I Credits: 3
- or
- CHE 386 - Chemical Engineering Thermodynamics II Credits: 3

Minor: Renewable Energy Engineering

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: David Dvorak, Coordinator, Professor of Mechanical Engineering Technology, 119 Boardman Hall

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.

Required Core Course (9 credits)

- ECO 405 - Sustainable Energy Economics & Policy Credits: 3
- ECE 498 - Selected Topics in Electrical and Computer Engineering Credits: 1-3
Topic: Electrical Circuits, Power and Machinery
(NOTE: Students may substitute ECE 498 with either EET 321 or ECE 427)
- INT 489 - Advanced Topics in Interdisciplinary Studies Credits: 3
Topic: Introduction to Renewable Energy Engineering
(NOTE: Students may substitute INT 489 with EET 460, Renewable Energy and Electricity Production, and one of the following: MET 236, MEE 230, MET 433 or CHE 385)

Elective Courses (at least 9 credits)

- CHE 461 - Combustion and Fuel Processing Credits: 3
- CHE 498 - Special Topics in Chemical Engineering Credits: 1-3
Topic: Lignocellulosic Biorefinery
- CIE 455 - Hydrology Credits: 3
- ECE 323 - Electric Power Conversion Credits: 3
- ECE 427 - Electric Power Systems Credits: 3
or
- EET 323 - Power Systems Analysis Credits: 4
- ECE 498 - Selected Topics in Electrical and Computer Engineering Credits: 1-3
Topic: Photovoltaic Devices and Systems
- EET 498 - Selected Topics in Electrical Engineering Technology Credits: 1-4
Topic: Renewable Energy and Electricity Production
- MEE 433 - Solar-Thermal Engineering Credits: 3
- MEE 480 - Wind Energy Engineering Credits: 3
- MEE 486 - Refrigeration and Air Conditioning System Design Credits: 3
or
- MET 391 - Heating, Ventilating and Air Conditioning Credits: 3
- MET 475 - Fuel Cell Science and Technology Credits: 3
or
- MEE 475 - Fuel Cell Science and Technology Credits: 3
- MEE 484 - Power Plant Design and Engineering Credits: 3
- Other courses with permission

Minor: Renewable Energy Science and Technology

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: David Dvorak, Prof. of Mechanical Engineering Technology, 119 Boardman Hall

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.

Core Courses: (9 Credits)

- ECO 405 - Sustainable Energy Economics & Policy Credits: 3
- EET 460 - Renewable Energy and Electricity Production Credits: 3
- SFR 455 - Bioenergy Sources, Systems and Environmental Effects Credits: 3

Elective Courses: (9 credits)

- CHE 461 - Combustion and Fuel Processing Credits: 3
- ECO 180 - Citizens, Energy & Sustainability Credits: 3
- EES 450 - Principles of Environmental Science Credits: 3
- ERS 191 - Energy in the Earth System Credits: 3
- ERS 369 - Energy Resources and Climate Change Credits: 3
- MET 391 - Heating, Ventilating and Air Conditioning Credits: 3
- MEE 475 - Fuel Cell Science and Technology Credits: 3
- or
- MET 475 - Fuel Cell Science and Technology Credits: 3
- Thermodynamics (MEE 230, MET 236, MET 433, CHE 385, or PHY 462)
- Electric Power (EET 321, ECE 427, or ECE 498 Topic: Electrical Circuits, Power, and Machinery)
- Other courses with permission

Minor: Robotics

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-.

Contact Information: Mohsen Shahinpoor, 219A Boardman Hall, (207)581-2143, mohsen.shahinpoor@maine.edu **or** Donald Hummels, Chair and Castle Professor, 101 Barrows Hall, (207)581-2223, donald.hummels@maine.edu

The robotics minor is designed to provide a fundamental understanding of robotic operation and preliminary training in design and use of robots. This minor is intended to equip the students with some fundamental knowledge and information on robotic manipulators, structures, systems and related applications. In particular, statics, kinematics, dynamics and control of robots will be covered in this minor. Robotic systems have wide application in modern technology and manufacturing. The students choosing 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.

Prerequisite Courses: (9-10 credit hours)

- MEE 150 - Applied Mechanics: Statics Credits: 3
- ECE 209 - Fundamentals of Electric Circuits Credits: 3
- or
- ECE 210 - Electric Circuits Credits: 4
- COS 220 - Introduction to C++ Programming Credits: 3
- or
- ECE 177 - Introduction to Programming for Engineers Credits: 4

Core Courses: (9 credit hours)

- MEE 270 - Applied Mechanics: Dynamics Credits: 3
- ECE 417 - Introduction to Robotics Credits: 3
- MEE 444 - Robot Dynamics and Control Credits: 3

Optional Courses: (12 credit hours minimum)

- MEE 370 - Modeling, Analysis and Control of Mechanical Systems Credits: 3
- MEE 380 - Design I Credits: 3
- ECE 414 - Feedback Control Systems Credits: 3
- ECE 478 - Industrial Computer Control Credits: 3

Minor: Survey Engineering Technology

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-.

Contact Information: Ray Hintz, Coordinator, Surveying Engineering Technology, 125 Boardman Hall, 207-581-2189, raymond.hintz@umit.maine.edu

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.

Core Courses: 9 credits

- CET 101 - Plane Surveying Credits: 3
(See Footnote 1)
- CET 202 - Construction Surveying Credits: 3
(See Footnote 2)
- SVT 221 - Boundary Law Credits: 3

¹SFR 208 may be substituted with permission of advisor

²CET 202 is highly recommended, but SVT 341 may be substituted

Electives: 9 credits

- SFR 400 - Applied Geographic Information Systems Credits: 4
- Any SVT Course (excluding SVT 100)

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
Chemistry
Communication
Computer Science
English
French
History
Human Dimensions of Climate Change
Interdisciplinary Legal Studies
International Affairs
Journalism
Latin Major Suspended
Mass Communication
Mathematics
Modern Languages
Music
New Media
Philosophy
Physics
Political Science
Psychology
Romance Languages
Sociology
Spanish
Studio Art
Theater
Women's, Gender, and Sexuality Studies
Bachelor of University Studies CLAS Pathway

Bachelor of Fine Arts in:

Studio Art

Bachelor of Music in:

Music Education
Music Performance

Bachelor of Science in:

Chemistry
Computer Science
Physics

Minors:

Anthropology

Archaeology
Art History
Astronomy
Canadian Studies
Chemistry
Classical Studies
Computer Science
The Constitution and American Law
Creative Writing
Dance
English
Ethics, and Social and Political Philosophy
Film and Video
Folklore
Franco American Studies
French
Geography
German
Graphic Design
History
International Affairs
Jazz Studies
Judaic Studies
Latin
Leadership Studies
Legal Studies
Marxist and Socialist Studies
Mathematics
Medieval and Renaissance Studies
Music
Native American Studies
Philosophy
Physics
Political Science
Political Theory
Professional Languages
Professional Writing
Psychology
Religious Studies
Sociology
Spanish
Statistics
Studio Art
Theatre Technical
Theatre
Women's, Gender, and Sexuality Studies

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 University of Maine (Orono) courses regardless of delivery method (face-to-face, online, ITV, etc).

Please note that some CLAS majors and minors may have more restrictive 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 General Education 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. A minimum cumulative grade point average of 2.0 ("C" average) in the major and overall.
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 72 credits outside of the academic major.
2. All students pursuing a B.A. degree are subject to the following credit limitations:

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.

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. A. Students matriculating effective Fall 2011 must complete an academic minor or a second academic major.

B. Students matriculating before Fall 2011, with no more than a two year break in enrollment, may elect the newer requirement (3A) or meet the former requirement: they must complete nine upper level credits in an area outside the academic major that have not been presented to satisfy a University of Maine General Education requirement in Human Values & Social Contexts, Math and/or Science. Students in an interdisciplinary major should consult with their academic advisor or the college office for guidance. Note: upper level courses must be at the 200 level or above and must have a prerequisite course.

C. Students in a CLAS major who complete the preparatory courses necessary to enter the 5-year MBA program (BUA 201; BUA 202; ECO 120; ECO 121; either BUA 270, BUA 325, or BUA 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 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 Center:

The College of Liberal Arts and Sciences (CLAS) Advising Center opened in August 2012, the beneficiary of PRE-VUE grant

approved by the University of Maine President, Dr. Paul W. Ferguson, and was a joint effort by CLAS and the Student Life.

The Advising Center was established out of a desire to increase student access, connection, satisfaction, and retention in the College of Liberal Arts and Sciences, providing the Center with a mission to address these goals by developing programs and resources for students who are considered "at-risk" (undecided, first-generation, and those in transition between majors and other institutions) and providing support and programming for all CLAS students and faculty advisors. The goal is to create a strong, student-centered advising program focused on student access, connection, satisfaction, and retention, and to enhance the quality of the undergraduate educational experience and student services.

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.

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. Students in the Foundations Program must have a 2.5 GPA if they wish to be accepted after their first semester in Foundations.

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: 3-6 credits from French, German, Spanish, American Sign Language or other language.
- ENGLISH: A minor in a second language is one option for an outside field requirement.
- HISTORY: Three years of a foreign language is one option for an outside field requirement.
- INTERNATIONAL AFFAIRS: Rating of "intermediate" on oral proficiency Interview (OPI). See International Affairs catalog copy for details.
- JOURNALISM: 3-6 credits from French, German, Spanish, American Sign Language or other language.
- MASS COMMUNICATION: 3-6 credits from French, German, Spanish, American Sign Language or other language.
- MUSIC: One year of a foreign language, which can be either the continuation of the language taken in high school or a new language.
- THEATER: One semester of any language course (3 credits minimum).

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 with three or more years of study in high school may opt to attempt credit by examination (competency exam). A standard examination fee of \$125.00 is imposed on all competency exams offered at UMaine. However, students in a degree program and who are beginning their first semester of enrollment at UMaine receive a special, one-time exemption on competency exam fees up to the end of the first two weeks of enrollment. During this time, students may take available competency exams for a nominal administration fee of \$10.00. There is no charge for the placement exam.

The Department of Modern Languages and Classics does not give automatic credit if a student does not continue in the language at UMaine. Credit will be awarded for intermediate language only if a student is enrolled for at least one additional course and passes it with a grade of B- or higher. For example: if a student has tested out of FRE 202 or SPA 204, the student must successfully complete FRE 305 or SPA 305 or an equivalent course in order to receive credit.

Checks should be made payable to The University of Maine, and mailed or delivered to Alan Parks, Director of College Success Programs, 5725 East Annex, Room 118, The University of Maine, Orono, ME 04469-5725.

For further information, please contact the Department of Modern Languages and Classics, 5472 Little Hall, Room 201, The University of Maine, Orono, ME 04469-5742.

The Modern Languages and Classics Department accepts Advanced Placement Examinations in Foreign Languages and Literature for degree credit. See the Advanced Placement Credit table under University Requirements.

Critical Languages Program:

The department of Modern Languages and Classics offers Arabic, Mandarin Chinese, Farsi, Hindi, Irish Gaelic, Italian, Japanese, Korean, Portuguese and Russian under the Critical Languages Program. This program uses a self-instructional method for language learning. The major responsibility belongs to the student, who works with a native speaker tutor. There are three hours of drills a week, in small tutorials, usually 3 to 5 students.

The University of Maine is a member of NASILP (National Association of Self-Instructional Language Programs), a coordinating and consulting entity founded in the 1970's. The method used is loosely based on the one used by the Foreign Service Institute. It is effective because it requires active, committed learning by students. At the early stage of language acquisition, the most important thing is to practice, learn material thoroughly, have accurate linguistic models, and appropriate, adequate materials. The Critical Languages Program has all of these features. For more information, contact the coordinator of the Critical Languages Program, at (207) 581-2078.

The Intensive English Institute:

The Intensive English Institute (IEI) of the University of Maine is part of the College of Liberal Arts and Sciences. Its primary emphasis is on preparing international students and non-native speakers of English for university study at UMaine and other American universities and colleges, or for professional activities where English is the medium of communication.

Intensive English is offered year round. Contract courses are also offered. In addition to a full-time course of study, the IEI offers academic advising, cross-cultural counseling, tutorials and self-study opportunities in a variety of content and skill areas.

The Institute administers the TOEFL every session. Students may also participate in the Conversation Partners Program. The IEI endorses the TESOL Standards for Post secondary Programs and the NAFSA Principles of International Educational Exchange.

The IEI offers a one week TESOL Certificate Program for students wishing to work abroad or simply develop a better understanding of the TESOL profession.

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.

The Open Field:

The Open Field, an undergraduate literary annual, is edited and published by students in the Department of English. *Stolen Island* is an annual edited and published by graduate students in English.

Program Contacts

Anthropology

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gregory.zaro@umit.maine.edu

Art

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Political Science

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School of Performing Arts

Beth Wiemann (Division of Music)

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Women's, Gender and Sexuality Studies
Mazie Hough
101 Fernald Hall
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mazie.hough@umit.maine.edu

Major

Anthropology

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 for ANT 101, 102, 300, 317. A 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

Contact Information: Gregory Zaro, Chair, Associate Professor of Anthropology and Climate Change, 5773 S. Stevens Hall, Room 242 (207) 581-1857, Fax: (207) 581-1823, gregory.zaro@umit.maine.edu

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.

Departmental Notes:

Graduate Programs

The Department of Anthropology cooperates with the Climate Change Institute to train graduate students in prehistoric archaeology towards an MS degree in Quaternary and Climate Studies. Application is made through the Graduate School.

The PhD in Anthropology and Environmental Policy Program centers on understanding human society and culture in cross-cultural perspective and their pivotal role in implementing successful environmental policy. The program engages students in a multi-disciplinary framework bridging environmental sciences and policy while focusing on the sociocultural impacts of, and responses to, local and global environmental change. Application is made through the Graduate School.

An Individualized Ph.D. in Anthropology is possible under certain circumstances. (See also, Graduate School Catalog).

Career Opportunities:

Anthropology provides very broad training in the social sciences. Therefore, a background in Anthropology is useful in any career in which an understanding of people or the societies in which they live is important. Due to the broad nature of the field, students trained in anthropology have followed a wide range of careers. In recent years, our majors have pursued advanced training in anthropology, archaeology, law, social work, business, theology, library science, writing, museum work, nursing, computer programming, clinical psychology, education, economic development, and the U.S. Armed Forces.

International Affairs in Anthropology majors receive excellent preparation for careers in law, Foreign Service, international development, or business operating in the international arena.

Students with course work and practical experience in archaeology, as well as those with graduate degrees in archaeology, have found employment with public agencies and private organizations concerned with cultural resource management.

Special Resources and Programs

The archaeology faculty focuses on ancient cultures and landscapes of the Americas and Mediterranean. A number of faculty are jointly appointed with the Canadian-American Center, the Climate Change Institute and Native American Studies. The cultural anthropologists have extensive field experience in the Middle East, Oceania, Latin America, and North America.

Periodically, the anthropology faculty offers field schools in prehistoric archaeology, oral history and folklore, and geography. Students also are encouraged to participate in research programs in New England and the Maritime Provinces currently in progress. In recent years students have been hired to work on archaeology field and laboratory projects, in the Maine Folklife Center, and the Hudson Museum of Anthropology.

The Bachelor of Arts in Anthropology

Students may declare an anthropology major in their first year, and must declare their major once they have accumulated 53 credits. It is desirable to begin taking anthropology courses in the first semester at the university.

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. Other 100 and 200 level courses in anthropology are relevant and may be taken in the first year. First year students also concentrate on completing General Education requirements.

ANT 300 and ANT 317 are both major requirements and should be taken as early as possible. ANT 300 is a required intensive course within the major and is limited to 15 majors of junior standing per semester. There is a waiting list for this course. Please sign up for the waiting list in the Anthropology Office, as soon as possible. The capstone course, ANT 493, is taken in the junior or senior year.

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.

Requirements for Anthropology Majors

A minimum of 36 credits of anthropology or geography is required. In some cases, double majors may be able to apply six credits of collateral courses to the major. ANT 101, 102, 300, 317 must be completed with a minimum grade of C- or better. ANT 493 must be completed with a minimum grade of C or better.

- ANT 101 - Introduction to Anthropology: Human Origins and Prehistory Credits: 3
- ANT 102 - Introduction to Anthropology: Diversity of Cultures Credits: 3
- ANT 400 - Basic Theory in Cultural Anthropology Credits: 3
- ANT 317 - Fundamentals of Archaeology Credits: 3
- ANT 493 - Capstone in Anthropology: What does it mean to be human? Credits: 3
- ANT 300, 317, the Capstone course, and 9 other credits must be taken at UMaine

Because ANT 300 and ANT 317 are prerequisite to some advanced level courses, students should take them as early in their program as possible. Students writing an anthropology honors thesis do not have to take the capstone course, ANT 493.

Advanced study in anthropology normally requires use of quantitative methods and foreign language competency, and some theoretical sophistication. Consequently, students planning to do graduate work in anthropology should take a course in statistics, such as ANT 462 (Numerical Methods in Anthropology), and achieve foreign language competency at the intermediate level. A knowledge of statistics and one or more foreign languages is required in most Ph.D. programs in Anthropology. Those interested in graduate work in archaeology should take some 500 level courses in Anthropology.

The anthropology major emphasizes a broadly based undergraduate curriculum. In consultation with his or her advisor, the student should select courses to sample effectively the sub-disciplines of anthropology, and avoid over-specialization at the B.A. level. A few interdisciplinary course concentrations or minors are appropriate for the anthropology major. These are included under the College of Liberal Arts and Sciences.

Art Education

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 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

Contact Information: Dr. Michael Grillo, Associate Professor, Chair, Department of Art, 107 Lord Hall, (207) 581-3246

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 NCATE approved 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 BA in Art Education includes coursework in the social and behavioral sciences, arts and humanities, natural sciences and mathematics as well as in focus areas of the visual arts and education. Study in the visual arts includes 33 credits of art studio (27 in required courses, 6 in studio electives); 21 credits of art history (9 in required courses, 12 in art history electives); and 18

credits in art education (required). In addition, students are required to complete 24 credits of professional education coursework and practicum experience. In order to complete the 125 credits required for graduation, art education students may need to take 6 - 9 credits of coursework as an overload (over 15 credits per semester) or during summer sessions. Students completing the BA in Art Education also receive minors in Studio Art and Art History.

Options in Art Education:

Art education is a field of research, study, and practice, which has expanded beyond public school art teaching. Undergraduate study in art education not only prepares a student for teaching certification, but also for graduate work in specialized areas of art education and related fields of study. Some art education majors choose careers in museum education, art therapy, community arts education, arts administration, or other fields, which involve working closely with people and art. The Department of Art offers students an opportunity to concentrate in developmental disabilities through enrollment in the Developmental Disabilities Interdisciplinary Concentration in affiliation with the Behavioral and Developmental Pediatrics Center at Eastern Maine Medical Center and its cooperating agencies. (See the University Affiliated Program in the Index.)

Students working toward degrees in studio art and art history who wish to prepare for certification as an art teaching specialist in the State of Maine may fulfill the requirements for teacher certification by completing required studio, art history, art education, and professional education courses, including the student teaching practicum.

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.

Required Courses in Suggested Sequence for the B.A. in Art Education

First Year - First Semester

- ARH 155 - Art and Visual Culture in the Ancient and Medieval Worlds Credits: 3
or
- ARH 156 - Art and Visual Culture in the Modern Era Credits: 3

- ART 100 - Drawing I Credits: 3

- ART 110 - 2-D Design Credits: 3
or
- ART 120 - 3-D Design Credits: 3

- ENG 101 - College Composition Credits: 3
or
- PSY 100 - General Psychology Credits: 3

- General Education Requirement Credits: 3

First Year - Second Semester

- ARH 155 - Art and Visual Culture in the Ancient and Medieval Worlds Credits: 3
or
- ARH 156 - Art and Visual Culture in the Modern Era Credits: 3

- ART 110 - 2-D Design Credits: 3
- **or**
- ART 120 - 3-D Design Credits: 3
- ART 200 - Drawing II Credits: 3
- ENG 101 - College Composition Credits: 3
- **or**
- PSY 100 - General Psychology Credits: 3
- General Education Requirement Credits: 3

Second Year - First Semester

- ART 225 - Ceramics I Credits: 3
- EHD 202 - Education in a Multicultural Society Credits: 3
- EHD 203 - Educational Psychology Credits: 3
- ART 200 level Studio Elective Credits: 3
- ARH 200 level Art History Course Credits: 3

Second Year - Second Semester

- AED 270 - Introduction to Visual Culture and Learning Credits: 3
- ART 200 level Studio Elective Credits: 6
- ARH 200 level Art History Course Credits: 3
- General Education Requirement Credits: 3

Third Year - First Semester

- AED 371 - Methods and Materials in Art Education Credits: 3
- AED 372 - Foundations of Art Education Credits: 3
- AED 373 - Introduction to Curriculum Credits: 3
- ART 300 level Studio Art courses Credits: 3
- ARH 300 level Art History course Credits: 3

Third Year - Second Semester

- AED 473 - Advanced Curriculum in Art Education Credits: 3
- AED 474 - SL: Topics in Art Education Credits: 3
- ARH 451 - Art Theory and Criticism Credits: 3
- ART 300-400 level Studio Art course Credits: 3
- General Education or B.A.Degree Requirement Credits: 3-4

Fourth Year - First Semester

- SED 302 - Adapting Instruction for Students with Disabilities Credits: 3
- ART 300-400 level Studio Art course Credits: 3
- ARH 300-400 level Art History course Credits: 3
- General Education Requirements Credits: 6-7

Fourth Year - Second Semester

- EHD 494 - Student Teaching K-12 (Art or Music) Credits: 1 - 12
- Students should register for 12 credits

Summer Session or Overload

- General Education Requirements Credits: 6-9

Art History

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 major (ARH) courses.

Other GPA requirements to graduate: A minimum cumulative GPA of 2.0 in the major.

Required Course(s) for fulfilling Capstone Experience: ARH499

Contact Information: Dr. Michael Grillo, Associate Professor, Chair, Department of Art, 107 Lord Hall, (207) 581-3246

Art History students begin the program with introductory courses that survey historically significant objects and monuments, including paintings, graphics, drawings, sculptures, pottery, photographs, and architecture, from ancient times through the present. These courses consider form, content, role and meaning of expressive works in light of their social, political, philosophical, and cultural contexts. The program stresses from its foundation courses through its highest level seminars, an awareness of how diverse methodological approaches frame our knowledge of each particular subject.

Advanced courses reflecting the world outlook of the cultures studied identify four traditions in the history of western art. Geography defines the older two: the Classical Tradition of the Mediterranean World and the Northern European Tradition, which parallel one another in time, running up to the end of the sixteenth century. Time separates the third and fourth traditions: the Enlightenment era studies the seventeenth and eighteenth centuries, while the Modern era explores the nineteenth and twentieth centuries. Two required upper level seminars let students study the principal underpinnings of the field: its essential theories and its critical methods.

In addition to courses in Art History, the program requires students to take two Studio Art courses to provide insight into the working methods of artists; the creative processes which foster intuitive thinking, and non-verbal conceptualization and articulation. Also, students must take two modern language courses, to broaden their research capabilities in the field. The major highly recommends that its students enroll in the Honors College.

With its focus upon critical thinking in verbal and non-verbal forms of cognition, the Art History course of study prepares students for many options including continued study at the graduate level. It readies students for careers in museums, art galleries, arts administration, antiquities, communications, arts libraries, and arts criticism.

Required Courses in Suggested Sequence for the B.A. in Art History

First Year - First Semester

- ARH 155 - Art and Visual Culture in the Ancient and Medieval Worlds Credits: 3
- Foreign Language Credits: 3
- General Education Requirements Credits: 6
- Electives Credits: 3

First Year - Second Semester

- ARH 156 - Art and Visual Culture in the Modern Era Credits: 3
- Foreign Language Credits: 3
- General Education Requirements Credits: 6
- Electives Credits: 3

Second Year - First Semester

- ARH 200 Level Credits: 3

- ART 100 Level Studio Art Requirement Credits: 3
- General Education Requirements Credits: 6-7
- Elective Credits: 3

Second Year - Second Semester

- ARH 200 Level Credits: 6
- ART 100 Level Studio Art Requirement Credits: 3
- General Education Requirements Credits: 4
- Electives Credits: 3

Third Year - First Semester

- ARH 200 Level Credits: 3
- ARH 300 or 400 Level Seminar Credits: 3
- Electives Credits: 9

Third Year - Second Semester

- ARH 300 or 400 Level Seminar Credits: 6
- Electives Credits: 9

Fourth Year - First Semester

- ARH 452 - Critical Methods in History of Art Credits: 3
- ARH 300 or 400 Level Seminar Credits: 3
- Electives Credits: 9

Fourth Year - Second Semester

- ARH 451 - Art Theory and Criticism Credits: 3
- ARH 499 - Capstone Experience in History of Art Credits: 3
- ARH 300 or 400 level Seminar Credits: 3
- Electives Credits: 6

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 with numerous credits but no cohesive body of coursework in a major currently offered by the University of Maine. For some students, this CLAS pathway will be a temporary solution, enabling them to make progress towards a major before being admitted to that major. For other students, the BUS will serve as the route to graduation.

Admission:

All applicants to the Bachelor of University Studies (B.U.S.) program must be matriculated University of Maine students (whether continuing students or new admits) with a minimum of 42 credit hours earned here or through acceptable transfer from regionally accredited post-secondary institutions. The minimum cumulative grade point average for acceptance is 2.0. There is no provisional acceptance option for students with less than a 2.0 GPA or fewer than 42 credit hours.

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. 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 30 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 in each of three focus areas chosen from the options below. A 2.0 GPA across coursework included in the focus areas is required. 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.

Chemistry

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 any course used toward the Chemistry major.

Other GPA requirements to graduate: A minimum accumulative GPA of 2.0 in the major.

Required Course(s) for fulfilling Capstone Experience: CHY 498 and CHY 499

Contact Information: Barbara Cole, Professor and Chair, 154 Aubert Hall, 581-1169, cole@maine.edu

The chemistry curriculum, certified by the American Chemical Society, is designed to provide a strong foundation in organic, inorganic, physical, analytical and biological chemistry. Students build on this foundation with in-depth coursework in two or more of these areas. Hands-on work in the lab is an important aspect of a student's training to be a future chemist. In the laboratory, students learn techniques that will serve them well as they develop their ability to ask good scientific questions and explore possible solutions.

All chemistry majors at the University of Maine conduct independent research with a faculty member and then write a thesis about their project. UMaine is the only university in the state that offers graduate programs in chemistry. The presence of graduate students offers a unique and valuable experience for our undergraduate chemistry majors who work closely with the graduate students and faculty in research labs. Many of our majors have been co-authors on scientific presentations and publications.

The Department of Chemistry offers a number of scholarships to majors in chemistry, which are awarded on the basis of merit and academic standing (senior, junior, etc.). Students who are interested in a chemistry teaching career may apply for the ACS-Hach Scholarship.

The Department is committed to providing its students with instruction in the most modern practice of chemistry through ongoing curriculum development. The Department provides preparation for careers in the chemical industry and high school teaching, for medical, pharmacy and other professional schools, and for graduate work in chemistry. Undergraduate research provides majors with a close working relationship with one or more faculty members and their research groups.

ACADEMIC PROGRAMS:

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.

Because knowledge of chemistry is fundamental to success in so many fields, the chemistry curriculum offers an unusual opportunity for a wide choice of electives so that the chemistry major may adapt his or her program to individual interests or needs. Such individualized programs include preparation for medical school or other health professions, technical writing, industrial management, or computer applications. More information regarding individual program planning is available from the chair of the Department. The academic programs offered by the Department are described below:

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.

B.S. Degree in Chemistry

The Department of Chemistry offers two options for the BS degree in chemistry: The B.S. degree or the B.S. degree with ACS certification. Sample schedules and curricula for each degree option are available in the Department of Chemistry office and on the Chemistry web page.

B.S. Degree

This degree option is excellent for students considering pre-medical, pre-veterinary, pharmacy, or double majors. The B.S. allows students flexibility in their programs so that they may choose suitable electives to prepare for medical, veterinary, and other health professional schools, work in environmental testing and remediation, or work in the pharmaceutical industry. Students also have the option of taking business, law, computer science, materials science, or other courses to complement their chemistry curriculum. Students must take a minimum of 46 credits of course work in chemistry. The following courses are required for the non-certified B.S. degree:

- CHY 105 - Majoring in Chemistry Credits: 1
- CHY 121 - Introduction to Chemistry Credits: 3

- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
- CHY 242 - Principles of Quantitative Analysis and Solution Equilibria Credits: 5
- CHY 251 - Organic Chemistry I Credits: 3
- CHY 252 - Organic Chemistry II Credits: 3
- CHY 253 - Organic Chemistry Laboratory I Credits: 2
- CHY 254 - Organic Chemistry Laboratory II Credits: 2
- CHY 298 - Introduction to Chemistry Research Credits: 1
- CHY 393 - Undergraduate Seminar in Chemistry Credits: 3
- CHY 431 - Structure and Mechanism in Biological Chemistry Credits: 3
- CHY 461 - Advanced Inorganic Chemistry I Credits: 3
- CHY 471 - Physical Chemistry I Credits: 3
- CHY 491 - Advanced Integrated Laboratory I Credits: 3
- CHY 498 - Undergraduate Research Credits: 1-3
(must take a minimum of 3 credits total over at least 2 semesters)
- CHY 499 - Undergraduate Thesis Credits: 3
- Additional requirements include MAT 126, 127, 228, PHY 111/PHY 112 or PHY 121/PHY 122, 3 credits of speech communication (CMJ 102, 103 or 106); and one course in computer programming (COS 125, 211, 215, or 220) or Statistics (MAT 232). General education courses and electives must be chosen to satisfy the university-wide and college requirements for the BS degree. Work completed as part of the Honors program may be used to fulfill general education course requirements. HON 498 and HON 499 may be used in place of CHY 498 and CHY 499, respectively.

B.S. with ACS certification

The American Chemical Society certified B.S. degree in chemistry prepares the student for employment in the chemical industry or for graduate studies in chemistry or a related field. Students must take a minimum of 55 credits of course work in chemistry. The following courses are required for the ACS certified degree:

- CHY 105 - Majoring in Chemistry Credits: 1
- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
- CHY 242 - Principles of Quantitative Analysis and Solution Equilibria Credits: 5
- CHY 251 - Organic Chemistry I Credits: 3
- CHY 252 - Organic Chemistry II Credits: 3
- CHY 253 - Organic Chemistry Laboratory I Credits: 2
- CHY 254 - Organic Chemistry Laboratory II Credits: 2
- CHY 298 - Introduction to Chemistry Research Credits: 1
- CHY 393 - Undergraduate Seminar in Chemistry Credits: 3
- CHY 431 - Structure and Mechanism in Biological Chemistry Credits: 3
- CHY 461 - Advanced Inorganic Chemistry I Credits: 3
- CHY 471 - Physical Chemistry I Credits: 3
- CHY 475 - Physical Chemistry III Credits: 3
- CHY 491 - Advanced Integrated Laboratory I Credits: 3
- CHY 498 - Undergraduate Research Credits: 1-3

(must take a minimum of 3 credits total over at least 2 semesters)

- CHY 499 - Undergraduate Thesis Credits: 3

Plus a choice of at least two of the following:

- CHY 423 - Introductory Polymer Chemistry Credits: 3
- CHY 443 - Instrumental Analysis Credits: 3
- CHY 450 - Introduction to Molecular Modeling Credits: 4
- CHY 453 - Intermediate Organic Chemistry Credits: 4
- CHY 462 - Organometallic Chemistry Credits: 3
- CHY 472 - Physical Chemistry II Credits: 3
- CHY 477 - Nanoscience Credits: 3
- CHY 483 - Introductory Wood Chemistry Credits: 3

Additional Requirements:

Additional requirements include MAT 126, 127, 228, 258, PHY 111/PHY 112 or PHY 121/PHY 122, 3 credits of speech communication (CMJ 102, 103, or 106); and one course in computer programming (COS 125, 211, 215 or 220) or statistics (MAT 232). General education courses and electives must be chosen to satisfy the university-wide and college requirements for the BS degree. Students interested in pursuing a Math minor should take MAT 259 and 262 in lieu of MAT 258. Work completed as part of the Honors Program may be used to fulfill general education course requirements. HON 498 and HON 499 may be used in place of CHY 498 and CHY 499, respectively.

B.A. Degree in Chemistry

The BA degree in chemistry prepares students for careers in which chemistry and physical science play a significant role. With appropriate electives, students can go on to jobs in a variety of fields including teaching of science in middle school or high school. Students must take a minimum of 41 credits of course work in chemistry. The following courses are required for the BA degree:

- CHY 105 - Majoring in Chemistry Credits: 1
- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
- CHY 242 - Principles of Quantitative Analysis and Solution Equilibria Credits: 5
- CHY 251 - Organic Chemistry I Credits: 3
- CHY 253 - Organic Chemistry Laboratory I Credits: 2
- CHY 298 - Introduction to Chemistry Research Credits: 1
- CHY 393 - Undergraduate Seminar in Chemistry Credits: 3
- CHY 461 - Advanced Inorganic Chemistry I Credits: 3
- CHY 471 - Physical Chemistry I Credits: 3
- CHY 498 - Undergraduate Research Credits: 1-3
(must take a minimum of 3 credits total over at least 2 semesters)
- CHY 499 - Undergraduate Thesis Credits: 3

- Additional requirements include MAT 126, 127, 228, PHY 111/PHY 112 or PHY 121/PHY 122, 3 credits of speech communication (CMJ 102, 103 or 106), and one course in computer programming (COS 125, 211, 215, or 220) or statistics (MAT 232). General education courses and electives must be chosen to satisfy the university-wide and college requirements for the BA degree including completion of a minor in another discipline.

Plus a choice of at least two of the following:

- CHY 423 - Introductory Polymer Chemistry Credits: 3
- CHY 443 - Instrumental Analysis Credits: 3
- CHY 450 - Introduction to Molecular Modeling Credits: 4
- CHY 453 - Intermediate Organic Chemistry Credits: 4
- CHY 462 - Organometallic Chemistry Credits: 3
- CHY 472 - Physical Chemistry II Credits: 3
- CHY 475 - Physical Chemistry III Credits: 3
- CHY 477 - Nanoscience Credits: 3
- CHY 483 - Introductory Wood Chemistry Credits: 3

Pre-medicine and Pre-pharmacy

The chemistry curriculum is strong preparation for further study in medicine, pharmacy and other health related fields. To meet the requirements of most health professional schools, the following courses are recommended: BIO 100 , BIO 200, SOC 101, PSY 100. Additional courses including BIO 377/BIO 378 , BIO 462, BMB 322/BMB 323 and BMB 400 also provide good preparation for these programs. Students may also complete the pre-medicine or pre-pharmacy concentration.

Pre-medicine Concentration

The following courses are required for the pre-medicine concentration:

- All courses required for the B.S. degree in Chemistry
- BIO 100 - Basic Biology Credits: 4
- BIO 200 - Biology of Organisms Credits: 4
- BIO 377 - Medical Physiology Credits: 3
- BIO 378 - Medical Physiology Laboratory Credits: 2
- BMB 322 - Biochemistry Credits: 3
- BMB 323 - Biochemistry Laboratory Credits: 2
- PHI 235 - Biomedical Ethics Credits: 3
- PSY 100 - General Psychology Credits: 3
- SOC 101 - Introduction to Sociology Credits: 3

Recommended Electives for the Pre-medicine Concentration

- BIO 208 - Anatomy and Physiology Credits: 4
Or
- BIO 335 - Human Anatomy Credits: 4

- BMB 300 - General Microbiology Credits: 3
- BMB 305 - General Microbiology Laboratory Credits: 2
- ENG 212 - Persuasive and Analytical Writing Credits: 3
- INT 200 - (SBE) Orientation to Health Professions Credits: 4

Pre-pharmacy Concentration

The following courses are required for the pre-pharmacy concentration:

- All courses required for the B.S. degree in Chemistry
- BIO 100 - Basic Biology Credits: 4
- BIO 200 - Biology of Organisms Credits: 4
- BIO 208 - Anatomy and Physiology Credits: 4
Or
- BIO 335 - Human Anatomy Credits: 4
- BIO 377 - Medical Physiology Credits: 3
- BIO 378 - Medical Physiology Laboratory Credits: 2
- BMB 300 - General Microbiology Credits: 3
- BMB 305 - General Microbiology Laboratory Credits: 2
- BMB 322 - Biochemistry Credits: 3
- BMB 323 - Biochemistry Laboratory Credits: 2
- STS 232 - Principles of Statistical Inference Credits: 3
- PSY 100 - General Psychology Credits: 3

Science Teaching Certification

There is dramatic need for well-qualified science teachers in both high schools and middle schools. The B.A. or non-certified B.S. in chemistry can be combined with a number of avenues for obtaining state certification as a secondary school science teacher. Students interested in this program should contact the Chemistry Department office for more information.

Other Areas of Focus

The chemistry curriculum provides a flexible grounding for areas of focus in materials science, biomaterials, wood chemistry, and computational chemistry to name a few. Other minors could include business for a career in management within the chemical industry or journalism for careers in technical and science writing. More detailed information is available in the Chemistry office.

Cooperative Work Experience

A program is available which allows students to accept opportunities for temporary employment provided by cooperating industries. The student may work during the summer or part of one summer and either the preceding or following semester. Credit will be allowed for this work under course numbers CHY 394 and CHY 594. This is a supervised and paid professional experience.

Five-Year Combined B.S.-MS Program

Selected students may apply for this option, which permits completion of both the B.S. and M.S. degree in five years. Work completed as part of the Honors program may be included. Application should be made by letter to the Department early in the junior year.

Transfer Students

Transfer students are welcomed in the Department. For a UMaine Chemistry degree, students must take 14 hours of upper level Chemistry at the University of Maine. Half the credits for a minor in Chemistry must be taken at the University of Maine.

Graduate Work in Chemistry

The Department of Chemistry offers a program of study and research leading to the M.S. and Ph.D. degrees. The general requirements of these programs are described in the Graduate School online catalog.

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: A minimum cumulative GPA of 2.0 ("C") in the major.

Required Course(s) for fulfilling Capstone Experience: CMJ 485

Residency Requirement: 24 credits of CMJ coursework at the University of Maine.

Contact Information: Nathan Stormer, Chair, 430 Dunn Hall, 581-1938

The Department of Communication and Journalism offers three different B.A. degrees. These degrees are in: Communication, Journalism, and Mass Communication.

The B.A. in Communication studies how humans use communication to produce cultures, institutions, and even our sense of self. The study of communication asks how we do this, how our basic ability to communicate allows us to build connections between individuals, and within cultures and organizations. Students pursue such questions as these: How do we use the power of language within personal relationships? How do the stories we tell provide meaning and significance to the identities we fashion for ourselves, or cultures? What communication practices do we engage in to maintain and build organizations? What rhetorical strategies do we employ to shape society and how we live together? How do technologies extend and alter our abilities and practices? By engaging these questions students understand and critically evaluate human communication in their lives and in their careers.

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 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 205, ENG 206, ENG 212, ENG 301, ENG 317, ENG 415, ENG 416 and ENG 418. CMJ 236 and CMJ 237 can also be used to meet part of this requirement for Communication 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.

Requirements for Communication Majors

For students transferring equivalent courses from other colleges, the faculty will determine equivalency (if any) of transfer courses in the discipline. Some CMJ courses require the completion of one or more prerequisite courses.

A grade of "C-" or better is required in all CMJ courses submitted to satisfy departmental requirements for the major.

Core Course Requirements - 3 courses (9 credits)

- CMJ 201 - Communication Studies I Credits: 3
- CMJ 202 - Communication Studies II Credits: 3
- CMJ 485 - Capstone Seminar in Communication Credits: 3

Major Course Requirements: 7 courses (21 credits)

Choose from the following list of CMJ courses. No more than 1 of CMJ 102/103/106/107; and at least 4 courses (12 credits) at 400 level or above.

No more than 1 of CMJ 102/103/106/107

- CMJ 102 - Fundamentals of Interpersonal Communication Credits: 3
- CMJ 103 - Fundamentals of Public Communication Credits: 3
- CMJ 106 - Storytelling Credits: 3
- CMJ 107 - Communication and the Environment Credits: 3
- CMJ 225 - Sex, Gender and Communication Credits: 3
- CMJ 257 - Business and Professional Communication Credits: 3
- CMJ 324 - Interpersonal Communication in Everyday Life Credits: 3
- CMJ 345 - SL: Small Group Communication Credits: 3
- CMJ 347 - Argument and Critical Thinking Credits: 3
- CMJ 360 - Nonverbal Communication Credits: 3
- CMJ 366 - Speech Play and Performance Credits: 3
- CMJ 367 - Public Relations Credits: 3

- CMJ 370 - Visual Communication Credits: 3
- CMJ 393 - Topics in Communication Credits: 3

At least 4 courses (12 credits) at 400 level or above

- CMJ 401 - Speech, Space, Event: Critical Applications Credits: 3
- CMJ 402 - Communication Research Credits: 3
- CMJ 403 - Persuasion and Social Influence Credits: 3
- CMJ 404 - Risk Communication Credits: 3
- CMJ 405 - Women and Communication Credits: 3
- CMJ 407 - Environmental Communication Credits: 3
- CMJ 410 - Social Influence of Mass Communication Credits: 3
- CMJ 420 - Health Communication Credits: 3
- CMJ 425 - SL: Health Campaigns Credits: 3
- CMJ 430 - Intercultural Communication Credits: 3
- CMJ 450 - Communication and Technology Credits: 3
- CMJ 466 - Narrative and Communication Credits: 3
- CMJ 470 - Communication in Organizations Credits: 3
- CMJ 475 - Sexualities in Mass Communication Credits: 3
- CMJ 493 - Advanced Topics in Communication Credits: 3

Additional credits:

Students MAY take additional credits in department courses beyond the 30 required for the major, but must take at least **72** credit hours outside of CMJ courses.

Suggested curriculum for the B.A. in Communication

First Year - First Semester

- CMJ 102 - Fundamentals of Interpersonal Communication Credits: 3
or
 - CMJ 103 - Fundamentals of Public Communication Credits: 3
or
 - CMJ 106 - Storytelling Credits: 3
- OR**
- CMJ 107 - Communication and the Environment Credits: 3
 - ENG 101 - College Composition Credits: 3
 - General Education Human Values/Social Context Credits: 6
 - General Education Science or Mathematics/Statistics Credits: 3

First Year - Second Semester

- CMJ 201 - Communication Studies I Credits: 3
- General Education Human Values/Social Context Credits: 9
- General Education Science or Mathematics/Statistics Credits: 3

Second Year - First Semester

- CMJ 202 - Communication Studies II Credits: 3
- General Education Science or Mathematics/Statistics Credits: 3
- CMJ External Requirement Credits: 9

Second Year - Second Semester

- CMJ 2xx or 3xx Requirement Credits: 3
- CMJ External Requirement Credits: 3
- B.A. Upper Level Requirement Credits: 3
- **Elective Credits: 6

Third Year - First Semester

- CMJ 2xx or 3xx Requirement Credits: 3
- CMJ External Requirement Credits: 3
- General Education Ethics Credits: 3
- B.A. Upper Level Requirement Credits: 3
- **Elective Credits: 3

Third Year - Second Semester

- CMJ 4xx requirement Credits: 3
- General Education Science or Mathematics/Statistics Credits:3
- CMJ External Requirement Credits: 3
- B.A. Upper Level Requirement Credits: 3
- **Elective Credits: 3

Fourth Year - First Semester

- CMJ 4xx Requirement Credits: 6
- CMJ External Requirement Credits: 9

Fourth Year - Second Semester

- CMJ 485 - Capstone Seminar in Communication Credits: 3
- CMJ 4xx Requirement Credits: 3
- **Electives Credits: 9

****Elective Credits**

Elective Credits may be used to meet remaining General Education, college, B.A., or department requirements.

Students may also take additional credits in department courses beyond the 30 required for the major, but must take at least 72 credit hours outside of CMJ courses.

Computer 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: Must obtain a grade of "C" or better in COS 125, COS 140, COS 225, MAT 126, ENG 101 and ENG 317.

Other GPA requirements to graduate: Required GPA in Major: 2.0

Required Course(s) for fulfilling Capstone Experience: COS 397 and COS 497

Contact Information: Silvia Nittel and Carol Roberts, Undergraduate Coordinators, School of Computing and Information Science, 348 Boardman Hall, nittel@spatial.maine.edu, Carol_Roberts@umit.maine.edu

Computer science is the foundation of computing and information technology. Computer scientists study the theory, design, implementation, and performance of computers and computer software, including the study of computability and computation itself. Computer scientists bring their breadth and depth of knowledge to bear to efficiently solve computing problems. They design and implement software systems. They devise new uses for computers, both to solve new problems and to provide novel, innovative capabilities and services.

Core areas of computer science include databases, high-performance computing, artificial intelligence, computer networks, computer graphics, software engineering, operating systems, programming languages, cybersecurity and computer organization and architecture. Computer science intersects other sciences to form such fields as computational biology and bioinformatics, medical informatics, computational chemistry, cognitive science, robotics, and computational linguistics. Knowledge of computer science, beyond simply what is needed to implement and use information systems, is increasingly important in medicine, business, law, and science, as well as being important for making informed decisions about technology.

The required course work in computer science provides the student with an understanding of the basic areas of computer science: structure of programming languages, operating systems, software engineering, algorithms and data structures, computer architecture, and the theory of computer science. Electives allow students to study additional topics such as database, high performance computing, networks, artificial intelligence and cybersecurity. A capstone experience allows students to use their accumulated knowledge of the field either through field experience, independent study, or as an undergraduate researcher in one of our laboratories.

Minimum hours needed for graduation: 120 degree hours. Required GPA: 2.00. Required Major GPA: 2.00. All students must satisfy the general education requirements of both the College of Liberal Arts and Sciences and University. A University of Maine student who wishes to take a course elsewhere for the degree must have the course approved in advance by the department and the college.

The Bachelor of Science (B.S.) degree is our traditional computer science undergraduate degree. It prepares students to work in the computer industry or to study computer science in graduate school. The B. S. degree is also appropriate for students who wish to contribute a strong computer science background to an interdisciplinary team, such as one in bioinformatics. The B.S. degree is accredited by the Computer Science Accreditation Commission (CSAC) of the Computing Sciences Accreditation Board (CSAB), a specialized accrediting body recognized by the Commission on Recognition of Postsecondary Accreditation (CORPA).

The Bachelor of Arts (B.A.) degree gives the student a strong foundation in computer science while providing more flexibility in coursework outside the major. It also prepares the student for a rewarding career in computing or for graduate work.

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.

Bachelor of Science Degree in Computer Science

All students must satisfy the University requirements for graduation. All required courses by the School of Computing and Information Science must be taken for a grade; courses taken PASS/FAIL will not count.

Computer Science Courses - 50 hours

- COS 125 - Introduction to Problem Solving Using Computer Programming Credits: 3
See Footnote 1
- COS 140 - Foundations of Computer Science Credits: 3
See Footnote 1
- COS 225 - Object-Oriented Design, Programming and Data Structures Credits: 4
See Footnote 1
- COS 226 - Introduction to Data Structures Credits: 3
- COS 250 - Discrete Structures Credits: 3
- COS 301 - Programming Languages Credits: 3
- COS 235 - Computer Architecture Credits: 4
- COS 350 - Data Structures and Algorithms Credits: 3
- COS 397 - Computer Science Capstone 1 Credits: 3
- COS 420 - Introduction to Software Engineering Credits: 3
- COS 331 - Operating Systems Credits: 3
- COS 451 - Automata, Computability, and Languages Credits: 3
- COS 490 - Computers, Ethics and Society Credits: 3
- COS 497 - Computer Science Capstone 2 Credits: 3
- Two additional courses from COS 3XX, COS 4XX and COS 5XX

Mathematics Courses - 14 hours

- MAT 126 - Calculus I Credits: 4
See Footnote 1
- MAT 127 - Calculus II Credits: 4

- MAT 228 - Calculus III Credits: 4
Or

- MAT 258 - Introduction to Differential Equations with Linear Algebra Credits: 4
Or
- MAT 259 - Differential Equations Credits: 3
Or
- MAT 261 - Introduction to Abstract Mathematics Credits: 3
Or
- MAT 262 - Linear Algebra Credits: 3

- STS 215 - Introduction to Statistics for Business and Economics Credits: 3
or
- STS 232 - Principles of Statistical Inference Credits: 3
or
- STS 332 - Statistics for Engineers Credits: 3
or
- STS 434 - Introduction to Statistics Credits: 4

Science Requirement - 14 hours

Students must take a minimum of 14 credit hours of science. This must include a two-semester sequence of a laboratory science (e.g., PHY 121 and PHY 122), for a total of 8 hours, and an additional 6 hours of science courses. Courses fulfilling this requirement may be from any of the following areas:

- Astronomy (AST; except AST 114)
- Biological Sciences (BIO)
- Biochemistry, Microbiology, and Molecular Biology (BMB; BMB 207 and above)
- Chemistry (CHY; CHY 121 and above)
- Earth Sciences (ERS)
- Forest Ecosystem Science (FES)
- Marine Science (SMS)
- Physics (PHY; PHY 121 and above)
- Wildlife Ecology (WLE; WLE 200 and above)

Footnote 1

A student must complete these courses with a grade of "C" or better in each; a grade of "C-" is not sufficient.

Bachelor of Arts Degree in Computer Science

Computer Science Courses - 47 hours

- COS 125 - Introduction to Problem Solving Using Computer Programming Credits: 3
See Footnote 1
- COS 140 - Foundations of Computer Science Credits: 3
See Footnote 1
- COS 225 - Object-Oriented Design, Programming and Data Structures Credits: 4

See Footnote 1

- COS 226 - Introduction to Data Structures Credits: 3
- COS 250 - Discrete Structures Credits: 3
- COS 301 - Programming Languages Credits: 3
- COS 235 - Computer Architecture Credits: 4
- COS 350 - Data Structures and Algorithms Credits: 3
- COS 397 - Computer Science Capstone 1 Credits: 3
- COS 420 - Introduction to Software Engineering Credits: 3
- COS 331 - Operating Systems Credits: 3
- COS 451 - Automata, Computability, and Languages Credits: 3
- COS 490 - Computers, Ethics and Society Credits: 3
- COS 497 - Computer Science Capstone 2 Credits: 3
- One additional course from COS 398, COS 4XX and COS 5XX

Other Required Courses

- ENG 101 - College Composition Credits: 3
See Footnote 1
- ENG 317 - Business and Technical Writing Credits: 3
See Footnote 1
- MAT 126 - Calculus I Credits: 4
See Footnote 1
- MAT 127 - Calculus II Credits: 4

- MAT 228 - Calculus III Credits: 4
Or
- MAT 258 - Introduction to Differential Equations with Linear Algebra Credits: 4
Or
- MAT 259 - Differential Equations Credits: 3
Or
- MAT 261 - Introduction to Abstract Mathematics Credits: 3
Or
- MAT 262 - Linear Algebra Credits: 3

- STS 215 - Introduction to Statistics for Business and Economics Credits: 3
or
- STS 232 - Principles of Statistical Inference Credits: 3
or
- STS 332 - Statistics for Engineers Credits: 3
or
- STS 434 - Introduction to Statistics Credits: 4

B.A. Distribution Requirement

All students pursuing the Bachelor of Arts (B.A.) in the College of Liberal Arts and Sciences must complete a second major or a minor outside the major.

Footnote 1

A student must complete these courses with a grade of "C" or better in each; a grade of "C-" is not sufficient.

Undergraduate Research Opportunities

The School of Computing and Information Science has several research laboratories focusing on such areas as artificial intelligence and software agents, database systems, high-performance computing, cybersecurity, and computer modeling of physical processes. Most of these laboratories routinely include undergraduates who assist the professors and the graduate students in their research. Students are mentored by the professors and graduate students, and they get a good idea of what research and graduate school is like. In addition to the interesting and valuable experience gained, the students are often paid and/or co-author research papers.

Career Opportunities

Computer Science graduates are well-positioned to secure rewarding, high-paying jobs in the computer industry that are relatively immune to outsourcing. In addition, graduates can also apply their knowledge wherever computers are used, including businesses, research institutions, educational institutions, and government laboratories and agencies. The B.S. and B.A. degrees both provide a rigorous emphasis on computer science along with a strong liberal arts education. Consequently, students are well prepared to enter any career that requires a liberal arts degree. Graduates of the School of Computing and Information Science are also well prepared to enter graduate school for further study in computer science or other related fields or, with some additional preparation, to enter a professional school.

Graduate Work

The School offers the Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) in Computer Science, the Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) in Spatial Information Science and Engineering, the Master of Science in Spatial Informatics, and the Master of Science (M.S.) in Information Systems. Please see the graduate catalog School's Web page for more information.

English

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 in all courses counted toward the English Major.

Other GPA requirements to graduate: A minimum accumulative GPA of 2.0 ("C") in the major.

Required Course(s) for fulfilling Capstone Experience: ENG 490 or ENG 496 or ENG 499

Contact Information: Laura Cowan, Department Chair, 304 Neville Hall, (207) 581-3823, laura.cowan@umit.maine.edu

Course work for a Bachelor of Arts in English provides comprehensive instruction in the resources of English, its language and literatures. This instruction is central to a liberal education and fundamental preparation for graduate liberal arts and professional programs. The English degree provides excellent preparation for a wide range of careers that depend on critical and creative thinking and the ability to communicate clearly and persuasively.

Bachelor of Arts in English

Literature

Courses in literature make up the largest portion of the English major's studies. Our curriculum provides students with a broad-based foundation in English and American literature as well as in-depth inquiry into focused areas of literary study. Within this curriculum students are encouraged to read creatively and to discover what others have not seen. Students are asked to present these discoveries in writing in a persuasive way that allows others to see their importance. The literature program is enhanced and supported by links to the National Poetry Foundation, an internationally recognized center for the study of modern and postmodern poetry, and to the New Writing Series, which brings as many as 20 exciting writers to campus each year.

Writing Concentrations

In addition to at least 24-27 credits in literature and literary theory, every English major completes a 9-12 credit concentration in Creative Writing, Analytical Writing or Technical/Professional Writing. Each concentration provides both introductory and advanced instruction and prepares students for further education or for work in many professions.

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.

Core Requirements for All Majors:

Majors take a minimum of 36 credits in English beyond ENG 101. At least 18 of these credits must be University of Maine courses. By the time of graduation, a student must also complete an additional field requirement, which may be satisfied in three ways: 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).

All majors must complete the following specific requirements:

- ENG 170 - Foundations of Literary Analysis Credits: 3
- ENG 222 - Reading Poems Credits: 3
- ENG 271 - The Act of Interpretation Credits: 3
- Five literature courses at the 300 or 400 level including at least one British and one before 1800 Credits: 15
- One additional English course at the 200 level or higher Credits: 3
- Three or four courses in the chosen writing concentration Credits: 9-12

Writing Concentration Options

Each writing concentration requires a sequence of courses beginning at the 200 or 300 level and culminating in advanced coursework or pre-professional experiences in the senior year.

Creative Writing (9 credits):

This concentration allows students to explore their worlds with carefully crafted language and to make the writing of imaginative literature a way of life. Course work usually includes:

- ENG 205 - An Introduction to Creative Writing Credits: 3
or
- ENG 206 - Descriptive and Narrative Writing Credits: 3
- ENG 307 - Writing Fiction Credits: 3
or
- ENG 308 - Writing Poetry Credits: 3
or
- ENG 309 - Writing Creative Nonfiction Credits: 3
- ENG 405 - Topics in Creative Writing Credits: 3
or
- ENG 407 - Advanced Fiction Writing Credits: 3
or
- ENG 408 - Advanced Poetry Writing Credits: 3
The Capstone Experience for this sequence is completed by the submission and approval of a creative manuscript, usually supervised by the instructor of the 400-level writing workshop. Students register for ENG 499, a non-credit Capstone designator, in the semester they plan to complete their Capstone.

Analytical Writing (9 credits):

This concentration is for students whose primary interest is in literature, literary theory, and in writing essays, literary criticism, and academic papers. It provides excellent preparation for law school or for graduate study in language and literature. It is also useful for students planning to teach at the secondary or college level. Course work includes:

- ENG 212 - Persuasive and Analytical Writing Credits: 3
or
- ENG 315 - Research Writing in the Disciplines Credits: 3
Two of the following:
- ENG 301 - Seminar in Writing Studies Credits: 3
- ENG 395 - English Internship Credits: 3
- ENG 402 - Topics in Writing and Research Credits: 3
The Capstone Experience for this sequence is completed by tutoring for a semester in the Writing Center after the completion of ENG 395, by completing ENG 402, or by completing a thesis-level research paper in a 400-level literature course. Students register for ENG 499, a non-credit Capstone designator, in the semester they plan to complete their Capstone.

Technical/Professional Writing (12 credits):

This 12-credit concentration is useful for students planning careers in such diverse professions as law, public relations, management, arts administration, technical writing, and journalism. Course work usually includes:

- ENG 317 - Business and Technical Writing Credits: 3
Two of the following:
- ENG 415 - Advanced Report & Proposal Writing Credits: 3
- ENG 416 - Technical Editing & Document Design Credits: 3
- ENG 418 - Topics in Professional Writing Credits: 3
and
- ENG 496 - Field Experience in Professional Writing Credits: 1-6
Students register for ENG 499, a non-credit Capstone designator, in the semester they plan to complete their Field Experience.

Senior Capstone Requirement:

The senior capstone requirement applies to all majors and all concentrations. It may be satisfied in a number of ways appropriate to a student's interests and plans, and is normally a natural culmination to previous choices within the major. Most of the capstone options also satisfy other major requirements. Any one of the following courses or experiences may be used:

- ENG 395 - English Internship Credits: 3
and at least one semester tutoring in the Writing Center
- ENG 400-level literature course in which the student writes a seminar-quality research paper
- ENG 402 - Topics in Writing and Research Credits: 3
- ENG 405 - Topics in Creative Writing Credits: 3
- ENG 407 - Advanced Fiction Writing Credits: 3
- ENG 408 - Advanced Poetry Writing Credits: 3
- ENG 496 - Field Experience in Professional Writing Credits: 1-6
(at least 3 hrs.)

Approval of an Honors thesis with a topic in an area of English studies

Note: Students register for ENG 499 (zero credit, zero tuition) during the semester they will complete their capstone work. ENG 499 is open by permission only; contact the department to complete paperwork.

Suggested curriculum for the B.A. in English

First Year - First Semester

- ENG 101 - College Composition Credits: 3
or
- ENG 129 - Topics in English Credits: 3 (not online)
or
- ENG 170 - Foundations of Literary Analysis Credits: 3

First Year - Second Semester

- ENG 101 - College Composition Credits: 3
or
- ENG 129 - Topics in English Credits: 3 (not online)
or
- ENG 170 - Foundations of Literary Analysis Credits: 3
- ENG 205 - An Introduction to Creative Writing Credits: 3
- Credits toward Additional Field Requirement (second language, minor or second major) General Education Credits: 8-9

Second Year - First Semester

- ENG 205 - An Introduction to Creative Writing Credits: 3
or

- ENG 206 - Descriptive and Narrative Writing Credits: 3
or
- ENG 212 - Persuasive and Analytical Writing Credits: 3
or
- ENG 222 - Reading Poems Credits: 3
- Credits toward Additional Field Requirement, BA Requirement, General Education Requirements and electives Credits: 4-6

Second Year - Second Semester

- ENG 205 - An Introduction to Creative Writing Credits: 3
or
- ENG 206 - Descriptive and Narrative Writing Credits: 3
or
- ENG 212 - Persuasive and Analytical Writing Credits: 3
or
- ENG 317 - Business and Technical Writing Credits: 3
- ENG 271 - The Act of Interpretation Credits: 3
- ENG 200 or 400-level Credits: 3
- 200-level language if needed or credits chosen from remaining General Education and BA requirements and free electives Credits: 3-4

Third Year - First Semester

- ENG 315 - Research Writing in the Disciplines Credits: 3
- ENG 300 or 400-level writing course in concentration. Credits: 3
- ENG 300 level literature courses. Credits: 3-6
- General Education and B.A. Requirements. Credits: 6-9

Third Year - Second Semester

- ENG 300 or 400 level writing course. Credits: 3
- ENG 300 level literature course. Credits: 3-6
- Electives, other program requirements remaining. Credits: 3-6

Fourth Year - First Semester

- ENG 400-level literature and writing courses including capstone options Credits: 3-12
- Electives. Credits: 3-9

Fourth Year - Second Semester

- Finish capstone and ENG 300/400-level courses if you haven't already done so. Major credits should total at least 36, with minimum GPA in major courses of 2.0. Total credits earned should be at least 120, with an overall GPA of 2.0. Credits: 15
Note: A minimum of 72 credits must be completed outside of the major.

French

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 minimum accumulative GPA of 2.0 ("C") in the major.

Required Course(s) for fulfilling Capstone Experience: FRE 495

Contact Information: Jane Smith, Chair of MLC, 201 Little Hall, (207) 581-2075, jsmith@maine.edu

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 306 may be required to take a test in languages skills), and
2. Demonstration of comprehensive coverage of literature and civilization through successful completion of appropriate course work, and
3. A minimum of 30 hours beyond the intermediate level.

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.

9 credit hours above intermediate level that must include:

- FRE 305 - French Conversation and Composition I Credits: 3
or
- FRE 306 - French Conversation and Composition II Credits: 3
- FRE 309 - Readings in French Literature Credits: 3
or
- FRE 310 - Readings in Francophone Literature Credits: 3
- FRE 320 - French Pronunciation Credits: 3

At least 18 hours of 400-level French courses, which must include:

- FRE 400 - Advanced French Grammar Credits: 3
- Two courses in literature
- 3 Credits from French, French-Canadian, or Franco-American Civilization courses

French (May Term)

- FRE 397 - French (May Term) Credits: 3
In Québec: odd-numbered years
or
- FRE 398 - French Immersion: Western France Credits: 3
even-numbered years
(Waived for a full-year or semester abroad experience.)

Special Requirements:

- FRE 495 - Senior Project in French Credits: 0-3
(This satisfies a General Education requirement)
- INT 410 - (ANT, ENG, MLC) Introduction to the Study of Linguistics Credits: 3

Strongly Recommended:

- History of a Francophone Country. Credits: 3
- Full-year or semester-abroad program

History

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 History (HTY) courses.

Other GPA requirements to graduate: A minimum accumulative GPA of 2.0 ("C") in the major.

Required Course(s) for fulfilling Capstone Experience: HTY 498

Department Residency Requirement: At least 18 credits must be earned from the History Department at the University of Maine

Contact Information: Stephen M. Miller, Chair, Department of History, 255 Stevens Hall, 581-1923 or Suzanne Moulton, Administrative Assistant, Department of History, 255 Stevens, 581-1908

The History Department offers a wide variety of chronological, geographical, and thematic courses that enhance individuals' understanding of themselves and the contemporary world by expanding their experiences to include the experiences of other peoples, both past and present. These courses range from ancient times to the present, cover most geographical regions of the world, and allow topical specialties ranging from women's or environmental history to the history of technology or labor history. History graduates find employment in a wide range of occupations. Traditionally they have gone into teaching and education careers in primary and secondary schools and, with appropriate graduate-level training, colleges and universities. More recently, increasing numbers of history graduates are finding their way into private and public non-profit organizations and agencies, such as museums, archives and libraries, research and service institutions, legislative bodies, and planning agencies. Others find career opportunities in the private sector, including publishing, journalism and broadcasting, and law firms; in fact, history is an ideal pre-law major.

The Department of History offers a variety of undergraduate courses and graduate level courses (HTY 501-HTY 699). Senior history majors may take 500-level graduate courses. Other students may take graduate level courses by permission.

Majors must complete at least twelve three-credit courses in history, including:

- A. 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.
- B. At least eight history courses (HTY 240, HTY 241, HTY 279, and all 3xx or higher), distributed as follows:
 1. A primary concentration of four courses from a single geographical, chronological or topical area.
 2. HTY 311, normally taken during the student's junior year.
 3. HTY 498, normally taken during the student's final undergraduate year.
 4. Two elective history courses from any area.
- C. First- and Second-Year students are required to take HTY 130.

All History majors must complete the College of Liberal Arts & Sciences' minor requirement.

All students must earn at least a "C" in all courses applied to the major. University requirements place a limit of forty-eight (48) hours of degree credit **within the major** to be counted toward the Bachelor of Arts degree. Thus a **maximum of sixteen (16)** history courses may be applied toward the 120 total credits required for graduation, with at least 72 credits taken outside the major department. History majors should be careful to limit the number of courses taken below the 300-level; the minimum of eight upper-level courses required for the major leaves a maximum of eight 100-level and 200-level courses to be counted toward graduation.

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.

Required Courses in Suggested Sequence for the B.A. in History

First Year - First Semester

- ENG 101 - College Composition Credits: 3

First Year - Second Semester

- HTY 1XX Introductory Elective Credits: 3

- Second semester language Credits: 3
- Electives/General Education Requirements Credits: 9

Second Year - First Semester

- HTY 1XX or 2XX Introductory Elective Credits: 3
- HTY 3XX or 4XX Advanced Elective Credits: 3
- Third semester language Credits: 3
- Electives/General Education Requirements Credits: 6

Second Year - Second Semester

- HTY 1XX or 2XX Introductory Elective Credits: 3
- HTY 3XX or 4XX Advanced Elective Credits: 3
- Fourth semester language Credits: 3
- Electives/General Education Requirements Credits: 6

Third Year - First Semester

- HTY 3XX or 4XX Advanced Elective Credits: 6
- Electives/General Education Requirements Credits: 9

Third Year - Second Semester

- HTY 3XX or 4XX Advanced Elective Credits: 6
- Electives/General Education Requirements Credits: 9

Fourth Year - First Semester

- HTY 3XX or 4XX Advanced Elective Credits: 3
- ElectivesCredits: 12

Fourth Year - Second Semester

- HTY 498 - Senior Seminar in History Credits: 3
- Electives Credits: 12

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 Grade requirements for courses to count toward major: ANT 101, ANT 102, and ANT 225 must be completed with minimum grade of C- or better. Capstone experience (ANT 410 or ANT 497) must be completed with a minimum grade of C or better.

Other GPA requirements to graduate: A minimum accumulative GPA of 2.0 in the major.

Required Courses for fulfilling Capstone Experience: ANT 410 or ANT 497

Contact Information: Gregory Zaro, Chair of Anthropology, Associate Professor of Anthropology and Climate Change, 5773 S. Stevens Hall, Room 242 (207) 581-1857, Fax: (207) 581-1823, gregory.zaro@umit.maine.edu

Climate Change is one of the leading environmental and human problems facing the world today. Melting glaciers and rising oceans with landward-moving shorelines 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. Humans contribute to global warming and environmental degradation, and humans alone can provide solutions to these problems through successful policy initiatives at local through global scales. 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. Successful policy decisions to mitigate climate change will be based on solid science and social science related to culture. Social scientists have an extremely important role to play in assisting state, national, and world decision makers in understanding environmental problems and finding solutions to them. Social scientists work with policy makers, conduct research among local populations around the world, and on the basis of this work devise policies that take into account the social and cultural implications of policy decisions from local to international scales.

With core faculty situated in the Anthropology Department, this degree program addresses these important dimensions of climate change. Anthropologists draw their data from all known human societies. Social anthropologists conduct extended periods of fieldwork in communities around the world; physical anthropologists and archaeologists reconstruct those of the past. As a result of this work, anthropologists have built up robust models and explanations of similarity and variance across cultures. They are unusually well equipped to investigate and understand responses to climate change by people whose cultural backgrounds may be radically different from those of the western world. They have a detailed knowledge of how environment and climate shapes cultures, and of how cultures shape their environments. They are also able to devise policies that take cultural differences into account in devising and managing climatic solutions.

Special Resources and Programs

Core faculty members of this program are affiliated with the Anthropology Department and engage in research focused on the human dimensions of environmental issues. Some are also members of the Climate Change Institute or work on climate change research. These faculty are directly involved in teaching the program's courses, advising students, participating in research projects, and providing guest lectures as needed.

Departmental Notes:

Related Graduate Programs

The Department of Anthropology cooperates with the Climate Change Institute to train graduate students in prehistoric archeology towards an MS degree in Quaternary and Climate Studies. Application is made through the Graduate School.

The PhD program in Anthropology and Environmental Policy centers on understanding human society and culture in cross-cultural perspective and their pivotal role in implementing successful environmental policy. The program engages students in a multi-disciplinary framework bridging environmental sciences and policy while focusing on the sociocultural impacts of, and responses to, local and global environmental change. Application is made through the Graduate School.

Student Outcomes and Career Opportunities

The program engages students in the human dimension issues of one of the most important scientific and cultural challenges facing the world today. These engaged students are able to understand the diverse human causes and impacts of climate change to better enact successful policy decisions at local, national, and international levels. The program provides students with skills useful outside as well as within the academic environment. Specific skill sets are both quantitative and qualitative and focus on ethnographic methods and analysis such as participant observation, directed interviewing, and statistical analysis of qualitative and quantitative ethnographic data. Graduates of this program will seek positions in private business as well as in state, national, and international institutions that deal with policy decisions related to the human dimensions of climate management and change.

The Bachelor of Arts in Human Dimensions of Climate Change (HDCC)

Students may declare an HDCC major in their first year, and must declare their major once they have accumulated 53 credits. It is desirable to begin taking HDCC courses in the first semester at the university.

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. First year students also concentrate on completing General Education requirements.

ANT 225 and 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 410 (capstone course) or ANT 497 (independent research), taken in the junior or senior year.

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.

Required Courses

A minimum of 45 credits is required. ANT 101, 102, and 225 must be completed with a minimum grade of C- or better. ANT 410 (or ANT 497) must be completed with a minimum grade of C or better.

Core Courses

Required core courses with minimum grade of C-

- ANT 101 - Introduction to Anthropology: Human Origins and Prehistory Credits: 3
- ANT 102 - Introduction to Anthropology: Diversity of Cultures Credits: 3
- ANT 225 - Climate Change, Societies and Cultures Credits: 3
- ANT 4XX Human Dimensions of Climate Change Senior Seminar Credits: 3

Electives (12 credits - a minimum of 9 credits must come from Anthropology):

- ANT 212 - The Anthropology of Food Credits: 3
- ANT 235 - Cultural Perceptions of Nature Credits: 3
- ANT 250 - Conservation Anthropology: The Socio-Cultural Dimension of Environmental Issues Credits: 3
- ANT 270 - Environmental Justice Movements in the United States Credits: 3
- ANT 295 - American Indians and Climate Change Credits: 3
- or**
- NAS 295 - American Indians and Climate Change Credits: 3
- ANT 311 - Geography of Climate Change Credits: 3
- or**

- GEO 311 - Geography of Climate Change Credits: 3
- ANT 420 - Human Impacts on Ancient Environments Credits: 3
- ANT 421 - Inca Society and Peasants of the Andes Credits: 3
- ANT 464 - Ecological Anthropology Credits: 3
- ANT 466 - Economic Anthropology Credits: 3
- ANT 475 - Environmental Archaeology Credits: 3
- ANT 476 - The Ancient Maya Credits: 3
- ANT 480 - Andean Prehistory Credits: 3
- ECO 381 - Sustainable Development Principles and Policy Credits: 3
- HTY 479 - U.S. Environmental History Credits: 3
- PHI 232 - Environmental Ethics Credits: 3

Physical Science Courses

Required Physical Science Courses

- BIO 100 - Basic Biology Credits: 4
- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- PHY 111 - General Physics I Credits: 4

Choose Earth Science (Option A) or Marine Science (Option B) Track

OPTION A, EARTH SCIENCE TRACK

Required Courses

- ERS 121 - Humans and Global Change Credits: 3

plus one of the following

- ERS 240 - The Atmosphere Credits: 4
- ERS 369 - Energy Resources and Climate Change Credits: 3

OPTION B, MARINE SCIENCE TRACK

Required Courses

- SMS 100 - Introduction to Ocean Science Credits: 3
- SMS 402 - Oceans and Climate Change Credits: 3

Capstone Experience

Choose one of the following courses, with minimum grade of C

- ANT 410 - Human Dimensions of Climate Change Credits: 3
- ANT 497 - Department Projects Credits: Ar

Notes:

- ANT 225, ANT 410 (the capstone experience), and 15 other degree program credits must be taken at UMaine.
- Students writing an honors thesis related to the human dimensions of climate change do not have to take the capstone course: ANT 410 or ANT 497 Independent Study
- Students choosing the Earth Science Track will need to have completed ERS 121 or any other 100-level ERS course before they enter ERS 369.
- Students choosing the Marine Science Track will need to have completed two of the three required physical science courses along with SMS 100 before they enter SMS 402.
- 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, such as ANT 462 (Numerical Methods in Anthropology), and achieve relevant foreign language competency at the intermediate level.
- Minors in the social or environmental sciences are appropriate for this major. These are included under the College of Liberal Arts and Sciences.

Interdisciplinary Studies

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120

Minimum Grade requirements for courses to count toward major: None.

GPA requirements to graduate: 2.0

Contact Information: Tim Cole, Assoc. Dean, College of Liberal Arts and Sciences, 5774 Stevens Hall, Room 130, Orono, ME 04469-5774, (207) 581-3844, timothy.cole@umit.maine.edu

The Bachelor of Arts program in Interdisciplinary Studies allows students to design an individualized major under the supervision of a Program Committee composed of at least three faculty members, two of whom must come from departments in the College of Liberal Arts and Sciences. This program of study must meet individualized educational goals that cannot be achieved within any departmentally based major program. Students pursuing a BA in Interdisciplinary Studies work closely with their committees in planning and completing an integrated, coherent, interdisciplinary sequence of courses, including at least 36 credits from three departments (at least two of which must be in CLAS); with 24 credits from departments in the College of Liberal Arts and Sciences. At least 27 of these credits must be in upper-level courses (with prerequisites), and no more than 18 credits may be taken from any one department. The program committee may also establish additional major requirements, such as a language requirement, and all programs must include a capstone experience.

The Bachelor of Arts in Interdisciplinary Studies in the College of Liberal Arts and Sciences (CLAS) serves highly motivated students with specific academic goals that can be achieved more effectively by combining disciplines than by pursuing a major through the conventional departmental structure. The student designs his or her own curriculum with the guidance of a faculty committee from the disciplines representing the student's areas of interest. At least two-thirds of the credits and the committee members must be from CLAS. After the student's committee has approved the proposal, it is reviewed by the College

Interdisciplinary Studies Committee which may approve, reject or return the proposal for revisions. The student may declare Interdisciplinary Studies as a major only after the proposal has been approved at the College level.

Sample interdisciplinary programs include Religious Studies, Film Studies, Black Studies, Franco-American Studies, and Native American Studies. Students are responsible for recruiting and convening their own faculty committees and working with them to develop an approved curriculum. 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. This program is not suitable for advanced transfer students.

REQUIREMENTS:

1. 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
2. Minimum grade point average of 2.75
3. 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 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: None.

Contact Information: Micheal Lang, Associate Professor of History, 315 Stevens Hall, (207) 581-1964, lang@maine.edu

A degree in International Affairs benefits students as they prepare for their roles as national and global citizens, teaching them the dynamics behind a changing global society and introducing them to ways of enhancing international community. Moreover, the International Affairs Program offers a strong, interdisciplinary curriculum that includes courses from departments across the campus and enables students from diverse disciplines to integrate an international perspective into their studies and future careers.

The Bachelor of Arts degree in International Affairs allows students to choose among several thematic concentrations or an area studies concentration (Canadian Studies). During the first two years, students are encouraged to complete course work to fulfill the general education requirements of the Bachelor of Arts degree and the International Affairs core curriculum. All International Affairs students are strongly encouraged to develop or sharpen their language training early in their program of study in order to fulfill the language requirement in their third or fourth year. The final two years should be focused on the concentration electives. All International Affairs students are strongly encouraged to participate in the Study Abroad Program.

Course overlap: Students may only "double count" two courses (6 credits) to fulfill both IA and program requirements for a second major.

Institutional credit requirement: Institutional credit is defined as all University of Maine (Orono) courses regardless of delivery method (live, on-line, etc.). For the IA major, 18 credits must be completed at the University of Maine as follows: 15 credits in

the student's concentration, along with the capstone requirement. For the IA minor, 9 credits exclusive of the Foreign Language requirement must be completed at the University of Maine.

Core Requirements - 15 hours.

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.

Core Requirements - 15 credit hours

Students must earn a "C" or better in all courses required in the major.

- ANT 102 - Introduction to Anthropology: Diversity of Cultures Credits: 3
- ECO 121 - Principles of Macroeconomics Credits: 3
- HTY 241 - History of Globalization, 1900-Present Credits: 3
- INA 101 - Introduction to International Affairs Credits: 3
- POS 120 - Introduction to World Politics Credits: 3

Capstone Requirement (3 credits)

IA majors may complete their capstone requirement in one of the following ways:

- A capstone course whose topic falls within their thematic concentration. For thematic concentrations with POS as the primary field, POS 499 may fulfill the capstone. For thematic concentrations with HTY as the primary field, HTY 498 may fulfill the capstone. For thematic concentrations with ANT as the primary field, ANT 493 may fulfill the capstone requirement. For thematic concentrations with ECO as the primary field, ECO 489 may fulfill the capstone requirement. For the concentration with MCL as the primary field, FRE 495 or SPA 495 may fulfill the capstone requirement. For Global Women's, Gender, and Sexuality Issues concentration, WGS 480 may fulfill the capstone. See immediately below for the Canadian Studies capstone. **Note:** International Affairs majors with a second major may fulfill the requirement with the capstone in that major if it has sufficient content from the thematic concentration's primary field. Students with questions in this area must consult with their academic adviser and the IA Director before they enroll for the course
- In conjunction with an existing course in the student's concentration, students may propose to conduct in-depth research and analysis with the faculty member teaching the course. Students must have written approval of the course instructor and the IA Director. **Note:** Students in the Canadian Studies concentration will meet their capstone requirement via this process through CAN 401. Any student of whatever concentration choosing this option must have senior standing and have declared the concentration in question. Completion of the requirements of the existing course, standing alone, will not fulfill the capstone requirement.
- A directed research project on an approved topic proposed by the student. The project must meet the spirit and intent of the General Education capstone experience. **NOTE:** Students must have confirmation of a faculty member who will advise the project before they can register for an independent study course, and must have approval of the IA Director.
- Undergraduate Honors Thesis on a topic clearly relevant to the major (approval of IA Director required)

Foreign Language Experience

Students must demonstrate their linguistic ability through a language exam, known as the Oral Proficiency Interview. A score of Intermediate (Low, Mid, or High) is required.

Minimum preparation for the Oral Proficiency Interview (OPI) is assumed to be six (6) credits at the 300 level or above in French or Spanish.

Students who wish to select German or one of the other languages taught in the Critical Languages program must consult the Chair of the Department of Modern Languages and Classics. As students choosing one of these languages cannot be guaranteed sufficient class time to reach intermediate status, they must plan to participate in an intensive immersion experience in the United States or through study abroad. The Chair of the Department of Modern Languages and Classics will notify a student's academic advisor and the IA Director whenever a language other than French or Spanish is chosen.

Notes

International students are permitted to meet the language requirement with their TOEFL score, but are encouraged to undertake further foreign language study.

Students may not use their native language to meet the language requirement.

Proficiency testing is a standard means of assessing what one can do in a language. The OPI was developed by the American Council on the Teaching of Foreign Languages (ACTFL). Detailed descriptors of the Intermediate and other proficiency levels can be found in the ACTFL Proficiency Guidelines, <http://www.actfl.org/publications/guidelines-and-manuals/actfl-proficiency-guidelines-2012>

Testing is administered exclusively by Language Testing International and is available at UMaine.

Students are advised that there are fees associated with the OPI for which they will be responsible. Assistance in making arrangements for taking the OPI will be provided by the chair of Modern Languages and Classics, who will also advise students of its current cost and method of payment. Students may register either for the OPI, involving a telephone interview with a certified ACTFL tester, or for the OPIC, a computer delivered assessment that emulates its live counterpart.

Thematic Concentration Requirements - 21-27 credit hours

Thematic concentrations are designed to provide students with substantial, in-depth, and focused study of an aspect of International Affairs. Students must select one concentration from below and take a minimum of 7 courses up to a maximum of 9 courses from that concentration; at least 2 courses must be in a secondary field. Other thematic concentrations may be created in the future.

A. International Security

(POS as primary field):

- ANT 249 - Religion and Violence Credits: 3
- ANT 458 - Anthropology of War Credits: 3
- HTY 279 - European Military History Credits: 3
- HTY 473 - History of U.S. Foreign Relations I Credits: 3
- HTY 474 - History of U.S. Foreign Relations II Credits: 3
- HTY 487 - The First World War Credits: 3
- INA 201 - Topics in International Affairs Credits: 3
- POS 273 - International Relations Credits: 3
- POS 369 - Topics in International Relations Credits:
- POS 370 - International Terrorism: The Challenges for America Credits: 3
- POS 372 - Canadian Foreign Policy Credits: 3
- POS 374 - American Foreign Policy Credits: 3
- POS 375 - United States and the Middle East Credits: 3
- POS 470 - International Law Credits: 3

- POS 474 - Conduct of Foreign Policy Credits: 3
- POS 475 - International Security Credits: 3
- POS 476 - Seminar in World Politics Credits: 3
- SOC 208 - Problems of Violence and Terrorism Credits: 3

B. History and Development of the Global System

(HTY as primary field):

- ANT 249 - Religion and Violence Credits: 3
- ANT 256 - Ethnic Conflict Credits: 3
- ANT 454 - Cultures and Societies of the Middle East Credits: 3
- GEO 275 - Geography of Globalization Credits: 3
- HTY 240 - Creation of the Atlantic World, 1450-1888 Credits: 3
- HTY 275 - Geography of Globalization Credits: 3
- HTY 278 - American Military History Credits: 3
- HTY 279 - European Military History Credits: 3
- HTY 312 - Furs, Frontiers, and Fame: North American Exploration Credits: 3
- HTY 341 - The Making of Modern China Credits: 3
- HTY 349 - Early Modern North America in Atlantic Perspective Credits: 3
- HTY 403 - Early Middle Ages Credits: 3
- HTY 404 - Late Middle Ages Credits: 3
- HTY 405 - Early Modern Europe: Renaissance, Reformation and the Foundation of the Modern World-System Credits: 3
- HTY 427 - Vikings! Credits: 3
- HTY 432 - History of Modern Ideas Credits: 3
- HTY 437 - History of Modern Japan Credits: 3
- HTY 442 - The United States and Vietnam: A History Credits: 3
- HTY 446 - History of Modern Middle East, 1800-Present Credits: 3
- HTY 450 - History of the British Empire Credits: 3
- HTY 462 - The American Revolution Credits: 3
- HTY 473 - History of U.S. Foreign Relations I Credits: 3
- HTY 474 - History of U.S. Foreign Relations II Credits: 3
- HTY 480 - Global Environmental History Credits: 3
- HTY 481 - Amerindians of the Northeast: A History Credits: 3
- HTY 487 - The First World War Credits: 3
- POS 273 - International Relations Credits: 3
- POS 369 - Topics in International Relations Credits:
- POS 476 - Seminar in World Politics Credits: 3
- POS 470 - International Law Credits: 3

C. Comparative Politics and Area Studies

(POS as primary field):

- ANT 249 - Religion and Violence Credits: 3
- ANT 252 - Civilization in South Asia Credits: 3

- ANT 256 - Ethnic Conflict Credits: 3
- ANT 451 - Native American Cultures and Identities Credits: 3
- ANT 454 - Cultures and Societies of the Middle East Credits: 3
- ANT 465 - Political Anthropology Credits: 3
- ANT 470 - Religion and Politics Credits: 3
- HTY 460 - Modern Canada 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
- POS 336 - Government and Politics in Russia Credits: 3
- POS 337 - Government and Politics in Eurasia Credits: 3
- POS 344 - Public Policy in Canada Credits: 3
- POS 349 - Topics in Comparative Politics Credits: 3
- POS 368 - China Credits: 3
- POS 372 - Canadian Foreign Policy Credits: 3
- POS 467 - African Politics Credits: 3
- POS 470 - International Law Credits: 3
- WGS 340 - Transnational Feminisms Credits: 3

D. Culture, Conflict, and Globalization

Required Anthropology core class and capstone (C or better):

- ANT 102 - Introduction to Anthropology: Diversity of Cultures Credits: 3
- ANT 493 - Capstone in Anthropology: What does it mean to be human? Credits: 3

Electives 21 credits (C or better):

- ANT 120 - Religions of the World Credits: 3
- ANT 212 - The Anthropology of Food Credits: 3
- ANT 225 - Climate Change, Societies and Cultures Credits: 3
- ANT 245 - Sex and Gender in Cross-Cultural Perspective 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 261 - Islamic Fundamentalism Credits: 3
- ANT 295 - American Indians and Climate Change Credits: 3
- ANT 311 - Geography of Climate Change Credits: 3
- ANT 410 - Human Dimensions of Climate Change Credits: 3
- ANT 421 - Inca Society and Peasants of the Andes Credits: 3
- ANT 430 - Who Owns Native Cultures? Credits: 3
- ANT 441 - People and Cultures of the Pacific Islands Credits: 3
- ANT 448 - Ethnography Through Film Credits: 3

- ANT 451 - Native American Cultures and Identities Credits: 3
or
- NAS 451 - Native American Cultures and Identities Credits: 3
- ANT 454 - Cultures and Societies of the Middle East Credits: 3
- ANT 458 - Anthropology of War Credits: 3
- ANT 459 - Peoples and Cultures of South America Credits: 3
- ANT 464 - Ecological Anthropology Credits: 3
- ANT 466 - Economic Anthropology Credits: 3
- ANT 470 - Religion and Politics Credits: 3
- GEO 100 - World Geography Credits: 3
- GEO 275 - Geography of Globalization Credits: 3
- HTY 107 - East Asian Civilization Credits: 3
- HTY 110 - Introduction to Modern Latin America Credits: 3
- HTY 112 - Introduction to Africa Credits: 3
- HTY 240 - Creation of the Atlantic World, 1450-1888 Credits: 3
- HTY 241 - History of Globalization, 1900-Present Credits: 3
- POS 120 - Introduction to World Politics Credits: 3
- POS 273 - International Relations Credits: 3
- POS 467 - African Politics Credits: 3
- WGS 340 - Transnational Feminisms Credits: 3
- WGS 371 - Immigration, Women and Society Credits: 3

E. Economics

(IA-ECO):

- ECO 120 - Principles of Microeconomics Credits: 3
- ECO 321 - Intermediate Macroeconomics Credits: 3
- ECO 339 - International Finance Credits: 3
- ECO 340 - The Canadian Economy: Issues and Policies Credits: 3
- ECO 350 - Intermediate Microeconomic Theory Credits: 3
- ECO 353 - Money and Banking Credits: 3
- ECO 366 - Applied Economic Data Analysis Credits: 3
- ECO 381 - Sustainable Development Principles and Policy Credits: 3
- ECO 450 - International Environmental Economics and Policy Credits: 3
- ECO 470 - Topics in Economics Credits: 1-3
- ECO 496 - Field Experience in Economics Credits: 3
- ECO 497 - Independent Studies Credits: 1-3
- 2 non-ECO courses related to international issues or topics from the same secondary field

F. Language, Culture and the Humanities

(MLC as primary field):

21 credits at the 300 or 400 level in French or Spanish beyond the IA Language Experience Requirement (ACTFL OP rating of "Intermediate"), and 6 credits in a single discipline outside Modern Languages and Classics.

- 1 course in advanced-intermediate (300 level) or advanced (400 level) target language grammar or linguistics
- 1 course in the development of speaking skills
- 1 course in the literature of the target language
- 1 course in the target culture, civilization, or contemporary society
- 1 travel study course in immersions (waived for a semester, year or intensive summer study abroad in immersion)
- 2 electives taught in the target language

AND

2 courses in any one of the disciplines listed below. Courses from these disciplines should be selected in consultation with the academic advisor to insure their relevance to the concentration. They may not be used to satisfy the IA Core Requirement

- Anthropology
- Art History
- English
- History
- Music
- Peace Studies
- Philosophy

G. Canadian Studies

The Canadian Studies program at the University of Maine is the only area studies program at a state university in New England that is recognized by the US Department of Education under its Title VI International Education program.

From the list below, IA majors with a Canadian Studies concentration must take CAN 101 and and eight other listed courses. At least two of which must be in the same discipline. **Students in the Canadian Studies concentration must meet the IA language requirement in French.**

Canadian Studies Required Course

- CAN 101 - Introduction to Canadian Studies Credits: 3

Canadian Studies Approved Courses

Choose 8 courses, 2 from the same discipline.

- CAN 401 - Readings in Canadian Studies Credits: 3
- ECO 340 - The Canadian Economy: Issues and Policies Credits: 3
- ENG 236 - Intro to Canadian Literature Credits: 3
- ENG 336 - Canadian Literature Credits: 3
- ENG 429 - Topics in Literature and Language Credits: 3
- FRE 397 - French (May Term) Credits: 3
- FRE 463 - Quebec Poetry Credits: 3
- FRE 464 - Quebec Theatre Credits: 3
- FRE 465 - North American French Novel Credits: 3

- FRE 490 - Advanced Topics in French Credits: 1-3
- GEO 349 - Early Modern North America in Atlantic Perspective Credits: 3
- HTY 312 - Furs, Frontiers, and Fame: North American Exploration Credits: 3
- HTY 459 - Colonial Canada Credits: 3
- HTY 460 - Modern Canada Credits: 3
- HTY 481 - Amerindians of the Northeast: A History Credits: 3
- HTY 599: Special Topics in History (Canadian Nationalism and Myths)
- POS 243 - Canadian Government and Politics Credits: 3
- POS 344 - Public Policy in Canada Credits: 3
- POS 372 - Canadian Foreign Policy Credits: 3

H. Global Women's, Gender, and Sexuality Issues

Women's Studies (now Women's, Gender, and Sexuality Studies) has been part of the International Affairs major for a decade. Its importance to the field of International Affairs is made clear by the recent explosion of scholarly works that combine gender with an international focus and by the increasing attention to the role that gender plays in politics, conflict, international aid, and sustainability. It is impossible to turn on the network or internet news without seeing at least one article related to an international women's and/or gender issue. The Global Women's Gender, and Sexuality Issues Concentration provides an important option for students who want to explore interdisciplinarity explicitly.

Required:

- WGS 101 - Women's, Gender and Sexuality Studies Credits: 3
- WGS 340 - Transnational Feminisms Credits: 3

Core Courses and Non-WGS courses

From the list below students must take 3 WGS core courses of their choice, and must select two non-WGS courses with the same designator (for example: ANT):

WGS Core Courses

- ANT 245 - Sex and Gender in Cross-Cultural Perspective Credits: 3
 - CHF 404 - Selected Topics in Child Development and Family Life Credits: 3
(Topics in Family Studies: Cross-Cultural Perspectives on Gender and Violence)
(Topics in Family Studies: Human Sexuality in Europe)
 - SOC 330 - Perspectives on Women Credits: 3
 - SOC 371 - Immigration, Women and Society Credits: 3
 - WGS 103 - Introduction to Lesbian, Gay, Bisexual, and Transgender Studies Credits: 3
 - WGS 201 - Topics in Women's, Gender, and Sexuality Studies Credits: 3
 - WGS 250 - Women and Music Credits: 3
 - WGS 270 - Native American Women Credits: 3
- or**

- NAS 270 - Native American Women Credits: 3
- PAX 401 - Women Social Activists: Warriors for Peace and Justice Credits: 3
- WGS 401 - Advanced Topics in Women's, Gender, and Sexuality Studies Credits: 3
(Topic: Amazons: A Multicultural Perspective)
- WGS 410 - Feminist, Gender and Queer Theory Credits: 3

Additional Courses

- ANT 120 - Religions of the World Credits: 3
- ANT 261 - Islamic Fundamentalism Credits: 3
- HTY 449 - History of South Africa Credits: 3
- HTY 450 - History of the British Empire Credits: 3
- POS 241 - Introduction to Comparative Politics Credits: 3
- POS 273 - International Relations Credits: 3

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 other CMJ courses to fulfill a major requirement.

Other GPA requirements to graduate: A minimum cumulative GPA of 2.0 ("C") in the major.

Required Course(s) for fulfilling Capstone Experience: CMJ 481 or CMJ 484 or CMJ 489

Residency Requirement: 24 credits of CMJ courses must be taken at the University of Maine.

Contact Information: Nathan Stormer, Chair, 430 Dunn Hall, 581-1938

The Department of Communication and Journalism offers three different B.A. degrees. These degrees are in: Communication, Journalism, and Mass Communication.

The B.A. in Journalism requires coursework that prepares students for leadership roles in journalism careers. The Journalism major offers students strong oral and written expression skills, a firm grasp of public affairs, and a broad foundation in the liberal arts. Full-time faculty members are established scholars who draw on professional experience and ongoing contacts with journalism organizations. An active internship program encourages students to become acquainted with working in media organizations, and thus have demonstrable work experience, professional contacts and an understanding of the industry before they enter the job market.

Majors in Journalism must complete a minimum of thirty (30) credits of specific CMJ courses to fulfill the core course internship experience, capstone and professional course requirements.

Students must also fulfill the external course requirements.

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 205, ENG 206, ENG 212, ENG 301, ENG 317, ENG 415, ENG 416, and ENG 418. 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.

Requirements for Journalism Majors:

For students transferring equivalent courses from other colleges, the faculty will determine equivalency (if any) of transfer courses in the discipline. Some CMJ courses require the completion of one or more prerequisite courses.

Students must earn a grade of C- or higher in CMJ 236 and pass a writing exam in order to continue in the Journalism major and take courses in the professional course requirement list: CMJ 237, CMJ 332, CMJ 351, CMJ 434, CMJ 435, CMJ 481, CMJ 484 and CMJ 489, as well as CMJ 395.

A grade of C- or higher is required in all CMJ courses submitted to satisfy departmental requirements for the major.

Core Course Requirements - 3 courses (9 credits)

- CMJ 211 - Journalism Studies I: Introduction and History Credits: 3
- CMJ 236 - Journalism Writing and Editing Credits: 3
- CMJ 375 - Journalism Studies II: Law and Ethics Credits: 3

Capstone Requirement: (select 1 course; 3 or 4 credits)

- CMJ 481 - Digital Journalism Credits: 4
- CMJ 484 - Investigative Journalism Credits: 3
- CMJ 489 - Seminar in Media Ethics and Issues Credits: 3

Internship Requirement: (3 credits)

- CMJ 395 - Student Media Practicum Credits: 1-3
or
- CMJ 495 - Internship Credits: 1-3

Professional Course Requirement: 3 or more courses (9 or more credits)

- CMJ 237 - Journalism Across Platforms Credits: 4
- CMJ 332 - Public Affairs Reporting and Research Credits: 3
- CMJ 351 - Multimedia Production Credits: 4
- CMJ 434 - Editorial and Opinion Writing Credits: 3
- CMJ 435 - Feature Writing Credits: 3
- CMJ 481 - Digital Journalism Credits: 4
- CMJ 484 - Investigative Journalism Credits: 3
- CMJ 489 - Seminar in Media Ethics and Issues Credits: 3

Electives: (Up 6 credit hours may be taken to complete 30 credit hours required; only 3 credits from CMJ 100 or 107 may count toward the major).

- CMJ 100 - Introduction to Mass Communication Credits: 3
- CMJ 107 - Communication and the Environment Credits: 3
- CMJ 111 - Introduction to Journalism Credits: 3
- CMJ 245 - Film Criticism and Theory Credits: 3
- CMJ 261 - Photographic Reporting and Storytelling Credits: 3
- CMJ 314 - International Mass Communication Credits: 3
- CMJ 330 - Copy Editing Credits: 3
- CMJ 347 - Argument and Critical Thinking Credits: 3
- CMJ 361 - Documentary Photography and Audio Credits: 3
- CMJ 367 - Public Relations Credits: 3
- CMJ 370 - Visual Communication Credits: 3
- CMJ 376 - Modes of Media Criticism Credits: 3
- CMJ 380 - Advertising, Media and Society Credits: 3
- CMJ 391 - Topics in Journalism Credits: 3
- CMJ 403 - Persuasion and Social Influence Credits: 3
- CMJ 410 - Social Influence of Mass Communication Credits: 3
- CMJ 412 - Electronic Media Management and Programming Credits: 3
- CMJ 425 - SL: Health Campaigns Credits: 3
- CMJ 475 - Sexualities in Mass Communication Credits: 3
- CMJ 480 - Media Theories and Research Methods Credits: 3
- CMJ 491 - Advanced Topics in Journalism Credits: 3
- CMJ 500-level courses with department approval Credits: 3

Additional credits:

Students may also take additional credits in department courses beyond the 30 required for the major, but must take at least **72** credit hours outside of CMJ courses.

Required Courses in Suggested Sequence for the B.A. in Journalism

First Year - First Semester

- ENG 101 - College Composition Credits: 3
- General Education Human Values/Social Context Credits: 12

First Year - Second Semester

- CMJ 236 - Journalism Writing and Editing Credits: 3
- General Education Science or Mathematics/Statistics Credits: 3
- General Education Human Values/Social Context Credits: 6
- **Electives Credits: 3

Second Year - First Semester

- CMJ 211 - Journalism Studies I: Introduction and History Credits: 3
- General Education Science or Mathematics/Statistics Credits: 3
- CMJ External Requirement Credits: 3
- CMJ Journalism Elective Credits: 3
- **Electives Credits: 3

Second Year - Second Semester

- BA Upper Level Requirement Credits: 3
- CMJ External Requirements Credits: 9
- Professional Course

Third Year - First Semester

- BA Upper Level Requirement Credits: 3
- CMJ Journalism Elective Credits: 3
- CMJ External Requirements Credits: 3
- General Education Science or Mathematics/Statistics Credits: 3
- Professional Course

Third Year - Second Semester

- Capstone or Internship
- CMJ 375 - Journalism Studies II: Law and Ethics Credits: 3
- BA Upper Level Requirement Credits: 3
- General Education Science or Mathematics/Statistics Credits: 3

- CMJ External Requirement Credits: 3

Fourth Year - First Semester

- CMJ External Requirement Credits: 9
- **Elective Credits: 6
- Professional Course

Fourth Year - Second Semester

- Capstone or Internship
- **Elective Credits: 9

**Elective Credits

Elective Credits may be used to meet remaining General Education, college, B.A., or department requirements.

Students may also take additional credits in department courses beyond the 30 required for the major, but must take at least 72 credit hours outside of CMJ courses.

Mass Communication

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: 24 credits of CMJ courses at the University of Maine.

Required Course(s) for fulfilling Capstone Experience: CMJ 483

Contact Information: Nathan Stormer, Chair, 430 Dunn Hall, 581-1938

The Department of Communication and Journalism offers three different B.A. degrees. These degrees are in: Communication, Journalism, and Mass Communication.

Firmly grounded in the liberal arts, the B.A. degree in Mass Communication 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 mass communication theories and research issues necessary for graduate study in related communication fields, the humanities and social sciences.

Majors in Mass Communication 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 205, ENG 206, ENG 212, ENG 301, ENG 317, ENG 415, ENG 416, and ENG 418. CMJ 236 and CMJ 237 can also be used to meet part of this requirement for Mass Communication 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.

Requirements for Mass Communication Majors:

For students transferring equivalent courses from other colleges the faculty will determine equivalency (if any) of transfer courses in the discipline. Some CMJ courses require the completion of one or more prerequisite courses.

A grade of "C-" or better is required in all CMJ courses submitted to satisfy departmental requirements for the major.

Core Course Requirements - 3 courses (9 credits)

- CMJ 203 - Mass Communication Studies Credits: 3
- CMJ 376 - Modes of Media Criticism Credits: 3
- CMJ 483 - Capstone Seminar in Mass Communication Credits: 3

Major Course Requirements - 7 courses from the following list (21 credits) Only 3 credits from CMJ 100 or 107 may count toward the major.

- CMJ 100 - Introduction to Mass Communication Credits: 3
- CMJ 107 - Communication and the Environment Credits: 3
- CMJ 211 - Journalism Studies I: Introduction and History Credits: 3
- CMJ 245 - Film Criticism and Theory Credits: 3
- CMJ 314 - International Mass Communication Credits: 3
- CMJ 367 - Public Relations Credits: 3
- CMJ 370 - Visual Communication Credits: 3
- CMJ 375 - Journalism Studies II: Law and Ethics Credits: 3
- CMJ 380 - Advertising, Media and Society Credits: 3
- CMJ 398 - Topics in Mass Communication Credits: 3
- CMJ 402 - Communication Research Credits: 3
- CMJ 403 - Persuasion and Social Influence Credits: 3
- CMJ 404 - Risk Communication Credits: 3
- CMJ 410 - Social Influence of Mass Communication Credits: 3
- CMJ 412 - Electronic Media Management and Programming Credits: 3

- CMJ 425 - SL: Health Campaigns Credits: 3
- CMJ 430 - Intercultural Communication Credits: 3
- CMJ 450 - Communication and Technology Credits: 3
- CMJ 475 - Sexualities in Mass Communication Credits: 3
- CMJ 480 - Media Theories and Research Methods Credits: 3
- CMJ 498 - Advanced Topics in Mass Communication Credits: 3
- CMJ 500 level courses with departmental permission

Additional credits:

Students also may take additional credits in department courses beyond the 30 required for the major, but must take at least **72** credit hours outside of CMJ courses.

Required Courses in Suggested Sequence for BA in Mass Communication

First Year - First Semester

- CMJ 100 - Introduction to Mass Communication Credits: 3
OR
- CMJ 107 - Communication and the Environment Credits: 3 **OR**
- Other CMJ Major Course Requirement Credits: 3
- ENG 101 - College Composition Credits: 3
- General Education Human Values/Social Context Credits: 9

First Year - Second Semester

- CMJ 211 - Journalism Studies I: Introduction and History Credits: 3
- General Education Science or Mathematics/Statistics Credits:3
- General Education Human Values/Social Context Credits:6
or
- Other CMJ Major Course Requirement Credits: 3

Second Year - First Semester

- CMJ 203 - Mass Communication Studies Credits: 3
- BA Upper Level Requirement Credits: 3
- General Education Science or Mathematics/Statistics Credits:3
- CMJ External Requirements Credits:6

Second Year - Second Semester

- CMJ Major Requirements Credits: 6

- CMJ External Requirements Credits: 6
- ** Elective Credits: 3

Third Year - First Semester

- CMJ 376 - Modes of Media Criticism Credits: 3
- General Education Science or Mathematics/Statistics Credits: 3
- CMJ External Requirement Credits:3
- CMJ Major Course Requirement Credits:3
- BA Upper Level Requirement Credits:3

Third Year - Second Semester

- CMJ Major Course Requirement Credits: 6
- CMJ External Requirement Credits:3
- BA Upper Level Requirement Credits:3
- General Education Science or Mathematics/Statistics Credits: 3

Fourth Year - First Semester

- CMJ 3xx or 4xx Major Course Requirement Credits: 3
- CMJ External Requirements Credits: 6
- ** Elective Credits: 3

Fourth Year - Second Semester

- CMJ 483 - Capstone Seminar in Mass Communication Credits: 3
- ** Elective Credits: 12

**Elective Credits

Elective Credits may be used to meet remaining General Education, college, B.A., or department requirements.

Students may also take additional department courses beyond the 30 credits required for the major, but must take at least 72 credit hours outside of CMJ courses.

Mathematics

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 Math (MAT) courses.

Other GPA requirements to graduate: A minimum accumulative GPA of 2.0 ("C") in the major.

Required Course(s) for fulfilling Capstone Experience: MAT401

Contact Information: Nigel Pitt, Chair, Mathematics & Statistics, 581-3901, 333 Neville Hall.

Mathematicians and those with mathematical inclination are inherently problem solvers. Through course work and individual faculty-student work, the Department of Mathematics and Statistics offers the mechanism to develop and refine problem solving skills and creative thinking skills that are so important to meeting the demands of the job market and society in general. The core courses in the BA program provide basic mathematical tools. Diversity in upper level course offerings, combined with one or more interdisciplinary concentrations, gives students considerable versatility on their careerpaths.

Departmental Notes:

The Department of Mathematics maintains a "laboratory" in 116 Neville Hall where students enrolled in lower division mathematics courses can come to get supplementary help with their homework assignments. The laboratory is open during the academic year. Faculty, graduate assistants, and junior and senior mathematics majors staff the laboratory.

The Bachelor of Arts in Mathematics

Required courses for the BA in mathematics are divided into:

- Core mathematics courses
- Upper level mathematics area of concentration
- Outside specialization

A student must receive a grade of at least C in a course in order to receive credit toward meeting the requirements for the major.

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.

Core Mathematics Courses

First and Sophomore Years:

- MAT 126 - Calculus I Credits: 4
- MAT 127 - Calculus II Credits: 4
- MAT 228 - Calculus III Credits: 4
- MAT 261 - Introduction to Abstract Mathematics Credits: 3
- MAT 262 - Linear Algebra Credits: 3

Junior and Senior Years:

- MAT 401 - Capstone Seminar in Mathematics Credits: 3
- MAT 425 - Introduction to Real Analysis I Credits: 3
- MAT 463 - Introduction to Abstract Algebra I Credits: 3
- STS 434 - Introduction to Statistics Credits: 4

Upper Level Mathematics Area of Concentration:

At least four other approved MAT or STS courses, at least three of which must be at the 400 level or above. These courses should be chosen by the student in consultation with her/his advisor and they should form a coherent area of concentration. Some examples of areas of concentration are Pure Mathematics, Continuous Applied Mathematics, Discrete Applied Mathematics, Statistics and Mathematics Education. (Credits: 12)

Total MAT Credits = 43.

Second major or minor

As with all departments within the College of Liberal Arts and Sciences (CLAS), each mathematics major must complete a second major or a minor in a second academic discipline.

Required Courses in Suggested Sequence for the BA in Mathematics

First Year - First Semester

- ENG 101 - College Composition Credits: 3
- MAT 126 - Calculus I Credits: 4
- Electives (Including courses for completing the University general education requirements) Credits: 7-10

First Year - Second Semester

- MAT 127 - Calculus II Credits: 4
- Electives (Including courses for completing the University general education requirements) Credits: 11-14

Second Year - First Semester

- MAT 228 - Calculus III Credits: 4
- MAT 261 - Introduction to Abstract Mathematics Credits: 3
- Electives (Including courses for completing the University general education requirements) Credits: 5-8

Second Year - Second Semester

- MAT 262 - Linear Algebra Credits: 3
- Minor course Credits: 3-6
- Electives (Including courses for completing the University general education requirements) Credits: 6-10

Third Year - First Semester

- MAT 425 - Introduction to Real Analysis I Credits: 3
- MAT 463 - Introduction to Abstract Algebra I Credits: 3
- Second major or minor course Credits: 3-6
- Electives (Including courses for completing the University general education requirements) Credits: 8-12

Third Year - Second Semester

- One or two MAT courses for the upper-level Concentration Credits: 3-6
- Second major or minor course Credits: 3-6
- Electives (Including courses for completing the University general education requirements) Credits: 3-6

Fourth Year - First Semester

- One or two MAT courses for the upper-level Concentration Credits: 3-6
- Second major or minor course Credits: 3-6
- Electives (Including courses for completing the University general education requirements) Credits: 3-6

Fourth Year - Second Semester

- MAT 401 - Capstone Seminar in Mathematics Credits: 3
- MAT course for the upper-level Concentration Credits: 3
- Outside Second major or minor course Credits: 3-6
- Electives (Including courses for completing the University general education requirements) Credits: 3-6

Five-year Program

The Department offers a five-year program which leads to both the bachelor's and master's degrees. Due to the alternate-year scheduling of our graduate courses, the program is designed so the student can take necessary graduate courses during his or her senior year. This is necessary if the student is to complete the requirements for the M.A. in one year of post-baccalaureate study. Contact the Department for further details.

Modern Languages

Please note: This major is not currently accepting new students as it is in the process of having its curriculum revised. Prospective students interested in pursuing this major should contact the Chair for advisement.

Contact Information: Jane Smith, Chair of Modern Languages and Classics, 201 Little Hall, 581-2075, jane.smith@umit.maine.edu

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: A minimum accumulative GPA of 2.0 ("C") in the major.

Required Course(s) for fulfilling Capstone Experience: MUS 498

Contact Information: Beth Wiemann, Chair, Class of 1944 Hall, 581-1244

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

This program is designed for the study of music within a strong liberal arts curriculum. It offers broad coverage of the field of music with emphasis on the study of the history and theory of music. It furnishes an appropriate background for prospective candidates for advanced degrees who are preparing for non-performance centered careers (e.g. musicology, composition, music librarianship, radio and television, etc.). It 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.

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.

B.A. Music Requirements

- MUH 201 - History of Western Music I Credits: 2
- MUH 202 - History of Western Music II Credits: 2
- MUL 200 - Music Literature Laboratory Credits: 1
- MUL 202 - The Art of Listening to Music: Historical Survey Credits: 3
- MUS 498 - Senior Project Credits: 3
- MUY 111 - Elementary Harmony I Credits: 2
- MUY 112 - Elementary Harmony II Credits: 2
- MUY 211 - Advanced Harmony I Credits: 2
- MUY 212 - Advanced Harmony II Credits: 2
- Choose 5 credits from the following six courses:
- MUY 310 - Jazz Improvisation I Credits: 3
- MUY 315 - Twentieth Century Musical Techniques Credits: 2
- MUY 422 - Tonal Counterpoint Credits: 2
- MUY 451 - Form and Analysis Credits: 3
- MUY 452 - Orchestration Credits: 3
- MUY 461 - Composition I (Small Forms) Credits: 2
- Recital Laboratory (each semester of applied lessons) Credits: 0
- Music Organizations (4 semesters -3 large ensemble, 1 small ensemble) Credits: 4
- Music electives (theory or history beyond core requirements) Credits: 9
- Piano proficiency (satisfied by exam or completion of piano class series) Credits: 0
- Applied Music Lessons Credits: 8
- Foreign Language Credits: 6

Required Courses in Suggested Sequence for the B.A. in Music

First Year - First Semester

- MUL 200 - Music Literature Laboratory Credits: 1

- MUL 202 - The Art of Listening to Music: Historical Survey Credits: 3
- MUY 111 - Elementary Harmony I Credits: 2
- Applied Music Lessons Credits: 1
- Recital Laboratory Credits: 0
- Music Organization Credits: 1
- Language Credits: 3-4
- General Education or college requirements Credits: 3

First Year - Second Semester

- MUY 112 - Elementary Harmony II Credits: 2
- Applied Music Lessons. Credits: 1
- Recital Laboratory Credits: 0
- Music Organization Credits: 1
- Language Credits: 3-4
- General Education or college requirements Credits: 7

Second Year - First Semester

- MUH 201 - History of Western Music I Credits: 2
- MUY 211 - Advanced Harmony I Credits: 2
- Applied Music Lessons Credits: 1
- Recital Laboratory Credits: 0
- Music Organization Credits: 1
- General Education or college requirements Credits: 8

Second Year - Second Semester

- MUH 202 - History of Western Music II Credits: 2
- MUY 212 - Advanced Harmony II Credits: 2
- Applied Music Lessons Credits: 1
- Recital Laboratory Credits: 0
- Music Organization Credits: 1
- General Education or college requirements Credits: 8

Third Year - First Semester

- MUY 3XX or 4XX Credits: 2-3
- Applied Music Lessons Credits: 1
- Recital Laboratory Credits: 0
- Music Organization Credits: 0
- General Education or college requirements Credits: 12

Third Year - Second Semester

- MUY 3XX or 4XX Credits: 2-3
- Applied Music Lessons Credits: 1
- Recital Laboratory Credits: 0
- Music Organization Credits: 0
- General Education or college requirements Credits: 12

Fourth Year - First Semester

- Applied Music Lessons Credits: 1
- Recital Laboratory Credits: 0
- Music Organization Credits: 0
- Music Electives Credits: 6
- General Education or college requirements Credits: 9

Fourth Year - Second Semester

- Applied Music Lessons Credits: 1
- Music Organization Credits: 0
- Recital Laboratory Credits: 0
- Music Elective Credits: 3
- Senior Project Credits: 3
- General Education or college requirements Credits: 8

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 "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: A minimum accumulative GPA of 2.0 ("C") in the major.

Required Course(s) for fulfilling Capstone Experience: 12 credits of EHD494

Contact Information: Beth Wiemann, Chair, Class of 1944 Hall, 581-1244

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. Piano concentration: Instrumental Track: Follow requirements for Instrumental concentration. See Music Division Undergraduate Handbook for a list of large and small ensembles.

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.

Required Courses in Suggested Sequence for the B.M. in Music Education

B.M. Degree in Music Education - Piano concentration: Instrumental Track

First Year - First Semester

- MUL 200 - Music Literature Laboratory Credits: 1
- MUL 202 - The Art of Listening to Music: Historical Survey Credits: 3
- MUO XXX Ensemble(s) Credits: 1
- MUS 100 - Recital Laboratory Credits: 0
- MUS 210 - Applied Music Lessons Credits: 2
- MUS 316 - Piano Literature I Credits: 1
- MUY 111 - Elementary Harmony I Credits: 2
- MUY 113 - Elementary Sight Singing and Ear Training I Credits: 2
- General Education Requirement Credits: 6

First Year - Second Semester

- MUE 207 - Voice Class Credits: 1
- MUO XXX Ensemble(s) Credits: 1

- MUS 100 - Recital Laboratory Credits: 0
- MUS 210 - Applied Music Lessons Credits: 2
- MUS 318 - Piano Literature II Credits: 1
- MUY 112 - Elementary Harmony II Credits: 2
- MUY 114 - Elementary Sight Singing and Ear Training II Credits: 2
- General Education Requirement Credits: 9

Second Year - First Semester

- EHD 202 - Education in a Multicultural Society Credits: 3
- MUE 209 - String Class Credits: 2
- MUE 210 - Introduction to Music Education Credits: 3
- MUE 213 - Woodwinds I Credits: 1
- MUH 201 - History of Western Music I Credits: 2
- MUO XXX Ensemble(s) Credits: 1
- MUP 251 - Collaborative Piano Credits: 1
- MUS 100 - Recital Laboratory Credits: 0
- MUS 210 - Applied Music Lessons Credits: 2
- MUY 211 - Advanced Harmony I Credits: 2
- MUY 213 - Advanced Sight Singing and Ear Training I Credits: 2

Second Year - Second Semester

- EHD 203 - Educational Psychology Credits: 3
- MUE 214 - Woodwinds II Credits: 1
- MUE 217 - Brass Class Credits: 2
- MUH 202 - History of Western Music II Credits: 2
- MUO XXX Ensemble(s) Credits: 1
- MUS 100 - Recital Laboratory Credits: 0
- MUS 210 - Applied Music Lessons Credits: 2
- MUY 212 - Advanced Harmony II Credits: 2
- MUY 214 - Advanced Sight Singing and Ear Training II Credits: 2

Third Year - First Semester

- MUE 320 - Teaching of General Music: Elementary Credits: 3
- MUE 403 - Instrumental Laboratory Credits: 1
- MUO XXX Ensemble(s) Credits: 1
- MUP 340 - Basic Conducting Credits: 2
- MUS 100 - Recital Laboratory Credits: 0
- MUS 312 - Piano Pedagogy Credits: 1
- MUS 350 - Applied Music Lessons Credits: 2
- MUY XXX Music Theory Credits: 2-3
- General Education Requirements Credits: 3

Third Year - Second Semester

- MUE 222 - Percussion Class Credits: 2
- MUE 321 - Teaching of General Music: Secondary Credits: 3
- MUO XXX Ensemble(s) Credits: 1
- MUP 345 - Instrumental Conducting and Literature Credits: 3
- MUP 405 - Keyboard Musicianship Credits: 2
- MUS 100 - Recital Laboratory Credits: 0
- MUS 350 - Applied Music Lessons Credits: 2
- MUY 452 - Orchestration Credits: 3
- General Education Requirement Credits: 3

Fourth Year - First Semester

- MUE 401 - Organization and Development of the Instrumental Music Program Credits: 3
- MUO XXX Ensemble(s) Credits: 1
- SED 302 - Adapting Instruction for Students with Disabilities Credits: 3
- General Education Requirement Credits: 9

Fourth Year - Second Semester

- EHD 494 - Student Teaching K-12 (Art or Music) Credits: 1 - 12

Required Courses in Suggested Sequence for the B.M. in Music Education

B.M. Degree in Music Education - Piano concentration: Vocal Track

First Year - First Semester

- MUE 207 - Voice Class Credits: 1
- MUL 200 - Music Literature Laboratory Credits: 1
- MUL 202 - The Art of Listening to Music: Historical Survey Credits: 3
- MUO XXX Ensemble(s) Credits: 1
- MUS 100 - Recital Laboratory Credits: 0
- MUS 210 - Applied Music Lessons Credits: 2
- MUS 316 - Piano Literature I Credits: 1
- MUY 111 - Elementary Harmony I Credits: 2
- MUY 113 - Elementary Sight Singing and Ear Training I Credits: 2
- General Education Requirement Credits: 3

First Year - Second Semester

- MUS 100 - Recital Laboratory Credits: 0
- MUS 201 - Applied Music Lessons Credits: 1
- MUS 210 - Applied Music Lessons Credits: 2
- MUS 318 - Piano Literature II Credits: 1
- MUO XXX Ensemble(s) Credits: 1
- MUY 112 - Elementary Harmony II Credits: 2
- MUY 114 - Elementary Sight Singing and Ear Training II Credits: 2
- General Education Requirement Credits: 9

Second Year - First Semester

- EHD 202 - Education in a Multicultural Society Credits: 3
- MUE 209 - String Class Credits: 2
or
- MUE 217 - Brass Class Credits: 2
or
- MUE 222 - Percussion Class Credits: 2
or both
- MUE 213 - Woodwinds I Credits: 1
- MUE 214 - Woodwinds II Credits: 1

- MUE 210 - Introduction to Music Education Credits: 3
- MUH 201 - History of Western Music I Credits: 2
- MUO XXX Ensemble(s) Credits: 1
- MUP 251 - Collaborative Piano Credits: 1
- MUS 100 - Recital Laboratory Credits: 0
- MUS 201 - Applied Music Lessons Credits: 1
- MUS 210 - Applied Music Lessons Credits: 2
- MUY 211 - Advanced Harmony I Credits: 2
- MUY 213 - Advanced Sight Singing and Ear Training I Credits: 2

Second Year - Second Semester

- EHD 203 - Educational Psychology Credits: 3
- MUH 202 - History of Western Music II Credits: 2
- MUS 100 - Recital Laboratory Credits: 0
- MUO XXX Ensemble(s) Credits: 1
- MUS 201 - Applied Music Lessons Credits: 1
- MUS 210 - Applied Music Lessons Credits: 2
- MUY 212 - Advanced Harmony II Credits: 2
- MUY 214 - Advanced Sight Singing and Ear Training II Credits: 2

Third Year - First Semester

- MUE 320 - Teaching of General Music: Elementary Credits: 3

- MUO XXX Ensemble(s) Credits: 1
- MUP 340 - Basic Conducting Credits: 2
- MUS 100 - Recital Laboratory Credits: 0
- MUS 312 - Piano Pedagogy Credits: 1
- MUS 350 - Applied Music Lessons Credits: 2
- General Education Requirement Credits: 3
- MUY XXX Music Theory Credits: 2-3

Third Year - Second Semester

- MUE 321 - Teaching of General Music: Secondary Credits: 3
- MUO XXX Ensemble(s) Credits: 1
- MUP 341 - Choral Conducting and Literature Credits: 3
- MUP 405 - Keyboard Musicianship Credits: 2
- MUS 100 - Recital Laboratory Credits: 0
- MUS 350 - Applied Music Lessons Credits: 2
- MUY 452 - Orchestration Credits: 3
- SED 302 - Adapting Instruction for Students with Disabilities Credits: 3
- General Education Requirement Credits: 3

Fourth Year - First Semester

- MUE 400 - Choral Music Education Credits: 3
- MUS Elective Credits: 5
- General Education Requirement Credits: 9
- MUO XXX Ensemble(s) Credits: 1-2

Fourth Year - Second Semester

- EHD 494 - Student Teaching K-12 (Art or Music) Credits: 1 - 12

Required Courses in Suggested Sequence for the B.M. in Music Education

B.M. Degree in Music Education - Instrumental concentration

First Year - First Semester

- MUL 200 - Music Literature Laboratory Credits: 1
- MUL 202 - The Art of Listening to Music: Historical Survey Credits: 3
- MUO XXX Ensemble(s) Credits: 1
- MUP 205 - Piano Class I Credits: 1
- MUS 100 - Recital Laboratory Credits: 0
- MUS 210 - Applied Music Lessons Credits: 2

- MUY 111 - Elementary Harmony I Credits: 2
- MUY 113 - Elementary Sight Singing and Ear Training I Credits: 2
- General Education Requirement Credits: 6

First Year - Second Semester

- MUO XXX Ensemble(s) Credits: 1
- MUP 206 - Piano Class II Credits: 1
- MUS 100 - Recital Laboratory Credits: 0
- MUS 210 - Applied Music Lessons Credits: 2
- MUY 112 - Elementary Harmony II Credits: 2
- MUY 114 - Elementary Sight Singing and Ear Training II Credits: 2
- General Education Requirement Credits: 9

Second Year - First Semester

- EHD 202 - Education in a Multicultural Society Credits: 3
- MUE 210 - Introduction to Music Education Credits: 3
- MUE 213 - Woodwinds I Credits: 1
- MUH 201 - History of Western Music I Credits: 2
- MUO XXX Ensemble(s) Credits: 1
- MUP 215 - Piano Class III Credits: 1
- MUS 100 - Recital Laboratory Credits: 0
- MUS 210 - Applied Music Lessons Credits: 2
- MUY 211 - Advanced Harmony I Credits: 2
- MUY 213 - Advanced Sight Singing and Ear Training I Credits: 2

Second Year - Second Semester

- EHD 203 - Educational Psychology Credits: 3
- MUE 214 - Woodwinds II Credits: 1
- MUE 217 - Brass Class Credits: 2
- MUH 202 - History of Western Music II Credits: 2
- MUO XXX Ensemble(s) Credits: 1
- MUP 216 - Piano Class IV Credits: 1
- MUS 100 - Recital Laboratory Credits: 0
- MUS 210 - Applied Music Lessons Credits: 2
- MUY 212 - Advanced Harmony II Credits: 2
- MUY 214 - Advanced Sight Singing and Ear Training II Credits: 2

Third Year - First Semester

- MUE 207 - Voice Class Credits: 1

- MUE 209 - String Class Credits: 2
- MUE 320 - Teaching of General Music: Elementary Credits: 3
- MUE 403 - Instrumental Laboratory Credits: 1
- MUO XXX Ensemble(s) Credits: 1
- MUP 340 - Basic Conducting Credits: 2
- MUS 100 - Recital Laboratory Credits: 0
- MUS 350 - Applied Music Lessons Credits: 2
- MUY XXX Music Theory Credits: 3
- General Education Requirement Credits: 3

Third Year - Second Semester

- MUE 222 - Percussion Class Credits: 2
- MUO XXX Ensemble(s) Credits: 1
- MUE 321 - Teaching of General Music: Secondary Credits: 3
- MUP 345 - Instrumental Conducting and Literature Credits: 3
- MUS 100 - Recital Laboratory Credits: 0
- MUS 350 - Applied Music Lessons Credits: 2
- MUY 452 - Orchestration Credits: 3
- General Education Requirement Credits: 3

Fourth Year - First Semester

- MUE 401 - Organization and Development of the Instrumental Music Program Credits: 3
- MUS Elective Credits: 2
- MUO XXX Ensemble(s) Credits: 1
- SED 302 - Adapting Instruction for Students with Disabilities Credits: 3
- General Education Requirement Credits: 9

Fourth Year - Second Semester

- EHD 494 - Student Teaching K-12 (Art or Music) Credits: 1 - 12

Required Courses in Suggested Sequence for the B.M. in Music Education

B.M. Degree in Music Education - Vocal concentration

First Year - First Semester

- MUL 200 - Music Literature Laboratory Credits: 1
- MUL 202 - The Art of Listening to Music: Historical Survey Credits: 3
- MUO XXX Ensemble(s) Credits: 1
- MUP 205 - Piano Class I Credits: 1

- MUS 100 - Recital Laboratory Credits: 0
- MUS 121 - Principles of Singing I Credits: 2
- MUS 210 - Applied Music Lessons Credits: 2
- MUY 111 - Elementary Harmony I Credits: 2
- MUY 113 - Elementary Sight Singing and Ear Training I Credits: 2
- General Education Requirement Credits: 3

First Year - Second Semester

- MUP 206 - Piano Class II Credits: 1
- MUO XXX Ensemble(s) Credits: 1
- MUS 100 - Recital Laboratory Credits: 0
- MUS 122 - Principles of Singing II Credits: 2
- MUS 210 - Applied Music Lessons Credits: 2
- MUY 112 - Elementary Harmony II Credits: 2
- MUY 114 - Elementary Sight Singing and Ear Training II Credits: 2
- General Education Requirement Credits: 9

Second Year - First Semester

- EHD 202 - Education in a Multicultural Society Credits: 3
- MUE 210 - Introduction to Music Education Credits: 3
- MUH 201 - History of Western Music I Credits: 2
- MUO XXX Ensemble(s) Credits: 1
- MUP 215 - Piano Class III Credits: 1
- MUS 100 - Recital Laboratory Credits: 0
- MUS 210 - Applied Music Lessons Credits: 2
- MUY 211 - Advanced Harmony I Credits: 2
- MUY 213 - Advanced Sight Singing and Ear Training I Credits: 2
- General Education Requirement Credits: 3

Second Year - Second Semester

- EHD 203 - Educational Psychology Credits: 3
- MUH 202 - History of Western Music II Credits: 2
- MUO XXX Ensemble(s) Credits: 1
- MUP 216 - Piano Class IV Credits: 1
- MUS 100 - Recital Laboratory Credits: 0
- MUS 210 - Applied Music Lessons Credits: 2
- MUY 212 - Advanced Harmony II Credits: 2
- MUY 214 - Advanced Sight Singing and Ear Training II Credits: 2

Third Year - First Semester

- MUE 209 - String Class Credits: 2
or
- MUE 213 - Woodwinds I Credits: 1
and
- MUE 214 - Woodwinds II Credits: 1
or
- MUE 217 - Brass Class Credits: 2
or
- MUE 222 - Percussion Class Credits: 2
- MUE 320 - Teaching of General Music: Elementary Credits: 3
- MUO XXX Ensemble(s) Credits: 1
- MUP 340 - Basic Conducting Credits: 2
- MUS 100 - Recital Laboratory Credits: 0
- MUS 350 - Applied Music Lessons Credits: 2
- MUY XXX Music Theory Credits: 2-3
- SED 302 - Adapting Instruction for Students with Disabilities Credits: 3
- General Education Requirement Credits: 3

Third Year - Second Semester

- MUE 321 - Teaching of General Music: Secondary Credits: 3
- MUP 341 - Choral Conducting and Literature Credits: 3
- MUP 405 - Keyboard Musicianship Credits: 2
- MUS 100 - Recital Laboratory Credits: 0
- MUS 350 - Applied Music Lessons Credits: 2
- MUY 452 - Orchestration Credits: 3
- General Education Requirement Credits: 3

Fourth Year - First Semester

- MUE 400 - Choral Music Education Credits: 3
- General Education Requirement Credits: 6
- MUS elective Credits: 8
- MUO XXX Ensemble(s) Credits: 1-2

Fourth Year - Second Semester

- EHD 494 - Student Teaching K-12 (Art or Music) Credits: 1 - 12

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: A minimum accumulative GPA of 2.0 ("C") in the major.

Required Course(s) for fulfilling Capstone Experience: Full hour recital required in Senior year.

Contact Information: Beth Wiemann, Chair, Class of 1944 Hall, 581-1244

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.

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.

Music Theory:

- Elementary Harmony, Sight Singing and Ear Training (MUY 111, 112, 113, 114) Credits: 8
- Advanced Harmony, Sight Singing and Ear Training (MUY 211, 212, 213, 214) Credits: 8
- Music Theory Electives selected from MUY 300 and above courses Credits: 5-6

Music History:

- Survey of Music Literature (MUL 200, 202) Credits: 4
- History of Music (MUH 201, 202) Credits: 6
- Music History electives selected from: Credits: 6
- MUH courses above the 300-level
or HTY 484 (History of Jazz)
or MUS 510 courses as approved by the Music History Faculty,
or WST 201 Topics in Women's Studies: Women and Music

Performance Major:

- MUS 100 Recital Laboratory for Each semester of applied lessons
- First and second levels (MUS 210) (Vocal majors take MUS 121, 122)
- Third level and fourth levels (MUS 450) (after passing Junior Standing examination)
Note: all performance majors including piano majors must pass a piano proficiency examination, or pass the fourth semester of class piano.

Bachelor of Music in Performance Ensemble Requirements:

- Four credits in a large ensemble, performing in your major instrument (Piano and guitar majors may choose 8 credits in small ensembles)
- Four credits in a small ensemble (major instrument or voice)
- One credit on a secondary instrument/voice may be substituted with the consent of the applied instructor in both areas.

See the Music Division Undergraduate Handbook for a list of large and small ensembles.

Piano Students:

- MUP 251 - Collaborative Piano Credits: 1
- MUS 312 - Piano Pedagogy Credits: 1
- MUS 316 - Piano Literature I Credits: 1
- MUS 318 - Piano Literature II Credits: 1

Voice Students:

- MUS 310 - Voice Pedagogy/Literature Credits: 1-2
- THE 402 - Movement Training for Actors Credits: 3
- THE or DAN Electives Credits: 6

Basic Conducting (all majors):

- MUP 340 - Basic Conducting Credits: 2

Electives:

Electives should be chosen to meet General Education requirements. ARH 155 and courses in the Theatre/Dance division are recommended, and one year of foreign language is required for voice majors.

Required Courses in Suggested Sequence for the BM Degree in Performance - Instrumental

First Year - First Semester

- MUL 202 - The Art of Listening to Music: Historical Survey Credits: 3
- MUS 100 - Recital Laboratory Credits: 0
- MUS 210 - Applied Music Lessons Credits: 2
- MUY 111 - Elementary Harmony I Credits: 2
- MUY 113 - Elementary Sight Singing and Ear Training I Credits: 2

- MUO XXX Ensemble(s) Credits: 1
- General Education Requirement Credits: 3
- General Elective Credits: 3

First Year - Second Semester

- MUL 200 - Music Literature Laboratory Credits: 1
- MUS 100 - Recital Laboratory Credits: 0
- MUS 210 - Applied Music Lessons Credits: 2
- MUY 112 - Elementary Harmony II Credits: 2
- MUY 114 - Elementary Sight Singing and Ear Training II Credits: 2
- MUO XXX Ensemble(s) Credits: 1
- General Education Requirement Credits: 3

Second Year - First Semester

- MUH 201 - History of Western Music I Credits: 2
- MUS 100 - Recital Laboratory Credits: 0
- MUS 210 - Applied Music Lessons Credits: 2
- MUY 211 - Advanced Harmony I Credits: 2
- MUY 213 - Advanced Sight Singing and Ear Training I Credits: 2
- MUO XXX Ensemble(s) Credits: 1
- Language Credits: 4
- General Education Requirement Credits: 3

Second Year - Second Semester

- MUH 202 - History of Western Music II Credits: 2
- MUS 100 - Recital Laboratory Credits: 0
- MUS 210 - Applied Music Lessons Credits: 2
- MUY 212 - Advanced Harmony II Credits: 2
- MUY 214 - Advanced Sight Singing and Ear Training II Credits: 2
- MUO XXX Ensemble(s) Credits: 1
- Language Credits: 4
- General Education Requirement Credits: 3

Third Year - First Semester

- MUP 340 - Basic Conducting Credits: 2
- MUS 100 - Recital Laboratory Credits: 0
- MUS 450 - Applied Music Lessons Credits: 4
- MUY 3XX or 4XX Credits: 2-3
- MUO XXX Ensemble(s) Credits: 1

- General Education Requirement Credits: 4
- Music History Elective Credits: 3

Third Year - Second Semester

- MUS 100 - Recital Laboratory Credits: 0
- MUS 450 - Applied Music Lessons Credits: 4
- General Education Requirement Credits: 4
- MUO XXX Ensemble(s) Credits: 1
- MUY 3XX or 4XX Credits: 3
- Music History Elective Credits: 3
- General Elective Credits: 3

Fourth Year - First Semester

- MUS 100 - Recital Laboratory Credits: 0
- MUS 450 - Applied Music Lessons Credits: 4
- MUO XXX Ensemble(s) Credits: 1
- General Education Requirement Credits: 7
- General Elective Credits: 3

Fourth Year - Second Semester

- MUS 100 - Recital Laboratory Credits: 0
- MUS 450 - Applied Music Lessons Credits: 4
- MUO XXX Ensemble(s) Credits: 1
- General Education Requirements Credits: 7
- General Elective Credits: 3

Required Courses in Suggested Sequence for the BM Degree in Performance - Piano

First Year - First Semester

- MUL 202 - The Art of Listening to Music: Historical Survey Credits: 3
- MUS 100 - Recital Laboratory Credits: 0
- MUS 210 - Applied Music Lessons Credits: 2
- MUS 316 - Piano Literature I Credits: 1
- MUY 111 - Elementary Harmony I Credits: 2
- MUY 113 - Elementary Sight Singing and Ear Training I Credits: 2

- General Education Requirement Credits: 3
- MUO XXX Ensemble(s) Credits: 1

First Year - Second Semester

- MUL 200 - Music Literature Laboratory Credits: 1
- MUS 100 - Recital Laboratory Credits: 0
- MUS 210 - Applied Music Lessons Credits: 2
- MUS 318 - Piano Literature II Credits: 1
- MUY 112 - Elementary Harmony II Credits: 2
- MUY 114 - Elementary Sight Singing and Ear Training II Credits: 2
- MUO XXX Ensemble(s) Credits: 1
- General Education Requirement Credits: 3
- Elective Credits: 3

Second Year - First Semester

- MUH 201 - History of Western Music I Credits: 2
- MUP 251 - Collaborative Piano Credits: 1
- MUS 100 - Recital Laboratory Credits: 0
- MUS 210 - Applied Music Lessons Credits: 2
- MUY 211 - Advanced Harmony I Credits: 2
- MUY 213 - Advanced Sight Singing and Ear Training I Credits: 2
- MUO XXX Ensemble(s) Credits: 1
- General Education Requirement - Quantitative or Science Credits: 4

Second Year - Second Semester

- MUH 202 - History of Western Music II Credits: 2
- MUP 252 - Accompanying II Credits: 1
- MUS 100 - Recital Laboratory Credits: 0
- MUS 210 - Applied Music Lessons Credits: 2
- MUY 212 - Advanced Harmony II Credits: 2
- MUY 214 - Advanced Sight Singing and Ear Training II Credits: 2
- MUO XXX Ensemble(s) Credits: 1
- General Education Requirement Credits: 3-4

Third Year - First Semester

- MUP 340 - Basic Conducting Credits: 2
- MUS 100 - Recital Laboratory Credits: 0
- MUS 312 - Piano Pedagogy Credits: 1
- MUS 450 - Applied Music Lessons Credits: 4

- MUO XXX Ensemble(s) Credits: 1
- MUY 3XX or 4XX Credits: 2-3
- Music History Elective Credits: 3
- General Education Requirement Credits: 3

Third Year - Second Semester

- MUS 100 - Recital Laboratory Credits: 0
- MUS 450 - Applied Music Lessons Credits: 4
- MUO XXX Ensemble(s) Credits: 1
- MUY 3XX or 4XX Credits: 3
- Music History Elective Credits: 3
- General Education Requirement Credits: 3

Fourth Year - First Semester

- MUS 100 - Recital Laboratory Credits: 0
- MUS 450 - Applied Music Lessons Credits: 4
- MUO XXX Ensemble(s) Credits: 1
- General Education Requirement Credits: 3-4
- General Education Requirement Credits: 6

Fourth Year - Second Semester

- MUS 100 - Recital Laboratory Credits: 0
- MUS 450 - Applied Music Lessons Credits: 4
- MUO XXX Ensemble(s) Credits: 1
- General Education Requirement Credits: 9

Required Courses in Suggested Sequence for the BM Degree in Performance - Vocal

First Year - First Semester

- MUL 202 - The Art of Listening to Music: Historical Survey Credits: 3
- MUS 100 - Recital Laboratory Credits: 0
- MUS 121 - Principles of Singing I Credits: 2
- MUS 210 - Applied Music Lessons Credits: 2
- MUY 111 - Elementary Harmony I Credits: 2
- MUY 113 - Elementary Sight Singing and Ear Training I Credits: 2

- MUO XXX Ensemble(s) Credits: 1
- General Education Requirement Credits: 3

First Year - Second Semester

- MUL 200 - Music Literature Laboratory Credits: 1
- MUS 100 - Recital Laboratory Credits: 0
- MUS 122 - Principles of Singing II Credits: 2
- MUS 210 - Applied Music Lessons Credits: 2
- MUY 112 - Elementary Harmony II Credits: 2
- MUY 114 - Elementary Sight Singing and Ear Training II Credits: 2
- MUO XXX Ensemble(s) Credits: 1
- THE XXX or DAN XXX Credits: 2-3

Second Year - First Semester

- MUH 201 - History of Western Music I Credits: 2
- MUS 100 - Recital Laboratory Credits: 0
- MUS 210 - Applied Music Lessons Credits: 2
- MUY 211 - Advanced Harmony I Credits: 2
- MUY 213 - Advanced Sight Singing and Ear Training I Credits: 2
- MUO XXX Ensemble(s) Credits: 1
- General Education Requirement Credits: 3
- Foreign Language Credits: 4

Second Year - Second Semester

- MUH 202 - History of Western Music II Credits: 2
- MUS 100 - Recital Laboratory Credits: 0
- MUS 210 - Applied Music Lessons Credits: 2
- MUY 212 - Advanced Harmony II Credits: 2
- MUY 214 - Advanced Sight Singing and Ear Training II Credits: 2
- THE 402 - Movement Training for Actors Credits: 3
- MUO XXX Ensemble(s) Credits: 1
- General Education Requirement - Quantitative or Science Credits: 3-4
- Foreign Language Credits: 4

Third Year - First Semester

- MUP 340 - Basic Conducting Credits: 2
- MUS 100 - Recital Laboratory Credits: 0
- MUS 450 - Applied Music Lessons Credits: 4
- MUO XXX Ensemble(s) Credits: 1

- MUY 3XX or 4XX Credits: 2-3
- Music History Elective Credits: 3
- General Education Requirement Credits: 3

Third Year - Second Semester

- MUS 100 - Recital Laboratory Credits: 0
- MUS 450 - Applied Music Lessons Credits: 4
- MUO Ensemble(s) Credits: 1
- MUY 3XX or 4XX Credits: 3
- THE XXX or DAN XXX Credits: 2-3
- Music History Elective Credits: 3
- General Education Requirement Credits: 3

Fourth Year - First Semester

- MUS 100 - Recital Laboratory Credits: 0
- MUS 310 - Voice Pedagogy/Literature Credits: 1-2
- MUS 450 - Applied Music Lessons Credits: 4
- MUO XXX Ensemble(s) Credits: 1
- General Education Requirement Credits: 6

Fourth Year - Second Semester

- MUS 100 - Recital Laboratory Credits: 0
- MUS 450 - Applied Music Lessons Credits: 4
- MUO XXX Ensemble(s) Credits: 1
- THE XXX or DAN XXX Credits: 2-3
- General Education Requirement Credits: 9

New Media

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: New Media majors must have a "C-" or better in each required major course taken.

Other GPA requirements to graduate: A minimum accumulative GPA of 2.0 ("C") in the major.

Required Course(s) for fulfilling Capstone Experience: NMD 498 and NMD499

Contact Information: Margaret Lukens, Chair of New Media Department, 5713 Chadbourne Hall, (207)581-4433

The New Media Department offers an interdisciplinary course of study in how advances in expressive technologies and networked communication are changing the ways we relate to each other and to the world around us. The curriculum's melding of critical perspective with hands-on practice enables students to become articulate and creative thinkers who are proficient with a range of technologies, able to address problems and opportunities at the horizon of human experience.

UMaine New Media is taught by a core faculty with expertise in art, design, computer science, engineering, cultural studies, and creative writing. Cooperating professors from fine art, computer science, music, psychology, and journalism add further dimensions to the Department's offerings.

All pre-portfolio majors share a common experience studying applied process and theory in New Media foundation courses as well as in other related disciplines. This three-semester experience is capped off by a portfolio review conducted by the program faculty. In subsequent years, majors focus on three of the following five areas of concentration:

- Digital Reporting and Documentary Production - content-based media production and dissemination using cameras and recorders.
- Information and Interaction Design - the intersection of information design, interaction design and sensorial design in development and creation of user experiences.
- Digital Narrative and Hypertext - the analysis, design and production of digital narrative, storytelling and performance.
- Time-Based Art and Design - creative expression in mediums such as installation, digital cinema, animation, audio, enhanced environments, and real-time performance.
- Networks and Creativity - harnessing the Internet to build, share, and preserve digital culture, from Web design to emulation.

In the spring semesters, students are brought together in Project Design Workshops that integrate knowledge from the various concentrations and explore the collaborative process. A two-part, six-credit senior capstone experience completes the BA. Here, students design and produce advanced New Media projects that incorporate such media as innovative Web projects; experimental forms of animated, feature or documentary video; social, cultural and creative networks; and interactive games.

New Media majors are encouraged to apply new media strategies and techniques to other fields, including their Minor. New Media students also may apply to work in the New Media and Internet Technologies Lab (commonly known as ASAP). This is a collaborative environment that designs and produces sophisticated prototypes and projects ranging from Web sites and interactive CD-ROMs to kiosks and video documentaries.

Each New Media major is required to have a personal laptop capable of performing essential functions that are taught in core New Media courses. Purchase of additional hardware and software may be necessary depending on the student's specialized interests. Minimum specifications for new media computers are available by writing or calling the New Media program office, 426 Chadbourne Hall, (207) 581-4358.

Requirements

New Media majors must complete a total of 48 credit hours in New Media courses. A "C-" or better is required in all courses that satisfy New Media major program requirements. ENG 317 (Business and Technical Writing) or equivalent is a required course outside the major.

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.

Pre-Portfolio Core Requirements

Prior to continuing as a fourth-semester New Media Major, students must complete the following classes and submit an approved portfolio.

- NMD 100 - Introduction to New Media Credits: 3
- NMD 102 - Introduction to New Media Technologies, Interaction Design and Prototyping Credits: 3
- NMD 104 - Design Basics for New Media Credits: 3
- NMD 200 - New Media Strategies Credits: 3

One of the following courses is required:

- NMD 150 - Script Your World Credits: 3
or
- NMD 160 - Creative Programming Credits: 3
or
- COS 125 - Introduction to Problem Solving Using Computer Programming Credits: 3
or
- COS 220 - Introduction to C++ Programming Credits: 3

Project-Based Requirements:

Students must take all of the following classes:

- NMD 206 - Project Design Workshop I Credits: 3
- NMD 306 - Project Design Workshop II Credits: 3
- NMD 498 - Practicum in New Media I Credits: 3
- NMD 499 - Practicum in New Media II Credits: 3

Sequence Requirements

Students must take a minimum of three 300-level and two 400-level classes from the following list:

Choose 3 of the following (for 9 total credits)

- NMD 341 - Photographic Reporting and Storytelling Credits: 3
- NMD 342 - Interaction Design and Physical Computing Credits: 3
- NMD 343 - Digital Narrative Workshop I Credits: 3
- NMD 344 - Time-Based Art and Design I Credits: 3
- NMD 345 - Networks and Creativity I Credits: 3

Choose 2 of the following (for 6 total credits):

- NMD 441 - Documentary Photography and Audio Credits: 3
- NMD 442 - User Experience Design Credits: 3
- NMD 443 - Digital Narrative Workshop II Credits: 3
- NMD 444 - Time-Based Art and Design II Credits: 3

- NMD 445 - Networks and Creativity II Credits: 3

New Media Elective Requirements:

Students must complete 2 courses (6 credits) that satisfy the New Media Electives requirement. Following is a partial list.

- NMD 250 - Electronic Music Composition I: Item and Arrangement Credits: 3
- NMD 251 - Electronic Music Composition II: Composing a Process Credits: 3
- NMD 270 - Digital Art I Credits: 3
- NMD 295 - Topics in New Media Credits: 1-3
- NMD 324 - Year in Film I Credits: 3
- NMD 370 - 3D Modeling and Animation Credits: 3
- NMD 398 - Topics in New Media Credits: 1-3
- NMD 424 - Year in Film II Credits: 3
- NMD 430 - Topics in New Media Credits: 1-3
- NMD 490 - Independent Study in New Media Credits: 3

Philosophy

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 better is required in any Philosophy courses counting towards major.

Minimum number of credits required to complete the major: 30

Required Course(s) for fulfilling Capstone Experience: PHI 475

Contact Information: Jessica Miller, Chair, Department of Philosophy, Room 11, The Maples. Phone #581-3865, jessica.miller@maine.edu.

The Department of Philosophy offers a program of study leading to a B.A. in philosophy in the College of Liberal Arts and Sciences. The major offers students a diverse set of courses, representing the full spectrum of philosophical inquiry. Philosophy is a discipline devoted to rigorous reflection on human nature, culture, and the world. It has a long history, beginning with the Ancient Greeks, that is the foundation of philosophical education. Areas covered in the curriculum include environmental and medical ethics, ethical theory, existentialism, social and political philosophy, logic, phenomenology, feminist philosophy, Hinduism and Buddhism, philosophy of language, aesthetics, philosophy of science, and the history of philosophy. The curriculum is organized so that advanced courses will prepare those students who wish to continue studying philosophy in graduate school.

Philosophy is also a well-respected gateway major for students interested in careers in law, business, government, or education. The Department teaches courses in bio-medical ethics, business ethics, and environmental ethics that investigate ethical problems

relevant to many professional fields of study and work. In addition to its major, the Department of Philosophy offers two minors: a Minor in Philosophy, and a Minor in Ethics, and Social and Political Philosophy.

Faculty members in the Department of Philosophy are recognized scholars who contribute actively to the professional advancement of philosophical inquiry and innovation both nationally and internationally.

The Department welcomes double majors and minors from other fields. For those students who have theoretical interests and/or a concern with ethical and political issues related to their main discipline, philosophy can be an excellent addition to the major field of study.

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: a minimum of 30 credit hours in philosophy

At least 21 credit hours (7 courses) in philosophy must be upper level courses, i.e., courses above the 100 level.

Three credit hours in Ethics:

- PHI 230 - Ethics Credits: 3
- **or**
- PHI 240 - Social and Political Philosophy Credits: 3
- **or**
- PHI 344 - Theories of Justice Credits: 3

Three credit hours in logic:

- PHI 103 - Methods of Reasoning Credits: 3
- **or**
- PHI 250 - Formal Logic Credits: 3

Nine hours in the History of Philosophy including:

- PHI 210 - History of Ancient Philosophy Credits: 3
- PHI 312 - History of Modern Philosophy Credits: 3
- and one of the following:
- PHI 212 - Hegel and 19th Century Philosophy Credits: 3
- PHI 214 - 20th Century Continental Philosophy Credits: 3
- PHI 286 - Religions and Philosophies of the East: Hinduism Credits: 3
- PHI 287 - Religions and Philosophies of the East: Buddhism Credits: 3
- PHI 317 - Existentialism and Phenomenology Credits: 3
- PHI 342 - Marxist Philosophy I: The Philosophy of Karl Marx Credits: 3
- PHI 346 - The Philosophy of Mahatma Gandhi Credits: 3
- PHI 420 - Topics in Recent Continental Philosophy Credits: 3

- PHI 475 - Junior/Senior Philosophy Seminar Credits: 3
- Completion of the College of Liberal Arts and Sciences requirement for the B.A. degree (for students admitted for Fall 2011 and after); a minor outside the field of your major, or a double major. For students admitted prior to Fall 2011 the old B.A. requirements remain in force unless you choose to adopt the new B.A. requirement of a minor outside your major field or double major. If you have questions, please consult your advisor.
- Completion of University General Education requirements.

First Year

Two philosophy courses without prerequisites at the 100- or 200-level.

Second Year

- PHI 210 - History of Ancient Philosophy Credits: 3
- PHI 312 - History of Modern Philosophy Credits: 3

Third Year

Two or three upper level philosophy courses, possibly including:

- PHI 230 - Ethics Credits: 3
- **or**
- PHI 240 - Social and Political Philosophy Credits: 3
- **or**
- PHI 344 - Theories of Justice Credits: 3
- **or**
- PHI 475 - Junior/Senior Philosophy Seminar Credits: 3

Fourth Year

Two or three upper level philosophy courses, including PHI 475 (if not taken in Junior Year)

List of Philosophy Courses

- PHI 100 - Contemporary Moral Problems Credits: 3
- PHI 102 - Introduction to Philosophy Credits: 3
- PHI 103 - Methods of Reasoning Credits: 3
- PHI 104 - Existentialism and Literature Credits: 3
- PHI 105 - Introduction to Religious Studies Credits: 3
- PHI 210 - History of Ancient Philosophy Credits: 3
- PHI 212 - Hegel and 19th Century Philosophy Credits: 3
- PHI 214 - 20th Century Continental Philosophy Credits: 3
- PHI 223 - Modern Jewish Thought Credits: 3
- PHI 230 - Ethics Credits: 3
- PHI 231 - Topics in Applied Ethics Credits: 3
- PHI 232 - Environmental Ethics Credits: 3
- PHI 233 - Business Ethics Credits: 3
- PHI 235 - Biomedical Ethics Credits: 3
- PHI 236 - Feminist Ethical, Social and Political Theory Credits: 3

- PHI 240 - Social and Political Philosophy Credits: 3
- PHI 244 - Philosophy of Law Credits: 3
- PHI 250 - Formal Logic Credits: 3
- PHI 260 - Philosophy of Language Credits: 3
- PHI 262 - Philosophy of Art Credits: 3
- PHI 286 - Religions and Philosophies of the East: Hinduism Credits: 3
- PHI 287 - Religions and Philosophies of the East: Buddhism Credits: 3
- PHI 312 - History of Modern Philosophy Credits: 3
- PHI 317 - Existentialism and Phenomenology Credits: 3
- PHI 342 - Marxist Philosophy I: The Philosophy of Karl Marx Credits: 3
- PHI 344 - Theories of Justice Credits: 3
- PHI 345 - Global Justice Credits: 3
- PHI 346 - The Philosophy of Mahatma Gandhi Credits: 3
- PHI 351 - Topics in Philosophy and Literature Credits: 3
- PHI 353 - Philosophy of Mind Credits: 3
- PHI 364 - Views of Self: East and West Credits: 3
- PHI 382 - Theories of Myth Credits: 3
- PHI 420 - Topics in Recent Continental Philosophy Credits: 3
- PHI 431 - Advanced Topics in the Philosophy of Art Credits: 3
- PHI 432 - Environmental Philosophy and Policy Credits: 3
- PHI 465 - Advanced Topics in Philosophy Credits: 3
- PHI 466 - Readings in Philosophy Credits: 1-3
- PHI 475 - Junior/Senior Philosophy Seminar Credits: 3
- PHI 566 See Graduate Catalog for list of Graduate Level courses

Physics

OVERVIEW OF DEGREE REQUIREMENTS - Bachelor of Arts in Physics

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 minimum accumulative GPA of 2.0 ("C") in the major.

Required Course(s) for fulfilling Capstone Experience: PHY 400 and PHY 481 or PHY 400 and PHY 482

Contact Information: Michael Wittmann, Chair of Department of Physics and Astronomy, 120 Bennett Hall, (207) 581-1015.

OVERVIEW OF DEGREE REQUIREMENTS - Bachelor of Science in Physics

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 minimum accumulative GPA of 2.0 ("C") in the major.

Other GPA requirements to graduate: None.

Required Course(s) for fulfilling Capstone Experience: PHY 400 and PHY 481 or PHY 400 and PHY 482

Contact Information: Michael Wittmann, Chair of Department of Physics and Astronomy, 120 Bennett Hall, (207) 581-1015

The Department of Physics and Astronomy offers programs of study in the College of Liberal Arts and Sciences that lead to the degrees of Bachelor of Science in Physics and Bachelor of Arts in Physics. The BS degree is customarily the prerequisite for graduate education in physics, astronomy or related areas, preparatory for careers in basic or applied research and development. The B.S. degree places a strong emphasis on physics and mathematics. The BS degree is the recommended program for students planning further study of physics in graduate school or who desire a more in-depth physics experience. The B.A. degree in physics is a traditional liberal arts program emphasizing physics, together with a substantial distribution of course work outside the areas of science and mathematics. The BA degree, in addition to preparing the student for an entry level position in industry, can accommodate pre-medical preparation, secondary science education certification, pre-law, and technical writing careers, to name only a few.

The Department also offers a Bachelor of Science in Engineering Physics in the College of Engineering. 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 College of Engineering 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.

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.

The Bachelor of Arts in Physics

Requirements:

The B.A. degree in physics requires a minimum of 35 credits in physics, CHY 121/123, ENG 101 and 15 credits in mathematics. The 35 credits in physics (above PHY 100) must include PHY 121 and PHY 122 (or PHY 111 and PHY 112), PHY 200, PHY 223, PHY 229, PHY 230, PHY 236, PHY 238, PHY 441 and/or PHY 442, PHY 454, and PHY 476 and PHY 481. It must also include at least one 400-level course chosen from AST 451, PHY 447, PHY 455, PHY 462, PHY 463, PHY 469, PHY 470, PHY 472, and PHY 480. The 15 credits in mathematics must include MAT 126, MAT 127, MAT 228 and MAT 259 or their equivalents. First-year students must also take PHY 100.

The student must include among elective courses those needed to satisfy the University's General Education requirements and the College of Liberal Arts and Sciences B.A. requirements, and six credits of approved science, engineering or mathematics electives. A minimum of 72 credits must be outside the major.

A student preparing for graduate work in physics is advised to take some or all of the following electives in his or her junior or senior year: PHY 462, Physical Thermodynamics; PHY 463, Statistical Mechanics; PHY 470, Nuclear Physics; PHY 480, Physics of Materials; as well as additional courses in mathematics.

Required Courses in a Suggested Sequence for the B.A. in Physics

First Year - First Semester

- ENG 101 - College Composition Credits: 3
- MAT 126 - Calculus I Credits: 4
- PHY 100 - Introduction to Physics and Astronomy Credits: 1
- PHY 121 - Physics for Engineers and Physical Scientists I Credits: 4
(See Footnote 1)
- Human Values/Social Context and Ethics Elective I Credits: 3

First Year - Second Semester

- MAT 127 - Calculus II Credits: 4
- PHY 122 - Physics for Engineers and Physical Scientists II Credits: 4
- Human Values/Social Context and Ethics Elective II Credits: 3
- Elective Credits: 3

Second Year - First Semester

- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- MAT 228 - Calculus III Credits: 4
- PHY 229 - Physical Measurements Laboratory I Credits: 2
- PHY 236 - Introductory Quantum Physics Credits: 3
- Human Values/Social Context and Ethics Elective III Credits: 3

Second Year - Second Semester

- MAT 259 - Differential Equations Credits: 3
- PHY 200 - Career Preparation in Physics and Engineering Physics I Credits: 1
- PHY 223 - Special Relativity Credits: 1
- PHY 230 - Physical Measurements Laboratory II Credits: 2
- PHY 238 - Mechanics Credits: 3
- Elective Credits: 3
- Human Values/Social Context and Ethics Elective IV Credits: 3

Third Year - First Semester

- PHY 441 - Physical Electronics Laboratory Credits: 2
- PHY 454 - Electricity and Magnetism I Credits: 3

- PHY 476 - Mathematical Methods in Physics Credits: 3
- Human Values/Social Context and Ethics Elective V Credits: 3
- Elective Credits: 3

Third Year - Second Semester

- PHY 442 - Modern Experimental Physics Credits: 2
- Physics Elective Credits: 3
- Human Value/Social Context and Ethics Elective VI Credits: 3
- Elective Credits: 6

Fourth Year - First Semester

- PHY 400 - Career Preparation in Physics and Engineering Physics II Credits: 1
- PHY 481 - Project Laboratory in Physics I Credits: 3
- Electives Credits: 12

Fourth Year - Second Semester

- Electives Credits: 15

¹ With the approval of the Chair of the Department of Physics and Astronomy and in consultation with the student's academic advisor, students may substitute PHY 111/112, for PHY 121/122.

The Bachelor of Science in Physics

Requirements:

The B.S. degree requires a minimum of 52 credits of physics (9 of which are elective) above PHY 100, 18 credits of mathematics (3 of which are elective) and 10 credits of approved science and computer sciences courses (3 of which are elective). In addition, the student must take ENG 101 and 36 credits of additional electives (18 of which satisfy the minimum credits to satisfy the University's General Education requirements) for an overall total of 120 credits. The mathematics elective is usually chosen from MAT 262, MAT 332, MAT 434, MAT 452, MAT 453, MAT 454, or MAT 471. PHY 574 may be used here as the math elective, provided it is not also used as a physics elective. The three physics electives must be chosen from AST 451, PHY 447, PHY 462, PHY 470, PHY 471, PHY 472, PHY 473, PHY 480, PHY 482, PHY 496, PHY 501, or PHY 574.

The following course schedule represents the suggested curriculum for a typical student in the Bachelor's of Science in Physics program. Courses listed by number and name are required for the B.S. degree. Substitutions may be made for some courses on approval of the student's advisor and of the Chairperson of the Department of Physics and Astronomy. First-semester, first-year students must also take PHY 100.

Required Courses in a Suggested Sequence for the B.S. in Physics

First Year - First Semester

- ENG 101 - College Composition Credits: 3
- MAT 126 - Calculus I Credits: 4
- PHY 100 - Introduction to Physics and Astronomy Credits: 1
- PHY 121 - Physics for Engineers and Physical Scientists I Credits: 4
- Human Values/Social Context and Ethics Elective I Credits: 3

First Year - Second Semester

- COS 125 - Introduction to Problem Solving Using Computer Programming Credits: 3
or
- COS 220 - Introduction to C++ Programming Credits: 3
- MAT 127 - Calculus II Credits: 4
- PHY 122 - Physics for Engineers and Physical Scientists II Credits: 4
- Human Values/Social Context and Ethics Elective II Credits: 3

Second Year - First Semester

- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- MAT 228 - Calculus III Credits: 4
- PHY 229 - Physical Measurements Laboratory I Credits: 2
- PHY 236 - Introductory Quantum Physics Credits: 3
- Human Values/Social Context and Ethics Elective III Credits: 3

Second Year - Second Semester

- MAT 259 - Differential Equations Credits: 3
- PHY 200 - Career Preparation in Physics and Engineering Physics I Credits: 1
- PHY 223 - Special Relativity Credits: 1
- PHY 230 - Physical Measurements Laboratory II Credits: 2
- PHY 238 - Mechanics Credits: 3
- Human Values/Social Context and Ethics Elective IV Credits: 3
- Science Elective 1 Credits: 3

Third Year - First Semester

- PHY 441 - Physical Electronics Laboratory Credits: 2
- PHY 454 - Electricity and Magnetism I Credits: 3
- PHY 476 - Mathematical Methods in Physics Credits: 3
- Mathematics Elective Credits: 3
- Human Values/Social Context and Ethics Elective V Credits: 3

Third Year - Second Semester

- PHY 442 - Modern Experimental Physics Credits: 2
- PHY 455 - Electricity and Magnetism II Credits: 3
- Human Values/Social Context and Ethics Elective VI Credits: 3
- Elective Credits: 3
- Physics Elective I Credits: 3

Fourth Year - First Semester

- PHY 400 - Career Preparation in Physics and Engineering Physics II Credits: 1
- PHY 469 - Quantum and Atomic Physics Credits: 3
- PHY 481 - Project Laboratory in Physics I Credits: 3
- Electives Credits: 6
- Physics Elective II Credits: 3

Fourth Year - Second Semester

- PHY 463 - Statistical Mechanics Credits: 3
- Electives Credits: 9
- Physics Elective III Credits: 3

¹Approved science elective must be from a discipline other than AST, COS, MAT or PHY

Political 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: A "C" or better is required in all Political Science (POS) courses counting towards the major.

Other GPA requirements to graduate: A minimum accumulative GPA of 2.0 ("C") in the major.

Required Course(s) for fulfilling Capstone Experience: POS 499, or POS 487 and POS 488 taken together.

Contact Information: Mark D. Brewer, Professor and Interim Chair, 113A North Stevens Hall, (207) 581-1871, mark.brewer@umit.maine.edu

Political Science examines the nature of politics from diverse perspectives. The requirements for majors in the department teach students to think critically about the fundamental theories, principles, institutions, and practices of politics in their social and

historical contexts. Course work in the department is required in four main sub-fields of the discipline of political science - American Politics, International Relations, Comparative Politics, and Political Theory - so that students will acquire the knowledge and skills for further study in law school or graduate school, or will be prepared for careers in public service or related fields. Opportunities for internships and for independent study with faculty are numerous. The department encourages its students to pursue related work in the humanities and social sciences so that their political studies fall within the context of a liberal arts education.

Major Requirements:

- POS 100, American Government.
- A minimum of 36 credits in POS courses with grades of "C" (2.0) or better. The 36 credits 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.)
- Students must have a minimum of 72 hours outside their major
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.
- A minimum of 18 of the 36 POS credits required must be completed at the University of Maine.
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.

American Politics:

Three credits of an internship or field experience course related to American Politics may be used toward satisfying this sub-field requirement.

- POS 203 - American State and Local Government Credits: 3
- POS 282 - Introduction to American Law Credits: 3
- POS 306 - Crafting the American Constitution Credits: 3
(POS 306 may be used as an American Politics OR a Political Theory course)
- POS 348 - The Politics of Sport in America Credits: 3
- POS 352 - American Public Opinion Credits: 3
- POS 353 - The U.S. Congress Credits: 3
- POS 354 - The U.S. Presidency Credits: 3
- POS 355 - Music and Politics in the American Context Credits: 3
(POS 355 may be used as an American Politics OR a Political Theory Course)
- POS 357 - Film and Politics Credits: 3
- POS 359 - Topics in American Government Credits: 3
- POS 362 - Maine Government Credits: 3
- POS 363 - Urban Government and Politics Credits: 3
- POS 487 - SL: Practicum in Engaged Policy Studies I Credits: 3
- POS 488 - SL: Practicum in Engaged Policy Studies II Credits: 3
- POS 380 - Interest Groups and American Politics Credits: 3
- POS 381 - Political Parties and Elections Credits: 3
- POS 383 - American Constitutional Law Credits: 3

- POS 384 - American Civil Liberties Credits: 3
- POS 385 - Women and Politics Credits: 3
- POS 386 - Religion and Politics in the United States Credits: 3
- POS 453 - Political Behavior and Participation Credits: 3
- POS 484 - The American Constitution and Criminal Due Process Credits: 3
- POS 486 - Religious Thought, the American Identity, and U.S. Public Policy Credits: 3
(POS 486 may be used as an American Politics OR a Political Theory Course)

International Relations:

Three credits of an internship or field experience course related to International Relations may be used toward satisfying this sub-field requirement.

- INA 201 - Topics in International Affairs Credits: 3
- POS 120 - Introduction to World Politics Credits: 3
- POS 273 - International Relations Credits: 3
- POS 368 - China Credits: 3
(POS 368 may be used as an International Relations OR a Comparative Politics course)
- POS 369 - Topics in International Relations Credits:
- POS 370 - International Terrorism: The Challenges for America Credits: 3
- POS 372 - Canadian Foreign Policy Credits: 3
- POS 374 - American Foreign Policy Credits: 3
- POS 375 - United States and the Middle East Credits: 3
- POS 469 - Politics of the Middle East Credits: 3
- POS 470 - International Law Credits: 3
- POS 474 - Conduct of Foreign Policy Credits: 3
- POS 475 - International Security Credits: 3
- POS 476 - Seminar in World Politics Credits: 3

Comparative Politics:

- 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
- POS 336 - Government and Politics in Russia Credits: 3
- POS 337 - Government and Politics in Eurasia Credits: 3
- POS 344 - Public Policy in Canada Credits: 3
- POS 349 - Topics in Comparative Politics Credits: 3
- POS 368 - China Credits: 3
(POS 368 may be used as an International Relations OR a Comparative Politics course)
- POS 467 - African Politics Credits: 3

Political Theory:

- POS 201 - Introduction to Political Theory Credits: 3

- POS 301 - Classical Political Thought Credits: 3
- POS 302 - Medieval 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 306 - Crafting the American Constitution Credits: 3
(POS 306 may be used as an American Politics OR a Political Theory course)
- POS 307 - Democratic Theory Credits: 3
- POS 309 - Topics in Political Theory Credits: 3
- POS 355 - Music and Politics in the American Context Credits: 3
(POS 355 may be used as an American Politics OR a Political Theory Course)
- POS 401 - Seminar in Political Theory Credits: 3
- POS 486 - Religious Thought, the American Identity, and U.S. Public Policy Credits: 3
(POS 486 may be used as an American Politics or a Political Theory Course)

Internship and Independent Study Courses:

- INT 494 - (PAA, POS) Field Experience Credits: Ar
(INT 494 (POS) cannot be used as the political science major's capstone course)
- POS 493 - American Politics Internship Credits: 3, 6 or 9
- POS 495 - Congressional Internship Credits: 6 or 9
- POS 496 - International Affairs Internship Credits: 6 or 9
- POS 498 - Independent Study in Political Science Credits: 1-3

Capstone Course:

- POS 487 - SL: Practicum in Engaged Policy Studies I Credits: 3
And
- POS 488 - SL: Practicum in Engaged Policy Studies II Credits: 3
Or
- POS 499 - Senior Seminar in Political Science Credits: 3

Suggested curriculum for the B.A. in Political Science

First Year - First Semester

- ENG 101 - College Composition Credits: 3
- POS 100 - American Government Credits: 3
- Electives Credits: 3
- General Education: Western Cultural Tradition Credits: 3
- General Education: Mathematics Credits: 3

First Year - Second Semester

- POS 120 - Introduction to World Politics Credits: 3
- POS 241 - Introduction to Comparative Politics Credits: 3
- General Education: Social Context and Institutions Credits: 3
- Electives Credits: 3
- General Education: Application Science Credits: 3

Second Year - First Semester

- POS 201 - Introduction to Political Theory Credits: 3
- Course from Upper Level American Politics Sub-field Credits: 3
- General Education: Cultural Diversity and International Perspectives Credits: 3
- General Education: Mathematics Credits: 3
- Course towards Minor or Double Major Credits: 3

Second Year - Second Semester

- POS Upper Level Course from International Relations Sub-field Credits: 3
- POS Upper Level Course from Comparative Politics Sub-field Credits: 3
- General Education: Lab-Science Credits: 4
- General Education: Writing Intensive Credits: 3
- General Education: Population and the Environment Credits: 3

Third Year - First Semester

- POS Upper level American Credits: 3
- POS Upper level theory Credits: 3
- General Education: Artistic and Creative Expression Credits: 3
- Course towards Minor or Double Major Credits: 6

Third Year - Second Semester

- POS Upper level Elective Credits: 3
- POS Upper level Elective Credits: 3
- General Education: Human Values and Social Context Credits: 3
- Course towards Minor or Double Major Credits: 6

Fourth Year - First Semester

- POS 499 - Senior Seminar in Political Science Credits: 3
- Electives Credits: 3
- Course towards Minor or Double Major Credits: 6

- POS Upper level elective Credits: 3

Fourth Year - Second Semester

- POS Upper level electives Credits: 6
- Electives Credits: 9

Psychology

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 Psychology (PSY) Foundations classes.

Other GPA requirements to graduate: Minimum grade point average of 2.0 in Psychology (PSY) classes.

Required Course(s) for fulfilling Capstone Experience: PSY 491 or 3 credits of PSY 494 with a C- or better

Contact Information: Michael A. Robbins, Chair, Department of Psychology, 301 Little Hall, (207)581-2033

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 terms of curriculum, the department offers courses that introduce the student to psychological theory, methodology, research findings, and applications of psychological principles. A complete selection of traditional course offerings are provided, as well as a number of original courses such as Infancy: Neurobehavioral Development, Health Psychology, Cognitive Neuroscience, and Foundations of Clinical Psychology. Through our Child Study Laboratory courses at the child study center, students observe and interact with preschool age children in a natural environment and then relate these observations to material discussed in course texts and articles. The broad curriculum is designed to give majors exposure to the diverse areas of the field. In addition to the classroom courses, students can take Problems in Psychology, an individualized study course, 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 Field Experience 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.

The Bachelor of Arts in Psychology

1. A minimum of 35 credits in psychology courses (Note: 48 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.)
2. A "C-" or better is required in all Psychology (PSY) foundation classes.
3. Majors must accumulate a minimum grade point average of 2.0 in PSY courses.
4. No more than six credits of PSY 492: Problems in Psychology, may count toward the 35 credits required.
5. No more than three credits of PSY 493: Field Experience may count toward the 35 credits required.
6. 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.

7. All psychology majors must declare one of the following three concentrations: Abnormal/Social, Biological/Cognitive, or Developmental.
8. 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 427 - Emotional Development; PSY 465 - Hormones, Brain and Behavior; PSY 490 - Seminar in Issues in Contemporary Psychology; and PSY 491 - Senior Seminar in Psychology; or any 500-level course.

Courses numbered 500-599 are graduate courses that are open to both undergraduate and graduate students. Junior and/or senior psychology majors considering graduate study in psychology are encouraged to enroll in one or more of these courses. Undergraduates require permission of the instructor to register for 500-level courses.

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.

A. Foundations

Students must pass each of the following foundation courses with a grade of C- or higher.

- PSY 100 - General Psychology Credits: 3
(Prerequisite for all other psychology courses)
- PSY 241 - Statistics in Psychology Credits: 4
(Prerequisite for PSY 245)
- PSY 245 - Principles of Psychological Research Credits: 4
(Prerequisite for all 300 and 400 level Psychology courses)

B. Core Areas

Students must pass each of the following core area courses:

- PSY 212 - Abnormal Psychology Credits: 3
- PSY 223 - Psychology of Childhood Credits: 3
or
- PSY 224 - Psychology of Adolescence Credits: 3
- PSY 230 - Social Psychology Credits: 3
- PSY 350 - Cognition Credits: 3
- PSY 365 - Biopsychology and Behavioral Neuroscience Credits: 3

C. Concentration

Students must declare a concentration in one of the following 3 areas: 1) Abnormal/Social, 2) Developmental, or 3) Biological/Cognitive by the beginning of their junior year. To fulfill the concentration, a student must pass 3 courses in their chosen area of concentration (see below). At least one of these courses must be at the 400 level.

Note that some of these concentration courses also satisfy some of the core area requirements listed in Section B. A Declaration of Concentration Form should be completed and submitted to the Department of Psychology.

Abnormal/Social:

- PSY 208 - Theories of Personality Credits: 3
- PSY 212 - Abnormal Psychology Credits: 3
- PSY 230 - Social Psychology Credits: 3
- PSY 251 - Psychology of Motivation Credits: 3
- PSY 401 - Health Psychology Credits: 3
- PSY 412 - Foundations of Clinical Psychology Credits: 3
- PSY 424 - Abnormal Child Psychology Credits: 3
- PSY 430 - Current Topics in Social Psychology Credits: 3

Biological/Cognitive:

- PSY 350 - Cognition Credits: 3
- PSY 361 - Sensation and Perception Credits: 3
- PSY 365 - Biopsychology and Behavioral Neuroscience Credits: 3
- PSY 401 - Health Psychology Credits: 3
- PSY 422 - Infancy: Neurobehavioral Development Credits: 3
- PSY 465 - Hormones, Brain and Behavior Credits: 3
- PSY 466 - Cognitive Neuroscience Credits: 3

Developmental:

- PSY 223 - Psychology of Childhood Credits: 3
- PSY 224 - Psychology of Adolescence Credits: 3
- PSY 320 - Child Study Laboratory I Credits: 3
- PSY 321 - Child Study Laboratory II Credits: 3
- PSY 422 - Infancy: Neurobehavioral Development Credits: 3
- PSY 424 - Abnormal Child Psychology Credits: 3
- PSY 425 - Social Issues in Developmental Psychology Credits: 3

D. Affiliated Science

Students must pass one of the following affiliated science courses:

- BIO 100 - Basic Biology Credits: 4
- **or**
- BIO 222 - Biology: The Living Science Credits: 3

Note that **BIO 100** is a prerequisite for all additional biology courses while **BIO 222** is intended for individuals who will not be taking additional biology courses. Although recommended, **BIO 223** (the lab that accompanies BIO 222) is not required for the psychology major.

E. Capstone Experience and Writing-Intensive Course in the Major

Students must pass with a C- or higher:

- PSY 491 - Senior Seminar in Psychology Credits: 3
or
- PSY 494 - Senior Research Project Credits: 1-3 ¹ (minimum of 3 credit hours)
or
- HON 499 - Honors Thesis Credits: 3 ²

¹PSY 494 must be a minimum of 3 credit hours

²HON 499 must be a topic in Psychology and the thesis advisor must be from the Psychology Department. In such cases, 3 of the required 35 credit hours in Psychology will be waived.

Note:

The specific requirements above are for the Psychology major itself. The baccalaureate degree granted will be that associated with the primary major as declared by the student. The student is required to satisfy all of the requirements imposed by the university and the college of the primary major. Students are reminded that if Psychology is their primary major, they must take at least 72 hours of non-psychology coursework and must declare and complete a minor or double major to graduate. No more than 6 credits of PSY 492 (Problems in Psychology) and no more than 3 credits of PSY 493 (Field Experience) may count toward the 35 credit hours in psychology requirement.

Romance Languages

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120 (30 within major)

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 accumulative GPA of 2.0 ("C") in the major.

Required Course(s) for fulfilling Capstone Experience: FRE 495 or SPA 495

Contact Information: Jane Smith, Chair of MLC, 201 Little Hall, (207) 581-2075, jsmith@maine.edu

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 306, and SPA 305 or 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:

1. A minimum of 30 credits in French and Spanish beyond the intermediate level, at least 24 of which must be in 400 series
2. A minimum of 12 credits above the intermediate level in each of the two languages must be taken.
3. FRE 495 or SPA 495 Senior Project Credits 0-3. (This satisfies a General Education Requirement).
4. INT 410 - Introduction to the Study of Linguistics Credits: 3

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.

Sociology

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 either ENG 212 or ENG 317; at least a "C-" in a statistics course; at least a "C" in each of the Core Requirements except for SOC 101.

Other GPA requirements to graduate: 2.0 for the 27 credits of required and elective Sociology courses.

Required Course(s) for fulfilling Capstone Experience: SOC 499

Contact Information: Amy Blackstone, Chair, 201D Fernald Hall, 581-2392, amy.blackstone@umit.maine.edu

As a core discipline in the Liberal Arts, Sociology offers courses designed to further the student's understanding and critical analysis of society. Our curriculum provides students with a sociological understanding of the sources and consequences of social inequality and the impact of race, ethnicity, social class, and gender on social institutions and social behavior. Our courses focus on such questions as-How does our social background influence our attitudes and behavior? What are the chances for full equality between women and men? What can we do to reduce the problems of poverty and crime? What options do people have to change their groups, organizations, and culture? What kind of family forms are emerging in the post-industrial world? Why are rates of physical and mental illness unusually high in some areas of society?

These are just a few of the many questions that Sociology seeks to answer. Sociology explores and challenges common assumptions about the world around us and addresses many of the problems facing us in the present: the growing healthcare crisis; drug use and abuse; violence and discrimination against women and minorities; divorce; and the growing feminization of poverty.

Sociology faculty seek in all our classes to encourage students to look at society in new ways. We are deeply committed to high-quality undergraduate teaching. We offer a welcoming, student-centered atmosphere, and our students typically tell us how much they appreciate the attention the Sociology faculty and staff show them inside and outside the classroom.

The Department offers an optional concentration within the major: (1) Crime, Law, and Justice. We also offer a minor in Sociology.

The Sociology curriculum provides excellent preparation for a variety of careers. Employers are increasingly interested in hiring individuals who know about social interaction and organizational behavior. Sociology provides this knowledge and helps you develop your skills in written and oral communication, critical thinking and problem solving, and research methods and data analysis. Opportunities exist for employment in fields such as: criminal justice, public relations, human resources management, industrial relations, organizational research, marketing, family counseling, community planning, teaching, and health care.

Requirements

1. Satisfy general education requirements.
2. Core requirements for a Sociology major (12 credits): SOC 101, SOC 390, SOC 460, SOC 499.
3. Sociology Electives (15 Credits): Six of the 15 credits must be 300 or 400- level Sociology courses. SOC 310 may not be taken as an elective.
4. One of the following courses must be passed with a grade of "C" or better: ENG 212 or ENG 317. One of the following statistics courses must be passed with a grade of "C-" or better: ANT 462, MAT 215, MAT 232, PSY 241, SOC 310.
5. All Core Requirements (except SOC 101) must be successfully completed with a grade of "C" or better. The GPA for all courses, required and elective, taken for the Sociology major must be at least 2.0.
6. Residency Requirement: All students in Sociology must take at least 15 credits of UM Courses (excluding SOC 101) in order to earn the degree.

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.

Required Courses in Suggested Sequence for the B.A. in Sociology

First Year - First Semester

- ENG 101 - College Composition Credits: 3
- SOC 101 - Introduction to Sociology Credits: 3
- General Education Requirements Credits: 9

First Year - Second Semester

- SOC 2XX Credits: 3
- General Education Requirements Credits: 9
- Electives Credits: 3

Second Year - First Semester

- SOC 2XX Credits: 6
- General Education Requirements Credits: 9

Second Year - Second Semester

- Electives Credits: 3

- General Education Requirements Credits: 6
- SOC 2XX Credits: 3
- Statistics Course Credits: 3

Third Year - First Semester

- ENG 212 - Persuasive and Analytical Writing Credits: 3
OR
- ENG 315 - Research Writing in the Disciplines Credits: 3
OR
- ENG 317 - Business and Technical Writing Credits: 3
- SOC 460 - Major Ideas in Sociology Credits: 3
- Electives Credits: 3
- General Education Requirements Credits: 6

Third Year - Second Semester

- SOC 390 - Research Methods in Sociology Credits: 3
- SOC 3XX or 4XX Electives Credits: 3
- Electives Credits: 6

Fourth Year - First Semester

- SOC 3XX or 4XX Electives Credits: 3
- Electives Credits: 12

Fourth Year - Second Semester

- SOC 499 - Senior Seminar Credits: 3
- Electives Credits: 9

Crime, Law, Justice Concentration

Total of 15 credits. The grades for all 15 credits must average a C.

Required Courses:

- SOC 214 - Crime and Criminal Justice Credits: 3
- SOC 314 - Law and Society Credits: 3

Two of the following:

At least two of the following must be taken to complete the concentration:

- SOC 208 - Problems of Violence and Terrorism Credits: 3
- SOC 240 - Topics in Sociology Credits: 3
- SOC 337 - Sociology of Mental Illness Credits: 3

One of the following:

At least one of the following must be taken to complete the concentration:

- POS 282 - Introduction to American Law Credits: 3
 - POS 370 - International Terrorism: The Challenges for America Credits: 3
 - POS 383 - American Constitutional Law Credits: 3
 - POS 384 - American Civil Liberties Credits: 3
 - POS 470 - International Law Credits: 3
 - PSY 212 - Abnormal Psychology Credits: 3
- The other sociology course listed above

Spanish

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 minimum accumulative GPA of 2.0 ("C") in the major.

Required Course(s) for fulfilling Capstone Experience: SPA 495

Contact Information: Jane Smith, Chair of MLC, 201 Little Hall, (207) 581-2075, jsmith@maine.edu

1. Demonstration of listening comprehension, oral, reading, and writing proficiency (students who have not received at least a "B" in SPA 305 or 306 may be required to take a test in languages skills)
 2. Demonstration of comprehensive coverage of literature and civilization through successful completion of appropriate course work
 3. 30 credits above intermediate level.
- 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.

Special Requirements:

- INT 410 - (ANT, ENG, MLC) Introduction to the Study of Linguistics Credits: 3
- SPA 305 - Applied Spanish Credits: 3

and/or

- SPA 306 - Workshop in Speaking and Writing Spanish Credits: 3
- SPA 301 - Introduction to Literary Theory Credits: 3
- or
- SPA 307 - Readings in Peninsular Literature Credits: 3
- or
- SPA 308 - Readings in Spanish American Literature Credits: 3
- SPA 495 - Senior Project in Spanish Credits: 0-3
- SPA 495 satisfies a General Education requirement
- 400 level Spanish courses including at least one language and one literature course Credits: 15

Highly Recommended:

- HTY 105 - History of Ancient and Medieval Europe Credits: 3
- HTY 106 - History of Modern Europe Credits: 3

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.

Contact Information: Dr. Michael Grillo, Associate Professor, Chair, Department of Art, 107 Lord Hall, (207) 581-3246

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.

Bachelor of Arts (BA)

The Department of Art offers the Bachelor of Arts, BA, and the Bachelor of Fine Arts, BFA, in Studio Art. The BA in Studio Art requires 48 credits in Studio Art and 15 credits in Art History. The BA does not require a portfolio review for admission. The BFA in Studio Art requires 66 credits in Studio Art and 15 credits in Art History. The BFA requires a portfolio review for admission. The BFA in Studio Art provides the breadth and depth necessary for a liberal arts based professional degree.

The emphasis of the Studio Art program is creative work in the areas of drawing, painting, printmaking, sculpture and digital art. Elective studio work is available in photography, graphic design, and ceramics. The study of Art History is seen as necessary to intelligent studio development, as is the socializing of the student to attitudes, philosophies, and language of the contemporary art world. Most studio courses require that the student purchase a basic supply of necessary tools, equipment and supplies.

Studio degrees can lead to (1) specialized work as an artist in one of the fine art areas, (2) graduate study in studio art, (3) art related jobs in government, industry and commerce involving digital art, web design, commercial art and design, and other skills.

To graduate, students in the Bachelor of Arts (BA) in Studio Art need to complete:

48 credits in Studio Art (with C- or better)

72 credits in Non-Studio (with D or better)

adding up to a Total of 120 Degree Hours (with a 2.00 minimum GPA).

ART 499 is required for fulfilling the Capstone Experience Requirement

Required classes for the Bachelor of Arts (BA) in Studio Art are as follows:

Required Foundation Courses in Art - 12 Credits

- ART 100 - Drawing I Credits: 3
- ART 110 - 2-D Design Credits: 3
- ART 120 - 3-D Design Credits: 3
- ART 200 - Drawing II Credits: 3

Required Studio Courses - 27 credits

- ART 220 - Sculpture I Credits: 3
- ART 230 - Painting I Credits: 3
- ART 240 - Printmaking I Credits: 3
- ART 270 - Digital Art I Credits: 3
- ART 2xx-3xx Studio Elective
- ART 320 - Sculpture II Credits: 3
- ART 340 - Printmaking II Credits: 3
- ART 4xx Advanced Studio Elective
- ART 499 - Studio Art Senior Capstone Credits: 3

Studio Electives - 9 credits

Select 3 courses (9 credits) from the following:

- ART 300 - Drawing III Credits: 3
- **OR**
- ART 302 - Figure Drawing Credits: 3

- ART 330 - Painting II Credits: 3
- ART 370 - Digital Art II Credits: 3
- ART 420 - Sculpture III Credits: 3
- ART 430 - Painting III Credits: 3
- ART 440 - Printmaking III Credits: 3
- ART xxx Studio Elective
- ART 3xx - 4xx Advanced Studio Elective

Required Art History Courses - 15 credits

- 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 2xx - 4xx Pre-1750
- ARH 2xx - 4xx Post 1750
- ARH 3xx - 4xx Art History Elective

Required Courses in Suggested Sequence for the B.A. in Studio Art

First Year - First Semester

- ARH 155 - Art and Visual Culture in the Ancient and Medieval Worlds Credits: 3
- ART 100 - Drawing I Credits: 3
- ART 110 - 2-D Design Credits: 3
- or
- ART 120 - 3-D Design Credits: 3
- General Education Requirements/Electives Credits: 6

First Year - Second Semester

- ARH 156 - Art and Visual Culture in the Modern Era Credits: 3
- ART 110 - 2-D Design Credits: 3
- or
- ART 120 - 3-D Design Credits: 3
- ART 200 - Drawing II Credits: 3
- General Education Requirements/Electives Credits: 6

All four studio foundation courses (ART 100, ART 110, ART 120, ART 200) are required before students take intermediate level studio courses

Second Year - First Semester

- ART 200-level studios Credits: 6
- ARH 200-400's ARH Requirements Credits: 3
- General Education Requirements Credits: 3-4
- Elective Credits: 3

Second Year - Second Semester

- ART 200-300 level studios Credits: 6
- ARH 200-400's ARH Requirements Credits: 3
- General Education Requirements Credits: 3-4
- Elective Credits: 3

Third Year - First Semester

- ART 200-300 level studio Credits: 3
- ART 300-400 level studio Credits: 3
- General Education Requirements Credits: 3-4
- Elective Credits: 6

Third Year - Second Semester

- ART 200-300 level studio Credits: 3
- ART 300-400 level studio Credits: 3
- General Education Requirements Credits: 3-4
- Elective Credits: 6

Fourth Year - First Semester

- ART 499 - Studio Art Senior Capstone Credits: 3
- ART 300-400 level studio Credits: 3
- Electives Credits: 6
- General Education Requirement Credits: 3-4

Fourth Year - Second Semester

- ART Studio Electives Credits: 6
- ARH 300-400's Art History Elective Credits: 3
- Electives Credits: 6

Bachelor of Fine Arts (BFA)

The Department of Art offers the Bachelor of Arts, BA, and the Bachelor of Fine Arts, BFA, in Studio Art. The BA in Studio Art requires 48 credits in Studio Art and 15 credits in Art History. The BA does not require a portfolio review for admission. The BFA in Studio Art requires 66 credits in Studio Art and 15 credits in Art History. The BFA requires a portfolio review for admission. The BFA in Studio Art provides the breadth and depth necessary for a liberal arts based professional degree.

The emphasis of the Studio Art program is creative work in the areas of drawing, painting, printmaking, sculpture and digital art. Elective studio work is available in photography, graphic design, and ceramics. The study of Art History is seen as necessary to intelligent studio development, as is the socializing of the student to attitudes, philosophies, and language of the contemporary art world. Most studio courses require that the student purchase a basic supply of necessary tools, equipment and supplies.

Studio degrees can lead to (1) specialized work as an artist in one of the fine art areas, (2) graduate study in studio art, (3) art related jobs in government, industry and commerce involving digital art, web design, commercial art and design, and other skills.

To graduate, students in the Bachelor of Fine Arts (BFA) in Studio Art need to complete:

66 credits in Studio Art (with C- or better)

54 credits in Non-Studio (with D or better)

adding up to a Total of 120 Degree Hours (with a 2.00 minimum GPA).

Required classes for the Bachelor of Fine Arts (BFA) in Studio Art are as follows:

Required Foundation Courses in Art - 12 credits

Required Studio Courses - 21 credits

Studio Electives - 27 credits

Senior Courses - 6 credits

BFA Area Concentration Courses - 18 credits

These 18 credits are included in the 66 credits required for a BFA Degree, and are composed of 200, 300, and 400 level Studio Art courses.

- ART 498 - Directed Study in Studio Art Credits: Ar
- ART xxx
- ART xxx
- ART xxx
- ART xxx
- ART xxx

Required Art History Courses - 15 credits

- 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 2xx - 4xx Pre-1750
- ARH 2xx - 4xx Post-1750
- ARH 3xx - 4xx Art History Elective

Required Courses in Suggested Sequence for the B.F.A. in Studio Art

First Year - First Semester

- ARH 155 - Art and Visual Culture in the Ancient and Medieval Worlds Credits: 3
- ART 100 - Drawing I Credits: 3
- ART 110 - 2-D Design Credits: 3
- or
- ART 120 - 3-D Design Credits: 3
- General Education Requirements/Electives Credits: 6

First Year - Second Semester

- ARH 156 - Art and Visual Culture in the Modern Era Credits: 3
- ART 110 - 2-D Design Credits: 3
- ART 120 - 3-D Design Credits: 3
- ART 200 - Drawing II Credits: 3
- General Education Requirements/Electives Credits: 6

All four studio foundation courses (ART 100, ART 110, ART 120, ART 200) are required before students take intermediate level studio courses

Second Year - First Semester

- ART 200-level studio Credits: 6
- ARH 200-400's ARH Requirements Credits: 3
- General Education Requirements Credits: 3-4
- Elective Credits: 3

Second Year - Second Semester

- ART 200-300 level studio Credits: 6
- ARH 200-400's ARH Requirements Credits: 3
- General Education Requirements Credits: 3-4
- Elective Credits: 3

Third Year - First Semester

- ART 200-300 level studio Credits: 6
- ART 300-400 level studio Credits: 3
- General Education Requirements Credits: 3-4
- Elective Credits: 3

Third Year - Second Semester

- ART 200-300 level studio Credits: 6
- ART 300-400 level studio Credits: 6
- General Education Requirements Credits: 3-4

Fourth Year - First Semester

- ART 499 - Studio Art Senior Capstone Credits: 3
- General Education Requirement Credits: 3-4
- ART studio elective Credits: 3
- ART 300-400 level studio Credits: 6

Fourth Year - Second Semester

- ART 498 - Directed Study in Studio Art Credits: Ar
- ART 400 Studio Elective Credits: 3
- ART Studio Electives Credits: 3-6
- ARH 300-400's level Art History Credits: 3

Theatre

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: 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: A minimum accumulative GPA of 2.0 ("C") in the major.

Required Course(s) for fulfilling Capstone Experience: THE415

Contact Information: Dr. Tom Mikotowicz, Department Chair, Class of '44 Hall Room 208, 581-1965, miko@maine.edu

The Division of Theatre and Dance offers the Bachelor of Arts degree in Theatre. Within the context of a liberal arts education, the B.A. in Theatre provides students an opportunity to study acting, directing, design and technology, as well as theatre history, performance studies, and literature. Students with other majors may minor in theatre, and they can also minor in dance as part of their educational experience.

The B.A. in Theatre includes coursework in the social and behavioral sciences, arts and humanities, natural sciences, and mathematics as well as in the performing arts. In addition, students are required to complete one semester of any language.

Study in theatre includes 27 credits in required theatre courses and 6 credits in theatre electives, totaling 33 credits to receive the B.A. degree. The program focus is on learning through active participation in all aspects of performance and production. Many classes culminate in production and performance experiences, including acting, dancing, directing of original scripts, or staging of choreography. A Readers' Theatre series, the Underdog and Upperdog directing workshops, the occasional Summer Music Theatre program, and the annual Maine Masque production give students additional opportunities to test their skills in acting and directing. Furthermore, majors are required to actively participate in all facets of theatre/dance production program and are encouraged to become involved in student-directed shows.

Undergraduate study in Theatre prepares students for graduate work in theatre and dance or in related fields of study. It also prepares students for theatre-related careers on and off stage. Graduates go on to careers as teachers, actors, designers, dancers, directors, technicians, and stage managers.

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.

Basic Courses

Every major must take the following 27 credit hours of theatre courses:

- THE 202 - Script Analysis Credits: 3
or
- THE 112 - Survey of Dramatic Literature Credits: 3
- THE 117 - Fundamentals of Acting Credits: 3
- THE 120 - Introduction to Stagecraft Credits: 3
- THE 121 - Introduction to Stagecraft Laboratory I Credits: 1
- THE 122 - Introduction to Stagecraft Laboratory II Credits: 1
- THE 200 - Design for Performance Credits: 3
- THE 216 - Play Production Credits: 3
- THE 300 - Introduction to Performance Studies Credits: 3
- THE 402 - Movement Training for Actors Credits: 3
- THE 415 - Capstone Experience in Theatre Credits: 1
- THE 460 - Theatre History Credits: 3

Theatre Electives

Majors must select 6 credits hours of electives from the following courses:

- THE 111 - Introduction to Theatre Credits: 3
- THE 118 - Stage Makeup Credits: 3
- THE 130 - Introduction to Costume Construction Credits: 3
- THE 131 - Introduction to Costume Construction Laboratory Credits: 1

- THE 201 - Fundamentals of Characterization Credits: 3
- THE 268 - Theatre Practicum, Technical Credits: 1-3
- THE 269 - Theatre Practicum in Acting Credits: 1-3
- THE 310 - Topics in Theatre Technology Credits: 3
- THE 320 - Topics in Theatre Design Credits: 3
- THE 340 - Playwriting, Directing and Performing Laboratory Credits: 3
- THE 400 - Voice and Speech for the Actor Credits: 3
- THE 403 - Styles and Techniques of Comedy Credits: 3
- THE 466 - Stage Directing Credits: 3
- THE 480 - Topics in Theatre Credits: 3
- THE 497 - Independent Study in Theatre I Credits: 1-3
- THE 498 - Independent Study in Theatre II Credits: 1-3

Graduate Level

The following courses are offered on the graduate level to students pursuing graduate degrees from other programs, as well as to advanced senior level students:

Required Courses in Suggested Sequence for the B.A. in Theatre*

First Year - First Semester - 16 Credits*

- ENG 101 - College Composition Credits: 3
- THE 117 - Fundamentals of Acting Credits: 3
(Gen Ed. Creative & Artistic Expression)
- THE 120 - Introduction to Stagecraft Credits: 3
- THE 121 - Introduction to Stagecraft Laboratory I Credits: 1
- General Education Requirement: Mathematics Credits: 3
- Elective Credits: 3

First Year - Second Semester - 16 Credits

- DAN 101 - Beginner Modern Dance I Credits: 2
- THE 112 - Survey of Dramatic Literature Credits: 3
or
- THE 202 - Script Analysis Credits: 3
(Gen Ed. Western Cultural Tradition)
- THE 122 - Introduction to Stagecraft Laboratory II Credits: 1
- General Education Requirement: Science with Lab Credits: 4
- College Requirement Credits: 3

- General Education Requirement: Mathematics Credits: 3

Second Year - First Semester - 15 Credits

- DAN 101 - Beginner Modern Dance I Credits: 2
or
- DAN 102 - Beginner Ballet I Credits: 2
or
- DAN 103 - Beginner Jazz I Credits: 2
- THE 121 - Introduction to Stagecraft Laboratory I Credits: 1
- THE 216 - Play Production Credits: 3
- General Education Requirement: Social Contexts and Institutions Credits: 3
- College Requirement or Elective Credits: 3

Second Year - Second Semester - 15 Credits

- DAN 105 - Beginner Tap Credits: 2
- General Education Requirement: Population and the Environmental Credits: 3
- General Education Requirement: Science Credits: 3
- College Requirement Credits: 3
- Language Requirement Credits: 4

Third Year - First Semester - 14 Credits

- THE 460 - Theatre History Credits: 3
- Theatre Elective Credits: 3
- College Requirement or Elective Credits: 3
- General Education Requirement: Ethics Credits: 3
- Elective or Additional Theatre Course Credits: 2

Third Year - Second Semester - 14 Credits

- THE 300 - Introduction to Performance Studies Credits: 3
(Gen Ed Cultural Diversity and International Perspective, and Writing Competency)
- THE 402 - Movement Training for Actors Credits: 3
- Elective or Additional Theatre Course Credits: 3
- College Requirement or Credits: 3

- Elective Credits: 2

Fourth Year - First Semester - 15 Credits

- THE 460 - Theatre History Credits: 3
(Gen Ed Cultural Diversity & International Perspective, and Writing Competency)
- Elective or Additional Theatre Course Credits: 3
- College Requirement Credits: 3
- Elective Credits: 3
- Elective Credits: 3

Fourth Year - Second Semester - 15 Credits

- THE 402 - Movement Training for Actors Credits: 3
- THE 415 - Capstone Experience in Theatre Credits: 1
- Theatre elective Credits: 3
- Elective or Additional Theatre Course Credits: 3
- Elective, College Requirement or Additional Theatre Course Credits: 3
- Elective Credits: 2

Note:

Some Core Theatre courses count toward the Cultural Diversity and International Perspectives, Artistic and Creative Expression, and Writing Intensive and Writing in the Major. So, the student may just take Elective courses in place of these requirements.

Up to five theatre courses (15 credits) can be taken in addition to the major requirement of 33 credits and have them count as part of the 120 credits needed to graduate.

Students, who want to minor in dance, may substitute the equivalent credits of non-theatre electives for Dance credits. DAN courses count as credits outside the major and can be used for electives.

Also, Elective Credits in this four-year plan may be applied to the College of Liberal Arts and Humanities requirement of a second major or a minor in another discipline.

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 480

Contact Information: Mazie Hough, Director of the Women's, Gender, and Sexuality Studies Program, (207) 581-1228.

The Bachelor of Arts in Women's, Gender, and Sexuality Studies is an interdisciplinary program offered by the Women's, Gender, and Sexuality Studies Program with two joint-appointment faculty members* on loan from a variety of academic units or hired part time for their particular expertise. Students who major in Women's, Gender and Sexuality Studies are employed in social service work, health services occupations, business, law, education, and government at all levels. They find employment in public policy fields, working with women specifically or with people in general. In the private sector graduates are successful in management positions, especially in those involving work with diverse groups of people. Women's, Gender, and Sexuality Studies is also an excellent second major or minor for students majoring in a wide variety of disciplines, such as anthropology, nursing, political science, sociology, English, social work, and history.**

Women's, Gender, and Sexuality Studies majors will gain a more complete understanding of how the social construction of gender has influenced the roles, contributions, and experiences of both women and men in many different cultures, now and in the past. Such awareness can help them better understand our contemporary world with its changing roles for all. They will bring to the gender analysis of any situation knowledge of the complexity of its interaction with race, social class, sexual orientation, and other forms of diversity. They will be able to recognize the connection between Women's, Gender, and Sexuality Studies scholarship and the scholarship of other disciplines. Students will develop an appreciation for the connections between Women's, Gender, and Sexuality Studies scholarship, activism, and social change, historically and in the present. They will develop the critical intellectual capacity and necessary communication skills to work to value and improve the lives of everyone in whatever public or private spheres they choose. The major consists of at least 33 credits structured this way.

*English and History among others.

**Students can also major in International Affairs with a concentration in Global Women's, Gender, and Sexuality Issues.

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.

The core curriculum consists of 15 student credit hours, plus a 3-credit Practicum/Internship with any designator. Electives will consist of 15 credit hours chosen from a broad list of possible course options, of which at least 6 credit hours need to be at the 300 or 400 level. Honor's Theses will not count toward the capstone requirement; however, if a student completes an Honor's Thesis on a WGS topic, then 3 credit hours of that will count toward the elective total.

Core Courses:

- SOC 329 - Sociology of Gender Credits: 3
or
- SOC 330 - Perspectives on Women Credits: 3

- WGS 101 - Women's, Gender and Sexuality Studies Credits: 3
- WGS 340 - Transnational Feminisms Credits: 3
- WGS 410 - Feminist, Gender and Queer Theory Credits: 3
- WGS 480 - Senior Seminar in Women's, Gender, and Sexuality Studies Credits: 3

Possible Practicum/Internship Courses:

- CHF 401 - Peer Education Credits: 3
- CHF 496 - Field Experience in Human Development and Family Studies Credits: 1-6
- INT 195 - (University Wide) Community Engagement / Service Learning Credits: 1-3
- INT 196 - (University Wide) Academic and Career Exploration Internship Credits: 0-3
- WGS 498 - Directed Study in Women's, Gender, and Sexuality Studies Credits: Ar

Electives:

- WGS 103 - Introduction to Lesbian, Gay, Bisexual, and Transgender Studies Credits: 3
- WGS 201 - Topics in Women's, Gender, and Sexuality Studies Credits: 3
- WGS 230 - Women, Health, and the Environment Credits: 3
- WGS 235 - Franco American Women's Experience Credits: 3
- WGS 250 - Women and Music Credits: 3
- WGS 270 - Native American Women Credits: 3
- WGS 301 - Intermediate Topics in Women's, Gender, and Sexuality Studies Credits: 3
- WGS 360 - Feminism and Cinema Credits: 3
- WGS 371 - Immigration, Women and Society Credits: 3
- ANT 245 - Sex and Gender in Cross-Cultural Perspective Credits: 3
- ANT 328 - S/He: Rituals & Folk Traditions of Gender Credits: 3
- CHF 351 - Human Sexuality Credits: 3
- CHF 451 - Family Relationships Credits: 3
- CHF 452 - Violence in the Family Credits: 3
- CLA 201 - Women in the Ancient World Credits: 3
- CMJ 225 - Sex, Gender and Communication Credits: 3
- CMJ 405 - Women and Communication Credits: 3
- CMJ 410 - Social Influence of Mass Communication Credits: 3
- CMJ 475 - Sexualities in Mass Communication Credits: 3
- ENG 246 - American Women's Literature Credits: 3
- ENG 256 - British Women's Literature Credits: 3
- ENG 471 - Literature, Gender, and Gender Theory Credits: 3
- HTY 332 - Womanhood in America Credits: 3
- HTY 494 - Women, History and American Society: Selected Topics Credits: 3
- PAX 401 - Women Social Activists: Warriors for Peace and Justice Credits: 3
- PHI 236 - Feminist Ethical, Social and Political Theory Credits: 3
- POS 385 - Women and Politics Credits: 3

- SOC 330 - Perspectives on Women Credits: 3
- SOC 371 - Immigration, Women and Society Credits: 3
- SWK 330 - Contemporary Issues in Diversity and Pluralism Credits: 3

Topics Courses as Electives:

If the Topic's courses listed below contain sustained, systematic study and discussion of Women's, Gender and Sexuality issues, they will count as electives.

- CHF 404 - Selected Topics in Child Development and Family Life Credits: 3
- ENG 129 - Topics in English Credits: 3
- ENG 229 - Topics in Literature Credits: 3
- ENG 429 - Topics in Literature and Language Credits: 3
- SWK 330 - Contemporary Issues in Diversity and Pluralism Credits: 3

Minor

Minor: Anthropology

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 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: Gregory Zaro, Chair, Associate Professor of Anthropology and Climate Change, 242 South Stevens Hall, (207) 581-1857, Fax: (207) 581-1823, gregory.zaro@umit.maine.edu

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.

Required Core Classes (6 credits):

- ANT 101 - Introduction to Anthropology: Human Origins and Prehistory Credits: 3
- ANT 102 - Introduction to Anthropology: Diversity of Cultures Credits: 3

Electives (12 credits):

- Any four ANT or GEO courses

Minor: Archaeology

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18

Minimum Grade requirements for courses to count toward minor: None

GPA requirements to earn minor: 2.0

Contact Information: Gregory Zaro, Chair of Anthropology; 242 South Stevens Hall; 581-1857; gregory.zaro@umit.maine.edu

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.

Residency Requirement: A minimum of 9 credit hours that include ANT 317 must be completed at the University of Maine

Required Courses: Students minoring in Archaeology must pass ANT 101, ANT 102, and ANT 317 with at least a C- grade. A minimum of 9 credit hours must be at the 200-level or above

Required Core Classes (9 credits):

- ANT 101 - Introduction to Anthropology: Human Origins and Prehistory Credits: 3 (C- minimum)
- ANT 102 - Introduction to Anthropology: Diversity of Cultures Credits: 3 (C- minimum)
- ANT 317 - Fundamentals of Archaeology Credits: 3 (C- minimum)

Electives (9 credits):

- ANT 140 - Cities of the Ancient World Credits: 3

- ANT 170 - Popular Archaeology Credits: 3
- ANT 207 - Introduction to World Archaeology Credits: 3
- ANT 210 - Biological Anthropology Credits: 3
- ANT 260 - Forensic Anthropology Credits: 3
- ANT 316 - Shipwreck Sites: Archaeological and Historical Investigations Credits: 3
- ANT 372 - North American Prehistory Credits: 3
- ANT 420 - Human Impacts on Ancient Environments Credits: 3
- ANT 421 - Inca Society and Peasants of the Andes Credits: 3
- ANT 475 - Environmental Archaeology Credits: 3
- ANT 476 - The Ancient Maya Credits: 3
- ANT 477 - Field Research in Archaeology Credits: 2-6
- ANT 478 - Zooarchaeology Credits: 4
- ANT 479 - Laboratory Techniques in Prehistoric Archaeology Credits: 3
- ANT 480 - Andean Prehistory Credits: 3
- ANT 494 - Method and Theory in Archaeology Credits: 3
- or additional courses with prior approval from the department chair

Restrictions:

Anthropology majors: Due to significant course overlap, Anthropology majors may not earn a minor in Archaeology.

International Affairs/Anthropology majors: because there is a limited curricular overlap, ANT 102 (required) and ANT 421 (elective), International Affairs majors with a concentration in Anthropology are free to earn a minor in Archaeology. However, IA/ANT majors may use ANT 412 to fulfill an elective for their major or the Archaeology minor, but not both.

Minor: Art History

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: C- or better in all ART & ARH required courses taken.

Contact Information: Michael Grillo, Associate Professor of Art and Chairperson Department of Art, 107 Lord Hall, (207) 581-3246, michael.grillo@umit.maine.edu

The minor in art history is designed to serve the needs of students from a broad range of fields. After studying a comprehensive survey of the Western Tradition, students may select upper level courses according to their interests. These courses include offerings in both the Modern to contemporary eras (1800 onward) and the earlier epochs that preceded it. The required introductory studio course will expose students directly to issues of artistic creativity, an essential component to understanding the History of Art. Transfer credits will be accepted for one hundred level courses only.

Required Courses:

- 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
- ART 100 - Drawing I Credits: 3
or
- ART 110 - 2-D Design Credits: 3
or
- ART 120 - 3-D Design Credits: 3
- ARH 2XX Pre-1750 Survey Credits: 3
- ARH 2XX Modern Survey Credits: 3
- ARH 3XX or 4XX Modern Seminar Credits: 3
- ARH 3XX or 4XX Pre-Modern Seminar Credits: 3

Minor: Astronomy

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 21

GPA requirements to earn minor: 2.0 in the core and elective courses

Contact Information: David Batuski, Department of Physics, Room 120 Bennett Hall, (207) 581-1016, batuski@maine.edu

This program is intended for students enrolled in an undergraduate degree program at the University of Maine.

Required Courses

The Department Chairperson may consider exceptions to this list on a case-by-case basis.

- PHY 111 - General Physics I Credits: 4
and
- PHY 112 - General Physics II Credits: 4
or
- PHY 121 - Physics for Engineers and Physical Scientists I Credits: 4
and
- PHY 122 - Physics for Engineers and Physical Scientists II Credits: 4
- PHY 223 - Special Relativity Credits: 1
- PHY 236 - Introductory Quantum Physics Credits: 3

Three or more courses from the following list:

- AST 110 - Introduction to Astronomy Laboratory Credits: 1
- AST 215 - General Astronomy I Credits: 3
- AST 216 - General Astronomy II Credits: 3
- AST 451 - Astrophysics Credits: 1-3
(See Footnote 1)
- AST 497 - Topics in Astrophysics Credits: 1-3
(See Footnote 1)

¹These courses may be taken for 1-3 credits, as arranged.

Minor: Canadian Studies

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

Contact Information: Stephen J. Hornsby, Director and Professor of Geography and Canadian Studies, 207-581-4226, Hornsby@maine.edu

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. More broadly, Americans need to know much more about Canada. 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, Education, English, Forestry, Franco American Studies, Geography, Geology, Journalism, and Native American Studies.

A student majoring in International Affairs may choose the Canadian Studies concentration.

Requirements for a Minor

The Canadian Studies Minor requires 18 credits. These must include CAN 101 - Introduction to Canadian Studies; two additional Canadian Core Courses (100% Canadian content); and three Canadian Related Courses (25% or higher in Canadian content). Note: Courses taken at a Canadian university through the Canada Year Program or Study Abroad in Canada semester may be included toward the Canadian Studies minor. See our website for more information on the Canada Year Program.

Canadian Core Courses

- BUA 328 - Canadian/U.S. Business: A Comparison Credits: 3
- CAN 101 - Introduction to Canadian Studies Credits: 3
- CAN 401 - Readings in Canadian Studies Credits: 3
- ECO 340 - The Canadian Economy: Issues and Policies Credits: 3
- ENG 236 - Intro to Canadian Literature Credits: 3
- FRE 350 - Multidisciplinary Readings in French Credits: 1
- FRE 397 - French (May Term) Credits: 3
- FRE 463 - Quebec Poetry Credits: 3
- FRE 464 - Quebec Theatre Credits: 3
- FRE 490 - Advanced Topics in French Credits: 1-3
- FRE 495 - Senior Project in French Credits: 0-3
- HTY 459 - Colonial Canada Credits: 3
- HTY 460 - Modern Canada Credits: 3
- INA 201 - Topics in International Affairs Credits: 3
- POS 243 - Canadian Government and Politics Credits: 3
- POS 344 - Public Policy in Canada Credits: 3
- POS 372 - Canadian Foreign Policy Credits: 3
- POS 496 - International Affairs Internship Credits: 6 or 9
- POS 499 - Senior Seminar in Political Science Credits: 3

Canadian Related Courses

- ANT 221 - Introduction to Folklore Credits: 3
- ANT 372 - North American Prehistory Credits: 3
- ARH 270 - Topical Survey in History of Art Credits: 3
Topic: Art of the North: The Group of Seven In Context
- CMJ 314 - International Mass Communication Credits: 3
- ENG 336 - Canadian Literature Credits: 3
- ERS 100 - An Introductory Survey of Geology Credits: 3
- FAS 101 - Introduction to Franco American Studies Credits: 3
- FAS 120 - People, Places and Pasts Credits: 3
- FAS 230 - Franco American Women's Experience Credits: 3
- FAS 240 - French Exploration and Settlement of Maine, 1604-1760 Credits: 3
- FAS 250 - Exile, Migrations and Communities Credits: 3
- FAS 270 - Immigration, Yesterday and Today Credits: 3
- FAS 329 - Topics in Franco American Studies Credits: 3
- FAS 442 - French Language of North America Credits: 3
- FRE 101 - Elementary French I Credits: 3 - 4
- FRE 102 - Elementary French II Credits: 3 - 4
- FRE 117 - Accelerated French I Credits: 6
- FRE 201 - Intermediate French I Credits: 3 - 4
- FRE 202 - Intermediate French II Credits: 3 - 4
- FRE 218 - Accelerated French II Credits: 6
- FRE 305 - French Conversation and Composition I Credits: 3
- FRE 306 - French Conversation and Composition II Credits: 3

- FRE 307 - French for Business Credits: 3
- FRE 309 - Readings in French Literature Credits: 3
- FRE 310 - Readings in Francophone Literature Credits: 3
- FRE 315 - Advanced French Conversation Credits: 3
- FRE 320 - French Pronunciation Credits: 3
- FRE 400 - Advanced French Grammar Credits: 3
- FRE 401 - Translation and Comparative Stylistics Credits: 3
- FRE 413 - Advanced Composition and Stylistics Credits: 3
- FRE 442 - French Language of North America Credits: 3
- FRE 465 - North American French Novel Credits: 3
- GEO 349 - Early Modern North America in Atlantic Perspective Credits: 3
- HTY 199 - Problems in History Credits: 3
- HTY 398 - Historical Issues Credits: 3
- HTY 481 - Amerindians of the Northeast: A History Credits: 3
- HTY 483 - Violence in North American History Credits: 3
- NAS 102 - Introduction to Wabanaki Culture, History and Contemporary Issues Credits: 3
- NAS 201 - Topics in Native American Studies Credits: 1-3
- POS 241 - Introduction to Comparative Politics Credits: 3
- NAS 401 - Advanced Topics in Native American Studies Credits: 3
- POS 273 - International Relations Credits: 3
- WGS 235 - Franco American Women's Experience Credits: 3
- WGS 301 - Intermediate Topics in Women's, Gender, and Sexuality Studies Credits: 3
- CMJ 545 - Medical Ecology Credits: 3
- DIS 530 - Disability Policy Credits: 3
- ENG 536 - Studies in Canadian literature Credits: 3

Minor: Chemistry

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 23

GPA requirements to earn minor: None.

Minimum Grade requirements for courses to count toward minor: Chemistry minors must earn a C- or better.

Contact Information: Barbara J.W. Cole, Professor and Chair, 5706 Aubert Hall, Room 154, 581-1168

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. This 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 23 credits from the following list, including at least one advanced chemistry course (CHY 242 or 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.

Courses:

- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
- CHY 242 - Principles of Quantitative Analysis and Solution Equilibria Credits: 5
- CHY 251 - Organic Chemistry I Credits: 3
- CHY 252 - Organic Chemistry II Credits: 3
- CHY 253 - Organic Chemistry Laboratory I Credits: 2
- CHY 254 - Organic Chemistry Laboratory II Credits: 2
- CHY 423 - Introductory Polymer Chemistry Credits: 3
- CHY 431 - Structure and Mechanism in Biological Chemistry Credits: 3
- CHY 443 - Instrumental Analysis Credits: 3
- CHY 453 - Intermediate Organic Chemistry Credits: 4
- CHY 461 - Advanced Inorganic Chemistry I Credits: 3
- CHY 462 - Organometallic Chemistry Credits: 3
- CHY 471 - Physical Chemistry I Credits: 3
- CHY 472 - Physical Chemistry II Credits: 3
- CHY 475 - Physical Chemistry III Credits: 3
- CHY 477 - Nanoscience Credits: 3
- CHY 483 - Introductory Wood Chemistry Credits: 3

Minor: Classical Studies

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: None.

Contact Information: Jane Smith, Chair of MLC, 201 Little Hall, (207) 581-2075, jsmith@maine.edu

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 Little Hall, (207)581-2072.

Art History

- ARH 155 - Art and Visual Culture in the Ancient and Medieval Worlds Credits: 3
- ARH 251 - Classical Art and Architecture Credits: 3

Classics

- CLA 101 - Greek Literature in English Translation Credits: 3
- CLA 102 - Latin Literature in English Translation Credits: 3
- CLA 201 - Women in the Ancient World Credits: 3
- CLA 202 - Mythology of the Ancient Near East, North African and Greece Credits: 3
- CLA 400 - Hero: Myth and Meaning Credits: 3
- CLA 401 - Amazons: Myth and Reality Credits: 3

English

- ENG 231 - Western Tradition in Literature: Homer Through the Renaissance Credits: 3

History

- HTY 105 - History of Ancient and Medieval Europe Credits: 3

Modern Language

- MLC 231 - Western Tradition in Literature: Homer Through the Renaissance Credits: 3
- MLC 293 - Study Abroad Credits: 1-6

Philosophy

- PHI 210 - History of Ancient Philosophy Credits: 3

Political Science

- POS 301 - Classical Political Thought Credits: 3

Minor: Computer Science

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: Silvia Nittel and Carol Roberts, Undergraduate Coordinators, School of Computing and Information Science, (207) 581-3681 and (207) 581-3522, nittel@maine.edu, Carol_Roberts@umit.maine.edu

There are two different tracks that earn a minor in Computer Science. Both require at least 18 credit hours of COS courses.

Computer Science - Track 1

- COS 125 - Introduction to Problem Solving Using Computer Programming Credits: 3
- COS 140 - Foundations of Computer Science Credits: 3
- COS 225 - Object-Oriented Design, Programming and Data Structures Credits: 4
- COS 226 - Introduction to Data Structures Credits: 3

- Plus any two additional COS courses at the 300-level or above

Computer Science - Track 2

- COS 140 - Foundations of Computer Science Credits: 3
- COS 220 - Introduction to C++ Programming Credits: 3
- COS 221 - Data Structures in C++ Credits: 3
- COS 235 - Computer Architecture Credits: 4
- Plus any two additional COS courses at the 300-level or above
- Students who have taken ECE 177 or a similar course, may be excused from taking COS 220. If they choose to be excused from COS 220, they must either take COS 125 or an additional COS course at the 200 level or above.
- Students who have taken an ECE architecture course, may be excused from taking COS 235, but must take an additional COS course at the 300 level or above.

Minor: Creative Writing

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18

GPA requirements to earn a minor: None

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: David Kress, Program Director, Creative Writing, 304 Neville Hall, (207) 581-3808, david.kress@maine.edu

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.

Required 6 credits:

- ENG 205 - An Introduction to Creative Writing Credits: 3
- ENG 222 - Reading Poems Credits: 3

or

- ENG 170 - Foundations of Literary Analysis Credits: 3

Plus 12 more credits

Four upper level Creative Writing Workshops (pick four from the following:)

- ENG 307 - Writing Fiction Credits: 3
- ENG 308 - Writing Poetry Credits: 3
- ENG 309 - Writing Creative Nonfiction Credits: 3
- ENG 405 - Topics in Creative Writing Credits: 3
- ENG 407 - Advanced Fiction Writing Credits: 3
- ENG 408 - Advanced Poetry Writing Credits: 3

Note: any 400-level Workshop may be repeated once for credit

Minor: Dance

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: None.

Contact Information: Dan Bilodeau, Department Chair, 5788 Class of '44 Hall, 581-1962, daniel.bilodeau@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.

Students are required to take a total of 18 credits.

Every minor must take 14 credits in technique courses:

- 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 201 - Intermediate Modern Dance Credits: 2-3
- DAN 202 - Intermediate Ballet Credits: 2-3
- DAN 203 - Intermediate Jazz Credits: 2
- DAN 205 - Intermediate Tap Credits: 2
- DAN 270 - Pilates Conditioning and Functional Anatomy Credits: 3
- DAN 297 - Introductory Topics in Dance Credits: 2
- DAN 397 - Intermediate Topics in Dance Credits: 2
- DAN 497 - Advanced Topics in Dance Credits: 2
- DAN 498 - Dance Project/Thesis Credits: 3
- MUO 111 - Marching Band Credits: 0-1

Every minor must take 3 credits of either course:

- DAN 250 - Dance Composition I Credits: 3
- or
- DAN 266 - Dance History Credits: 3

Every minor must take 1 credit of this course:

- DAN 112 - Production/Rehearsal Credits: 1

Minor: English

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 all English Minor courses.

Contact Information: Laura Cowan May, Department Chairperson, 304A Neville Hall, (207) 581-3823,
laura.cowan@maine.edu

18 credits of English courses are required, **excluding ENG 001 and ENG 101**. 12 of these credits must be University of Maine courses.

Required Courses:

Six courses at least four (4) of which include:

Two of the following:

- ENG 170 - Foundations of Literary Analysis Credits: 3
- ENG 222 - Reading Poems Credits: 3
- ENG 271 - The Act of Interpretation Credits: 3
- Two 300-level literature courses

AND two (2) courses*:

- any two courses at the 200 or 300 level
 - or one (1) course at the 200 or 300 level and one (1) course at the 400 level
- *additional courses can be writing and/or literature courses, in any combination.

Minor: Ethics and Political Philosophy

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 is required in any Philosophy courses counting towards minor.

Contact Information: Jessica Miller, Chair, Department of Philosophy, 5776 The Maples, (207)581-3862, jessica.miller@umit.maine.edu.

A minor in Ethics and Political Philosophy shall consist of at least 18 credits with a minimum course grade of C-. At least 9 credits must be taken at the University of Maine. Students enrolled in this minor must satisfy the following requirements:

Core Requirements (6 credits)

Students will take one of the following:

- PHI 100 - Contemporary Moral Problems Credits: 3
- PHI 230 - Ethics Credits: 3

Students will take the following course (3 credits)

- PHI 240 - Social and Political Philosophy Credits: 3

At least three courses from the following list (9 credits)

- PHI 100 - Contemporary Moral Problems Credits: 3
- PHI 102 - Introduction to Philosophy Credits: 3
- PHI 104 - Existentialism and Literature Credits: 3
- PHI 105 - Introduction to Religious Studies Credits: 3
- PHI 210 - History of Ancient Philosophy Credits: 3
- PHI 223 - Modern Jewish Thought Credits: 3
- PHI 230 - Ethics Credits: 3
- PHI 232 - Environmental Ethics Credits: 3
- PHI 235 - Biomedical Ethics Credits: 3
- PHI 236 - Feminist Ethical, Social and Political Theory Credits: 3
- PHI 240 - Social and Political Philosophy Credits: 3
- PHI 242 - Ethics in Professional Life Credits: 3
- PHI 286 - Religions and Philosophies of the East: Hinduism Credits: 3
- PHI 287 - Religions and Philosophies of the East: Buddhism Credits: 3
- PHI 312 - History of Modern Philosophy Credits: 3
- PHI 317 - Existentialism and Phenomenology Credits: 3
- PHI 342 - Marxist Philosophy I: The Philosophy of Karl Marx Credits: 3
- PHI 344 - Theories of Justice Credits: 3
- PHI 345 - Global Justice Credits: 3
- PHI 346 - The Philosophy of Mahatma Gandhi Credits: 3
- PHI 432 - Environmental Philosophy and Policy Credits: 3

At least 3 additional credits in Philosophy

Minor: Film and Video

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-

Contact Information: Michael Grillo, Department of Art, 107 Lord Hall, 581-3246; michael.grillo@umit.maine.edu

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, Communications and Journalism, English, History, Modern Language and the Classics, and New Media.

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:

Introductory course (total of 3 credits)

- CMJ 245 - Film Criticism and Theory Credits: 3
- ENG 280 - Introduction to Film Credits: 3
- HTY 218 - History of Film Credits: 3

Two or more History and Theory (minimum of 6 credits)

- ARH 369 - Film and Video Theory Seminar Credits: 3
- CMJ 398 - Topics in Mass Communication Credits: 3
- FRE 390 - Topics in French Credits: 1-3
- FRE 430 - French Film Survey Credits: 3
- FRE 490 - Advanced Topics in French Credits: 1-3
- GER 420 - German Film Credits: 3
- GER 490 - Topics in German Credits: 1-3
- MLC 421 - World Cinema: Multiple Perspectives on Identity and Culture Credits: 3
- SPA 420 - Spanish Film Credits: 3
- WGS 360 - Feminism and Cinema Credits: 3

Two or more Practice courses (minimum of 6 credits)

- CMJ 351 - Multimedia Production Credits: 4
- NMD 204 - Introduction to Time-Based Art and Design Credits: 3
- NMD 245 - Film Criticism and Theory Credits: 3
- NMD 295 - Topics in New Media Credits: 1-3
- NMD 343 - Digital Narrative Workshop I Credits: 3
- NMD 344 - Time-Based Art and Design I Credits: 3
- NMD 324 - Year in Film I Credits: 3
- NMD 370 - 3D Modeling and Animation Credits: 3
- NMD 371 - Digital Art IIB: Digital Video Credits: 3
- NMD 398 - Topics in New Media Credits: 1-3
- NMD 424 - Year in Film II Credits: 3
- NMD 430 - Topics in New Media Credits: 1-3
- NMD 498 - Practicum in New Media I Credits: 3
- NMD 499 - Practicum in New Media II Credits: 3

Minor: Folklore

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: None.

Contact Information: Pauleena MacDougall, Director, Folklore Center, S. Stevens Hall, Room 110, (207)581-1848, pauleena@maine.edu

Folklore focuses on the study of society, past or present, and uses a variety of methodologies drawn from the humanities and social sciences to understand them. To concentrate on a society's folklore (at regional as well as national levels) is to understand its traditional self-definition through its myths, epics, ballads, folktales, legends, beliefs, and other cultural phenomena, including music, song, and dance. Studying a group's folklore shows how it identifies itself in relation to other groups. Inherently interdisciplinary, the study of folklore and mythology often draws resources from several disciplines, while maintaining its own methodological lens.

Required Courses (9 credits)

- ANT 102 - Introduction to Anthropology: Diversity of Cultures Credits: 3
- ANT 221 - Introduction to Folklore Credits: 3
- ANT 425 - Recorded Interviewing Techniques and Methods Credits: 3

6 Credits:

must come from the following list:

- ANT 426 - Native American Folklore Credits: 3
- ANT 431 - Folklore, the Environment and Public Policy Credits: 3
- CMJ 106 - Storytelling Credits: 3
- ENG 129 - Topics in English Credits: 3
- ENG 131 - The Nature of Story Credits: 3
- ENG 170 - Foundations of Literary Analysis Credits: 3
- ENG 229 - Topics in Literature Credits: 3
- ENG 429 - Topics in Literature and Language Credits: 3
- FAS 250 - Exile, Migrations and Communities Credits: 3
- HTY 211 - Maine and the Sea Credits: 3
- JST 203 - Jewish History and Culture I: The Middle Ages to 1750 Credits: 3
- JST 204 - Jewish History and Culture II: The Jews & Europe, 1750-1948 Credits: 3

- MES 101 - Introduction to Maine Studies Credits: 3
- MES 201 - The Maine Coast Credits: 3
- MES 498 - Advanced Topics in Maine Studies Credits: 1-3
Topics: A Sense of Place: Maine and Regional Identity
Doing Nearby History and Folklore in the Classroom
- NAS 102 - Introduction to Wabanaki Culture, History and Contemporary Issues Credits: 3
- WGS 235 - Franco American Women's Experience Credits: 3
- WGS 371 - Immigration, Women and Society Credits: 3
Other courses require committee approval

Students must complete either

- a) a folklore-related senior project in their home major
- b) a mentored folklore senior project or
- c) a for-credit internship in a folklore related field (using ANT 497 Independent study)

Minor: Franco American Studies

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: None.

Contact Information: Susan Pinette, Director of Franco American Studies, (207) 581-3791, francostudies@maine.edu

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 FAS 101, and at least 2 other core courses, and a selection of "Related Courses" from the list below.

For complete information about Franco-American Studies, contact Susan Pinette, (207) 581-3791, francostudies@maine.edu.

Core Courses

- FAS 101 - Introduction to Franco American Studies Credits: 3
- FAS 120 - People, Places and Pasts Credits: 3
- FAS 200 - Primary Sources in Franco American Studies Credits: 3
- FAS 230 - Franco American Women's Experience Credits: 3
- FAS 240 - French Exploration and Settlement of Maine, 1604-1760 Credits: 3
- FAS 250 - Exile, Migrations and Communities Credits: 3
- FAS 270 - Immigration, Yesterday and Today Credits: 3
- FAS 329 - Topics in Franco American Studies Credits: 3
- FAS 442 - French Language of North America Credits: 3
- FAS 459 - Colonial Canada Credits: 3

Related Courses

- ANT 221 - Introduction to Folklore Credits: 3
- ANT 425 - Recorded Interviewing Techniques and Methods Credits: 3
- ENG 237 - Coming of Age in America Credits: 3
- FRE 201 - Intermediate French I Credits: 3 - 4
- FRE 202 - Intermediate French II Credits: 3 - 4
- FRE 397 - French (May Term) Credits: 3
- FRE 463 - Quebec Poetry Credits: 3
- FRE 464 - Quebec Theatre Credits: 3
- FRE 465 - North American French Novel Credits: 3
- HTY 467 - Early 20th Century America, 1914-1945 Credits: 3
- HTY 477 - The American Worker Credits: 3
- SOC 201 - Social Inequality Credits: 3

Minor: French

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: None.

Contact Information: Jane Smith, Chair of MLC, 201 Little Hall, (207) 581-2075, jsmith@maine.edu

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 or three credits of FRE 117 Accelerated French I 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 Little Hall, (207) 581-2072 or (207) 581-2075.

Minor: Geography

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18

GPA requirements to earn minor: 2.0

Minimum Grade requirement for courses to count towards minor: Students minoring in Geography must pass GEO 100 with at least a C- grade.

Minimum of 9 credit hours must be at the 200-level or above

Residency requirement: A minimum of 9 credit hours must be completed at the University of Maine

Contact Information: Stephen J. Hornsby, Director and Professor of Geography and Canadian Studies (207)581-4226, hornsby@maine.edu

The discipline of geography is broadly based in earth sciences and humanities as well as in the social sciences. Geographers pursue research and teaching in areas as diverse as geomorphology, hydrology, transportation, urban planning, cultural ecology, and human-environment relationships and pre-history. The geography curricula will appeal to undergraduates seeking a general yet practical University education. Geographers find employment in such career fields as resource management, urban and regional planning, and environmental assessment, as well as in the traditional occupations of elementary and secondary school teaching. Students are urged to discuss and plan course selection with the Coordinator.

Required core class (3 credits)

- GEO 100 - World Geography Credits: 3

Electives (15 credits)

A minimum of 9 credits must come from courses with a GEO or joint GEO designator:

- ANT 250 - Conservation Anthropology: The Socio-Cultural Dimension of Environmental Issues Credits: 3
- ANT 311 - Geography of Climate Change Credits: 3
- **or**
- GEO 311 - Geography of Climate Change Credits: 3
- ANT 464 - Ecological Anthropology Credits: 3
- BIO 319 - General Ecology Credits: 3
- ECO 377 - Introduction to Natural Resource Economics and Policy Credits: 3
- ECO 479 - Land Use Planning Credits: 3
- HTY 479 - U.S. Environmental History Credits: 3
- GEO 212 - Geography of Maine Credits: 3

or

- HTY 212 - Geography of Maine Credits: 3
- GEO 275 - Geography of Globalization Credits: 3

or

- HTY 275 - Geography of Globalization Credits: 3
- GEO 349 - Early Modern North America in Atlantic Perspective Credits: 3

or

- HTY 349 - Early Modern North America in Atlantic Perspective Credits: 3

Minor: Graphic Design

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: Students must have a grade of "C-" or better in all courses applied to the minor.

Contact Information: Michael Grillo, Chair, Department of Art, 107 Lord Hall, (207) 581-3246.

In an era when digital technologies have brought the menus of professional design to the world at large, the Department of Art offers a minor in which students bring together aesthetics, design history, cultural studies, and internship possibilities in the professional world of Graphic Design. Students from all majors, particularly in Art, Communications, Business, NewMedia, Innovation Engineering, and other fields that use graphic data presentations, model building, and visual imagining will all find the minor as a vital complement to their field. Good design plays a core role in shaping our ability to communicate effectively. Demand for Graphic Design skills continue to grow, as students find graphic information and visual thinking increasingly important in an expanding variety of fields. For innovative interdisciplinary studies, building on emerging social connectivity, evolving publication platforms, and new, inventive business models, the Graphic Design Minor offers the opportunity for students to develop expertise in new expanding fields emerging from visual communication and creative imaging.

On campus, several organizations, including the Maine Journal, ASAP, the Maine Campus, and the Student Innovations Entrepreneurial Centre, among others, offer rich opportunities for students in the Graphic Design Minor to develop their work in professional venues, expand their audiences, and transition to employment in the field. The minor also helps students find local internship possibilities, in business, communications, arts organizations, social services, and other flourishing fields.

REQUIREMENTS: The Graphic Design Minor requires eighteen credits, twelve of which are covered by the four required courses, and the remaining six by any on the list below.

Required Courses

- ART 110 - 2-D Design Credits: 3
- ART 250 - Graphic Design I Credits: 3
- ART 270 - Digital Art I Credits: 3

- ART 350 - Graphic Design II Credits: 3

Recommended:

- ART 496 - Field Experience in Art Credits: Ar

Possible Elective Courses:

- ART 200 - Drawing II Credits: 3
- ART 182 - Photography and Digital Imaging Credits: 3
or
- ART 272 - Digital Imaging Credits: 3
- BUA 270 - Marketing Credits: 3
- BUA 372 - Integrated Marketing Communication Credits: 3
- CMJ 355 - Advertising Copy and Graphics Credits: 3
- CMJ 370 - Visual Communication Credits: 3
- INV 180 - Create: Innovation Engineering I Credits: 3
- INV 282 - Communicate: Innovation Engineering II Credits: 3
- NMD 202 - Information Design Credits: 3
- NMD 240 - Introduction to Web Concepts and Design Credits: 3
- NMD 302 - Interaction Design in New Media Credits: 3

Minor: History

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 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: Stephen Miller, Chair, Department of History, Room 255 Stevens, (207) 581-1905 or Suzanne Moulton, Administrative Assistant, Department of History, Room 255 Stevens, (207) 581-1908

A minor in History shall consist of at least 18 credits, of which at least 12 must be upper level courses. The 18 credits should include courses that cover more than one continent and more than one century.

Students minoring in History must maintain an overall GPA of 2.0 in all History courses to be applied to the minor.

Minor: Human-Computer Interaction

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

Contact Information: Nicholas Giudice, Computing and Information Science, 107 Boardman Hall, (207) 581-2187, giudice@spatial.maine.edu

Michael Scott, New Media, 403 Chadbourne Hall, (207) 581-4330, mscott@umit.maine.edu

Human-Computer Interaction (HCI) is the study of how humans interact with technology through principled design, communication, and construction. HCI addresses the design, evaluation, and implementation of computer based systems for the benefit of human use. The HCI field has its roots in over 50 years of computer science theory, as well as in the applied social and behavioral sciences. HCI explores the technological advances and the increasing pervasiveness of computing devices in our society. With an emphasis on making computing technologies more user-friendly, HCI has emerged as a dynamic, multifaceted area of study that merges theory from science, engineering, and design--as well as concepts and methodologies from psychology, anthropology, sociology, and industrial design--with the technical concerns of computing.

Key Concepts, Skills, and Methods:

- Learn technical considerations involved with HCI
- Develop problem solving skills for creating effective HCI environments
- Understand interrelationships of HCI to professions and fields of study
- Perform fieldwork for understanding HCI user needs and the influence of context
- Generative approaches to imagining many possible solutions
- Iterative refinement of designs
- Implementation of interactive prototypes
- Evaluation techniques, including empirical evaluation methods

Benefits of the Minor:

- True interdisciplinary minor
- Provide students with essential 21st Century skills
- Increase knowledge base beyond common core
- Introduce students to cutting-edge technologies
- Enhance current degree focus
- Teach job-ready design skills for the modern IT workplace

Note: The only prerequisite for this minor is an introductory-level college-programming course (such as COS 125, COS 220, or NMD 160).

Required Courses (6 credits):

- NMD 342 - Interaction Design and Physical Computing Credits: 3
- SIE 415/515 Human Computer Interaction Credits: 3

Four or more of the following courses (minimum of 12 credits)

- ECE 316 - Random Signal Analysis Credits: 3
- ECE 484 - Communications Engineering Credits: 3
- NMD 306 - Project Design Workshop II Credits: 3
- NMD 442 - User Experience Design Credits: 3
- PSY 350 - Cognition Credits: 3
- PSY 361 - Sensation and Perception Credits: 3
- SIE 416/516 - Virtual Reality: Research and Applications Credits: 3

Minor: International Affairs

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: C

Foreign Language requirements: Two semesters of a language or study abroad. For students who study abroad, 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.

Contact Information: Howard Cody, Director of International Affairs, 109 North Stevens Hall, 581-1868, howard.cody@umit.maine.edu

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.

Required Courses:

- INA 101 - Introduction to International Affairs Credits: 3
- One other course from the IA major revised core curriculum
- Choose from one of the revised thematic concentrations: 3 courses in the field designated "primary" field; 1 course from that concentration designated as a secondary field

- Foreign Language requirement: see above.

Minor: Jazz Studies

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.

Contact Information: Beth Wiemann, Chair, Class of 1944 Hall, 581-1244

The Minor in Jazz Studies is designed to offer students a significant and in-depth experience with jazz, designated an American National Treasure by the 100th U.S. Congress in 1987.

In addition to a total absence of instrument specificity, the performance and study of jazz allows individuals to access a nearly limitless repertory. For musicians whose available solo repertory is quite limited, this opens the door to a lifetime of personal creativity and participation with music in general and jazz in particular.

The focus of this program is the study of jazz through the art of *improvisation*, that is, *spontaneous musical composition*. In addition, highly specific arranging skills (for piano and one other instrument only), as well as sufficient piano skills for the performance of the arrangements created in the coursework, are part of the materials to be covered. The overall purpose is for the students to develop integrated skills in jazz theory, composition, and performance which will allow them to continue to be involved in this music throughout their future musical lives.

Students who elect this program must play a musical instrument of some description in "C," "Bb," or "C bass clef" *only*, that is capable of single-note pitches and a full chromatic scale in tempered tuning. Unpitched percussion is not among these, but percussionists can participate in the coursework on mallet instruments. Vocalists as well will need to play a pitched musical instrument that meets the criteria outlined above. Pianists will need their own portable keyboards.

Upper Level Courses (6 credits):

- MUY 310 - Jazz Improvisation I Credits: 3
- MUY 410 - Chamber Jazz Arranging and Piano I Credits: 3

Performing Organizations (2 credits):

- MUO 143 - UMAINE Jazz Ensemble Credits: 0-1
- MUO 155 - Chamber Jazz Ensemble Credits: 0-1

Music Theory Fundamentals (6 credits):

- MUP 205 - Piano Class I Credits: 1

- MUP 206 - Piano Class II Credits: 1
- MUY 111 - Elementary Harmony I Credits: 2
- MUY 112 - Elementary Harmony II Credits: 2

History (3 credits):

- HTY 484 - History of Jazz Credits: 3

Electives (2 credits):

- MUO 143 - UMAINE Jazz Ensemble Credits: 0-1
- MUO 155 - Chamber Jazz Ensemble Credits: 0-1
- MUS 201 - Applied Music Lessons Credits: 1
- MUS 210 - Applied Music Lessons Credits: 2
- MUY 113 - Elementary Sight Singing and Ear Training I Credits: 2
- MUY 114 - Elementary Sight Singing and Ear Training II Credits: 2
- MUY 311 - Jazz Improvisation II Credits: 3
- MUY 411 - Chamber Jazz Arranging and Piano II Credits: 3

Specimen Curriculum:

First Year

Fall

- MUP 205 - Piano Class I Credits: 1
- MUY 111 - Elementary Harmony I Credits: 2

Spring

- MUP 206 - Piano Class II Credits: 1
- MUY 112 - Elementary Harmony II Credits: 2

Second Year

Fall

- MUY 310 - Jazz Improvisation I Credits: 3
Ensemble

Spring

- HTY 484 - History of Jazz Credits: 3
Elective

Third Year

Fall

- MUY 410 - Chamber Jazz Arranging and Piano I Credits: 3

Spring

Elective

Minor: Judaic Studies

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: Grade of "C" or higher required in all courses.

Contact Information: Melissa Ladenheim, Adjunct Assistant Professor in Honors (Folklore), 5716 Colvin Hall, Robert B. Thomson Honors Center, (207)581-3263, melissa.ladenheim.@umit.maine.edu

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. Without the full depth of a major, 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. While a year of language study is not expected to lead to mastery, the Hebrew language is one of the strands that unify the history of Judaism. Some knowledge of Hebrew is indispensable for any serious study of Judaism.

Residency Requirement:

A minimum of 9 credit hours must be completed at the University of Maine.

Tracks:

Two tracks are available. Judaic Studies and Judaic Studies, Language track.

Required Core Courses:

- JST 200 - Introduction to Judaism Credits: 3
- JST 203 - Jewish History and Culture I: The Middle Ages to 1750 Credits: 3
- JST 204 - Jewish History and Culture II: The Jews & Europe, 1750-1948 Credits: 3
- plus 3 elective courses

Required Courses for Language Track:

- 9 credits from Core plus
- HBR 101 - Beginning Modern Hebrew Credits: 3
- HBR 102 - Beginning Modern Hebrew II Credits: 3
- plus 1 elective course

Elective Courses:

Choose at least 3 courses from this list. Other courses may be taken as electives with the consent of the Coordinator of Judaic Studies.

- ANT 249 - Religion and Violence Credits: 3
- ANT 256 - Ethnic Conflict Credits: 3
- ANT 454 - Cultures and Societies of the Middle East Credits: 3
- ANT 470 - Religion and Politics Credits: 3
- CLA 202 - Mythology of the Ancient Near East, North African and Greece Credits: 3
- HBR 101 - Beginning Modern Hebrew Credits: 3
(may be taken as elective in the non-language track)
- HBR 102 - Beginning Modern Hebrew II Credits: 3
(may be taken as elective in the non-language track)
- HTY 411 - The Holocaust Credits: 3
- HTY 446 - History of Modern Middle East, 1800-Present Credits: 3
- MUH 650 Topics in Music History: Entartete Musik: Degenerate Music (see Graduate Catalog for description)
- PAX 201 - Introduction to Peace and Reconciliation Studies Credits: 3
- PAX 398 - Topics in Peace and Reconciliation Studies Credits: 3
Topic: Genocide
- PAX 491 - Forgiveness: Creating a Culture of Peace and Reconciliation Credits: 3
- PHI 105 - Introduction to Religious Studies Credits: 3
- PHI 223 - Modern Jewish Thought Credits: 3
- POS 309 - Topics in Political Theory Credits: 3
(topics that are clearly relevant to Judaic Studies may be counted)
- POS 359 - Topics in American Government Credits: 3
(topics that are clearly relevant to Judaic Studies may be counted)
- POS 370 - International Terrorism: The Challenges for America Credits: 3
- POS 375 - United States and the Middle East Credits: 3
- POS 386 - Religion and Politics in the United States Credits: 3
- POS 469 - Politics of the Middle East Credits: 3
- SOC 208 - Problems of Violence and Terrorism Credits: 3
- SOC 325 - Sociology of Religion Credits: 3

Other elective courses may be taken as they become available, with the consent of the coordinator of Judaic Studies

Minor: Leadership Studies

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: C

Residency Requirement: A minimum of 9 credit hours must be completed at the University of Maine.

Contact Information: Richard J. Powell, Associate Professor, Department of Political Science; 229 N. Stevens Hall; 581-1795; rpowell@maine.edu

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.

No more than 6 credits can overlap with those being counted toward another major or minor.

A. Core Requirements (12 credits)

1. LDR 100

- LDR 100 - Foundations of Leadership Credits: 3 *

*** This requirement may also be fulfilled by taking three credits from the following list:**

- MSL 101 - Foundations of Officership Credits: 1
- MSL 102 - Basic Leadership Credits: 1
- MSL 201 - Individual Leadership Studies Credits: 2
- MSL 202 - Leadership and Teamwork Credits: 2

2. LDR 200

- LDR 200 - Leadership Ethics Credits: 3

3. LDR 300

- LDR 300 - Advanced Leadership Theory and Practice Credits: 3 *

***This requirement may also be fulfilled with the following courses:**

- BUA 460 - Leadership Credits: 3
- GEE 230 - Introduction to Engineering Leadership and Management Credits: 1

NOTE: GEE 230 is a one-credit course. This course may be used to satisfy this requirement, but students electing this option must take at least two additional credit hours from the electives listed below in order to satisfy the minor requirement of 18 total credit hours.

- NUR 444 - Management and Leadership in Health Care System Credits: 3

4. LDR 499

- LDR 499 - Leadership Engagement Practicum Credits: 3

B. Leadership Behaviors & Skills Electives (3 credits from the following list):

- CMJ 102 - Fundamentals of Interpersonal Communication Credits: 3
- CMJ 103 - Fundamentals of Public Communication Credits: 3
- CMJ 345 - SL: Small Group Communication Credits: 3
- CMJ 347 - Argument and Critical Thinking Credits: 3
- CMJ 360 - Nonverbal Communication Credits: 3
- CMJ 367 - Public Relations Credits: 3
- CMJ 370 - Visual Communication Credits: 3
- ENG 317 - Business and Technical Writing Credits: 3
- ENG 415 - Advanced Report & Proposal Writing Credits: 3
- ENG 418 - Topics in Professional Writing Credits: 3
- INV 180 - Create: Innovation Engineering I Credits: 3
- INV 282 - Communicate: Innovation Engineering II Credits: 3
- MSL 401 - Mission Command and the Army Profession Credits: 4
- NAV 303 - Leadership and Management Credits: 3
- PAX 360 - Conflict Resolution: A Relational Approach To Working Through Conflict Credits: 3
- PAX 451 - Mediation: Its Premises, Practices and Policies Credits: 3
- PAX 470 - Sustainable Communication: The Theory and Practice of Nonviolent Communication Credits: 3

C. Leadership in Communities, Groups, and Organizations Elective (3 credits from the following list):

- LDR 350 - Topics in Leadership Studies Credits: 3

- ANT 270 - Environmental Justice Movements in the United States Credits: 3
- ANT 470 - Religion and Politics Credits: 3
- BUA 325 - Principles of Management and Organization Credits: 3
- BUA 327 - Business and Society Credits: 3
- BUA 270 - Marketing Credits: 3
- CHF 201 - Introduction to Child Development Credits: 3
- CLA 400 - Hero: Myth and Meaning Credits: 3
- CMJ 225 - Sex, Gender and Communication Credits: 3
- CMJ 403 - Persuasion and Social Influence Credits: 3
- CMJ 405 - Women and Communication Credits: 3
- CMJ 420 - Health Communication Credits: 3
- CMJ 430 - Intercultural Communication Credits: 3
- CMJ 470 - Communication in Organizations Credits: 3
- ECO 254 - Small Business Economics and Management Credits: 3
- EHD 202 - Education in a Multicultural Society Credits: 3
- EHD 203 - Educational Psychology Credits: 3
- ENG 253 - Shakespeare: Selected Plays Credits: 3
- HON 170 - Currents and Context Credits: 1
- HON 308 - Visiting Scholar in Ethics Tutorial Credits: 3
- HTY 279 - European Military History Credits: 3
- INV 401 - Systems: Innovation Engineering IV Credits: 3
- KPE 209 - Wilderness First Responder Credits: 3
- KPE 286 - Challenge Course Facilitator Skills Credits: 3
- KPE 287 - Ropes Course Management Credits: 1
- KPE 311 - Maine Wilderness Guide Credits: 3
- KPE 344 - Principles of Coaching Credits: 3
- MES 301 - Rachel Carson, Maine, and the Environment Credits: 3
- MSL 301 - Adaptive Team Leadership Credits: 3
- MSL 302 - Applied Team Leadership Credits: 3
- MSL 350 - The Evolution of American Warfare Credits: 3
- MSL 402 - Mission Command and the Company Grade Officer Credits: 4
- NAV 303 - Leadership and Management Credits: 3
- NAV 304 - Leadership and Ethics Credits: 3
- NUR 409 - Professional Issues: Leadership and Organization Credits: 3
- NUR 453 - Community Nursing Care Management Credits: 2
- NUR 454 - Clinical Adult Nursing Management Credits: 2
- PAX 290 - Nonviolence: Perceptions and Perspectives Credits: 3
- PAX 370 - Building Sustainable Communities Credits: 3
- PAX 400 - Martin Luther King and the Promise of Social Renewal Credits: 3
- PAX 401 - Women Social Activists: Warriors for Peace and Justice Credits: 3
- PHI 230 - Ethics Credits: 3
- PHI 231 - Topics in Applied Ethics Credits: 3
- PHI 232 - Environmental Ethics Credits: 3
- PHI 233 - Business Ethics Credits: 3
- PHI 235 - Biomedical Ethics Credits: 3
- PHI 236 - Feminist Ethical, Social and Political Theory Credits: 3
- PHI 240 - Social and Political Philosophy Credits: 3

- PHI 344 - Theories of Justice Credits: 3
- PHI 345 - Global Justice Credits: 3
- PHI 346 - The Philosophy of Mahatma Gandhi Credits: 3
- PHI 432 - Environmental Philosophy and Policy Credits: 3
- POS 301 - Classical Political Thought Credits: 3
- POS 302 - Medieval 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 306 - Crafting the American Constitution Credits: 3
- POS 307 - Democratic Theory Credits: 3
- POS 353 - The U.S. Congress Credits: 3
- POS 354 - The U.S. Presidency Credits: 3
- POS 357 - Film and Politics Credits: 3
- POS 385 - Women and Politics Credits: 3
- POS 386 - Religion and Politics in the United States Credits: 3
- POS 474 - Conduct of Foreign Policy Credits: 3
- POS 475 - International Security Credits: 3
- POS 486 - Religious Thought, the American Identity, and U.S. Public Policy Credits: 3
- PSY 230 - Social Psychology Credits: 3
- PSY 251 - Psychology of Motivation Credits: 3
- PSY 423 - The Psychology of Parenting Credits: 3
- SFR 106 - Forest Land Navigation and Outdoor Preparedness Credits: 1
- SOC 201 - Social Inequality Credits: 3
- SOC 202 - Social Problems Credits: 3
- SOC 301 - Self and Society Credits: 3
- SOC 329 - Sociology of Gender Credits: 3
- SOC 325 - Sociology of Religion Credits: 3
- SWK 330 - Contemporary Issues in Diversity and Pluralism Credits: 3
- SWK 350 - Human Behavior and the Social Environment I Credits: 3
- SWK 351 - Human Behavior in the Social Environment II Credits: 3
- SWK 440 - Social Welfare Policy and Issues Credits: 3
- THE 466 - Stage Directing Credits: 3
- WGS 201 - Topics in Women's, Gender, and Sexuality Studies Credits: 3
- WGS 230 - Women, Health, and the Environment Credits: 3
- WGS 301 - Intermediate Topics in Women's, Gender, and Sexuality Studies Credits: 3
- WGS 340 - Transnational Feminisms Credits: 3

Minor: Legal Studies

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: A minimum grade of "C-" must be obtained in each course used to satisfy the minor requirements.

Contact Information: Mark D. Brewer, Professor and Interim Chair, 113A North Stevens Hall, (207) 581-1871, mark.brewer@umit.maine.edu

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 N. Stevens Hall). Questions about the Legal Studies Minor should be directed to him at (207) 581-1871 or mark.brewer@umit.maine.edu

For information about general pre-law studies and/or advice for students interested in attending law school, contact Pre-Law advisor Crisanne Blackie (308 Memorial Union) at (207) 581-2587 or crisanne.blackie@umit.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.

Courses:

- BUA 220 - The Legal Environment of Business Credits: 3
- BUA 312 - Federal Taxation of Individuals Credits: 3
- CET 451 - Construction Law Credits: 3
- CHF 404 - Selected Topics in Child Development and Family Life Credits: 3
(legal topics only)
- CHF 488 - Family Legal Issues Credits: 3
- CMJ 375 - Journalism Studies II: Law and Ethics Credits: 3
- CMJ 412 - Electronic Media Management and Programming Credits: 3
- ECO 479 - Land Use Planning Credits: 3
- EES 324 - Environmental Protection Law and Policy Credits: 3
- ENG 229 - Topics in Literature Credits: 3
(legal topics only)
- FSN 436 - Food Law Credits: 3
- HTY 464 - America at the Crossroads: The Era of Civil War Reconstruction 1840-1876 Credits: 3
- HTY 499 - Contemporary Problems in History Credits: 1-3
(legal topics only)
- INT 105 - (ECO, REP) Environmental Policy Credits: 3
- LDR 200 - Leadership Ethics Credits: 3
- MSL 402 - Mission Command and the Company Grade Officer Credits: 4
- NAV 304 - Leadership and Ethics Credits: 3
- PHI 244 - Philosophy of Law Credits: 3

- PHI 250 - Formal Logic Credits: 3
- PHI 344 - Theories of Justice Credits: 3
- POS 282 - Introduction to American Law Credits: 3
- POS 306 - Crafting the American Constitution Credits: 3
- POS 307 - Democratic Theory Credits: 3
- POS 359 - Topics in American Government Credits: 3
(legal topics only)
- POS 383 - American Constitutional Law Credits: 3
- POS 384 - American Civil Liberties Credits: 3
- POS 470 - International Law Credits: 3
- POS 484 - The American Constitution and Criminal Due Process Credits: 3
- SMS 120 - Introduction to Forensics Credits: 3
- SOC 214 - Crime and Criminal Justice Credits: 3
- SOC 314 - Law and Society Credits: 3
- SVT 221 - Boundary Law Credits: 3

Minor: Marxist and Socialist Studies

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: C-

Department Residency Requirement: At least 9 credits must be earned from the University of Maine.

Contact Information: Professor Douglas Allen, Coordinator of Marxist and Socialist Studies, The Maples; phone: 581-3860; email: douglas.allen@umit.maine.edu

The Marxist and Socialist Studies curriculum encourages students to look at the world from a variety of Marxist and Socialist perspectives. Many departments offer approaches that have their foundation in the work of such economic theorists as Adam Smith and such political philosophers as Thomas Hobbes and John Locke. Such approaches seem to assume that capitalist values are "natural," "according to human nature," progressive, just, or simply the only way that rational people would view the world. Marxist and Socialist perspectives challenge such assumptions and judgments and such a world outlook.

All students who elect the Marxist and Socialist Studies curriculum should take PHI 342, Marxist Philosophy I: The Philosophy of Karl Marx, and at least two other courses from the "core courses" and three courses from the "elective courses." In addition, these courses should be taken from at least three different disciplines.

For complete information about Marxist and Socialist Studies, visit the coordinator at The Maples, phone (207) 581-3860 or contact Prof. Doug Allen at douglas.allen@umit.maine.edu. Several of the courses listed below may or may not count toward this curriculum depending on which professor is teaching the course. Other courses not listed may be acceptable. Interested students should consult with the faculty coordinator for a decision on such matters.

Required

- PHI 342 - Marxist Philosophy I: The Philosophy of Karl Marx Credits: 3

Core Courses (6 credits)

- ENG 470 - Topics in Literary Theory and Criticism Credits: 3
- HTY 467 - Early 20th Century America, 1914-1945 Credits: 3
- HTY 468 - America Since 1945 Credits: 3
- LST 201 - Work and Labor in a Global Economy Credits: 3

Elective Courses (9 credits)

- ARH 262 - Early Modern Art: From Fauvism to Surrealism Credits: 3
- ARH 263 - Late Modern Art: From Abstract Expressionism Through New Forms Credits: 3
- ARH 451 - Art Theory and Criticism Credits: 3
- ARH 452 - Critical Methods in History of Art Credits: 3
- CMJ 410 - Social Influence of Mass Communication Credits: 3
- ECO 335 - History of Economic Thought Credits: 3
- HTY 241 - History of Globalization, 1900-Present Credits: 3
- HTY 442 - The United States and Vietnam: A History Credits: 3
- HTY 473 - History of U.S. Foreign Relations I Credits: 3
- HTY 474 - History of U.S. Foreign Relations II Credits: 3
- HTY 477 - The American Worker Credits: 3
- PHI 240 - Social and Political Philosophy Credits: 3
- PHI 344 - Theories of Justice Credits: 3
- POS 336 - Government and Politics in Russia Credits: 3
- SOC 201 - Social Inequality Credits: 3
- SOC 460 - Major Ideas in Sociology Credits: 3
- WGS 340 - Transnational Feminisms Credits: 3
- WGS 410 - Feminist, Gender and Queer Theory Credits: 3

Minor: Mathematics

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 24

GPA requirements to earn minor: Minimum of a 2.0 GPA in all Math (MAT) courses.

Minimum Grade requirements for courses to count toward minor: A "C" or better is required in all Math (MAT) courses.

Contact Information: Robert Franzosa, Department of Mathematics and Statistics, Room 333 Neville Hall, (207)581-3916, robert.franzosa@umit.maine.edu

The minor in mathematics consists of 24 credits: 12 credits from the three core calculus courses and 12 from a broad list of upper-level mathematics courses. Courses other than those in the list that follows (including at most one from outside the department of Mathematics and Statistics) may be counted toward the minor with permission from the Department of Mathematics and Statistics.

Courses:

- MAT 126 - Calculus I Credits: 4
- MAT 127 - Calculus II Credits: 4
- MAT 228 - Calculus III Credits: 4
- MAT 258 - Introduction to Differential Equations with Linear Algebra Credits: 4
- MAT 259 - Differential Equations Credits: 3
- MAT 261 - Introduction to Abstract Mathematics Credits: 3
- MAT 262 - Linear Algebra Credits: 3
- STS 332 - Statistics for Engineers Credits: 3
- MAT 425 - Introduction to Real Analysis I Credits: 3
- MAT 426 - Introduction to Real Analysis II Credits: 3
- STS 434 - Introduction to Statistics Credits: 4
- STS 436 - Nonparametric Statistics Credits: 3
- STS 437 - Statistical Methods in Research Credits: 3
- MAT 451 - Dynamical Systems Credits: 3
- MAT 452 - Complex Analysis Credits: 3
- MAT 453 - Partial Differential Equations I Credits: 3
- MAT 454 - Partial Differential Equations II Credits: 3
- MAT 463 - Introduction to Abstract Algebra I Credits: 3
- MAT 464 - Introduction to Abstract Algebra II Credits: 3
- MAT 465 - Theory of Numbers Credits: 3
- MAT 471 - Differential Geometry Credits: 3
- MAT 481 - Discrete Mathematics Credits: 3
- MAT 487 - Numerical Analysis Credits: 3

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.

A student must receive a grade of "C" or higher in all minor requirements.

Minor: Medieval and Renaissance Studies

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-

Contact Information: Michael Grillo, Department of Art, 107 Lord Hall, (207) 581-3246; michael.grillo@umit.maine.edu

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 seventeenth. It incorporates offerings from the departments of English, History, Modern Languages and Classics, and Art to explore issues of social structure, philosophy, religion, politics, language, poetry, prose, and artistic expression from an interdisciplinary perspective.

Students who elect this curriculum usually begin their exploration of the period through introductory courses, such as ARH 155, HON 111, HTY 105, or HTY 202, only one of which counts towards the total credits of the curriculum. Students are encouraged to take courses from all of its disciplines.

For complete information about Medieval and Renaissance Studies, visit the coordinator at 111 Carnegie Hall, phone (207) 581-3252 or contact Associate Professor Michael Grillo at grillo@maine.edu.

One Introductory Course (Total of 3 credits)

- 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
- ENG 231 - Western Tradition in Literature: Homer Through the Renaissance Credits: 3
- ENG 251 - English Literature Survey: Beginnings Through Neoclassicism Credits: 3
- HON 111 - Civilizations: Past, Present and Future I Credits: 4
- HON 112 - Civilizations: Past, Present and Future II Credits: 4
- HTY 105 - History of Ancient and Medieval Europe Credits: 3

Five or more Upper Level Courses (minimum of 15 credits total)

Art History

- 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 493 - Medieval Research Seminar Credits: 3
- ARH 494 - Renaissance Research Seminar Credits: 3

English

- ENG 253 - Shakespeare: Selected Plays Credits: 3
- ENG 351 - Medieval English Literature Credits: 3
- ENG 490 - Research Seminar in Literature Credits: 3

History

- HTY 398 - Historical Issues Credits: 3
- HTY 403 - Early Middle Ages Credits: 3
- HTY 404 - Late Middle Ages Credits: 3
- HTY 405 - Early Modern Europe: Renaissance, Reformation and the Foundation of the Modern World-System Credits: 3
- HTY 498 - Senior Seminar in History Credits: 3

Modern Languages and Classics

- FRE 390 - Topics in French Credits: 1-3
- GER 401 - Major Cultural Periods Credits: 3
- MLC 190 - Topics in Modern Languages Credits: 3
- MLC 231 - Western Tradition in Literature: Homer Through the Renaissance Credits: 3
- SPA 401 - Golden Age Credits: 3
- SPA 403 - Cervantes Credits: 3
- SPA 490 - Topics and Individual Authors in Spanish Credits: 1-3

Political Science

- POS 302 - Medieval Political Thought Credits: 3
- POS 303 - Early Modern Political Thought Credits: 3

Minor: Music

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.

Contact Information: Beth Wiemann, Chair, Class of 1944 Hall, 581-1244

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.

Requirements

Music Theory and Literature (6 credits):

- MUL 202 - The Art of Listening to Music: Historical Survey Credits: 3
- MUY 101 - Fundamentals of Music Credits: 3

Music History (2 credits):

- MUH 2XX

Music Performance (4 credits):

- MUO XXX
and/or
- MUS XXX
and/or
- MUE 2XX

Music Electives (6 credits):

- Any course with the MU prefix (MUE, MUH, MUL, MUO, MUP, MUS, MUY)
- To be selected in consultation with music minor faculty.

Minor: Native American Studies

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 the Core Native American Studies Courses

Contact Information: Darren Ranco, Chair of Native American Programs, 5724 Dunn Hall, 581-9485, darren.ranco@umit.maine.edu

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.edu, Chair of Native American Programs in Dunn Hall or call (207) 581-4450.

Core Classes:

A grade of C or better is required in these classes.

- NAS 101 - Introduction to Native American Studies Credits: 3
- NAS 102 - Introduction to Wabanaki Culture, History and Contemporary Issues Credits: 3
- A class in Native American Studies at the 400 level Credits: 3

3 courses from the following electives: (9 credits)

- ANT 295 - American Indians and Climate Change Credits: 3
- ANT 372 - North American Prehistory Credits: 3
- ANT 451 - Native American Cultures and Identities Credits: 3
- HTY 220 - North American Indian History Credits: 3
- HTY 481 - Amerindians of the Northeast: A History Credits: 3
- NAS 201 - Topics in Native American Studies Credits: 1-3
- NAS 230 - Maine Indian History in the Twentieth Century Credits: 3
- NAS 270 - Native American Women Credits: 3
- NAS 295 - American Indians and Climate Change Credits: 3
- NAS 298 - Directed Study in Native American Studies Credits: 1-6
- NAS 401 - Advanced Topics in Native American Studies Credits: 3
- NAS 498 - Directed Study in Native American Studies Credits: 1-6
- WGS 270 - Native American Women Credits: 3

Minor: New Media

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-

Contact Information: Margaret Lukens, Chair, New Media, 404 Chadbourne Hall, (207) 581-4433, margarent.lukens@umit.maine.edu

Michael Scott, Director of ASAP Media Lab, 403 Chadbourne Hall, (207) 581-4330, mscott@umit.maine.edu

Interested in new/emerging media and technology? The New Media minor may be perfect for you. The Department of New Media 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 known as User Experience prototyping
- Iterative refinement of designs
- Implementation of interactive 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

Minor Requirements

Students pursuing the minor in New Media must complete a total of 18 credits, including 6 credits of introduction to New Media, 6 credits of Advanced New Media topics from the courses as listed below in consultation with a New Media advisor. Students must also take an additional two New Media electives, selected in consultation with the advisor, to reach the 18 hours.

Introduction to New Media (6 credits)

- NMD 100 - Introduction to New Media Credits: 3
- NMD 102 - Introduction to New Media Technologies, Interaction Design and Prototyping Credits: 3
- NMD 104 - Design Basics for New Media Credits: 3

Advanced Topics in New Media (6 credits)

- NMD 341 - Photographic Reporting and Storytelling Credits: 3
- NMD 342 - Interaction Design and Physical Computing Credits: 3
- NMD 343 - Digital Narrative Workshop I Credits: 3
- NMD 344 - Time-Based Art and Design I Credits: 3
- NMD 345 - Networks and Creativity I Credits: 3
- NMD 442 - User Experience Design Credits: 3
- NMD 443 - Digital Narrative Workshop II Credits: 3
- NMD 444 - Time-Based Art and Design II Credits: 3
- NMD 445 - Networks and Creativity II Credits: 3

Electives in New Media (6 credits)

- NMD 150 - Script Your World Credits: 3
- NMD 160 - Creative Programming Credits: 3
- NMD 200 - New Media Strategies Credits: 3
- NMD 202 - Information Design Credits: 3
- NMD 206 - Project Design Workshop I Credits: 3
- NMD 250 - Electronic Music Composition I: Item and Arrangement Credits: 3
- NMD 251 - Electronic Music Composition II: Composing a Process Credits: 3
- NMD 270 - Digital Art I Credits: 3
- NMD 295 - Topics in New Media Credits: 1-3
- NMD 306 - Project Design Workshop II Credits: 3
- NMD 324 - Year in Film I Credits: 3
- NMD 370 - 3D Modeling and Animation Credits: 3
- NMD 398 - Topics in New Media Credits: 1-3
- NMD 424 - Year in Film II Credits: 3
- NMD 430 - Topics in New Media Credits: 1-3
- NMD 490 - Independent Study in New Media Credits: 3

Minor: Philosophy

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 is required in any Philosophy courses counting towards minor.

Contact Information: Jessica Miller, Chair, Department of Philosophy, 5776 The Maples, (207)581-3862, jessica.miller@umit.maine.edu

Philosophy minors must take at least 18 credits in Philosophy, with a minimum grade of "C-." At least 9 of those credits must be taken at the University of Maine. Minors may take a maximum of 9 credits at the 100-level.

All minors are required to take one of the following:

- PHI 210 - History of Ancient Philosophy Credits: 3
- PHI 312 - History of Modern Philosophy Credits: 3

And 15 additional credits, at least 9 of which should be courses above the 100 level.

Minor: Physics

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 21

GPA requirements to earn minor: 2.0 in the core and elective courses

Contact Information: David Clark, Department of Physics, 205 Bennett Hall, (207) 581-1040, declark@maine.edu

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.

Required Courses:

The Department Chairperson may consider exceptions to this list on a case-by-case basis.

- PHY 111 - General Physics I Credits: 4
and
- PHY 112 - General Physics II Credits: 4
or
- PHY 121 - Physics for Engineers and Physical Scientists I Credits: 4
and
- PHY 122 - Physics for Engineers and Physical Scientists II Credits: 4
- PHY 223 - Special Relativity Credits: 1
- PHY 236 - Introductory Quantum Physics Credits: 3

Three or more courses from the following list: (9 credits)

- PHY 224 - Special Relativity Laboratory Credits: 1 - 3
- PHY 238 - Mechanics Credits: 3
- PHY 447 - Molecular Biophysics Credits: 3 - 4
- PHY 454 - Electricity and Magnetism I Credits: 3
- PHY 462 - Physical Thermodynamics Credits: 3 - 4
- PHY 463 - Statistical Mechanics Credits: 3
- PHY 469 - Quantum and Atomic Physics Credits: 3
- PHY 470 - Nuclear Physics Credits: 2
- PHY 471 - Nuclear Physics Laboratory Credits: 1
- PHY 472 - Geometrical and Fourier Optics Credits: 3
- PHY 476 - Mathematical Methods in Physics Credits: 3
- PHY 480 - Physics of Materials Credits: 3

Minor: Political Science

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: C

Contact Information: Mark D. Brewer, Professor and Interim Chair, 113A North Stevens Hall, (207)581-1871,
mark.brewer@umit.maine.edu

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.

Minor: Political Theory

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: C

Residency Requirement: A minimum of 9 Credit Hours must be completed at the University of Maine

Students who are majoring in Political Science cannot declare "Political Theory" as their minor.

Contact Information: Mark D. Brewer, Professor and Interim Chair, 113A North Stevens Hall, (207)581-1871, mark.brewer@umit.maine.edu

The Minor in Political Theory engages students in systematic study of the philosophical underpinnings of our political world. Political theory is a field that engages students in the history of political thought and attempts to answer the question, "What do we want our political world to be?" In total, the courses offer an historical survey of the core ideas in political theory from Greek and Roman antiquity through to the present day. Students grapple with the contested meaning of foundational political concepts such as justice, democracy, inclusion, power, and legitimacy. Students also reflect upon and assess the worthiness of contemporary political systems, including their own, by examining competing conceptions of various ideal arrangements proposed by political philosophers over the millennia. Lastly, students examine the impact of political ideas upon monumental events in American political history and Western civilization generally.

In sum, students will learn to think critically about the ideas and philosophies that have shaped, and will continue to guide, contemporary political systems, gain the intellectual tools to become more informed and engaged democratic citizens, and it is hoped, more thoughtful and considerate human beings.

Courses

- POS 201 - Introduction to Political Theory Credits: 3
(This course is normally the prerequisite for 300-400 level courses, but may be waived with permission of the instructor; without POS 201, the only prerequisite for the upper-level political theory courses is Junior/Senior status)
- POS 301 - Classical Political Thought Credits: 3
- POS 302 - Medieval 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 306 - Crafting the American Constitution Credits: 3
- POS 307 - Democratic Theory Credits: 3
- POS 309 - Topics in Political Theory Credits: 3
- POS 355 - Music and Politics in the American Context Credits: 3

- POS 401 - Seminar in Political Theory Credits: 3
- POS 486 - Religious Thought, the American Identity, and U.S. Public Policy Credits: 3
- POS 493 - American Politics Internship Credits: 3, 6 or 9
or
- POS 495 - Congressional Internship Credits: 6 or 9
or
- POS 496 - International Affairs Internship Credits: 6 or 9
(Choose no more than 3 pre-approved Internship credits)
- POS 499 - Senior Seminar in Political Science Credits: 3
(Sections with theory focus only)

Minor: Professional Languages

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: None

Contact Information: Jane Smith, Chair, Modern Languages and Classics, 201 Little Hall, 581-2075

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 201/202 or 218; SPA 203/204 or 217) or higher.

Required Courses

- FRE 307 - French for Business Credits: 3
- SPA 309 - Spanish for the Professions Credits: 3

Minor: Professional Writing

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 all Professional Writing Minor courses.

Contact Information: Charlsye Diaz, Coordinator of Professional Writing, 305 Neville Hall, 581-3839, charlsye_diaz@umit.maine.edu

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.

Required Courses (3 Courses / 9 Credits)

- ENG 212 - Persuasive and Analytical Writing Credits: 3
- ENG 415 - Advanced Report & Proposal Writing Credits: 3
- ENG 317 - Business and Technical Writing Credits: 3

Electives (9 Credits)

- CMJ 236 - Journalism Writing and Editing Credits: 3
- ENG 309 - Writing Creative Nonfiction Credits: 3
- ENG 315 - Research Writing in the Disciplines Credits: 3
- ENG 395 - English Internship Credits: 3
- ENG 416 - Technical Editing & Document Design Credits: 3
- ENG 418 - Topics in Professional Writing Credits: 3
- ENG 496 - Field Experience in Professional Writing Credits: 1-6
- NMD 206 - Project Design Workshop I Credits: 3

Minor: Psychology

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: "C-" or better

Contact Information: Michael A. Robbins, Chair, Department of Psychology, 301 Little Hall, (207)581-2033

Any 18 credits of Psychology (PSY) courses constitute a minor in Psychology. A minimum grade of "C-" must be obtained in each course used to satisfy the psychology minor. 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. All transfer courses applied to the minor must be approved by the Department of Psychology.

Minor: Religious Studies

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: Religious Studies minors must earn a minimum grade of "C" or better in all courses used for the minor.

Contact Information: Henry Munson, Coordinator, Professor of Anthropology, 5773 S. Stevens Hall, Room 106A, 207-581-1894, fax number: 581-1823 henry.munson@umit.maine.edu

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.

Requirements

A minor in Religious Studies shall consist of at least 18 credit hours, of which at least 9 must be upper-level (300 and 400-level) courses. Students must achieve a grade of "C" or better in all courses used for the Religious Studies minor. All Religious Studies students must take at least one course in a discipline other than Anthropology or Philosophy.

Religious Studies students must take at least three courses in Category I (Courses with a primary focus on religion), and at least one course in Category II (Courses that focus on religion to a significant degree). Students can also request permission from the minor coordinator to receive credit for "Topics" courses with a primary focus on religion.

Required Courses

- ANT 120 - Religions of the World Credits: 3
- PHI 105 - Introduction to Religious Studies Credits: 3

Category I: Courses with a primary focus on religion

- ANT 249 - Religion and Violence Credits: 3
- ANT 261 - Islamic Fundamentalism Credits: 3
- ANT 469 - Theories of Religion Credits: 3
- ANT 470 - Religion and Politics Credits: 3
- CLA 202 - Mythology of the Ancient Near East, North African and Greece Credits: 3
- HTY 235 - Heresy, Witchcraft, and Reform Credits: 3
- JST 200 - Introduction to Judaism Credits: 3
- PAX 350 - Buddhism, Peace and Contemplative Traditions Credits: 3
- PAX 400 - Martin Luther King and the Promise of Social Renewal Credits: 3
- PHI 223 - Modern Jewish Thought Credits: 3
- PHI 286 - Religions and Philosophies of the East: Hinduism Credits: 3
- PHI 287 - Religions and Philosophies of the East: Buddhism Credits: 3
- PHI 346 - The Philosophy of Mahatma Gandhi Credits: 3
- PHI 364 - Views of Self: East and West Credits: 3
- PHI 382 - Theories of Myth Credits: 3
- POS 302 - Medieval Political Thought Credits: 3
- POS 386 - Religion and Politics in the United States Credits: 3
- POS 486 - Religious Thought, the American Identity, and U.S. Public Policy Credits: 3
- SOC 325 - Sociology of Religion Credits: 3

Category II: Courses that focus on religion to a significant degree

- ANT 256 - Ethnic Conflict Credits: 3
- ANT 451 - Native American Cultures and Identities Credits: 3
- ANT 454 - Cultures and Societies of the Middle East 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 492 - Baroque Research Seminar Credits: 3
- ARH 493 - Medieval Research Seminar Credits: 3
- ARH 494 - Renaissance Research Seminar Credits: 3
- CLA 201 - Women in the Ancient World Credits: 3
- CLA 400 - Hero: Myth and Meaning Credits: 3
- HBR 101 - Beginning Modern Hebrew Credits: 3
- HBR 102 - Beginning Modern Hebrew II Credits: 3
- HTY 398 - Historical Issues Credits: 3
- HTY 403 - Early Middle Ages Credits: 3
- HTY 404 - Late Middle Ages Credits: 3

- HTY 341 - The Making of Modern China Credits: 3
- HTY 437 - History of Modern Japan Credits: 3
- JST 203 - Jewish History and Culture I: The Middle Ages to 1750 Credits: 3
- JST 204 - Jewish History and Culture II: The Jews & Europe, 1750-1948 Credits: 3
- MUL 101 - The Art of Listening to Music: Elements Credits: 3
- MUL 120 - World Music Credits: 3
- MUL 202 - The Art of Listening to Music: Historical Survey Credits: 3
- PAX 351 - This Sacred Earth: Ecology and Spirituality Credits: 3
- PAX 491 - Forgiveness: Creating a Culture of Peace and Reconciliation Credits: 3

Minor: Sociology

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 courses for the Sociology minor may be taken pass/fail.

Contact Information: Amy Blackstone, Chair, 201D Fernald Hall, 581-2392, amy.blackstone@umit.maine.edu

At least 9 credits must be taken at UMaine

- SOC 101 - Introduction to Sociology Credits: 3
- Any level Sociology Electives Credits: 6
- 300-400 level Sociology electives Credits: 9
- NOTE: SOC 310 can not be counted as an elective towards this minor

Minor: Spanish

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: None.

Contact Information: Jane Smith, Chair of MLC, 201 Little Hall, (207) 581-2075, jsmith@maine.edu

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 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 Little Hall, (207) 581-2072 or (207) 581-2075.

Minor: Statistics

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 19 or 20 (depending on option)

Minimum Cumulative GPA required to earn minor: 2.0

Minimum Grade requirements for courses to count toward minor: C

Other GPA requirements to earn minor: None

Other course requirements: Prerequisites: MAT 126 and MAT 127

Contact Information: Pushpa Gupta, 321 Neville Hall, (207)581-3914; puspha.gupta@umit.maine.edu

There is a growing demand from many areas for graduates who have at least some statistics on their resume. This is evidenced in the very large number of majors (from CLAS, NSFA, College of Engineering, and others) who require specific courses. The proposed minor in statistics allows student students, and others, to obtain a very attractive addition to their qualifications through a relatively small number of credits in addition to the requirements for their major.

Required Mathematics Course:

- MAT 228 - Calculus III Credits: 4

Required Statistics Courses:

- STS 435 - Introduction to Mathematical Statistics Credits: 3
Either
- STS 332 - Statistics for Engineers Credits: 3
or
- STS 434 - Introduction to Statistics Credits: 4
or an approved equivalent course in statistics

Any three of the following statistics courses:

- STS 436 - Nonparametric Statistics Credits: 3
 - STS 437 - Statistical Methods in Research Credits: 3
 - STS 531
 - STS 532
 - STS 533
- (See Graduate Catalog for Graduate course descriptions)
- Other approved courses, as available.

Minor: Studio Art

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: Students must have a "C -"

Contact Information: Michael Grillo, Associate Professor of Art and Chair Department of Art; 5743 Lord Hall, Room 107; (207) 581-3246, michael.grillo@umit.maine.edu

The minor in studio art is designed for non-majors who are interested in developing a basic understanding of arttheory, processes, and media. A total of 21 credits is required. Transfer credit is subject to approval by the Department of Art studio faculty.

Required Courses:

- ARH 155 - Art and Visual Culture in the Ancient and Medieval Worlds Credits: 3
- or
- ARH 156 - Art and Visual Culture in the Modern Era Credits: 3
 - ART 100 - Drawing I Credits: 3
 - ART 110 - 2-D Design Credits: 3
 - ART 120 - 3-D Design Credits: 3
 - ART 200 - Drawing II Credits: 3

6 Credits in the following Elective courses

- ART 220 - Sculpture I Credits: 3
- ART 230 - Painting I Credits: 3
- ART 240 - Printmaking I Credits: 3
- ART 270 - Digital Art I Credits: 3
- ART 320 - Sculpture II Credits: 3
- ART 330 - Painting II Credits: 3
- ART 340 - Printmaking II Credits: 3
- ART 370 - Digital Art II Credits: 3

Minor: The Constitution and American Law

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18

GPA required to earn minor: 2.0

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 D. Brewer, Professor and Interim Chair, 113A North Sevens Hall, (207)581-1871, mark.brewer@umit.maine.edu

Students who are majoring in Political Science cannot declare "The Constitution and American Law" as their minor.

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.

Required

- POS 100 - American Government Credits: 3

Elective Options

Choose at least five courses from the following list:

- POS 282 - Introduction to American Law Credits: 3

- POS 306 - Crafting the American Constitution Credits: 3
- POS 353 - The U.S. Congress Credits: 3
- POS 354 - The U.S. Presidency Credits: 3
- POS 359 - Topics in American Government Credits: 3
(Specific section on "The Supreme Court Term")
- POS 383 - American Constitutional Law Credits: 3
- POS 384 - American Civil Liberties Credits: 3
- POS 484 - The American Constitution and Criminal Due Process Credits: 3
- POS 493 - American Politics Internship Credits: 3, 6 or 9
or
- POS 495 - Congressional Internship Credits: 6 or 9
(Choose no more than 3 pre-approved internship credits)
- POS 499 - Senior Seminar in Political Science Credits: 3
(American Law or Constitution focus only)

Minor: Theatre

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: C

Contact Information: Dan Bilodeau, Department Chair, 5788 Class of '44 Hall, 581-1962, daniel.bilodeau@maine.edu

The Theatre Minor is designed to provide the student with a basic foundation in Theatre. Students take a total of 18 credits, consisting of a core of 6 required credit hours in Stagecraft and Acting, plus 12 credit hours of Theatre Electives.

Requirements

- THE 120 - Introduction to Stagecraft Credits: 3
- THE 121 - Introduction to Stagecraft Laboratory I Credits: 1
- THE 122 - Introduction to Stagecraft Laboratory II Credits: 1
- THE 269 - Theatre Practicum in Acting Credits: 1-3

An additional 12 credit hours of Theatre courses are required and can be chosen from the semester listing. Some courses have prerequisites and those must be met before the student can take them.

Minor: Theatre Technology

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: A C or better for any course to count toward the minor.

Contact Information: Dan Bilodeau, Department Chair, 5788 Class of '44 Hall, 581-1962, daniel.bilodeau@maine.edu

The Theatre Technology Minor is designed to provide the student with a basic foundation in technical theatre. Students take a total of 20 credits, consisting of a core of 17 required credit hours plus 3 credit hours of technical theatre electives. Students must complete 3 show assignments and achieve a minimum grade of C for any course to count towards the Theatre Technology Minor.

Core Courses

- THE 120 - Introduction to Stagecraft Credits: 3
- THE 121 - Introduction to Stagecraft Laboratory I Credits: 1
- THE 122 - Introduction to Stagecraft Laboratory II Credits: 1
- THE 200 - Design for Performance Credits: 3
- THE 311 - Drafting for the Theatre Credits: 3
- THE 321 - Lighting Design Credits: 3
- THE 322 - Scene Painting Credits: 3

Electives:

An additional 3 credit hours of technical courses from the list below are required and can be chosen from the semester listings.

- THE 312 - Technical Direction Credits: 3
- THE 313 - Stage Management Credits: 3

Minor: Women's, Gender, and Sexuality Studies

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: None.

Contact Information: Mazie Hough, Associate Director of the Women's, Gender, and Sexuality Studies Program, 581-1228.

The minor in Women's, Gender, and Sexuality Studies, approved in 1989, has been used to enhance a wide variety of majors in the College of Liberal Arts and Sciences (including a recent major in Physics.). A wide variety of students from programs in other colleges have also chosen the Women's, Gender and Sexuality Studies minor; the most common of these are Human Development and Family Studies, Social Work, Nursing, and the Bachelors of University Studies.

Besides the two core courses listed below there is a wide variety of courses that can be used for the remaining four electives, including internships or independent study. For lists of courses in addition to those below (both WGS courses and approved departmental electives) offered in a given semester, contact the WGS office, (207) 581- 1228 or visit our web site.

Mazie Hough and Elizabeth Neiman, Women's, Gender, and Sexuality Studies core faculty members, advise all the minors and approves transfer credit.

Required Courses: (6 credits)

- WGS 101 - Women's, Gender and Sexuality Studies Credits: 3
- WGS 410 - Feminist, Gender and Queer Theory Credits: 3

Electives: (12 credits)

The remaining 12 credits can be taken from among additional major core courses or Women's, Gender and Sexuality Studies Topics courses, internships, independent study courses, or courses taken at other universities in the U.S. or abroad.

Non-Degree Certificates

Certificate of Proficiency: French

Any three courses in French above FRE 101: Elementary French I plus a Performance Assessment or Proficiency Assessment (Oral Proficiency Interview by computer), Writing Proficiency (WPT), or Reading and listening Proficiency Tests (RPT/LPT). The student may elect the assessment of their choosing. The assessment requires a fee paid to Language Testing International (fee varies depending on test(s) taken) and a proctoring fee of \$30 payable to the University of Maine. Credit by exam may not be counted toward the certificate of proficiency. **Three credits of FRE 117 Accelerated French I (6 cr.) may be counted toward the certificate.**

Certificate of Proficiency: Spanish

Any three courses in Spanish above SPA 101: Elementary Spanish I plus a Performance Assessment or Proficiency Assessment (Oral Proficiency Interview, Oral proficiency Interview by computer), Writing Proficiency (WPT), or Reading and Listening Proficiency Tests (RPT/LPT). The student may elect the assessment of their choosing. The assessment requires a fee paid to Language Testing International (fee varies depending on test(s) taken) and a proctoring fee of \$30 payable to the University of Maine. Credit by exam may not be counted toward the certificate of proficiency. **Three credits of SPA 117 Accelerated Spanish I (6 cr.) may be counted toward the certificate.**

College of Natural Sciences, Forestry & Agriculture

It's one thing to learn about the natural world in a classroom. It's another thing entirely to learn about it in this classroom. At the University of Maine, woods, lakes, rivers and streams surround our campus. The Atlantic Ocean and the Appalachian Trail are in our backyard. Our students learn about bear behavior by actually visiting a den and tagging cubs. They immerse themselves in the marine sciences on Maine's rocky shores and in tidal coves. But the great outdoors is only part of the appeal. At UMaine, the great indoors is equally impressive. The College of Natural Sciences, Forestry, and Agriculture offers a wide variety of lab-intensive majors and state-of-the-art teaching facilities. Comprehensive academic offerings, close advising, outstanding research opportunities, high placement rates and strong relationships with leading research institutes and top medical schools make UMaine a destination for health and biomedical studies. The region's largest hospital and leading biomedical research institutes are also nearby. The college offers a wide range of programs - from animal and veterinary sciences to zoology - and all the benefits of a comprehensive university, but our classes are small and you'll have the chance to really get to know your classmates, graduate students and faculty members within your major. If there were a perfect classroom, a perfect college experience, it would look like this.

ACADEMIC PROGRAMS:

Bachelor of Arts in:

Biology
Botany
Communication Sciences and Disorders
Earth Sciences
Economics
Zoology

Bachelor of Science in:

Animal and Veterinary Sciences
Biochemistry
Biology
Botany
Earth Sciences
Ecology and Environmental Sciences
Economics
Environmental Horticulture
Financial Economics
Food Science and Human Nutrition
Forest Operations, Bioproducts and Bioenergy
Forestry
Marine Science
Medical Laboratory Sciences
Microbiology
Molecular and Cellular Biology
Nursing
Parks, Recreation and Tourism
Social Work
Sustainable Agriculture
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
Environmental Horticulture
Equine Studies
Fisheries
Food Science
Forest Ecosystem Science
Forest Products
Forest Recreation Management
Human Nutrition
Microbiology
Molecular and Cellular Biology
Neuroscience
Plant Science
Pre-medical Studies
Renewable Energy Economics and Policy
Renewable Energy Sciences and Technology
Resource and Agribusiness Management
Soil Science
Sustainable Agriculture
Sustainable Food Systems
Zoology

College of Natural Sciences, Forestry, and Agriculture Graduation Requirements:

The college offers both Bachelor of Science and Bachelor of Arts degrees. Each program has its specific curriculum and all include the general education requirements of the university. To obtain a Bachelor of Arts degree students must complete, within their program of study, 27 credits in courses meeting the human values and social context general education criteria of the university. At least 12 credits of these must be at the 200 level or above. In addition, students must complete a minimum of 72 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 72 credits.) Depending on the particular program, the degree will require from 120 or 121 total credits for graduation. In addition, each student must achieve a minimum grade point average of 2.0 over all courses taken. Some programs may also require minimum grade point averages for courses within the major. Students should consult individual program sections about specific details concerning a particular major.

College of Natural Sciences, Forestry, and Agriculture Notes:

The college has a well-developed, student-oriented academic advising system. Each student has a faculty advisor who assists in program planning and career development. Throughout the undergraduate years, the capabilities, aspirations, and goals of the students are the primary concerns governing the advising process. In 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 preparing them for the challenges of tomorrow.

Students typically select a degree program upon entering the college. In addition to the major, students have the option of selecting one of more than 80 minors. These optional minors range from disciplines such as neuroscience, to various humanities and social sciences. Choosing a minor enables students to strengthen their preparation in the major by selecting supporting courses from a related discipline.

The University of Maine has an exchange program with the College of the Atlantic in which any degree-seeking undergraduate students enrolled at either institution are eligible to participate. For more information regarding this program contact the associate dean of the College of Natural Sciences, Forestry and Agriculture at 207-581-3206 or george.criener@umit.maine.edu.

Admission Requirements:

Entrance requirements for the college include the following high school units: four years of English, three years of mathematics (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.

Program Contacts

Animal and Veterinary Sciences

Martin Stokes
130A Hitchner Hall
581-2770
stokes@maine.edu

Biochemistry

John Singer
280 Hitchner Hall
581-2808
jsinger@maine.edu

Biology

Karen Pelletreau
321 Murray Hall
581-2529
karen.pelletreau@maine.edu

Botany

Karen Pelletreau
321 Murray Hall
581-2529
karen.pelletreau@maine.edu

Communication Science and Disorders

Judith Stickles
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581-2259
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Earth Sciences

Alice R. Kelley
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581-2056
akelley@maine.edu

Ecology and Environmental Sciences

Sarah J. Nelson

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581-3454

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Economics

Travis Blackmer

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581-3154

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Environmental Horticulture

Susan Sullivan

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Financial Economics

Travis Blackmer

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Food Science and Human Nutrition

Mona Therrien

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Forest Operations, Bioproducts and Bioenergy

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Forestry

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Marine Science

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Medical Laboratory Sciences

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Microbiology

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Molecular and Cellular Biology

John Singer

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Nursing

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Parks, Recreation and Tourism

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Social Work

Kelly Jaksa

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581-2405

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Sustainable Agriculture

Susan Sullivan

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Undeclared

Peter Reid

100 Winslow Hall

581-3229

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Wildlife, Fisheries and Conservation Biology

Lindsay Seward

238 Nutting Hall

581-2847

lseward@maine.edu

Zoology

Karen Pelletreau

321 Murray Hall

581-2529

karen.pelletreau@maine.edu

Major

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: A C- or higher is required for AVS 145, 249, 303, 346, 347, 349, 401, 402, 437, 455, 466 and 480.

Other GPA requirements to graduate: None.

Required Course(s) for fulfilling Capstone Experience: AVS 401 and AVS 402

Contact Information: Martin Stokes, AVS Program Coordinator, 130A Hitchner Hall, (207)581-2770; martin.stokes@umit.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 Animal Sciences degree 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. This degree includes an undergraduate concentration in Pre-Veterinary Science, which is recommended for superior students who seek admission to veterinary college. 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. Animal Science courses also serve as elective opportunities for students in other agricultural and life sciences, and minors are available in Animal and Veterinary Sciences or in Equine Studies.

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.

Hands-on Experience

An important aspect of the degree in Animal and Veterinary Sciences 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 Standard bred 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 (32 credits)

Student-selected AVS and Related Courses (10 credits)

Science and Mathematics Courses (32 credits)

Human Values and Social Context Courses (18 credits)

Career Enhancement (18 credits)

English Courses (6 credits)

NFA 117 - Issues and Opportunities (1 credit)

General Elective Courses (3 credits)

BS in Animal and Veterinary Sciences with Pre-Veterinary concentration (120 credits)

Required Animal and Veterinary Science Courses (32 credits)

Student-selected AVS and Related Courses (3 credits)

Science and Mathematics Courses, including Vet School requirements (60 credits)

Human Values and Social Context Courses (18 credits)

English Courses (6 credits)

NFA 117 - Issues and Opportunities (1 credit)

Career Enhancement Electives

With the aid of their academic advisor, the student selects 18 credits of elective classes, or a minor program of study, that will help build knowledge and skills in preparation for a future career.

Required Courses in Suggested Sequence for the B.S. in Animal and Veterinary Sciences

First Year - First Semester

- AVS 145 - Animal Science Credits: 4
- BIO 100 - Basic Biology Credits: 4
- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- MAT 122 - Pre-Calculus Credits: 4
- NFA 117 - Issues and Opportunities Credits: 1

First Year - Second Semester

- BIO 200 - Biology of Organisms Credits: 4
- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
- ENG 101 - College Composition Credits: 3
- STS 232 - Principles of Statistical Inference Credits: 3
- General Education: Human Values and Social Context Credits: 3

Second Year - First Semester

- AVS 249 - Laboratory and Companion Animal Science Credits: 2
- AVS 346 - Dairy Cattle Technology Credits: 3

- AVS 303 - Equine Management Cooperative Credits: 2
- OR
- AVS 347 - Dairy Cattle Technology Laboratory Credits: 2

- BIO 377 - Medical Physiology Credits: 3
- Career Enhancement Elective Credits: 3

Second Year - Second Semester

- AVS 303 - Equine Management Cooperative Credits: 2
- OR
- AVS 347 - Dairy Cattle Technology Laboratory Credits: 2

- CMJ 103 - Fundamentals of Public Communication Credits: 3
- ECO 254 - Small Business Economics and Management Credits: 3
- Career Enhancement Elective Credits: 3

Third Year - First Semester

- AVS 455 - Animal Nutrition Credits: 4

- ENG 315 - Research Writing in the Disciplines Credits: 3
- OR
- ENG 317 - Business and Technical Writing Credits: 3
- Career Enhancement Elective Credits: 3
- General Education: Human Values and Social Context Credits: 3

Third Year - Second Semester

- AVS 437 - Animal Diseases Credits: 3
- BIO 350 - Concepts and Applications of Genetics Credits: 3
- Career Enhancement Elective Credits: 3
- General Education: Ethics Credits: 3

Fourth Year - First Semester

- AVS 401 - Senior Paper in Animal Science I Credits: 2
- AVS 480 - Physiology of Reproduction Credits: 3
- Career Enhancement Elective Credits: 3
- General Education: Human Values and Social Context Credits: 6

Fourth Year - Second Semester

- AVS 402 - Senior Paper in Animal Science II Credits: 2
- AVS 466 - Livestock Feeds and Feeding Credits: 2
- Career Enhancement Elective Credits: 3
- General Education: Human Values and Social Context Credits: 3
- General Elective Credits: 3

Complete during second through fourth years:

Non-Ruminant Species

Choose at least **3 credits** in this section:

- AVS 196 - Introduction to Equine Cooperative Credits: 0-1
- AVS 203 - Equine Management Credits: 3
- AVS 211 - Introduction to Aquaculture Credits: 3
- AVS 253 - Principles of Western Riding Credits: 3

Career-Related Experience

Choose at least **4 credits** in this section:

- AVS 371 - University Dairy Cooperative Credits: 4
- AVS 396 - Field Experience in Animal and Veterinary Science Credits: 1 - 16
- AVS 397 - Equine Internship Credits: 1-4

Advanced Topics

Choose at least **3 credits** in this section:

- AVS 353 - Equine Reproduction and Breeding Management Credits: 3
- AVS 393 - Training the Standardbred Horse Credits: 3
- AVS 405 - Livestock and Companion Animal Behavior Credits: 3
- AVS 433 - Equine Exercise Physiology Credits: 3

Required Courses in Suggested Sequence for the B.S. in Animal and Veterinary Sciences (Pre-Veterinary Concentration)

First Year - First Semester

- AVS 145 - Animal Science Credits: 4
- BIO 100 - Basic Biology Credits: 4
- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- MAT 126 - Calculus I Credits: 4
- NFA 117 - Issues and Opportunities Credits: 1

First Year - Second Semester

- BIO 200 - Biology of Organisms Credits: 4
- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
- ENG 101 - College Composition Credits: 3
- General Education: Human Values and Social Context Credits: 3

Second Year - First Semester

- AVS 249 - Laboratory and Companion Animal Science Credits: 2
- AVS 346 - Dairy Cattle Technology Credits: 3

- AVS 303 - Equine Management Cooperative Credits: 2
- **OR**
- AVS 347 - Dairy Cattle Technology Laboratory Credits: 2

- BIO 377 - Medical Physiology Credits: 3
- PHY 111 - General Physics I Credits: 4

Second Year - Second Semester

- AVS 303 - Equine Management Cooperative Credits: 2
OR
- AVS 347 - Dairy Cattle Technology Laboratory Credits: 2
- CMJ 103 - Fundamentals of Public Communication Credits: 3
- ECO 254 - Small Business Economics and Management Credits: 3
- PHY 112 - General Physics II Credits: 4
- STS 232 - Principles of Statistical Inference Credits: 3

Third Year - First Semester

- AVS 455 - Animal Nutrition Credits: 4
- BMB 300 - General Microbiology Credits: 3
- BMB 305 - General Microbiology Laboratory Credits: 2
- CHY 251 - Organic Chemistry I Credits: 3
- CHY 253 - Organic Chemistry Laboratory I Credits: 2
- ENG 315 - Research Writing in the Disciplines Credits: 3
OR
- ENG 317 - Business and Technical Writing Credits: 3

Third Year - Second Semester

- AVS 437 - Animal Diseases Credits: 3
- BMB 322 - Biochemistry Credits: 3
- BMB 323 - Biochemistry Laboratory Credits: 2
- CHY 252 - Organic Chemistry II Credits: 3
- CHY 254 - Organic Chemistry Laboratory II Credits: 2
- General Education: Ethics Credits: 3

Fourth Year - First Semester

- AVS 401 - Senior Paper in Animal Science I Credits: 2
- AVS 480 - Physiology of Reproduction Credits: 3
- BIO 350 - Concepts and Applications of Genetics Credits: 3
- General Education: Human Values and Social Context Credits: 6

Fourth Year - Second Semester

- AVS 402 - Senior Paper in Animal Science II Credits: 2
- AVS 466 - Livestock Feeds and Feeding Credits: 2
- General Education: Human Values and Social Context Credits: 6

Complete during second through fourth years:

Advanced Topics

Choose at least **3 credits** in this section:

- AVS 203 - Equine Management Credits: 3
- AVS 353 - Equine Reproduction and Breeding Management Credits: 3
- AVS 393 - Training the Standardbred Horse Credits: 3
- AVS 405 - Livestock and Companion Animal Behavior Credits: 3
- AVS 433 - Equine Exercise Physiology Credits: 3

Notes

Note 1: Most of our recent graduates who were accepted to colleges of veterinary medicine had accumulated at least 300 hours of experience under the supervision of a veterinarian.

Note 2: Several American Veterinary Medical Association-accredited veterinary colleges require BIO 355 - Human Anatomy, 4 credits and/or BIO 480 - Cell Biology, 3 credits. Check the specific requirements of the veterinary colleges that are on your preferred list.

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: Robert Gundersen, Chair, Hitchner Hall Room 117, (207) 581-2802, gundersn@maine.edu
OR John Singer, Undergraduate Coordinator, Hitchner Hall, Room 280, (207) 581-2808, jsinger@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.

Accelerated UM/UNECOM Binary Degree Program with a B.S. in Biochemistry

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 Biochemistry or 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 Biochemistry 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.

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.

Required Courses in Suggested Sequence for the B.S. in Biochemistry

First Year - First Semester

- BIO 100 - Basic Biology Credits: 4
- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- ENG 101 - College Composition Credits: 3
- MAT 126 - Calculus I Credits: 4
- NFA 117 - Issues and Opportunities Credits: 1

First Year - Second Semester

- BIO 200 - Biology of Organisms Credits: 4
- BMB 280 - Introduction to Molecular and Cellular Biology Credits: 3
- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
- MAT 127 - Calculus II Credits: 4

Second Year - First Semester

- BMB 300 - General Microbiology Credits: 3
- BMB 305 - General Microbiology Laboratory Credits: 2
- CHY 251 - Organic Chemistry I Credits: 3
- CHY 253 - Organic Chemistry Laboratory I Credits: 2
- General Education Requirements Credits: 6

Second Year - Second Semester

- BMB 322 - Biochemistry Credits: 3

- BMB 323 - Biochemistry Laboratory Credits: 2
- CHY 252 - Organic Chemistry II Credits: 3
- CHY 254 - Organic Chemistry Laboratory II Credits: 2
- General Education Requirements Credits: 6

Third Year - First Semester

- BMB 400 - Molecular Genetics Credits: 3
- BMB 464 - Analytical and Preparative Biochemical Laboratory Methods Credits: 4
- STS 232 - Principles of Statistical Inference Credits: 3
- PHY 111 - General Physics I Credits: 4

Third Year - Second Semester

- BMB 460 - Advanced Biochemistry Credits: 3
- PHY 112 - General Physics II Credits: 4
- General Education Requirements Credits: 6
- Science Elective Credits: 3

Fourth Year - First Semester

- BMB 467 - Physical Biochemistry Credits: 3
- BMB 491 - Biochemistry, Microbiology and Molecular Biology Research Credits: Ar
- BMB 582 - Seminar in Biochemistry Credits: 1 (see Graduate catalog for course description)
- Science Elective Credits: 4
- Electives Credits: 3

Fourth Year - Second Semester

- BMB 491 - Biochemistry, Microbiology and Molecular Biology Research Credits: Ar
- BMB 582 - Seminar in Biochemistry Credits: 1 (see Graduate Catalog for description)
- Elective Credits: 6
- Science Elective Credits: 3

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 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 438 or BIO 447 or BIO 450 or BIO 463 or HON 499*. See concentration curriculums for specific requirements.

*The thesis topic must be in Biology and the thesis advisor should be in the School of Biology and Ecology.

Contact Information: Karen Pelletreau, Undergraduate Program Coordinator, School of Biology and Ecology, 321 Murray Hall, (207)581-2529, karen.pelletreau@maine.edu

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, and physics required. The B.S. requires more in depth study of chemistry, math, and physics while the B.A. requires more social sciences and humanities. The B.S. provides preparation for the health professions and graduate study while the B.A. ensures a broad liberal arts education and allows more flexibility for minors and double majors.

Biology B.S.

Biology B.A.

Biology B.S.

The B.S. degree in Biology is 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, see our web site.

Students choosing Biology as a second major must complete the second major by selecting courses in Areas I-V that are not being used to satisfy the requirements of their first major.

Students majoring in Biology are not eligible for a minor or second major in Botany or Zoology because of extensive overlap in the requirements for these degrees.

Students majoring in Biology must complete an assessment exit exam in their last semester prior to graduating.

Students majoring in Biology must earn a score of 4 or 5 in order to receive advanced placement credit for BIO 100.

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 or have a cumulative GPA of 2.0 or better.

Tremendous advances in biotechnology, medicine, environmental studies, and related areas make biology an important and fascinating field of study. Growth in these areas is expected to continue and to affect society in numerous ways and at many levels. 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.

Biology 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 and development, physiology, anatomy, evolution and biodiversity, and ecology and behavior. Each student works with an academic adviser in the faculty 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.

Biology Club

Students majoring in Biology, Botany, Zoology, and Medical Laboratory Sciences (Medical Technology) 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.

Concentrations in the B.S. Degree in Biology

Optional concentrations are available in:

- Pre-medical Studies
- Ecology

These concentrations are described in detail following the suggested sequence of courses for the B.S. in Biology

Accelerated Binary Degree Programs, including the B.S. Degree in Biology

The University of Maine and the University of New England College of Osteopathic Medicine (UNECOM), New England College of Optometry (NECO) and Logan College of Chiropractic (LCC) 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 Biology upon the successful completion of the first year curriculum at UNECOM, NECO, or LCC. Contact the Office of Health Professions (207) 581-2587 for complete program details and a curriculum for the first three years.

Combined B.S. and M.S. degrees in Botany, Entomology, or Zoology

These Four Plus programs allow highly dedicated students to earn both the B.S. and the M.S. degrees in five to six years. This allows the student to save time and reduces the cost of the M.S. degree. See our web site for details.

Basic Biological Sciences for the B.S. in Biology

Note: BIO 208 Anatomy and Physiology, BIO 222 Biology: The Living Science, and BIO 223 Biology: The Living Science Laboratory will not count towards the major for students majoring in Biology.

- BIO 100 - Basic Biology Credits: 4
- BIO 200 - Biology of Organisms Credits: 4

Biological Sciences Areas I-V for the B.S. in Biology

The following are minimum requirements for these 5 areas: 24 credits, 3 credits/area, four laboratory (L) courses and at least one animal (A) course and at least one plant (P) course from Areas III - V.

If BIO 438, BIO 447, BIO 450, or BIO 463 is taken as a capstone, it can satisfy the area in which it is listed and can count as a laboratory course (if labeled L) but cannot count towards the 24 credits required in Areas I-V.

Area I. Cell and Molecular Biology

If only one course is selected from this area, it must be BMB 280 or BIO 480

- BIO 336 - Developmental Biology Credits: 4
- BIO 438 - Morphogenesis in Development and Disease Credits: 3
- BIO 441 - Microscopy Credits: 2
- BIO 450 - Histology Credits: 4
- BIO 474 - Neurobiology Credits: 3
- BIO 480 - Cell Biology Credits: 3
- BIO 483 - Cell Biology Laboratory Credits: 1
- BMB 280 - Introduction to Molecular and Cellular Biology Credits: 3
- BMB 300 - General Microbiology Credits: 3
- BMB 305 - General Microbiology Laboratory Credits: 2
- BMB 420 - Infectious Disease Credits: 3
- BMB 421 - Infectious Disease Laboratory Credits: 2
- L - BIO 336, BIO 450, BIO 483, BMB 305, BMB 421

Area II. Genetics

- BIO 350 - Concepts and Applications of Genetics Credits: 3
- BIO 462 - Principles of Genetics Credits: 3
- BMB 400 - Molecular Genetics Credits: 3
- BMB 490 - Microbial Genetics Credits: 5
- L - BMB 490

Area III. Physiology

- BIO 307 - Introduction to Neuroscience Credits: 3
- BIO 377 - Medical Physiology Credits: 3
- BIO 378 - Medical Physiology Laboratory Credits: 2
- BIO 452 - Plant Physiology Credits: 3
- BIO 479 - Endocrinology Credits: 3
- BIO 480 - Cell Biology Credits: 3
- BIO 483 - Cell Biology Laboratory Credits: 1
- BMB 430 - Bacterial Physiology Credits: 3
- BMB 431 - Bacterial Physiology Laboratory Credits: 1
- BMB 440 - Introductory Immunology Credits: 3
- BMB 441 - Introductory Immunology Laboratory Credits: 1
- SMS 485 - Comparative Animal Physiology Credits: 3

- P - BIO 452
- A - BIO 307, BIO 377, BIO 479, BMB 440, SMS 485
- L - BIO 378, BIO 483, BMB 431, BMB 441

Area IV: Biodiversity and Evolution

- BIO 310 - Plant Biology Credits: 4
- BIO 326 - General Entomology Credits: 4
- BIO 329 - Vertebrate Biology Credits: 3
- BIO 331 - Vertebrate Biology Laboratory Credits: 1
- BIO 335 - Human Anatomy Credits: 4
- BIO 342 - Plants in Our World Credits: 3
- BIO 353 - Invertebrate Zoology Credits: 4
- BIO 430 - Ecology and Systematics of Aquatic Insects Credits: 4
- BIO 432 - Biology of the Fungi Credits: 4
- BIO 433 - Mammalogy Credits: 4
- BIO 464 - Taxonomy of Vascular Plants Credits: 4
- BIO 465 - Evolution Credits: 3
- SFR 439 - Plant Anatomy Structure and Function Credits: 3
- SMS 373 - Marine and Freshwater Algae Credits: 4
- P - BIO 310, BIO 342, BIO 432, BIO 464, SFR 439, SMS 373
- A - BIO 326, BIO 329, BIO 335, BIO 353, BIO 430, BIO 433
- L - BIO 310, BIO 326, BIO 331, BIO 335, BIO 353, BIO 430, BIO 432, BIO 433, BIO 464, SFR 439, SMS 373

Area V: Ecology and Behavior

If only one course is selected from this area, it must be BIO 319, SMS 300, or WLE 200, only one of which may be taken for degree credit.

- BIO 205 - Field Natural History of Maine Credits: 4
- BIO 319 - General Ecology Credits: 3
- BIO 327 - Introductory Applied Entomology Credits: 4
- BIO 354 - Animal Behavior Credits: 3
- BIO 355 - Animal Behavior Laboratory Credits: 2
- BIO 434 - Avian Biology and Ecology Credits: 3
- BIO 437 - Avian Biology and Ecology Laboratory Credits: 1
- BIO 447 - Experimental Ecology Credits: 4
- BIO 455 - Biological Invasions Credits: 4
- BIO 463 - River Ecology Credits: 4
- BIO 468 - Lake Ecology Credits: 3
- BIO 476 - Paleoecology Credits: 4
- EES 140 - Soil Science Credits: 3
- EES 141 - Soil Science Laboratory Credits: 1
- EES 475 - Field Studies in Ecology Credits: 1-3
- INT 482 - (SBE, PSE) Pesticides and the Environment Credits: 3
- PSE 320 - Soil Organic Matter Management Credits: 3

- PSE 457 - Plant Pathology Credits: 4
 - SMS 300 - Marine Ecology Credits: 3
 - WLE 200 - Ecology Credits: 3
 - WLE 201 - Ecology Laboratory Credits: 3
 - WLE 423 - Wetland Ecology and Conservation Credits: 4
- P - PSE 457
 A - BIO 327, BIO 354, BIO 434
 L - BIO 205, BIO 327, BIO 355, BIO 437, BIO 447, BIO 463, BIO 476, EES 141, EES 475, PSE 457, WLE 201, WLE 423

Affiliated Sciences and Math for the B.S. in Biology

To complete your B.S. in Biology you must take courses in Chemistry, Mathematics, and Physics. Below we have outlined your options for completing each requirement.

Required Courses

- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1

Organic Chemistry Option 1

- BMB 221 - Organic Chemistry Credits: 3
with
 - BMB 222 - Laboratory in Organic Chemistry Credits: 1
and
 - BMB 322 - Biochemistry Credits: 3
with
 - BMB 323 - Biochemistry Laboratory Credits: 2
- Total Organic Chemistry Credits: 9**

Organic Chemistry Option 2

- CHY 251 - Organic Chemistry I Credits: 3
with
 - CHY 253 - Organic Chemistry Laboratory I Credits: 2
and
 - BMB 322 - Biochemistry Credits: 3
with
 - BMB 323 - Biochemistry Laboratory Credits: 2
- Total Organic Chemistry Credits: 10**

Organic Chemistry Option 3

- CHY 251 - Organic Chemistry I Credits: 3
with
- CHY 253 - Organic Chemistry Laboratory I Credits: 2
and
- CHY 252 - Organic Chemistry II Credits: 3
with
- CHY 254 - Organic Chemistry Laboratory II Credits: 2
Total Organic Chemistry Credits: 10

Mathematics

- MAT 126 - Calculus I Credits: 4
and
- STS 232 - Principles of Statistical Inference Credits: 3
Total Mathematics Credits: 7

Physics Option 1

- PHY 111 - General Physics I Credits: 4
with
- PHY 112 - General Physics II Credits: 4
Total Physics Credits: 8

Physics Option 2

- PHY 121 - Physics for Engineers and Physical Scientists I Credits: 4
with
- PHY 122 - Physics for Engineers and Physical Scientists II Credits: 4
Total Physics Credits: 8

Courses in Suggested Sequence for the B.S. in Biology

First Year - First Semester

- BIO 100 - Basic Biology Credits: 4
- CHY 121 - Introduction to Chemistry Credits: 3
(Enrollment in CHY 121 requires readiness for MAT 122 or equivalent. Students who are not ready to take MAT 122 or its equivalent take CHY 121 in the second year.)
with

- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- ENG 101 - College Composition Credits: 3
or
- General Education Requirement¹ Credits: 3
- MAT 122 - Pre-Calculus Credits: 4
or
- MAT 126 - Calculus I Credits: 4
- NFA 117 - Issues and Opportunities Credits: 1

First Year - Second Semester

- BIO 200 - Biology of Organisms Credits: 4
- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
with
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
- ENG 101 - College Composition Credits: 3
(If not taken in the first semester)
- General Education Requirement¹ Credits: 3-6
OR
- MAT 126 - Calculus I Credits: 4
(If not taken in the first semester)

Second Year - First Semester

- STS 232 - Principles of Statistical Inference Credits: 3
- CHY 251 - Organic Chemistry I Credits: 3
See Footnote 3
with
- CHY 253 - Organic Chemistry Laboratory I Credits: 2
See Footnote 3
- General Education Requirement or Elective Credits:3
- Biological Sciences Area Choice Credits: 3-4
See Footnote 2

Second Year - Second Semester

- CHY 252 - Organic Chemistry II Credits: 3
See Footnote 3

with

- CHY 254 - Organic Chemistry Laboratory II Credits: 2
See Footnote 3
- Biological Sciences Area Choice Credits: 3-4
See Footnote 2
- General Education Requirement or Elective Credits: 6

Third Year - First Semester

- PHY 111 - General Physics I Credits: 4
See Footnote 4
- General Education Requirement or Elective Credits: 6
- Biological Sciences Area Choice Credits: 5-7
See Footnote 2

Third Year - Second Semester

- PHY 112 - General Physics II Credits: 4
See Footnote 4
- General Education Requirement or Elective Credits: 6-9
- Biological Sciences Area Choice Credits: 3-4
See Footnote 2

Fourth Year - First Semester

- Biological Sciences Area Choice Credits: 4
See Footnote 2
- Capstone or Elective Credits: 3
See Footnote 5
- General Education Requirements or Electives Credits: 6-9

Fourth Year - Second Semester

- Biological Sciences Area Choice Credits: 4-9
See Footnote 2

- Elective or Capstone Credits: 3
See Footnote 5
- General Education Requirements or Electives Credits: 6-9

Footnotes

1. See the General Education requirements for all students at the University. If BIO 400 (Biological Sciences Writing Intensive) is used to satisfy the General Education Writing Intensive in the major requirement, then it must be taken in conjunction with a selected upper-level BIO course (see listings in Schedule of Classes), usually during the third or fourth year.
2. See above lists of courses in the five Biological Sciences Areas and follow requirements for total number of credits, number of credits per area, number of courses with laboratories (L), and number of animal (A) and plant (P) courses in areas III-V.
3. Alternatively, students may take BMB 221/222 and BMB 322/323, OR CHY 251/253 and BMB 322/323.
4. Alternatively, students may take PHY 121 and 122.
5. The General Education capstone experience may be completed with BIO 388, 392, 402, 438, 447, 450, 463, or HON 499.

Concentration in Ecology

This concentration is intended for students interested in exposure to ecological principles within the context of a rigorous biological sciences curriculum. Students in this concentration must meet all of the requirements for the Biology B.S. degree. The concentration also includes WLE 220 Introduction to Statistical Ecology and a requirement for a course on environmental influences. A total of 29-35 credits are required to complete the concentration depending on the selections made for each of the requirements.

Specific requirements:

1. Affiliated Sciences and Math

- WLE 220 - Introduction to Ecological Statistics Credits: 4
This course can substitute for STS 232 - Principles of Statistical Inference.

2. Area I. Cell and Molecular Biology

Free choice among Area I courses in the Biology curriculum. Credits: 3-4

3. Area II. Genetics

Free choice among Area II courses in the Biology curriculum. Credits: 3-5

4. Area III. Physiology

Free choice among Area III courses in the Biology curriculum. Credits: 3

5. Area IV. Biodiversity

Bio 465 Evolution is required plus 3 additional credits chosen from Area IV courses in the Biology curriculum. Credits: 6-7

6. Area V. Ecology and Behavior

BIO 319 or WLE 200 or SMS 300 is required, plus 3 additional credits chosen from the following courses: Credits 6-7

- BIO 205 - Field Natural History of Maine Credits: 4
- BIO 327 - Introductory Applied Entomology Credits: 4
- BIO 354 - Animal Behavior Credits: 3
- BIO 355 - Animal Behavior Laboratory Credits: 2
- BIO 434 - Avian Biology and Ecology Credits: 3
- BIO 437 - Avian Biology and Ecology Laboratory Credits: 1
- BIO 447 - Experimental Ecology Credits: 4
- BIO 455 - Biological Invasions Credits: 4
- BIO 463 - River Ecology Credits: 4
- BIO 468 - Lake Ecology Credits: 3
- BIO 476 - Paleoecology Credits: 4
- EES 475 - Field Studies in Ecology Credits: 1-3
- PSE 457 - Plant Pathology Credits: 4
- PSE 469 - Soil Microbiology Credits: 3
- SFR 457 - Tree Pests and Disease Credits: 3
- WLE 201 - Ecology Laboratory Credits: 3
- WLE 423 - Wetland Ecology and Conservation Credits: 4

7. Primary and Secondary Producers

Choose at least one course labeled A and one labeled P from Areas I-V in the Biology curriculum. These courses can also satisfy requirements in Areas I-V for the basic Biology major and so do not add to the number of credits needed beyond the basic Biology major.

8. Area VI. Environmental Influences

Three credits are required. Choose from these courses:

- EES 140 - Soil Science Credits: 3
- EES 141 - Soil Science Laboratory Credits: 1
- ERS 101 - Introduction to Geology Credits: 4
- ERS 102 - Environmental Geology Credits: 4
- ERS 108 - Beaches and Coasts Credits: 3
- INT 482 - (SBE, PSE) Pesticides and the Environment Credits: 3
- PSE 320 - Soil Organic Matter Management Credits: 3
- SFR 406 - Remote Sensing Image Interpretation and Forest Mapping Credits: 3

9. Field Experience

Choose at least one course from this list. This course can also satisfy one of the areas above.

- BIO 205 - Field Natural History of Maine Credits: 4
- BIO 355 - Animal Behavior Laboratory Credits: 2

- BIO 430 - Ecology and Systematics of Aquatic Insects Credits: 4
- BIO 437 - Avian Biology and Ecology Laboratory Credits: 1
- BIO 463 - River Ecology Credits: 4
- EES 475 - Field Studies in Ecology Credits: 1-3
- WLE 423 - Wetland Ecology and Conservation Credits: 4

10. Capstone

Choose one of these courses:

- BIO 388 - Research Capstone in Biology Credits: 1-3
- BIO 392 - Independent Study Capstone in Biology Credits: 1-3
- BIO 447 - Experimental Ecology Credits: 4
- BIO 463 - River Ecology Credits: 4
- HON 499 - Honors Thesis Credits: 3
(Must be a topic in Biology and the thesis advisor should be in SBE)

11. Writing Requirement (students in the Honors program are exempt)

One course required. Choose from the following courses*:

- ENG 212 - Persuasive and Analytical Writing Credits: 3
- ENG 317 - Business and Technical Writing Credits: 3

*These courses satisfy the general education writing intensive requirement and so do not add to the number of credits needed beyond the basic Biology major.

Concentration in Pre-medical Studies

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.

Requirements for the concentration

Students in the pre-medical studies concentration must meet all of the requirements for the BIO-BS.

Specific requirements:

Affiliated Sciences and Math

Choose CHY 251-254 to meet the organic chemistry requirement.

Area I. Cell and molecular biology

Choose at least one of the following courses:

If only one course is chosen, it must be BMB 280 or BIO 480.

- BIO 336 - Developmental Biology Credits: 4
- BIO 480 - Cell Biology Credits: 3
- BIO 483 - Cell Biology Laboratory Credits: 1
- BMB 280 - Introduction to Molecular and Cellular Biology Credits: 3
- BMB 300 - General Microbiology Credits: 3
- BMB 305 - General Microbiology Laboratory Credits: 2

Area II. Genetics

- BIO 350 - Concepts and Applications of Genetics Credits: 3

Area III. Physiology

Choose at least one of these courses:

- BIO 377 - Medical Physiology Credits: 3
- BIO 378 - Medical Physiology Laboratory Credits: 2
- BIO 480 - Cell Biology Credits: 3
- BIO 483 - Cell Biology Laboratory Credits: 1
- BMB 440 - Introductory Immunology Credits: 3
- BMB 441 - Introductory Immunology Laboratory Credits: 1

Area IV. Biodiversity

Choose at least one of these courses:

- BIO 329 - Vertebrate Biology Credits: 3
- BIO 335 - Human Anatomy Credits: 4

Area V. Ecology and Behavior

Free choice among the Area V courses in the BIO-BS curriculum.

Capstone

Choose one of these courses:

- BIO 388 - Research Capstone in Biology Credits: 1-3
- BIO 438 - Morphogenesis in Development and Disease Credits: 3
- BIO 450 - Histology Credits: 4

- HON 499 - Honors Thesis Credits: 3

Other required courses

- BMB 322 - Biochemistry Credits: 3
with
- BMB 323 - Biochemistry Laboratory Credits: 2 (Footnote 1)
- PSY 100 - General Psychology Credits: 3 (Footnote 2)
- SOC 101 - Introduction to Sociology Credits: 3 (Footnote 2)
- ENG 212 - Persuasive and Analytical Writing Credits: 3 (Footnote 3)
- Literature course: An English literature course at the 200 level or above (Footnote 4)
- PHI 235 - Biomedical Ethics Credits: 3 (Footnote 5)

Footnotes:

¹Required by medical schools. If CHY 251-254 have been completed, BMB 323 can count as one of the four labs required in Areas I-V.

²Satisfies general education Social Contexts and Institutions.

³Satisfies general education Writing Intensive, not required for students completing HON 211 and HON 212.

⁴Satisfies a general education area depending on the course chosen. Not required for students completing HON 211 and 212.

⁵Satisfies general education requirements for Ethics, Western Cultural Tradition, and Social Contexts and Institutions.

Recommended courses

- BIO 208 - Anatomy and Physiology Credits: 4

Notes

a. Inclusion of BIO 480, Cell Biology, is highly recommended. This course can only count in one area.

b. Physician assistant and pharmacy schools require two semesters of anatomy and physiology. This requirement can be met by combining BIO 208, Anatomy and Physiology, and BIO 377, 378 Medical physiology and lab OR by combining BIO 335, Human Anatomy, and BIO 377, 378 Medical physiology and lab. Check with the Health Professions Specialist for details of the program you want to pursue.

c. Students pursuing this concentration may want to consider a minor in Neuroscience, Chemistry, Psychology, or Business.

Biology B.A.

The B.A. degree in Biology is offered by the School of Biology and Ecology. For information about areas of research and for an overview of our facilities, cooperative programs, and list of faculty in the School of Biology and Ecology, see our web site www.sbe.umaine.edu/

Students choosing Biology as a second major must complete the second major by selecting courses in Areas I-V that are not being used to satisfy the requirements of their first major.

Students majoring in Biology are not eligible for a minor or second major in Botany or Zoology because of extensive overlap in the requirements for these degrees.

Students majoring in Biology must complete an assessment exit exam in their last semester prior to graduating.

Students majoring in Biology must earn a score of 4 or 5 in order to receive advanced placement credit for BIO 100.

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 or have a cumulative GPA of 2.0 or better.

Tremendous advances in biotechnology, medicine, environmental studies, and related areas make biology an important and fascinating field of study. Growth in these areas is expected to continue and to affect society in numerous ways and at many levels. 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.

Biology 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 and development, physiology, anatomy, evolution and biodiversity, and ecology and behavior. Each student works with an academic adviser in the faculty 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.

Bachelor of Science or Bachelor of Arts

Both the B.S. and B.A. degrees in Biology provide a strong background in biological sciences. They have the same requirements in Biological Sciences and differ only in the level of chemistry, mathematics, and physics required. The B.S. requires more in depth study of chemistry, math, and physics while the B.A. requires more social sciences and humanities. The B.S. provides preparation for the health professions and graduate study while the B.A. ensures a broad liberal arts education and allows more flexibility for minors and double majors.

Optional Concentration in the B.A. degree in Biology

Students may complete the basic B.A. in Biology or they may add the optional Ecology Concentration. This concentration is described in detail following the suggested sequence of courses for the B.A. in Biology.

Biology Club

Students majoring in Biology, Botany, Zoology, and Medical Laboratory Sciences (Medical Technology) 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.

Basic Biological Sciences for the B.A. in Biology

Note: BIO 208, Anatomy and Physiology, BIO 222 Biology: The Living Science and BIO 223 Biology: The Living Science Laboratory, will not count towards the major for students majoring in Biology.

- BIO 100 - Basic Biology Credits: 4
- BIO 200 - Biology of Organisms Credits: 4

Biological Sciences Areas I-V

The following are minimum requirements for these 5 areas: 24 credits, 3 credits/area, four laboratory (L) courses and at least one animal (A) course and at least one plant (P) course from Areas III - V.

If BIO 438, BIO 447, BIO 450, or BIO 463 is taken as a capstone, it can satisfy the area in which it is listed and can count as a laboratory course (if labeled L) but cannot count towards the 24 credits required in Areas I-V.

I. Cell and Molecular Biology

If only one course is selected from this area, it must be BMB 280 or BIO 480.

- BIO 336 - Developmental Biology Credits: 4
- BIO 438 - Morphogenesis in Development and Disease Credits: 3
- BIO 441 - Microscopy Credits: 2
- BIO 450 - Histology Credits: 4
- BIO 474 - Neurobiology Credits: 3
- BIO 480 - Cell Biology Credits: 3
- BIO 483 - Cell Biology Laboratory Credits: 1
- BMB 280 - Introduction to Molecular and Cellular Biology Credits: 3
- BMB 300 - General Microbiology Credits: 3
- BMB 305 - General Microbiology Laboratory Credits: 2
- BMB 420 - Infectious Disease Credits: 3
- BMB 421 - Infectious Disease Laboratory Credits: 2
- L - BIO 336, BIO 450, BIO 483, BMB 305, BMB 421

II. Genetics

- BIO 350 - Concepts and Applications of Genetics Credits: 3
- BIO 462 - Principles of Genetics Credits: 3
- BMB 400 - Molecular Genetics Credits: 3
- BMB 490 - Microbial Genetics Credits: 5
- L - BMB 490

III. Physiology

- BIO 307 - Introduction to Neuroscience Credits: 3
- BIO 377 - Medical Physiology Credits: 3
- BIO 378 - Medical Physiology Laboratory Credits: 2
- BIO 452 - Plant Physiology Credits: 3
- BIO 479 - Endocrinology Credits: 3
- BIO 480 - Cell Biology Credits: 3
- BIO 483 - Cell Biology Laboratory Credits: 1

- BMB 430 - Bacterial Physiology Credits: 3
- BMB 431 - Bacterial Physiology Laboratory Credits: 1
- BMB 440 - Introductory Immunology Credits: 3
- BMB 441 - Introductory Immunology Laboratory Credits: 1
- SMS 485 - Comparative Animal Physiology Credits: 3
- P - BIO 452
- A - BIO 307, BIO 377, BIO 479, BMB 440, SMS 485
- L - BIO 378, BIO 483, BMB 431, BMB 441

IV. Biodiversity and Evolution

- BIO 310 - Plant Biology Credits: 4
- BIO 326 - General Entomology Credits: 4
- BIO 329 - Vertebrate Biology Credits: 3
- BIO 331 - Vertebrate Biology Laboratory Credits: 1
- BIO 335 - Human Anatomy Credits: 4
- BIO 342 - Plants in Our World Credits: 3
- BIO 353 - Invertebrate Zoology Credits: 4
- BIO 430 - Ecology and Systematics of Aquatic Insects Credits: 4
- BIO 432 - Biology of the Fungi Credits: 4
- BIO 433 - Mammalogy Credits: 4
- BIO 464 - Taxonomy of Vascular Plants Credits: 4
- BIO 465 - Evolution Credits: 3
- SFR 439 - Plant Anatomy Structure and Function Credits: 3
- SMS 373 - Marine and Freshwater Algae Credits: 4
- L - BIO 310, BIO 326, BIO 331, BIO 335, BIO 353, BIO 430, BIO 432, BIO 433, BIO 464, SFR 439, SMS 373
- A - BIO 326, BIO 329, BIO 335, BIO 353, BIO 430, BIO 433
- P - BIO 310, BIO 342, BIO 432, BIO 464, SFR 439, SMS 373

V. Ecology and Behavior

If only one course is selected from this area, it must be BIO 319, SMS 300, or WLE 200, only one of which may be taken for degree credit.

- BIO 205 - Field Natural History of Maine Credits: 4
- BIO 319 - General Ecology Credits: 3
- BIO 327 - Introductory Applied Entomology Credits: 4
- BIO 354 - Animal Behavior Credits: 3
- BIO 355 - Animal Behavior Laboratory Credits: 2
- BIO 434 - Avian Biology and Ecology Credits: 3
- BIO 437 - Avian Biology and Ecology Laboratory Credits: 1
- BIO 447 - Experimental Ecology Credits: 4
- BIO 455 - Biological Invasions Credits: 4
- BIO 463 - River Ecology Credits: 4

- BIO 468 - Lake Ecology Credits: 3
- BIO 476 - Paleoecology Credits: 4
- EES 140 - Soil Science Credits: 3
- EES 141 - Soil Science Laboratory Credits: 1
- EES 475 - Field Studies in Ecology Credits: 1-3
- INT 482 - (SBE, PSE) Pesticides and the Environment Credits: 3
- PSE 320 - Soil Organic Matter Management Credits: 3
- PSE 457 - Plant Pathology Credits: 4
- SMS 300 - Marine Ecology Credits: 3
- WLE 200 - Ecology Credits: 3
- WLE 201 - Ecology Laboratory Credits: 3
- WLE 423 - Wetland Ecology and Conservation Credits: 4
- L - BIO 205, BIO 327, BIO 355, BIO 437, BIO 447, BIO 463, BIO 476, EES 141, EES 475, PSE 457, WLE 201, WLE 423
- A - BIO 327, BIO 354, BIO 434
- P - PSE 457

Affiliated Sciences and Math for the B.A. in Biology

To complete your B.A. in Biology you must take courses in Chemistry, Mathematics, and Physics. Below we have outlined your options for completing each requirement.

Required Courses

- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1

Organic Chemistry Option 1

- BMB 221 - Organic Chemistry Credits: 3
 - BMB 222 - Laboratory in Organic Chemistry Credits: 1
- Total Organic Chemistry Credits: 4

Organic Chemistry Option 2

- CHY 251 - Organic Chemistry I Credits: 3
 - CHY 253 - Organic Chemistry Laboratory I Credits: 2
 - BMB 322 - Biochemistry Credits: 3
 - BMB 323 - Biochemistry Laboratory Credits: 2
- Total Organic Chemistry Credits: 10

Organic Chemistry Option 3

- CHY 251 - Organic Chemistry I Credits: 3
 - CHY 253 - Organic Chemistry Laboratory I Credits: 2
 - CHY 252 - Organic Chemistry II Credits: 3
 - CHY 254 - Organic Chemistry Laboratory II Credits: 2
- Total Organic Chemistry Credits: 10

Mathematics

- MAT 126 - Calculus I Credits: 4
OR
 - STS 232 - Principles of Statistical Inference Credits: 3
- Total Mathematics Credits: 3-4

Physics Option 1

- PHY 105 - Descriptive Physics Credits: 4
- Total Physics Credits: 4

Physics Option 2

- PHY 111 - General Physics I Credits: 4
 - PHY 112 - General Physics II Credits: 4
- Total Physics Credits: 8

Other Requirements

Students are required to develop an enriched international perspective. This may be done by (1) establishing proficiency in a foreign language at the intermediate level, (2) completing at least one semester in a University of Maine approved foreign exchange program, or (3) completing nine credits in General Education courses in Cultural Diversity and International Perspectives. In addition, the College of Natural Sciences, Forestry and Agriculture requires 27 credits of General Education courses in Human Values and Social Context for the B.A. and at least 12 of those credits must be at the 200 level or above.

Courses in Suggested Sequence for the B.A. in Biology

First Year - First Semester

- BIO 100 - Basic Biology Credits: 4
- CHY 121 - Introduction to Chemistry Credits: 3
Enrollment in CHY 121 requires readiness for MAT 122 or equivalent. Students who are not ready to take MAT 122 or its equivalent take CHY 121 in the second year.
with
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1

- ENG 101 - College Composition Credits: 3
- **or**
- General Education Requirement¹ Credits: 3
- MAT 122 - Pre-Calculus Credits: 4
- NFA 117 - Issues and Opportunities Credits: 1

First Year - Second Semester

- BIO 200 - Biology of Organisms Credits: 4
- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
- ENG 101 - College Composition Credits: 3
- If not taken in the first semester
- General Education Requirement¹ Credits: 3-6

Second Year - First Semester

- BMB 221 - Organic Chemistry Credits: 3
(see Footnote 3)
- BMB 222 - Laboratory in Organic Chemistry Credits: 1
(see Footnote 3)
- STS 232 - Principles of Statistical Inference Credits: 3
(see Footnote 4)
- Biological Sciences Area Choice Credits: 3
(See Footnote 2)
- General Education Requirement or Elective Credits: 3
- International Perspective Credits: 3
(See Footnote 5)

Second Year - Second Semester

- Biological Sciences Area Choice² Credits: 3-5
- International Perspective⁵ Credits: 3
- General Education Requirement for Elective Credits: 6-9

Third Year - First Semester

- PHY 111 - General Physics I Credits: 4 (see Footnote 4)
- Biological Sciences Area Choice² Credits: 5-7
- General Education Requirement or Elective Credits: 6

Third Year - Second Semester

- General Education Requirement or Elective Credits: 3-12
- Biological Sciences Area Choice² Credits: 3-4

Fourth Year - First Semester

- Biological Sciences Area Choice² Credits: 3-4
- Capstone⁷ Credits: 3
- General Education Requirements or Electives Credits: 7-10

Fourth Year - Second Semester

- Biological Sciences Area Choice² Credits: 3-10
- General Education Requirements or Electives Credits: 4-12

Footnotes

¹See the General Education requirements for all students at the University. If BIO 400 (Biological Sciences Writing Intensive) is used to satisfy the General Education Writing Intensive in the major requirement, then it must be taken in conjunction with a selected upper-level BIO course (see listings in Schedule of Classes), usually during the third or fourth year.

²See above lists of courses in the five Biological Sciences Areas and follow requirements for total number of credits, number of credits per area, number of courses with laboratories (L), and number of animal (A) and plant (P) courses in areas III-V.

³Alternatively, students may take CHY 251/253 and BMB 322/323 or CHY 251/253 and CHY 252/254.

⁴Alternatively, students may take MAT 126.

⁵See Other Requirements above for ways to satisfy this requirement for the B.A. degree.

⁶Alternatively, students may take PHY 111 and 112.

⁷The General Education capstone experience may be completed with BIO 388, 392, 402, 438, 447, 450, 463, or HON 499.

Concentration in Ecology

This concentration is intended for students interested in exposure to ecological principles within the context of a rigorous biological sciences curriculum. Students in this concentration must meet all of the requirements for the Biology B.A. degree. The concentration also includes WLE 220 Introduction to Statistical Ecology and a requirement for a course on environmental influences. A total of 29-35 credits are required to complete the concentration depending on the selections made for each of the requirements.

Specific requirements:

1. Affiliated Sciences and Math

- WLE 220 - Introduction to Ecological Statistics Credits: 4
- This course can substitute for STS 232 Principles of Statistical Inference

2. Area I. Cell and Molecular Biology

Free choice among Area I courses in the Biology curriculum Credits: 3-4

3. Area II. Genetics

- Free choice among Area II courses in the Biology curriculum Credits: 3-5

4. Area III. Physiology

- Free choice among Area III courses in the Biology curriculum Credits: 3

5. Area IV. Biodiversity

- BIO 465 Evolution is required plus 3 additional credits chosen from the courses in the Biology curriculum Credits: 6-7

6. Area V. Ecology and Behavior

BIO 319 or WLE 200 or SMS 300 is required plus 3 additional credits chosen from the following courses: Credits: 6-7

- BIO 205 - Field Natural History of Maine Credits: 4
- BIO 327 - Introductory Applied Entomology Credits: 4
- BIO 354 - Animal Behavior Credits: 3
- BIO 355 - Animal Behavior Laboratory Credits: 2
- BIO 434 - Avian Biology and Ecology Credits: 3
- BIO 437 - Avian Biology and Ecology Laboratory Credits: 1
- BIO 447 - Experimental Ecology Credits: 4
- BIO 455 - Biological Invasions Credits: 4
- BIO 463 - River Ecology Credits: 4
- BIO 468 - Lake Ecology Credits: 3
- BIO 476 - Paleoecology Credits: 4
- EES 475 - Field Studies in Ecology Credits: 1-3
- PSE 457 - Plant Pathology Credits: 4
- PSE 469 - Soil Microbiology Credits: 3
- SFR 457 - Tree Pests and Disease Credits: 3
- WLE 201 - Ecology Laboratory Credits: 3
- WLE 423 - Wetland Ecology and Conservation Credits: 4

7. Primary and Secondary Producers

Choose at least one course labeled A and one labeled P from Areas I-V in the Biology curriculum. These courses can also satisfy requirements in Areas I-V for the basic Biology major and so do not add to the number of credits needed beyond the basic Biology major.

8. Area VI. Environmental Influences

Three credits are required. Choose from these courses:

- EES 140 - Soil Science Credits: 3
- EES 141 - Soil Science Laboratory Credits: 1

- ERS 101 - Introduction to Geology Credits: 4
- ERS 102 - Environmental Geology Credits: 4
- ERS 108 - Beaches and Coasts Credits: 3
- INT 482 - (SBE, PSE) Pesticides and the Environment Credits: 3
- PSE 320 - Soil Organic Matter Management Credits: 3
- SFR 406 - Remote Sensing Image Interpretation and Forest Mapping Credits: 3

9. Field Experience

Choose at least one course from this list. This course can also satisfy one of the areas above.

- BIO 205 - Field Natural History of Maine Credits: 4
- BIO 355 - Animal Behavior Laboratory Credits: 2
- BIO 430 - Ecology and Systematics of Aquatic Insects Credits: 4
- BIO 437 - Avian Biology and Ecology Laboratory Credits: 1
- BIO 463 - River Ecology Credits: 4
- EES 475 - Field Studies in Ecology Credits: 1-3
- WLE 423 - Wetland Ecology and Conservation Credits: 4

10. Capstone

Choose one of these courses:

- BIO 388 - Research Capstone in Biology Credits: 1-3
- BIO 392 - Independent Study Capstone in Biology Credits: 1-3
- BIO 447 - Experimental Ecology Credits: 4
- BIO 463 - River Ecology Credits: 4
- HON 499 - Honors Thesis Credits: 3
(Must be a topic in Biology and the thesis advisor should be in SBE)

11. Writing requirement (students in the Honors program are exempt)

One course required. Choose from the following courses*:

- ENG 212 - Persuasive and Analytical Writing Credits: 3
- ENG 317 - Business and Technical Writing Credits: 3

*These courses satisfy the general education writing intensive requirement and so do not add to the number credits needed beyond the basic Biology major.

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 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 438 or BIO 447 or BIO 450 or BIO 463 or HON 499*. See concentration curriculum's for specific requirements.*The thesis topic must be in Biology and the thesis advisor should be in the School of Biology and Ecology.

Contact Information: Karen Pelletreau, Undergraduate Program Coordinator, School of Biology and Ecology, 321 Murray Hall, (207) 581-2529, karen.pelletreau@maine.edu

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 have the same requirements in biological sciences and differ only in the level of chemistry, mathematics, and physics required. The B.S. requires more in depth study of chemistry, math, and physics while the B.A. requires more social sciences and humanities. The B.S. provides preparation for the health professions and graduate study while the B.A. ensures a broad liberal arts education and allows more flexibility for minors and double majors.

Botany B.S.

Botany B.A.

Botany B.S.

The B.S. degree in Botany is offered by the School of Biology and Ecology. For information about areas of research and for an overview of our facilities, cooperative programs, and list of faculty in the School of Biology and Ecology, see our website www.sbe.umaine.edu/

Students choosing Botany as a second major must complete the second major by selecting courses in Areas I-V that are not being used to satisfy the requirements of their first major.

Students majoring in Botany are not eligible for a minor or second major in Biology or Zoology because of extensive overlap in the requirements for these degrees.

Students majoring in Botany must complete an assessment exit exam in their last semester prior to graduating.

Students majoring in Botany must earn a score of 4 or 5 in order to receive advanced placement credit for BIO 100.

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 or have a cumulative GPA of 2.0 or better.

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 produces, 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.

Botany 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 botany including cells and molecules, genetics and development, physiology, anatomy, evolution and biodiversity, and ecology. Each student works with an academic adviser in the faculty to develop a curriculum that best meets the student's goals and allows for exploration or specialization as desired. Students in their third or fourth years of study, and 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.

Biology Club

Students majoring in Biology, Botany, Zoology, and Medical Laboratory Sciences (Medical Technology) 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.

Concentration in the BS Degree in Botany

An optional concentration is available in:

- Ecology-This concentration is described in detail following the suggested sequence of courses for the BS in Botany.

Combined B.S. and M.S. degrees in Botany, Entomology, or Zoology

These Four Plus programs allow highly dedicated students to earn both the B.S. and the M.S. degrees in five to six years. This allows the student to save time and reduces the cost of the M.S. degree. See our web site for details.

Basic Biological Sciences for the B.S. in Botany

Note: BIO 208, Anatomy and Physiology, BIO 222 Biology: The Living Science and BIO 323 Biology: The Living Science Laboratory- will not count towards the major for students majoring in Botany

- BIO 100 - Basic Biology Credits: 4
- BIO 200 - Biology of Organisms Credits: 4

Biological Sciences Areas I-V

The following are minimum requirements for these 5 areas: 24 credits, 3 credits/area, 4 laboratory (L) courses, and at least 3 plant (P) courses from areas III - V.

If BIO 438, BIO 477, BIO 450, or BIO 463 is taken as a capstone, it can satisfy the area in which it is listed and can count as a laboratory course (if labeled L) but cannot count towards the 24 credits required in Areas I-V.

I. Cell and Molecular Biology

If only one course is selected from this area, it must be BMB 280 or BIO 480.

- BIO 336 - Developmental Biology Credits: 4
- BIO 438 - Morphogenesis in Development and Disease Credits: 3
- BIO 441 - Microscopy Credits: 2
- BIO 450 - Histology Credits: 4
- BIO 474 - Neurobiology Credits: 3

- BIO 480 - Cell Biology Credits: 3
- BIO 483 - Cell Biology Laboratory Credits: 1
- BMB 280 - Introduction to Molecular and Cellular Biology Credits: 3
- BMB 300 - General Microbiology Credits: 3
- BMB 305 - General Microbiology Laboratory Credits: 2
- BMB 420 - Infectious Disease Credits: 3
- BMB 421 - Infectious Disease Laboratory Credits: 2
- L - BIO 336, BIO 450, BIO 483, BMB 305, BMB 421

II. Genetics

- BIO 350 - Concepts and Applications of Genetics Credits: 3
- BIO 462 - Principles of Genetics Credits: 3
- BMB 400 - Molecular Genetics Credits: 3
- BMB 490 - Microbial Genetics Credits: 5
- L - BMB 490

III. Physiology

- BIO 307 - Introduction to Neuroscience Credits: 3
- BIO 377 - Medical Physiology Credits: 3
- BIO 378 - Medical Physiology Laboratory Credits: 2
- BIO 452 - Plant Physiology Credits: 3
- BMB 430 - Bacterial Physiology Credits: 3
- BMB 431 - Bacterial Physiology Laboratory Credits: 1
- BMB 440 - Introductory Immunology Credits: 3
- BMB 441 - Introductory Immunology Laboratory Credits: 1
- SMS 485 - Comparative Animal Physiology Credits: 3
- L - BIO 378, BIO 483, BMB 431, BMB 441
- A - BIO 307, BIO 377, BIO 479, BMB 440, SMS 485
- P - BIO 452

IV. Biodiversity and Evolution

- BIO 310 - Plant Biology Credits: 4
- BIO 326 - General Entomology Credits: 4
- BIO 329 - Vertebrate Biology Credits: 3
- BIO 331 - Vertebrate Biology Laboratory Credits: 1
- BIO 335 - Human Anatomy Credits: 4
- BIO 342 - Plants in Our World Credits: 3
- BIO 353 - Invertebrate Zoology Credits: 4

- BIO 430 - Ecology and Systematics of Aquatic Insects Credits: 4
- BIO 432 - Biology of the Fungi Credits: 4
- BIO 433 - Mammalogy Credits: 4
- BIO 464 - Taxonomy of Vascular Plants Credits: 4
- BIO 465 - Evolution Credits: 3
- SFR 439 - Plant Anatomy Structure and Function Credits: 3
- SMS 373 - Marine and Freshwater Algae Credits: 4
- L- BIO 310, BIO 326, BIO 331, BIO 335, BIO 353, BIO 430, BIO 432, BIO 433, BIO 464, SFR 439, SMS 373
- A - BIO 326, BIO 329, BIO 335, BIO 353, BIO 430, BIO 433
- P - BIO 310, BIO 342, BIO 432, BIO 464, SFR 439, SMS 373

V. Ecology and Behavior

If only one course is selected from this area, it must be BIO 319, SMS 300, or WLE 200, only one of which may be taken for degree credit.

- BIO 205 - Field Natural History of Maine Credits: 4
- BIO 319 - General Ecology Credits: 3
- BIO 327 - Introductory Applied Entomology Credits: 4
- BIO 354 - Animal Behavior Credits: 3
- BIO 355 - Animal Behavior Laboratory Credits: 2
- BIO 434 - Avian Biology and Ecology Credits: 3
- BIO 437 - Avian Biology and Ecology Laboratory Credits: 1
- BIO 447 - Experimental Ecology Credits: 4
- BIO 455 - Biological Invasions Credits: 4
- BIO 463 - River Ecology Credits: 4
- BIO 468 - Lake Ecology Credits: 3
- BIO 476 - Paleocology Credits: 4
- EES 140 - Soil Science Credits: 3
- EES 141 - Soil Science Laboratory Credits: 1
- EES 475 - Field Studies in Ecology Credits: 1-3
- INT 482 - (SBE, PSE) Pesticides and the Environment Credits: 3
- PSE 320 - Soil Organic Matter Management Credits: 3
- PSE 457 - Plant Pathology Credits: 4
- SMS 300 - Marine Ecology Credits: 3
- WLE 200 - Ecology Credits: 3
- WLE 201 - Ecology Laboratory Credits: 3
- WLE 423 - Wetland Ecology and Conservation Credits: 4
- L - BIO 205, BIO 327, BIO 355, BIO 437, BIO 447, BIO 463, BIO 476, EES 141, EES 475, PSE 457, WLE 201, WLE 423
- A - BIO 327, BIO 354, BIO 434
- P - PSE 457

Affiliated Sciences and Math

To complete your B.S. in Botany you must take courses in Chemistry, Mathematics, and Physics. Below we have outlined your options for completing each requirement.

Required Courses

- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1

Organic Chemistry Option 1

- BMB 221 - Organic Chemistry Credits: 3
 - BMB 222 - Laboratory in Organic Chemistry Credits: 1
 - BMB 322 - Biochemistry Credits: 3
 - BMB 323 - Biochemistry Laboratory Credits: 2
- Total Organic Chemistry Credits: 9

Organic Chemistry Option 2

- CHY 251 - Organic Chemistry I Credits: 3
 - CHY 253 - Organic Chemistry Laboratory I Credits: 2
 - BMB 322 - Biochemistry Credits: 3
 - BMB 323 - Biochemistry Laboratory Credits: 2
- Total Organic Chemistry Credits: 10

Organic Chemistry Option 3

- CHY 251 - Organic Chemistry I Credits: 3
 - CHY 253 - Organic Chemistry Laboratory I Credits: 2
 - CHY 252 - Organic Chemistry II Credits: 3
 - CHY 254 - Organic Chemistry Laboratory II Credits: 2
- Total Organic Chemistry Credits: 10

Mathematics

- MAT 126 - Calculus I Credits: 4
 - STS 232 - Principles of Statistical Inference Credits: 3
- Total Mathematics Credits: 7

Physics Option 1

- PHY 111 - General Physics I Credits: 4
 - PHY 112 - General Physics II Credits: 4
- Total Physics Credits: 8

Physics Option 2

- PHY 121 - Physics for Engineers and Physical Scientists I Credits: 4
 - PHY 122 - Physics for Engineers and Physical Scientists II Credits: 4
- Total Physics Credits: 8

Courses in Suggested Sequence for the B.S. in Botany

First Year - First Semester

- BIO 100 - Basic Biology Credits: 4
- CHY 121 - Introduction to Chemistry Credits: 3

Enrollment in CHY 121 requires readiness for MAT 122 or equivalent. Students who are not ready to take MAT 122 or its equivalent take CHY 121 in the second year.

with

- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- ENG 101 - College Composition Credits: 3

or

- General Education Requirement¹ Credits: 3
- MAT 122 - Pre-Calculus Credits: 4

or

- MAT 126 - Calculus I Credits: 4
- NFA 117 - Issues and Opportunities Credits: 1

First Year - Second Semester

- BIO 200 - Biology of Organisms Credits: 4
- CHY 122 - The Molecular Basis of Chemical Change Credits: 3

with

- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
- ENG 101 - College Composition Credits: 3
- (If not taken in the first semester)
- General Education Requirement¹ Credits: 3-6

or

- MAT 126 - Calculus I Credits: 4
- (If not taken in the first semester)

Second Year - First Semester

- CHY 251 - Organic Chemistry I Credits: 3
- (See Footnote 3)

with

- CHY 253 - Organic Chemistry Laboratory I Credits: 2

(see Footnote 3)

- STS 232 - Principles of Statistical Inference Credits: 3
- General Education Requirement or Elective Credits: 3
- Biological Sciences Area Choice² Credits: 3-4

Second Year - Second Semester

- CHY 252 - Organic Chemistry II Credits: 3
- with**
- CHY 254 - Organic Chemistry Laboratory II Credits: 2
 - Biological Sciences Area Choice² Credits: 3-5
 - General Education Requirement or Elective Credits: 6

Third Year - First Semester

- PHY 111 - General Physics I Credits: 4
- (see Footnote 4)
- General Education Requirement or Elective Credits: 6
 - Biological Sciences Area Choice² Credits: 5-7

Third Year - Second Semester

- PHY 112 - General Physics II Credits: 4
- General Education Requirement or Elective Credits: 6-9
- Biological Sciences Area Choice² Credits: 3-4

Fourth Year - First Semester

- Biological Sciences Area Choice² Credits: 4
- Capstone⁵ or Elective Credits: 3
- General Education Requirements or Electives Credits: 6-9

Fourth Year - Second Semester

- Biological Sciences Area Choice² Credits: 4-9
- Elective or Capstone⁵ Credits: 3
- General Education Requirements or Electives Credits: 6-9

Footnotes

¹See the General Education requirements for all students at the University. If BIO 400 (Biological Sciences Writing Intensive) is used to satisfy the General Education Writing Intensive in the major requirement, then it must be taken in conjunction with a selected upper-level BIO

course (see listings in Schedule of Classes), usually during the third or fourth year.

²See above lists of courses in the five Biological Sciences Areas and follow requirements for total number of credits, number of credits per area, number of courses with laboratories (L), and number of plant (P) courses in areas III-V.

³ Alternatively, students may take BMB 221/222 and BMB 322/323 or CHY 251/253 and BMB 322/323.

⁴ Alternatively, students may take PHY 121/122.

⁵The General Education capstone experience requirement may be completed with BIO 388, 392, 402, 438, 447, 450, 463, or HON 499.

Concentration in Ecology

This concentration is intended for students interested in exposure to ecological principles within the context of a rigorous biological sciences curriculum. Students in this concentration must meet all of the requirements for the Botany B.S. degree. The concentration also includes WLE 220 Introduction to Statistical Ecology and a requirement for a course on environmental influences. A total of 29-35 credits are required to complete the concentration depending on the selections made for each of the requirements.

Specific requirements:

1. Affiliated Sciences and Math

- WLE 220 - Introduction to Ecological Statistics Credits: 4
- This course can substitute for STS 232-Principles of Statistical Inference.

2. Area I. Cell and Molecular Biology

- Free choice among Area I courses in the Botany curriculum Credits: 3-4

3. Area II. Genetics

- Free choice among Area II courses in the Botany curriculum Credits: 3-5

4. Area III. Physiology

- Free choice among Area III courses in the Botany curriculum Credits: 3

5. Area IV. Biodiversity

- BIO 465 - Evolution Credits: 3
- Plus 3 additional credits chosen from the courses in the Botany curriculum Credits: 6-7

6. Area V. Ecology and Behavior

- BIO 319 - General Ecology Credits: 3

Or

- SMS 300 - Marine Ecology Credits: 3

Or

- WLE 200 - Ecology Credits: 3
- You are required to take one of the above: BIO 319, WLE 200, or SMS 300 plus
- 3 additional credits from the following courses. 6-7 Total Credits

- BIO 205 - Field Natural History of Maine Credits: 4
- BIO 327 - Introductory Applied Entomology Credits: 4
- BIO 354 - Animal Behavior Credits: 3
- BIO 355 - Animal Behavior Laboratory Credits: 2
- BIO 434 - Avian Biology and Ecology Credits: 3
- BIO 437 - Avian Biology and Ecology Laboratory Credits: 1
- BIO 447 - Experimental Ecology Credits: 4
- BIO 455 - Biological Invasions Credits: 4
- BIO 463 - River Ecology Credits: 4
- BIO 468 - Lake Ecology Credits: 3
- BIO 476 - Paleoecology Credits: 4
- EES 475 - Field Studies in Ecology Credits: 1-3
- PSE 457 - Plant Pathology Credits: 4
- PSE 469 - Soil Microbiology Credits: 3
- SFR 457 - Tree Pests and Disease Credits: 3
- WLE 201 - Ecology Laboratory Credits: 3
- WLE 423 - Wetland Ecology and Conservation Credits: 4

7. Primary and Secondary Producers

Choose at least one course labeled A and one labeled P from Areas I-V in the Botany curriculum. These courses can also satisfy requirements in Areas I-V for the basic Botany major and so do not add to the number of credits needed beyond the basic Botany major.

8. Area VI. Environmental Influences

Three credits are required. Choose from these courses:

- EES 140 - Soil Science Credits: 3
- EES 141 - Soil Science Laboratory Credits: 1
- ERS 101 - Introduction to Geology Credits: 4
- ERS 102 - Environmental Geology Credits: 4
- ERS 108 - Beaches and Coasts Credits: 3
- INT 482 - (SBE, PSE) Pesticides and the Environment Credits: 3
- PSE 320 - Soil Organic Matter Management Credits: 3
- SFR 406 - Remote Sensing Image Interpretation and Forest Mapping Credits: 3

9. Field Experience

Choose at least one course from this list. This course can also satisfy one of the areas above.

- BIO 205 - Field Natural History of Maine Credits: 4
- BIO 355 - Animal Behavior Laboratory Credits: 2
- BIO 430 - Ecology and Systematics of Aquatic Insects Credits: 4
- BIO 437 - Avian Biology and Ecology Laboratory Credits: 1
- BIO 463 - River Ecology Credits: 4
- EES 475 - Field Studies in Ecology Credits: 1-3
- WLE 423 - Wetland Ecology and Conservation Credits: 4

10. Capstone

Choose one of these courses*:

- BIO 388 - Research Capstone in Biology Credits: 1-3
- BIO 392 - Independent Study Capstone in Biology Credits: 1-3
- BIO 447 - Experimental Ecology Credits: 4
- BIO 463 - River Ecology Credits: 4
- HON 499 - Honors Thesis Credits: 3

(Must be a topic in Biology and the thesis advisor should be in SBE)

11. Writing requirement (students in Honors Program are exempt)

One course required. Choose from the following courses*:

- ENG 212 - Persuasive and Analytical Writing Credits: 3
- ENG 317 - Business and Technical Writing Credits: 3

* These courses satisfy the general education writing intensive requirement and so do not add to the number credits needed beyond the basic Botany major.

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Students majoring in Botany must complete an assessment exit exam in their last semester prior to graduating.

Students majoring in Botany must earn a score of 4 or 5 in order to receive advanced placement credit for BIO 100.

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 or have a cumulative GPA of 2.0 or better.

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Biology Club

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Optional Concentration in the BA Degree in Botany

Students may complete the basic B.A. in Botany or they may add the optional Ecology Concentration. This concentration is described in detail following the suggested sequence of courses for the B.A. in Botany.

Basic Biological Sciences for the B.A. in Botany

Note: BIO 208, Anatomy and Physiology, BIO 222 Biology: The Living Science, and BIO 223 Biology the Living Science Laboratory will not count towards the major for students majoring in Botany.

- BIO 100 - Basic Biology Credits: 4
- BIO 200 - Biology of Organisms Credits: 4

Biological Sciences Areas I-V

The following are minimum requirements for these 5 areas: 24 credits, 3 credits/area, 4 laboratory (L) courses, and at least 3 plant (P) courses from areas III - V.

If BIO 438, BIO 447, BIO 450, or BIO 463 is taken as a capstone, it can satisfy the area in which it is listed and can count as a laboratory course (if labeled L) but cannot count towards the 24 credits required in Areas I-V.

I. Cell and Molecular Biology

If only one course is selected from this area, it must be BMB 280 or BIO 480.

- BIO 336 - Developmental Biology Credits: 4
- BIO 438 - Morphogenesis in Development and Disease Credits: 3
- BIO 441 - Microscopy Credits: 2
- BIO 450 - Histology Credits: 4
- BIO 474 - Neurobiology Credits: 3
- BIO 480 - Cell Biology Credits: 3
- BIO 483 - Cell Biology Laboratory Credits: 1
- BMB 280 - Introduction to Molecular and Cellular Biology Credits: 3
- BMB 300 - General Microbiology Credits: 3
- BMB 305 - General Microbiology Laboratory Credits: 2
- BMB 420 - Infectious Disease Credits: 3
- BMB 421 - Infectious Disease Laboratory Credits: 2
- L-BIO 336, BIO 450, BIO 483, BMB 305, BMB 421

II. Genetics

- BIO 350 - Concepts and Applications of Genetics Credits: 3
- BIO 462 - Principles of Genetics Credits: 3
- BMB 400 - Molecular Genetics Credits: 3
- BMB 490 - Microbial Genetics Credits: 5
- L- BMB 490

III. Physiology

- BIO 307 - Introduction to Neuroscience Credits: 3
- BIO 377 - Medical Physiology Credits: 3
- BIO 378 - Medical Physiology Laboratory Credits: 2
- BIO 452 - Plant Physiology Credits: 3
- BIO 479 - Endocrinology Credits: 3
- BIO 480 - Cell Biology Credits: 3
- BIO 483 - Cell Biology Laboratory Credits: 1
- BMB 430 - Bacterial Physiology Credits: 3
- BMB 431 - Bacterial Physiology Laboratory Credits: 1
- BMB 440 - Introductory Immunology Credits: 3
- BMB 441 - Introductory Immunology Laboratory Credits: 1
- SMS 485 - Comparative Animal Physiology Credits: 3
- L - BIO 378, BIO 483, BMB 431, BMB 441
- A - BIO 307, BIO 377, BIO 479, BMB 440, SMS 485
- P - BIO 452

IV. Biodiversity and Evolution

- BIO 310 - Plant Biology Credits: 4

- BIO 326 - General Entomology Credits: 4
- BIO 329 - Vertebrate Biology Credits: 3
- BIO 331 - Vertebrate Biology Laboratory Credits: 1
- BIO 335 - Human Anatomy Credits: 4
- BIO 342 - Plants in Our World Credits: 3
- BIO 353 - Invertebrate Zoology Credits: 4
- BIO 430 - Ecology and Systematics of Aquatic Insects Credits: 4
- BIO 432 - Biology of the Fungi Credits: 4
- BIO 433 - Mammalogy Credits: 4
- BIO 464 - Taxonomy of Vascular Plants Credits: 4
- BIO 465 - Evolution Credits: 3
- SFR 439 - Plant Anatomy Structure and Function Credits: 3
- SMS 373 - Marine and Freshwater Algae Credits: 4
- L- BIO 310, BIO 326, BIO 331, BIO 335, BIO 353, BIO 430, BIO 432, BIO 433, BIO 464, SFR 439, SMS 373
- A - BIO 326, BIO 329, BIO 335, BIO 353, BIO 430, BIO 433
- P - BIO 310, BIO 342, BIO 432, BIO 464, SFR 439, SMS 373

V. Ecology and Behavior

If only one course is selected from this area, it must be BIO 319, SMS 300, or WLE 200, only one of which may be taken for degree credit.

- BIO 205 - Field Natural History of Maine Credits: 4
- BIO 319 - General Ecology Credits: 3
- BIO 327 - Introductory Applied Entomology Credits: 4
- BIO 354 - Animal Behavior Credits: 3
- BIO 355 - Animal Behavior Laboratory Credits: 2
- BIO 434 - Avian Biology and Ecology Credits: 3
- BIO 437 - Avian Biology and Ecology Laboratory Credits: 1
- BIO 447 - Experimental Ecology Credits: 4
- BIO 455 - Biological Invasions Credits: 4
- BIO 463 - River Ecology Credits: 4
- BIO 468 - Lake Ecology Credits: 3
- BIO 476 - Paleoecology Credits: 4
- EES 140 - Soil Science Credits: 3
- EES 141 - Soil Science Laboratory Credits: 1
- EES 475 - Field Studies in Ecology Credits: 1-3
- INT 482 - (SBE, PSE) Pesticides and the Environment Credits: 3
- PSE 320 - Soil Organic Matter Management Credits: 3
- PSE 457 - Plant Pathology Credits: 4
- SMS 300 - Marine Ecology Credits: 3
- WLE 200 - Ecology Credits: 3
- WLE 201 - Ecology Laboratory Credits: 3
- WLE 423 - Wetland Ecology and Conservation Credits: 4
- L - BIO 205, BIO 327, BIO 355, BIO 437, BIO 447, BIO 463, BIO 476, EES 141, EES 475, PSE 457, WLE 201, WLE 423
- A - BIO 327, BIO 354, BIO 434
- P - PSE 457

Affiliated Sciences and Math

- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1

Organic Chemistry Option 1

- BMB 221 - Organic Chemistry Credits: 3
 - BMB 222 - Laboratory in Organic Chemistry Credits: 1
- Total Organic Chemistry Credits: 4

Organic Chemistry Option 2

- CHY 251 - Organic Chemistry I Credits: 3
 - CHY 253 - Organic Chemistry Laboratory I Credits: 2
 - BMB 322 - Biochemistry Credits: 3
 - BMB 323 - Biochemistry Laboratory Credits: 2
- Total Organic Chemistry Credits: 10

Organic Chemistry Option 3

- CHY 251 - Organic Chemistry I Credits: 3
 - CHY 253 - Organic Chemistry Laboratory I Credits: 2
 - CHY 252 - Organic Chemistry II Credits: 3
 - CHY 254 - Organic Chemistry Laboratory II Credits: 2
- Total Organic Chemistry Credits: 10

Mathematics

- MAT 126 - Calculus I Credits: 4
- OR**
- STS 232 - Principles of Statistical Inference Credits: 3
- Total Mathematics Credits: 7

Physics Option 1

- PHY 105 - Descriptive Physics Credits: 4
- Total Physics Credits: 4

Physics Option 2

- PHY 111 - General Physics I Credits: 4
- PHY 112 - General Physics II Credits: 4

-Total Physics Credits: 8

Other Requirements for the B.A. in Botany

Students are required to develop an enriched international perspective. This may be done by (1) establishing proficiency in a foreign language at the intermediate level, (2) completing at least one semester in a University of Maine approved foreign exchange program, or (3) completing nine credits in General Education courses in Cultural Diversity and International Perspectives. In addition, the College of Natural Sciences, Forestry, and Agriculture requires 27 credits of General Education course in human Values and Social Context for the B.A. and at least 12 credits must be at the 200 level or above.

Courses in Suggested Sequence for the B.A. in Botany

First Year - First Semester

- BIO 100 - Basic Biology Credits: 4
- CHY 121 - Introduction to Chemistry Credits: 3

Enrollment in CHY 121 requires readiness for MAT 122 or equivalent. Students who are not ready to take MAT 122 or its equivalent take CHY 121 in the second year.

with

- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- ENG 101 - College Composition Credits: 3
- General Education Requirement¹ Credits: 3
- MAT 122 - Pre-Calculus Credits: 4
- NFA 117 - Issues and Opportunities Credits: 1

First Year - Second Semester

- BIO 200 - Biology of Organisms Credits: 4
- CHY 122 - The Molecular Basis of Chemical Change Credits: 3

with

- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
- ENG 101 - College Composition Credits: 3
- If not taken in the first semester
- General Education Requirement¹ Credits: 3-6

Second Year - First Semester

- BMB 221 - Organic Chemistry Credits: 3 (see Footnote 3)

with

- BMB 222 - Laboratory in Organic Chemistry Credits: 1

- STS 232 - Principles of Statistical Inference Credits: 3 (see Footnote 4)
- Biological Sciences Area Choice² Credits: 3
- General Education Requirement or Elective Credits: 3
- International Perspective⁵ Credits: 3

Second Year - Second Semester

- Biological Sciences Area Choice¹ Credits 3-5
- International perspective⁵ Credits: 3
- General Education Requirement or Elective Credits 6-9

Third Year - First Semester

- PHY 105 - Descriptive Physics Credits: 4 (see Footnote 6)
- Biological Sciences Area Choice² Credits: 2-4
- International Perspective⁵ Credits: 3
- General Education Requirement or Elective Credits: 3

Third Year - Second Semester

- General Education Requirement or Elective Credits: 3-12
- Biological Sciences Area Choice² Credits: 3-4

Fourth Year - First Semester

- Biological Sciences Area Choice² Credits: 3-4
- Capstone⁷ Credits: 3
- General Education Requirements or Elective Credits: 7-10

Fourth Year - Second Semester

- Biological Sciences Area Choice² Credits 3-10
- General Education Requirements or Electives Credits: 4-12

Footnotes

¹ See the General Education requirements for all students at the University. If BIO 400 (Biological Sciences Writing Intensive) is used to satisfy the General Education Writing Intensive in the major requirement, then it must be taken in conjunction with a selected upper-level BIO course (see listings in Schedule of Classes), usually during the third or fourth year.

² See above lists of courses in the five Biological Sciences Areas and follow requirements for total number of credits, number of credits per area, number of courses with laboratories (L), and number of plant (P) courses in areas III-V.

³ Alternatively, students may take CHY251/253 and BMB 322/323 or CHY 251/253 and 252/254.

⁴ Alternatively, students may take MAT 126.

⁵ See Other Requirements for the B.A. degree above for ways to satisfy this requirement for the B.A. degree.

⁶ Alternatively, students may take PHY 111 and 112.

⁷The General Education capstone experience may be completed with BIO 388, 392, 402, 438, 447, 450, 463, or HON 499.

Concentration in Ecology

This concentration is intended for students interested in exposure to ecological principles within the context of a rigorous biological sciences curriculum. Students in this concentration must meet all of the requirements for the Botany B.A. degree. The concentration also includes WLE 220 Introduction to Statistical Ecology and a requirement for a course on environmental influences. A total of 29-35 credits are required to complete the concentration depending on the selections made for each of the requirements.

Specific requirements:

1. Affiliated Sciences and Math

- WLE 220 - Introduction to Ecological Statistics Credits: 4
- This course can substitute for STS 232-Principles of Statistical Inference.

2. Area I. Cell and Molecular Biology

- Free choice among Area I courses in the Botany curriculum Credits: 3-4

3. Area II. Genetics

- Free choice among Area II courses in the Botany curriculum Credits: 3-5

4. Area III. Physiology

- Free choice among Area III courses in the Botany curriculum Credits: 3

5. Area IV. Biodiversity

- BIO 465 - Evolution Credits: 3
- Plus 3 additional credits chosen from the courses in Area IV in the Botany curriculum Credits 6-7

6. Area V. Ecology and Behavior

- BIO 319 - General Ecology Credits: 3
- SMS 300 - Marine Ecology Credits: 3
- WLE 200 - Ecology Credits: 3
- You are required to take one of the above: BIO 319, SMS 300, or WLE 200
- Plus 3 additional credits from the following courses:
- 6-7 Total Credits
- BIO 205 - Field Natural History of Maine Credits: 4
- BIO 327 - Introductory Applied Entomology Credits: 4
- BIO 354 - Animal Behavior Credits: 3
- BIO 355 - Animal Behavior Laboratory Credits: 2

- BIO 434 - Avian Biology and Ecology Credits: 3
- BIO 437 - Avian Biology and Ecology Laboratory Credits: 1
- BIO 447 - Experimental Ecology Credits: 4
- BIO 455 - Biological Invasions Credits: 4
- BIO 463 - River Ecology Credits: 4
- BIO 468 - Lake Ecology Credits: 3
- BIO 476 - Paleocology Credits: 4
- EES 475 - Field Studies in Ecology Credits: 1-3
- PSE 457 - Plant Pathology Credits: 4
- PSE 469 - Soil Microbiology Credits: 3
- SFR 457 - Tree Pests and Disease Credits: 3
- WLE 201 - Ecology Laboratory Credits: 3
- WLE 423 - Wetland Ecology and Conservation Credits: 4

7. Primary and Secondary Producers

Choose at least one course labeled A and one labeled P from Areas I-V in the Botany curriculum. These courses can also satisfy requirements in Areas I-V for the basic Botany major and so do not add to the number of credits needed beyond the basic Botany major.

8. Area VI. Environmental Influences

Three credits are required. Choose from these courses:

- EES 140 - Soil Science Credits: 3
- EES 141 - Soil Science Laboratory Credits: 1
- ERS 101 - Introduction to Geology Credits: 4
- ERS 102 - Environmental Geology Credits: 4
- ERS 108 - Beaches and Coasts Credits: 3
- INT 482 - (SBE, PSE) Pesticides and the Environment Credits: 3
- PSE 320 - Soil Organic Matter Management Credits: 3
- SFR 406 - Remote Sensing Image Interpretation and Forest Mapping Credits: 3

9. Field Experience

Choose at least one course from this list. This course can also satisfy one of the areas above.

- BIO 205 - Field Natural History of Maine Credits: 4
- BIO 355 - Animal Behavior Laboratory Credits: 2
- BIO 430 - Ecology and Systematics of Aquatic Insects Credits: 4
- BIO 437 - Avian Biology and Ecology Laboratory Credits: 1
- BIO 463 - River Ecology Credits: 4
- EES 475 - Field Studies in Ecology Credits: 1-3
- WLE 423 - Wetland Ecology and Conservation Credits: 4

10. Capstone

Choose one of these courses*:

- BIO 388 - Research Capstone in Biology Credits: 1-3
- BIO 392 - Independent Study Capstone in Biology Credits: 1-3
- BIO 447 - Experimental Ecology Credits: 4
- BIO 463 - River Ecology Credits: 4
- HON 499 - Honors Thesis Credits: 3

(Must be a topic in Biology and the thesis advisor should be in SBE).

11. Writing requirement (students in the Honors program are exempt)

One course required. Choose from the following courses*:

- ENG 212 - Persuasive and Analytical Writing Credits: 3
- ENG 317 - Business and Technical Writing Credits: 3

*These courses satisfy the general education writing intensive requirement and so do not add to the number of credits needed beyond the basic Botany major.

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 GPA in all CSD courses taken.

Required Course(s) for fulfilling Capstone Experience: CSD 491

Contact Information: 5724 Dunn Hall, Orono, ME 04469, 581-2403

The study of Communication Sciences and Disorders involves the examination of human communication, its development and disorders. The ability to communicate may be our most distinctive characteristic as a species. Human communication is essential to learning, work and social interaction. Communication disorders affect the way people talk and understand. These disorders range from simple sound substitutions to total impairment of the ability to use language. Impaired communication can affect every aspect of a person's life. Students who study communication sciences acquire a broad general background relevant to careers or graduate study in such fields as speech-language pathology, audiology, education, and health care.

The undergraduate program in Communication Sciences and Disorders at the University of Maine provides a general education in speech, language, and hearing sciences. In addition it prepares students for graduate study in the professions of speech-language pathology, audiology, and related fields. The Master's program in Communication Sciences and Disorders at the University of Maine is accredited by Council on Academic Accreditation (CAA) of the American Speech-Language-Hearing Association, 2200 Research Boulevard #310, Rockville, Maryland 20850, 800-498-2071 or 301-296-5700.

The Bachelor of Arts in Communication Sciences and Disorders

Majors must complete coursework in biological and physical sciences, mathematics and statistics, behavioral and/or social

sciences, basic normal communication and swallowing processes and nine credits in non-departmental cognate areas including PSY 100. A list of recommended courses is available from the Department. Students taking department courses to satisfy requirements within the Communication Sciences and Disorders major must have a cumulative GPA of C (2.0) or better in CSD courses.

All students in Communication Sciences and Disorders are expected to take advantage of the laboratory and service opportunities provided through the department's scientific laboratories as well as through the Conley Speech, Language and Hearing Center. Opportunities exist for students to observe clinical work, and develop research skills. Students are encouraged to speak with the department chair for more information.

Required Courses for Students in Communication Sciences and Disorders Program

Departmental Courses:

- CSD 130 - Introduction to Communication Sciences and Disorders Credits: 3
- CSD 300 - Clinical Observation in Communication Sciences and Disorders Credits: 1
- CSD 301 - Introduction to Clinical Audiology Credits: 3
- CSD 380 - Language Development Credits: 3
- CSD 383 - Anatomy and Physiology of the Speech Mechanism Credits: 3
- CSD 481 - Phonological Development and Phonetics Credits: 4
- CSD 482 - Neuroscience for Communication Disorders Credits: 3
- CSD 484 - Introduction to Speech Science Credits: 3
- CSD 487 - Disorders of Speech and Language Credits: 3
- CSD 490 - Senior Capstone: The Research Process Credits: 3
- CSD 491 - Senior Capstone: The Clinical Process Credits: 3

Courses external to the CSD department:

- LBR 200 - Information Literacy Credits: 3
- PSY 100 - General Psychology Credits: 3
- One course in Statistics Credits: 3
- One course in Biological Science Credits: 3-4
- one course in Physical Science Credits: 3-4

Students also are required to complete:

In-depth Study in a specific area and Additional coursework in Communication, Diversity, and/or Ethics.

In-depth Study:

In-depth study involves at least 12 semester credit hours (with at least 9 at 200-level or higher) in a specific area. This may be accomplished through completion of a minor or second major. In-depth study coursework must be approved by the student's academic advisor.

Additional Coursework:

Additional coursework includes 9 semester credit hours (beyond courses taken to satisfy General Education) in two of the following three areas: 1) Communications, 2) Diversity, 3) Ethics. A list of possible courses that fulfill this requirement is available in the department office.

Suggested Curriculum for the BA in CSD

First Year-First Semester

- CSD 100 - Majoring in Communication Sciences and Disorders Credits: 1
- PSY 100 - General Psychology Credits: 3
- Physical Science Credits: 3-4
- General Education Credits: 3
- General Education Credits: 3

First Year-Second Semester

- CSD 130 - Introduction to Communication Sciences and Disorders Credits: 3
- Minor or Area of Concentration Credits: 3
- General Education Credits: 3
- General Education Credits: 3
- Math Credits: 3

Second Year-First Semester

- CSD 380 - Language Development Credits: 3
- LBR 200 - Information Literacy Credits: 3
- General Education Credits: 3
- General Education Credits: 3
- General Education Credits: 3

Second Year- Second Semester

- Biological Science Credits: 3-4
- Minor or Area of Concentration Credits: 3
- General Education Credits: 3
- General Education Credits: 3
- General Education Credits: 3

Third Year-First Semester

- CSD 301 - Introduction to Clinical Audiology Credits: 3
- CSD 383 - Anatomy and Physiology of the Speech Mechanism Credits: 3
- STS 232 - Principles of Statistical Inference Credits: 3
- Minor or Area of Concentration Credits: 3

- General Elective Credits: 3

Third Year-Second Semester

- CSD 300 - Clinical Observation in Communication Sciences and Disorders Credits: 1
- CSD 482 - Neuroscience for Communication Disorders Credits: 3
- CSD 487 - Disorders of Speech and Language Credits: 3
- General Education Credits: 3
- General Education Credits: 3
- General Elective Credits: 3

Fourth Year-First Semester

- CSD 481 - Phonological Development and Phonetics Credits: 4
- CSD 490 - Senior Capstone: The Research Process Credits: 3
- General Education Credits: 3
- Minor or Area of Concentration Credits: 3
- General Elective Credits: 3

Fourth Year-Second Semester

- CSD 484 - Introduction to Speech Science Credits: 3
- CSD 491 - Senior Capstone: The Clinical Process Credits: 3
- General Elective Credits: 3
- General Elective Credits: 3
- General Elective Credits: 3

Earth Sciences

OVERVIEW OF DEGREE REQUIREMENTS - Earth 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.

Minimum Number of credits in departments other than Earth and Climate Sciences: 72 credits outside of the department with 27 of those credits in the Human Values and Social Contexts area of the General Education requirements, with 12 of those credits at the 200 and above level.

Required Course(s) for fulfilling Capstone Experience: ERS 499

Contact Information: Alice R. Kelley, Undergraduate Coordinator, 111 Bryand Global Science Center, 207-581-2056, akelley@maine.edu

OVERVIEW OF DEGREE REQUIREMENTS ■ Earth Sciences B.S.

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 499

Contact Information: Alice R. Kelley, Undergraduate Coordinator, 111 Bryand Global Science Center, 207-581-2056, akelley@maine.edu

The School of Earth and Climate Sciences offers a B.A. degree in Earth Sciences and a B.S. degree in Earth Sciences with an Earth Sciences or Climate Sciences concentration. We also offer an Earth and Environmental Sciences Concentration through the B.S. in the Ecology and Environmental Sciences program. Our program also provides a wide range of courses accessible to the non-major interested in the Earth and our environment. Our curriculum is designed to prepare majors for careers in Earth Science-related fields, as well as to provide all students with the knowledge they need to address future environmental challenges. Our website, <http://www.umaine.edu/earthclimate>, describes career opportunities in detail, the role of Earth Sciences in society, and what to expect as a major.

Our courses focus on the fundamental physical and chemical processes that shape the surface and interior of our planet - today, in the past, and into the future. Specific content areas include climate change, geodynamics (e.g., plate tectonics and mountain-building), marine geology and coastal processes, environmental geology, and Earth materials (e.g., ice, rocks, and minerals). The curriculum is designed so that many upper division courses are available to students without extensive prerequisites. We also encourage students to become involved in faculty and graduate student research projects. We welcome students in the Honors College to pursue a B.A. or B.S. degree in Earth Sciences and focus their honors thesis on an appropriate topic.

Several of our courses satisfy General Education requirements:

Applications of Scientific Knowledge - ERS 100, 103, 108, 110, 191

Lab in the Basic or Applied Sciences - ERS 101, 102, 110/111, 151, 200, 201

Population and the Environment - ERS 102, 103, 108, 110, 121, 191, 201, 441

Writing Intensive - ERS 315, 316, 441

Quantitative Literacy - ERS 191, 240

B.A. or B.S. Earth Sciences graduates from our program are prepared to enter directly into education, industry, or federal and state agencies. A B.S. is typically required to enter graduate school in Earth Sciences. All ERS students must complete the University General Education requirements, a group of required core courses (ERS 100 or ERS 101 or ERS 102 or ERS 103 or ERS 108 or ERS 121 or ERS 151 or ERS 191; ERS 200; ERS 201; ERS 312; ERS 315; ERS 317; ERS 320; ERS 330; ERS 361; ERS 499), and ancillary mathematics and science requirements specific to their program. The College of Natural Sciences,

Forestry and Agriculture also requires all students to complete NFA 117, usually in their first year in the School. A wide range of elective courses are available for each program.

B.A. students are also required to complete ERS 316, ERS 330, and 12 credits of ERS courses at the 200 level or above. Ancillary requirements for the B.A. are: MAT 126; CHY 121/123; PHY 111 or PHY 121. University regulations stipulate that B.A. students must complete 72 credits outside the School of Earth and Climate Sciences. Also required are 27 credits in the Human Values and Social Contexts area of the General Education requirements, with 12 of those credits at the 200 and above level.

B.S. students with an Earth Sciences Concentration are also required to complete ERS 316, and 12 credits of ERS courses at the 200 level or above. Ancillary requirements for the B.S. are: MAT 126; MAT 127; MAT 232; CHY 121/123; CHY 122/124; PHY 111 or PHY 121; PHY 112 or PHY 122; COS 125 or COS 215 or COS 220 or ERS 230 or ERS 350 or ERS 420 (If an ERS course is used, it may not also be used to satisfy the ERS elective requirement). The requirements leave sufficient opportunity for students to complete a minor in another field.

B.S. students with a Climate Sciences Concentration are also required to complete ERS 121, SMS 100 or 110, ERS 240 and 12 credits of electives from an approved list of courses (see Department website). Ancillary requirements for the B.S. are: MAT 126; MAT 127; MAT 232; CHY 121/123; CHY 122/124; PHY 111 or PHY 121; PHY 112 or PHY 122; COS 125 or COS 215 or COS 220 or ERS 230 or ERS 350 or ERS 420 (If an ERS course is used, it may not also be used to satisfy the ERS elective requirement). The requirements leave opportunity for students to complete a minor in another field.

Required Courses in Suggested Sequence for B.S. in Earth Sciences (15 Credits/Semester)

Suggested Curriculum for a B.S. in Earth Sciences, with an Earth Systems Concentration (for students pursuing a B.A., electives can replace courses that are not required). Note that many upper division ERS courses are offered only in alternate years.

First Year - First Semester

- ERS 101 - Introduction to Geology Credits: 4
 - or
 - ERS 102 - Environmental Geology Credits: 4
- OR**
- ERS 151 - Experiencing Earth Credits: 4
 - MAT 126 - Calculus I Credits: 4
 - NFA 117 - Issues and Opportunities Credits: 1
 - ENG 101 - College Composition Credits: 3
 - General Education Requirement Credits: 6-7

First Year - Second Semester

- ERS 201 - Global Environmental Change Credits: 4
- MAT 127 - Calculus II Credits: 4
- General Education Requirement Credits: 6-7

Second Year - First Semester

- ERS 200 - Earth Systems Credits: 4
- ERS 230 - Earth and Climate Science Geomatics Credits: 4

OR

- General Education Requirement Credits: 3-4
- CHY 121 - Introduction to Chemistry Credits: 3

AND

- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- STS 232 - Principles of Statistical Inference Credits: 3

Second Year - Second Semester

- ERS 201 - Global Environmental Change Credits: 4
- ERS 330 - Earth Materials Credits: 4
- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
- Electives (may include ERS Electives) Credits: 3-6

OR

- General Education Requirements Credits: 4-5

Third Year - First Semester

- ERS 315 - Principles of Sedimentology and Stratigraphy Credits: 4

OR

- ERS 316 - Structural Geology Credits: 4

- ERS 320 - Research Seminar in Earth and Climate Sciences Credits: 1

- PHY 111 - General Physics I Credits: 4

OR

- PHY 121 - Physics for Engineers and Physical Scientists I Credits: 4

- General Education Requirement (if necessary) Credits: 6

OR

- ERS Electives Credits: 6

Third Year - Second Semester

- ERS 312 - Geochemistry Credits: 3

OR

- ERS 317 - Introduction to Geophysics Credits: 3

- PHY 112 - General Physics II Credits: 4

OR

- PHY 122 - Physics for Engineers and Physical Scientists II Credits: 4

- Electives (may include ERS Electives) Credits: 6-8

Third Year (or Fourth Year) - Summer

- ERS 499 - Field Experience in Earth and Climate Sciences Credits: 4-6

Fourth Year - First Semester

- Electives (may include ERS Electives) - Credits: 12-15
- General Education Requirement (if necessary) - Credits: 3

Fourth Year - Second Semester

- ERS 312 - Geochemistry Credits: 3
- OR
- ERS 317 - Introduction to Geophysics Credits: 3
 - Electives (may include ERS Electives) Credits: 12
 - General Education Requirement (if necessary) Credits: 3

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: Julie Eubanks, Program Coordinator, 246 Nutting Hall, (207) 581-3176, ees@maine.edu

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;
- IX. Free Electives.

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.

1. Ecology and Environmental Sciences (15 credits)

All students in the program take the core courses, beginning with EES 117. The capstone experience for majors is accomplished by the completion of EES 489. Students should not take the capstone course until fall of their senior year. Honors students meet the requirement for EES 490 through satisfactory completion of their Honors Directed Study and Thesis (HON 498/499). A minimum grade of C is required for EES 489.

- EES 100 - Human Population and the Global Environment Credits: 3
 - EES 117 - Introduction to Ecology and Environmental Sciences Credits: 2
 - EES 217 - The Acadia Lessons Project: Field Problems in EES Credits: 0-1
 - EES 489 - Critical Issues in Ecology and Environmental Sciences Policy Credits: 4 (must be taken senior year)
 - EES 490 - Senior Seminar Credits: 3
 - PSE 121 - Human Societies, Soil and Water: The Unbreakable Link Credits: 3
- or**
- PHI 232 - Environmental Ethics Credits: 3
- or**
- ECO 381 - Sustainable Development Principles and Policy Credits: 3

2. Biological and Ecological Sciences (7 credits)

- BIO 100 - Basic Biology Credits: 4
 - WLE 200 - Ecology Credits: 3
- or**
- SMS 300 - Marine Ecology Credits: 3

See Footnote 1

or

- BIO 319 - General Ecology Credits: 3

Note: Some concentrations require BIO 200. Please see concentration requirements. Students should also be aware that BIO 200 is a prerequisite for many upper level science electives.

3. Social Sciences (6 credits)

- EES 324 - Environmental Protection Law and Policy Credits: 3

or

- SFR 446 - Forest Resources Policy Credits: 3

See Footnote 2

or

- SMS 230 - Introduction to Marine Policy and Fisheries Management Credits: 3

See Footnote 3

- SFR 220 - Environment and Society Credits: 3 See Footnote 4

or

- ECO 180 - Citizens, Energy & Sustainability Credits: 3

4. Physical and Chemical Sciences (16 credits)

- CHY 121 - Introduction to Chemistry Credits: 3

and

- CHY 123 - Introduction to Chemistry Laboratory Credits: 1

and

- CHY 122 - The Molecular Basis of Chemical Change Credits: 3

and

- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1

- ERS 101 - Introduction to Geology Credits: 4

or

- ERS 102 - Environmental Geology Credits: 4

or

- ERS 108 - Beaches and Coasts Credits: 3

or

See footnote 5

- SMS 108 - Beaches and Coasts Credits: 3

See footnote 6

- EES 140 - Soil Science Credits: 3

and

- EES 141 - Soil Science Laboratory Credits: 1

5. Quantitative and Information Skills (6-7 credits)

- STS 232 - Principles of Statistical Inference Credits: 3
 - or**
 - WLE 220 - Introduction to Ecological Statistics Credits: 4
 - or**
 - SFR 205 - Forest Measurements and Statistics Credits: 3
- See footnote 7
- SFR 400 - Applied Geographic Information Systems Credits: 4
 - or**
- See footnote 8
- ERS 230 - Earth and Climate Science Geomatics Credits: 4

NOTE: A minimum of 3 additional math credits are required. Please see concentrations for specific math requirements.

6. Communication Skills (9 credits)

- ENG 101 - College Composition Credits: 3
-
- ENG 212 - Persuasive and Analytical Writing Credits: 3
- OR**
- ENG 315 - Research Writing in the Disciplines Credits: 3
- OR
- ENG 317 - Business and Technical Writing Credits: 3
-
- CMJ 103 - Fundamentals of Public Communication Credits: 3
- OR**
- CMJ 107 - Communication and the Environment Credits: 3
- OR
- SFR 222 - Environmental Communication Skills Credits: 3

NOTE: Students must earn a grade of C or better in College Composition. Honors students meet their English Composition requirement by completing the first-year Honors sequence with a minimum grade of C.

7. General Education

General Education requirements for mathematics, science and writing competency, a capstone experience, and ethics are met by the EES curriculum as outlined above. In addition, students must complete coursework in the following areas:

Human Values and Social Context (18 credits)

As part of the General Education requirements of the University of Maine, all undergraduates must complete the Human Values and Social Context (HVSC) requirement. Students must take at least three credits from each of five sub-categories. Depending on course choices, Social Context and Institutions *or* Western Cultural Traditions category is met within the EES core requirements. The Population and the Environment category is also met within the EES core requirements. Each student must complete electives in the remaining sub-categories (below) from an approved list:

- * Western Cultural Tradition (3 cr.) **OR** Social Contexts and Institutions (3 cr.)
- * Cultural Diversity and International Perspectives (3 cr.)
- * Artistic and Creative Expression (3 cr.)

Completion of the Civilizations Sequence (HON 111, 112, 211 & 212) will satisfy all areas of the Human Values and Social Contexts (HSVC) general education requirement for 16 of the 18 required credits and the ethics requirement.

8. Program Concentrations

In addition to the core requirements that establish the basic foundation, each student must complete one concentration of study in the program. At a minimum, a concentration will entail 21 credits of course work with at least 15 credits being 300 or 400 level (Junior or Senior) courses. Courses taken as part of the core curriculum cannot be counted towards concentration requirements. For example, if a student chooses SFR 220 to meet the EES Social Science core requirement, that course cannot be counted towards the Sustainability, Environmental Policy, and Natural Resource Management Concentration. Students must earn a minimum grade of C in all courses that are included in the concentration. Students work with an academic advisor to choose the combination of concentration courses that best meets the student's academic goals. Some concentration courses may have required prerequisites which are not EES program requirements, but which must be completed before the concentration course is taken. Substitutions may be made for courses in the approved lists below with approval of the student's academic advisor and the undergraduate coordinator. For well-qualified seniors, graduate courses may also be used with the approval of the advisor and the course instructor.

Footnotes:

¹ Students in the Ecosystems Ecology Marine Ecosystems option must take SMS 300

² Only students in the Ecosystems Ecology Forest Ecosystems option take SFR 446

³ Only students in Ecosystems Ecology Marine Ecosystems option take SMS 230

⁴ Students in the Ecosystems Ecology Forest Ecosystems option take SFR 220

⁵ Only students in Ecosystems Ecology Marine Ecosystems option take ERS108

⁶ Only students in Ecosystems Ecology Marine Ecosystems option take SMS 108

⁷ Only students in the Ecosystem Ecology Forest Ecosystems option take SFR 205

⁸ Students in the Ecosystem Ecology Forest Ecosystems option must take SFR 400

EARTH AND ENVIRONMENTAL SCIENCES

Students in the Earth and Environmental Sciences concentration will study in depth environmental processes from an earth science perspective with a focus on the physical and chemical processes associated with freshwater systems. Knowledge gained through this concentration will be applicable to many socially relevant environmental challenges including: climate and land use change, water quality problems, and water supply issues. This concentration is intended to prepare students for careers in environmental consulting, regulatory or conservation work in both government and NGO sectors, or to prepare students for graduate study in related areas.

Required Courses (15 credits)

- ERS 121 - Humans and Global Change Credits: 3
 - ERS 201 - Global Environmental Change Credits: 4
 - MAT 126 - Calculus I Credits: 4
 - PHY 111 - General Physics I Credits: 4
- or**
- PHY 121 - Physics for Engineers and Physical Scientists I Credits: 4

Concentration Electives (21 credits)

Students must take 21 total credits, 15 of which are 300-400 level classes.

Environmental Earth Science (9 credits minimum)

- ERS 200 - Earth Systems Credits: 4
- ERS 210 - Geology Applied to Engineering Credits: 3
- ERS 315 - Principles of Sedimentology and Stratigraphy Credits: 4
- ERS 323 - Extreme Weather Credits: 3
- ERS 330 - Earth Materials Credits: 4
- ERS 361 - The Principles of Geomorphology Credits: 3
- ERS 369 - Energy Resources and Climate Change Credits: 3
- ERS 420 - Computer Scripting for Data Analysis Credits: 3
- ERS 441 - Glaciers and Our Landscape Credits: 3
- ERS 552 Geomorphology Credits: 2-3 (see Graduate Catalog for course description)

Hydrology and Geochemistry (6 credit minimum)

- CIE 331 - Fundamentals of Environmental Engineering Credits: 3
- CIE 431 - Pollutant Fate and Transport Credits: 4
- ERS 312 - Geochemistry Credits: 3
- ERS 350 - Fresh-Water Flow Credits: 3
- ERS 512 - Low Temperature-Pressure Geochemistry Credits: 3
- ERS 580 - Intro to Hydrogeology Credits: 3
(see Graduate Catalog for course descriptions)

Soil and Ecological Sciences (3 credits minimum)

- BIO 468 - Lake Ecology Credits: 3
- INT 482 - (SBE, PSE) Pesticides and the Environment Credits: 3
- WLE 413 - Wetland Delineation and Mapping Credits: 4
- PSE 440 - Environmental Soil Chemistry and Plant Nutrition Credits: 3
- PSE 442 - Pedology: The Science of Soil Morphology, Genesis and Classification Credits: 3
- PSE 469 - Soil Microbiology Credits: 3
- WLE 423 - Wetland Ecology and Conservation Credits: 4

ECOSYSTEM ECOLOGY

- ECOSYSTEM ECOLOGY
- ECOSYSTEM ECOLOGY - Aquatics and Wetlands Systems Option
- ECOSYSTEM ECOLOGY - Forest Ecosystems Option

- **ECOSYSTEM ECOLOGY - Marine Ecosystems Option**

There are four focus options within the Ecosystem Ecology concentrations (see 1-4 above). Building on the core courses in biological and ecological sciences, students in these concentrations study in depth natural processes and ecological interactions. They reflect the tremendous depth of faculty resources in ecology at the University of Maine and are designed to prepare students for both advanced study and professional work in ecology. Students in the EES Ecosystem Ecology Concentration may choose a generalist option with elective course selections presenting a broad array of ecosystems or a focused option on a specific ecosystem of interest to the student.

Required courses (12 credits)

- BIO 200 - Biology of Organisms Credits: 4

or

- SMS 201 - Biology of Marine Organisms Credits: 3

and

See footnote 1A

- SMS 203 - Introduction to Integrative Marine Science Credits: 1 See footnote 1A
- BIO 205 - Field Natural History of Maine Credits: 4
- MAT 122 - Pre-Calculus Credits: 4

or

- MAT 126 - Calculus I Credits: 4

Concentration Electives (20-24 credits, 15 of which must be 300-400 level courses)

Ecosystems (8-11 credits)

- BIO 447 - Experimental Ecology Credits: 4
- BIO 463 - River Ecology Credits: 4
- BIO 468 - Lake Ecology Credits: 3
- EES 475 - Field Studies in Ecology Credits: 1-3
- SFR 407 - Forest Ecology Credits: 3
- SFR 408 - Silviculture Credits: 3
- SFR 409 - Forest Ecology and Silviculture Field Laboratory Credits: 2
- SFR 508 - The Industrial Spruce-Fir Ecosystem Credits: 4 (see Graduate Catalog for description)
- SMS 100 - Introduction to Ocean Science Credits: 3
- SMS 352 - Semester-by-the-Sea: Marine Ecology Credits: 4
- SMS 354 - Thinking About the Ocean: A Question-based Approach to Learning Marine Sciences Credits: 3
- SMS 402 - Oceans and Climate Change Credits: 3
- WLE 423 - Wetland Ecology and Conservation Credits: 4

Note:

- Students following the Forest Ecosystems option must take SFR 407, 408 and 409 to fulfill their Ecosystems requirement.
- Students following the Wetland and Aquatic Sciences option must take BIO 463, BIO 468, and WLE 423 to fulfill their Ecosystems requirement
- Students following the Marine Ecosystems option must take SMS 100 and SMS 402 and one additional course from this list.

Organismal Ecology (3-4 credits)

- BIO 430 - Ecology and Systematics of Aquatic Insects Credits: 4
- BIO 433 - Mammalogy Credits: 4
- BIO 434 - Avian Biology and Ecology Credits: 3
- BIO 455 - Biological Invasions Credits: 4
- INT 308 - (SMS,WLE) Conservation and Ecology of Marine Mammals Credits: 3
- PSE 403 - Weed Ecology and Management Credits: 3
- SFR 439 - Plant Anatomy Structure and Function Credits: 3
- SFR 522 - Physiological Ecology of Plants Credits: 3 (See Graduate Catalog for description)
- SMS 322 - Biology of Marine Vertebrates Credits: 3
- SMS 373 - Marine and Freshwater Algae Credits: 4
- SMS 422 - Biology of Fishes Credits: 3
- SMS 480 - Semester-by-the-Sea: Biology of Marine Invertebrates Credits: 4
- SMS 481 - Semester-by-the-Sea: Design of Marine Organisms: Momentum, Mass and Information Transfer Credits: 4
- WLE 340 - Freshwater Fisheries Ecology and Management Credits: 3
- WLE 341 - Freshwater Fisheries Laboratory Credits: 1

Notes:

- Students following the Forest Ecosystems option must take SFR 439
- Students following the Aquatic and Wetlands Sciences option choose from SMS 422, SMS 373, WLE 340/341 or BIO 430
- Students following the Marine Ecosystems option choose from SMS 422, SMS 373, INT 308, SMS 322 or SMS 480

Genetics and Evolution (3 credits)

- BIO 350 - Concepts and Applications of Genetics Credits: 3
- BIO 462 - Principles of Genetics Credits: 3
- BIO 465 - Evolution Credits: 3
- SMS 425 - Applied Population Genetics Credits: 3

Note:

- Students following the Marine Ecosystems option take SMS 425

Additional Electives (6 credits)

Choose additional courses from the three areas above or from the list below.

- BIO 310 - Plant Biology Credits: 4
- BIO 326 - General Entomology Credits: 4
- BIO 329 - Vertebrate Biology Credits: 3

and

- BIO 331 - Vertebrate Biology Laboratory Credits: 1
- BIO 342 - Plants in Our World Credits: 3

- BIO 353 - Invertebrate Zoology Credits: 4
- BIO 354 - Animal Behavior Credits: 3
- BIO 432 - Biology of the Fungi Credits: 4
- BIO 452 - Plant Physiology Credits: 3
- BIO 464 - Taxonomy of Vascular Plants Credits: 4
- BIO 476 - Paleocology Credits: 4
- INT 482 - (SBE, PSE) Pesticides and the Environment Credits: 3
- PSE 440 - Environmental Soil Chemistry and Plant Nutrition Credits: 3
- PSE 442 - Pedology: The Science of Soil Morphology, Genesis and Classification Credits: 3
- PSE 444 - Field Soil Morphology and Classification Techniques Credits: 1
- PSE 457 - Plant Pathology Credits: 4
- PSE 469 - Soil Microbiology Credits: 3
- SFR 107 - Forest Vegetation Credits: 3
- SFR 406 - Remote Sensing Image Interpretation and Forest Mapping Credits: 3
- SFR 409 - Forest Ecology and Silviculture Field Laboratory Credits: 2

See footnote 2A.

Wetland and Aquatic option students see footnote 3A.

Marine Ecosystems option students see footnote 4A

- SFR 410 - Forest Regeneration Credits: 3
- SFR 439 - Plant Anatomy Structure and Function Credits: 3
- SFR 457 - Tree Pests and Disease Credits: 3
- SFR 458 - Tree Pests and Disease Lab Credits: 1
- SFR 520 - Development and Growth of Plants Credits: 3 (see Graduate catalog for description)
- SMS 321 - Introduction to Fisheries Science Credits: 3
- SMS 350 - Undergraduate Seminar Credits: 1-3
- SMS 482 - Semester-by-the-Sea: Human Impacts on the Ocean Credits: 3
- SMS 485 - Comparative Animal Physiology Credits: 3
- SMS 491 - Problems in Marine Science Credits: Ar
- SMS 497 - Independent Study in Marine Science Credits: 1-4
- WLE 413 - Wetland Delineation and Mapping Credits: 4
- WLE 323 - Introduction to Conservation Biology Credits: 3

Footnotes:

^{1A} Only students in Ecosystems Marine Ecosystems Option take SMS 201/203

^{2A} Students following the Forest Ecosystems option must take SFR 407, 408, and 409 to fulfill their Ecosystems requirement.

^{3A} Students following the Wetland and Aquatic Sciences option must take BIO 463, Bio 468, and WLE 423 to fulfill their Ecosystems

requirement.

^{4A} Students following the Marine Ecosystems option must take SMS 100 and SMS 402 and one additional course from this list.

NATURAL HISTORY AND ENVIRONMENTAL STUDIES

Natural history is a broad term involving the interest in and study of diverse aspects of the natural sciences (e.g., botany, zoology, geology, chemistry), historical geography, anthropology (human development and history within an ecological framework), and conservation. Environmental studies is an academic field that focuses on human interactions with the environment. This interdisciplinary concentration places more focus on the social sciences related to human-environment relationships and may include topics in ethics, policy, sociology, and philosophy as well as environmental sciences. Students will have familiarity with the diversity of life in all its forms to provide the foundation for a broadly trained naturalist. Building on the core courses in biological, ecological, and social sciences, students in this will be prepared for professional work in environmental non-government organizations, consulting firms, state and federal agencies, environmental education, as well as graduate study.

Required Courses (23-24 credits)

- MAT 122 - Pre-Calculus Credits: 4
- or**
- MAT 126 - Calculus I Credits: 4
 - BIO 200 - Biology of Organisms Credits: 4
 - BIO 205 - Field Natural History of Maine Credits: 4
 - BIO 326 - General Entomology Credits: 4
- or**
- BIO 353 - Invertebrate Zoology Credits: 4
 - BIO 329 - Vertebrate Biology Credits: 3
- and**
- BIO 331 - Vertebrate Biology Laboratory Credits: 1
 - BIO 464 - Taxonomy of Vascular Plants Credits: 4
- or**
- SFR 107 - Forest Vegetation Credits: 3

Concentration Electives (18 required credits)

18 required credits, 15 of which need to be 300 or 400 level classes

Protists, Fungi and Microbes (3-4 credits)

- BIO 432 - Biology of the Fungi Credits: 4
- BMB 300 - General Microbiology Credits: 3
- PSE 469 - Soil Microbiology Credits: 3
- PSE 457 - Plant Pathology Credits: 4
- SMS 373 - Marine and Freshwater Algae Credits: 4

Animal diversity (6-8 credits)

- BIO 354 - Animal Behavior Credits: 3
 - BIO 433 - Mammalogy Credits: 4
 - BIO 434 - Avian Biology and Ecology Credits: 3
 - SMS 321 - Introduction to Fisheries Science Credits: 3
 - SMS 322 - Biology of Marine Vertebrates Credits: 3
 - SMS 422 - Biology of Fishes Credits: 3
 - WLE 340 - Freshwater Fisheries Ecology and Management Credits: 3
- and**
- WLE 341 - Freshwater Fisheries Laboratory Credits: 1

Ecosystem diversity (3-4 credits)

- BIO 463 - River Ecology Credits: 4
- BIO 468 - Lake Ecology Credits: 3
- EES 475 - Field Studies in Ecology Credits: 1-3
- SFR 407 - Forest Ecology Credits: 3
- SFR 508 - The Industrial Spruce-Fir Ecosystem Credits: 4 (see Graduate Catalog for course description)
- WLE 423 - Wetland Ecology and Conservation Credits: 4

Environmental Humanities (6-8 credits)

- ANT 270 - Environmental Justice Movements in the United States Credits: 3
- ANT 420 - Human Impacts on Ancient Environments Credits: 3
- ANT 431 - Folklore, the Environment and Public Policy Credits: 3
- ANT 464 - Ecological Anthropology Credits: 3
- ANT 475 - Environmental Archaeology Credits: 3
- ECO 477 - Economics of Environmental and Resource Management Credits: 3
- ENG 238 - Nature and Literature Credits: 3
- HTY 210 - History of Maine Credits: 3
- HTY 211 - Maine and the Sea Credits: 3
- HTY 212 - Geography of Maine Credits: 3
- HTY 479 - U.S. Environmental History Credits: 3
- MES 301 - Rachel Carson, Maine, and the Environment Credits: 3
- SFR 452 - Environmental Interpretation Credits: 4
- WGS 230 - Women, Health, and the Environment Credits: 3
(Pre-requisite of WST 101 can be waived)

SOIL AND WATER SCIENCE

Students in this concentration will study soil biogeochemical and hydrologic processes in depth. Their understanding and skills will be useful in addressing many societal challenges, including climate and land use change, environmental protection, ecosystem services, food security, and energy production in a range of employment settings. In addition this concentration prepares students for advanced study in related areas.

Required Courses (12 credits)

- MAT 122 - Pre-Calculus Credits: 4
- or
- MAT 126 - Calculus I Credits: 4
- Note: MAT 126 is recommended, but not required, for this concentration.
- BIO 200 - Biology of Organisms Credits: 4

- BIO 205 - Field Natural History of Maine Credits: 4

Recommended Course

- MAT 127 - Calculus II Credits: 4

Electives (21 credits)

(21 credits, 15 of which need to be 300 or 400 level courses.)

Soil and Earth Science (9 credits)

- ERS 312 - Geochemistry Credits: 3
- ERS 315 - Principles of Sedimentology and Stratigraphy Credits: 4
- ERS 330 - Earth Materials Credits: 4
- PSE 320 - Soil Organic Matter Management Credits: 3
- PSE 440 - Environmental Soil Chemistry and Plant Nutrition Credits: 3
- PSE 442 - Pedology: The Science of Soil Morphology, Genesis and Classification Credits: 3
- PSE 444 - Field Soil Morphology and Classification Techniques Credits: 1
- PSE 469 - Soil Microbiology Credits: 3
- WLE 413 - Wetland Delineation and Mapping Credits: 4

Water Science and Hydrology (6 credits)

- BIO 468 - Lake Ecology Credits: 3
- CIE 331 - Fundamentals of Environmental Engineering Credits: 3
- CIE 431 - Pollutant Fate and Transport Credits: 4
- ERS 350 - Fresh-Water Flow Credits: 3

Additional Electives (6 credits)

Choose additional courses from the areas above or from the list below.

- EES 200 - Introduction to Safety and Environmental Management Credits: 3
- EES 450 - Principles of Environmental Science Credits: 3
- ERS 200 - Earth Systems Credits: 4
- ERS 201 - Global Environmental Change Credits: 4
- ERS 369 - Energy Resources and Climate Change Credits: 3
- ERS 420 - Computer Scripting for Data Analysis Credits: 3
- ERS 441 - Glaciers and Our Landscape Credits: 3

- INT 482 - (SBE, PSE) Pesticides and the Environment Credits: 3
- SFR 208 - Geomatics, Coordinate Geometry, and GPS Credits: 4
- SFR 406 - Remote Sensing Image Interpretation and Forest Mapping Credits: 3
- WLE 423 - Wetland Ecology and Conservation Credits: 4

SUSTAINABILITY, ENVIRONMENTAL POLICY, AND NATURAL RESOURCE MANAGEMENT

Building on the core courses in biological, ecological, and social sciences, students in this concentration study in depth interactions between human and natural systems. This concentration reflects the tremendous depth of faculty resources in anthropology, environmental economics, environmental policy, natural resource management, human ecology, human dimensions of natural resource management, and sustainability science at the University of Maine. This concentration is designed to prepare students for both advanced study and professional work in sustainability science, environmental policy, and natural resource management.

Recommended General Education courses

- ANT 102 - Introduction to Anthropology: Diversity of Cultures Credits: 3
 - ECO 381 - Sustainable Development Principles and Policy Credits: 3
- See footnote 1B
- POS 100 - American Government Credits: 3
 - POS 120 - Introduction to World Politics Credits: 3

Required Courses (10 credits)

- MAT 122 - Pre-Calculus Credits: 4
- or
- MAT 126 - Calculus I Credits: 4
 - ECO 120 - Principles of Microeconomics Credits: 3
 - ECO 377 - Introduction to Natural Resource Economics and Policy Credits: 3
- or
- ECO 477 - Economics of Environmental and Resource Management Credits: 3

Concentration Electives (18 credits)

18 credits total, 15 of which must be 300-400 level courses.

Must take a minimum of one or two courses in each of these three areas (Economics, Social, and Resource Management/Policy/Ecology).

Economics (3 credit minimum)

- ECO 405 - Sustainable Energy Economics & Policy Credits: 3
- ECO 450 - International Environmental Economics and Policy Credits: 3
- ECO 471 - Public Finance and Fiscal Policy Credits: 3
- ECO 479 - Land Use Planning Credits: 3
- SFR 444 - Forest Resources Economics Credits: 3

Social (3 credit minimum)

- ANT 225 - Climate Change, Societies and Cultures Credits: 3
 - ANT 250 - Conservation Anthropology: The Socio-Cultural Dimension of Environmental Issues Credits: 3
 - ANT 270 - Environmental Justice Movements in the United States Credits: 3
 - ANT 464 - Ecological Anthropology Credits: 3
 - ECO 312 - Current Issues and Ethical Perspectives: Energy, Law and the Environment Credits: 3
 - ECO 381 - Sustainable Development Principles and Policy Credits: 3
 - HTY 479 - U.S. Environmental History Credits: 3
 - SFR 220 - Environment and Society Credits: 3
 - SFR 471 - Principles of Tourism Management and Planning Credits: 3
 - WGS 230 - Women, Health, and the Environment Credits: 3
- See footnote 2B

Resource Management/Policy/Ecology (6 credit minimum)

- BIO 455 - Biological Invasions Credits: 4
- CIE 431 - Pollutant Fate and Transport Credits: 4
- CIE 439 - Solid Waste and Air Pollution Credits: 3
- EES 475 - Field Studies in Ecology Credits: 1-3
- INT 482 - (SBE, PSE) Pesticides and the Environment Credits: 3
- POS 203 - American State and Local Government Credits: 3
- POS 282 - Introduction to American Law Credits: 3
- PSE 105 - Principles of Sustainable Agriculture Credits: 3
- PSE 121 - Human Societies, Soil and Water: The Unbreakable Link Credits: 3
- PSE 312 - Sustainable Food Systems: Challenges and Opportunities Credits: 3
- PSE 320 - Soil Organic Matter Management Credits: 3
- PSE 403 - Weed Ecology and Management Credits: 3
- WLE 413 - Wetland Delineation and Mapping Credits: 4
- SFR 208 - Geomatics, Coordinate Geometry, and GPS Credits: 4
- SFR 215 - Introduction to Forest Bioproducts and Bioenergy Credits: 3
- SFR 226 - Park Systems of the World Credits: 3
- SFR 349 - Applied Forest Ecology and Silviculture Credits: 4
- SFR 406 - Remote Sensing Image Interpretation and Forest Mapping Credits: 3
- SFR 446 - Forest Resources Policy Credits: 3
- SMS 230 - Introduction to Marine Policy and Fisheries Management Credits: 3
- WLE 230 - Introduction to Wildlife Conservation Credits: 3

- WLE 323 - Introduction to Conservation Biology Credits: 3
- WLE 445 - Management of Endangered and Threatened Species Credits: 3
- WLE 470 - Wildlife Policy and Administration Credits: 3

Footnotes:

^{1B} Students following the Sustainability Concentration can take ECO 381 to satisfy their ethics requirement or a concentration elective, but the course cannot satisfy both requirements.

^{2B} Prerequisite for EGS 230 can be waived.

Individualized Concentration

In some cases, the defined concentrations may not meet the interests or career aspirations of students in the program. Students may develop and pursue an individualized concentration of study.

Individualized concentrations must deal with some aspect of ecology and environmental sciences as broadly reflected in the degree program. Individualized concentrations may not be developed for areas where degrees are already being offered at the University of Maine. So, for example, while “wildlife” is clearly part of natural ecosystems, this would not be an appropriate organizing concept for an individualized concentration since a degree program in wildlife ecology already exists at the University of Maine. Generally, the course work that makes up an individualized concentration should be largely drawn from courses offered at the University of Maine.

A student wishing to pursue an individualized concentration should do so in conjunction with an advisor who is a faculty member participating in the EES program. The student should prepare a brief proposal for the concentration, including a narrative explaining the organizing concept for the concentration and proposed name. The courses that will be taken to constitute the concentration should also be included. Individualized concentrations must include 21 credit hours of course work, at least 15 of which are at the 300 or 400 course level. An individualized concentration must be approved by the student’s academic advisor, the Undergraduate Coordinator, and the Director.

Required Courses in Suggested Sequence of the B.S. in Ecology and Environmental Sciences

Sequence varies widely depending on concentration. Students and advisors should carefully review curriculum and pay close attention to the timing of courses, prerequisites, etc.

First Year - First Semester (16 Credits)

- BIO 100 - Basic Biology Credits: 4
- ENG 101 - College Composition Credits: 3
- EES 117 - Introduction to Ecology and Environmental Sciences Credits: 2
- MAT 122 - Pre-Calculus Credits: 4

or

- MAT 126 - Calculus I Credits: 4
- Gen Ed (optional)

First Year - Second Semester (16-17 credits)

- BIO 200 - Biology of Organisms Credits: 4

or

- Gen Ed Credits: 3

See footnote 1C

- EES 100 - Human Population and the Global Environment Credits: 3
 - ERS 101 - Introduction to Geology Credits: 4
- or**
- ERS 102 - Environmental Geology Credits: 4

- SFR 220 - Environment and Society Credits: 3
- or**
- ECO 180 - Citizens, Energy & Sustainability Credits: 3
 - Gen Ed or Required Concentration Course Credits: 3

Second Year - First Semester (16 Credits)

- EES 217 - The Acadia Lessons Project: Field Problems in EES Credits: 0-1

See footnote 2C

- WLE 200 - Ecology Credits: 3

or

- SMS 300 - Marine Ecology Credits: 3

or

- BIO 319 - General Ecology Credits: 3

See footnote 3C

- SFR 222 - Environmental Communication Skills Credits: 3
- CHY 121 - Introduction to Chemistry Credits: 3

and

- CHY 123 - Introduction to Chemistry Laboratory Credits: 1

- ENG 317 - Business and Technical Writing Credits: 3

or

- ENG 212 - Persuasive and Analytical Writing Credits: 3
- Gen Ed **or** Concentration Credits: 3

Second Year - Second Semester (14-15 credits)

- BIO 319 - General Ecology Credits: 3

or

- Concentration Credits: 3

- CHY 122 - The Molecular Basis of Chemical Change Credits: 3

and

- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
- STS 232 - Principles of Statistical Inference Credits: 3

or

- WLE 220 - Introduction to Ecological Statistics Credits: 4

or

- SFR 205 - Forest Measurements and Statistics Credits: 3

See footnote 4C

- EES 140 - Soil Science Credits: 3

and

- EES 141 - Soil Science Laboratory Credits: 1

Third Year - First Semester (14-16 credits)

- EES 217 - The Acadia Lessons Project: Field Problems in EES Credits: 0-1

See footnote 2C

- EES 324 - Environmental Protection Law and Policy Credits: 3
- ECO 381 - Sustainable Development Principles and Policy Credits: 3

or

- PSE 121 - Human Societies, Soil and Water: The Unbreakable Link Credits: 3

or

- PHI 232 - Environmental Ethics Credits: 3
- Concentration Courses
- Free Electives

Third Year - Second Semester (14-16 Credits)

- SFR 400 - Applied Geographic Information Systems Credits: 4

or

- ERS 230 - Earth and Climate Science Geomatics Credits: 4 (fall course) (**or** Senior Year)
- PSE 121 - Human Societies, Soil and Water: The Unbreakable Link Credits: 3

or

See footnote 5C

- PHI 232 - Environmental Ethics Credits: 3
- Concentration Courses
- Free Electives

Fourth Year - First Semester (14-16 credits)

- EES 489 - Critical Issues in Ecology and Environmental Sciences Policy Credits: 4
- Concentration Courses
- Free Elective Courses

Fourth Year - Second Semester (14-16 credits)

- EES 490 - Senior Seminar Credits: 3
- Concentration Courses
- Free Elective Courses

Footnotes:

^{1C} BIO 200 required for all concentrations except for Earth and Environmental Sciences and Sustainability

^{2C} Students can take EES 217 in the first semester of their second or third year.

^{3C} Students in Ecosystem Ecology Marine Ecosystems must take SMS 300. BIO 319 is offered in the spring.

^{4C} Students in Ecosystems Ecology Forest Ecosystems Option must take SFR 205

^{5C} Students choose PSE 121 or PHI 232(spring course) or ECO 381 (fall course)

Required Courses in Suggested Sequence for the Honors Program of the B. S. in Ecology and Environmental Sciences

Sequence varies widely depending on concentration. Students and advisors should carefully review curriculum and pay close attention to timing of courses, prerequisites, etc.

First Year - First Semester (14 credits)

- BIO 100 - Basic Biology Credits: 4
 - EES 117 - Introduction to Ecology and Environmental Sciences Credits: 2
 - HON 111 - Civilizations: Past, Present and Future I Credits: 4
- See footnote 1D
- MAT 122 - Pre-Calculus Credits: 4
- or**
- MAT 126 - Calculus I Credits: 4
 - Additional Course (optional)

First Year - Second Semester (17-18 credits)

- BIO 200 - Biology of Organisms Credits: 4
- See footnote 2D
- Gen Ed **or** Required course Credits: 3
 - EES 100 - Human Population and the Global Environment Credits: 3
 - ERS 101 - Introduction to Geology Credits: 4
- or**
- ERS 102 - Environmental Geology Credits: 4
 - SFR 220 - Environment and Society Credits: 3
- or**
- ECO 180 - Citizens, Energy & Sustainability Credits: 3
 - HON 112 - Civilizations: Past, Present and Future II Credits: 4

Second Year - First Semester (17 credits)

- EES 217 - The Acadia Lessons Project: Field Problems in EES Credits: 0-1
- See footnote 3D
- WLE 200 - Ecology Credits: 3
- or**
- SMS 300 - Marine Ecology Credits: 3
- or**
- BIO 319 - General Ecology Credits: 3
- See footnote 4D
- SFR 222 - Environmental Communication Skills Credits: 3

- CHY 121 - Introduction to Chemistry Credits: 3
- and**
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
 - HON 211 - Civilizations: Past, Present and Future III Credits: 4
 - ENG 212 - Persuasive and Analytical Writing Credits: 3
- or**
- ENG 317 - Business and Technical Writing Credits: 3

Second Year - Second Semester (18-19 credits)

- BIO 319 - General Ecology Credits: 3
- or**
- Concentration Credits: 3
 - CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- and**
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
 - STS 232 - Principles of Statistical Inference Credits: 3
- or**
- WLE 220 - Introduction to Ecological Statistics Credits: 4
- or**
- SFR 205 - Forest Measurements and Statistics Credits: 3
- See footnote 5D
- EES 140 - Soil Science Credits: 3
- and**
- EES 141 - Soil Science Laboratory Credits: 1
 - HON 212 - Civilizations: Past, Present and Future IV Credits: 4

Third Year - First Semester (14-16 credits)

- EES 217 - The Acadia Lessons Project: Field Problems in EES Credits: 0-1
- See footnote 3D
- EES 324 - Environmental Protection Law and Policy Credits: 3
 - HON 3XX Honors Tutorial Credits: 3
 - Concentration Courses
 - Free Electives

Third Year - Second Semester (14-16 credits)

- SFR 400 - Applied Geographic Information Systems Credits: 4
- or**
- ERS 230 - Earth and Climate Science Geomatics Credits: 4 (offered in Fall)
- (can be taken senior year)
- Concentration Courses
 - Free Electives

Fourth Year - First Semester (13-15 credits)

- EES 489 - Critical Issues in Ecology and Environmental Sciences Policy Credits: 4
- HON 498 - Honors Directed Study Credits: 3
- Concentration courses
- Free Electives

Fourth Year - Second Semester (13-15 credits)

- HON 499 - Honors Thesis Credits: 3
- Concentration Courses
- Free Electives

^{1D} Students that don't complete the honors sequence should consult with his/her advisor to make sure general education requirements are met.

^{2D} BIO 200 required for all concentrations except for Earth and Environmental Sciences and Sustainability

^{3D} Students can take EES 217 in first semester of their second or third year

^{4D} Students in the Ecosystem Ecology Marine Ecosystems Option must take SMS 300. BIO 319 is a spring course

^{5D} Students in Ecosystem Ecology Forest Ecosystem Option must take SFR 205

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 ECO 120, ECO 121, ECO 321, and ECO 350 (or ECO 420), . A "C" or better is required in the capstone courses (ECO 489 or approved substitute).

Other GPA requirements to graduate: Economics (ECO) coursework must be completed with a 2.0 cumulative average.

Required Course(s) for fulfilling Capstone Experience: ECO 489 or approved substitute

Contact Information: Karen Moffet, School of Economics, 206 Winslow Hall, (207) 581-3154.

Programs in the School of Economics emphasize the application of economic reasoning to public policy development and to private decision-making. The curriculum in economics includes courses that focus on the understanding of both American economic institutions and international economic institutions. The faculty of the School of Economics brings a broad set of experiences and perspectives that provide students with diverse learning opportunities. At the undergraduate level, the program strives to develop in students the analytic skills that will prepare them to succeed in a variety of career or advanced educational settings.

The Bachelor of Arts in Economics is a program that trains students in economic analysis and the functioning of economic institutions. The program emphasizes public economic policy, both domestic and international. The major offers students valuable preparation for a variety of career paths. Students may design their programs of study:

- for immediate entry upon graduation into business, government, or other employment;
- for graduate education leading to a business administration or law degree;
- for graduate work in economics or related disciplines.

Students are required to work with their advisors on selecting appropriate economics electives in addition to the required economics core. Students are also encouraged to discuss career or graduate school preparation with their advisor.

B.A. Requirements

Students must complete a total of 27 credits in Human Values and Social Contexts, 12 credits of which must be at the 200 level or above. A minimum of 30 credits must be completed through the University of Maine at the 300 level or higher and a minimum of 18 economics (i.e. ECO) credits must be completed through the University of Maine at the 300 level or higher. Students must complete the following:

1. Economics Core Courses

B.A Requirements

- ECO 117 - Issues and Opportunities in Economics Credits: 1 (Level 1- not required for internal or external transfers)
- ECO 120 - Principles of Microeconomics Credits: 3
- ECO 121 - Principles of Macroeconomics Credits: 3
- ECO 217 - Issues and Opportunities in Economics II Credits: 1

Both ECO 217 and ECO 317 have been added to the core curriculum.

(ECO 117/217/317 may not be required for internal or external transfers)

- ECO 321 - Intermediate Macroeconomics Credits: 3
 - ECO 350 - Intermediate Microeconomic Theory Credits: 3
- or
- ECO 420 - Intermediate Microeconomic Theory with Calculus Credits: 3
 - ECO 366 - Applied Economic Data Analysis Credits: 3

2. Twenty-one (21) additional credit hours in ECO courses.

A minimum of nine (9) credits must be at the 300 level or higher, 6 of which must be at the 400 level or higher (not counting the core above or capstone). ECO 485, Introduction to Economic Statistics and Econometrics, is strongly recommended for students considering graduate study in economics.

3. Mathematics Requirement.

One of the following:

- MAT 115 - Applied Mathematics for Business and Economics Credits: 3
- MAT 122 - Pre-Calculus Credits: 4
- MAT 126 - Calculus I Credits: 4

4. Statistics Requirement.

One of the following:

- STS 215 - Introduction to Statistics for Business and Economics Credits: 3
- STS 232 - Principles of Statistical Inference Credits: 3
- STS 434 - Introduction to Statistics Credits: 4

5. Free Electives:

Students will complete approximately 28 credits of electives, depending on individual programs; 18 credits must be completed at the 300 level or higher though an exception will be made if a student has a double major or minor.

A Typical Four-year Program in Economics (BA)

(Listed below is the sequence for economics courses. Students meet with their Faculty Advisor to fill in remaining schedule with General Education courses, free electives and other requirements.)

First Year

- ECO 117 - Issues and Opportunities in Economics Credits: 1
- ECO 120 - Principles of Microeconomics Credits: 3
- ECO 121 - Principles of Macroeconomics Credits: 3
- Economics Elective Credits: 3

Second Year

- ECO 217 - Issues and Opportunities in Economics II Credits: 1
- ECO 321 - Intermediate Macroeconomics Credits: 3
- ECO 350 - Intermediate Microeconomic Theory Credits: 3
- or
- ECO 420 - Intermediate Microeconomic Theory with Calculus Credits: 3
- Economics Electives Credits: 3-6

Third Year

- ECO 366 - Applied Economic Data Analysis Credits: 3
- If required it is suggested you take ECO 317 this term.
Economics Elective Credits: 3-9

Fourth Year

- ECO 489 - Senior Seminar Credits: 3 or other approved capstone
- Economics Electives Credits: 3-9

B.S. Requirements

Overview of Degree Requirements - B.S.

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 ECO 120, ECO 121, ECO 321 and ECO 420. A "C" or better is required in the capstone course (ECO 489 or approved substitute).

Other GPA requirements to graduate: Economics (ECO) coursework must be completed with a 2.0 cumulative average.

Required Course(s) for fulfilling Capstone Experience: ECO 489 or approved substitute

Contact Information: Karen Moffet, School of Economics, 206 Winslow Hall, (207) 581-3154.

Programs in the School of Economics emphasize the application of economic reasoning to public policy development and to private decision-making. The curriculum in economics includes courses that focus on the understanding of both American economic institutions and international economic institutions. The faculty of the School of Economics brings a broad set of experiences and perspectives that provide students with diverse learning opportunities. At the undergraduate level, the program strives to develop in students the analytic skills that will prepare them to succeed in a variety of career or advanced educational settings.

The Bachelor of Science in Economics curriculum is designed to place a greater emphasis on analytical and mathematical techniques. The major offers students valuable preparation for a variety of career paths. Students may design their program of study:

1. for immediate entry upon graduation into business, government, or other employment;
2. for graduate education leading to a business administration or law degree;
3. for graduate work in economics or related disciplines.

Students are required to work with their advisors on selecting appropriate economics electives in addition to the required economics core. Students are also encouraged to discuss career or graduate school preparation with their advisor.

BS Requirements:

A minimum of 30 credits must be completed through the University of Maine at the 300 level or higher and a minimum of 18 economics (i.e. ECO) credits must be completed through the University of Maine at the 300 level or higher. Students must complete the following:

1. Economics Core Courses

- ECO 117 - Issues and Opportunities in Economics Credits: 1

- ECO 120 - Principles of Microeconomics Credits: 3
 - ECO 121 - Principles of Macroeconomics Credits: 3
 - ECO 217 - Issues and Opportunities in Economics II Credits: 1
- Both ECO 217 and ECO 317 have been added to the core curriculum.
(ECO 117/217/317 may not be required for internal or external transfers)
- ECO 321 - Intermediate Macroeconomics Credits: 3
 - ECO 366 - Applied Economic Data Analysis Credits: 3
 - ECO 420 - Intermediate Microeconomic Theory with Calculus Credits: 3
 - ECO 485 - Introduction to Economic Statistics and Econometrics Credits: 3 - 4
 - ECO 489 - Senior Seminar Credits: 3

2. Twenty-one (21) credit hours of Economics (ECO) Electives

Students are required to work with their advisor to select 21 credit hours of Economics Electives. A minimum of 15 credit hours must be at the 300 level or above, 12 of which must be at the 400 level or higher.

3. Twenty-one (21) credit hours of Concentration Electives

Students pursuing the B.S. in Economics must declare a concentration (see below). Course should be determined with advisor, and be appropriate towards completion of a concentration. Some courses outside of the department may be used towards concentration electives. A minimum of 15 credit hours must be at the 300 level or above, 12 of which must be at the 400 level or higher.

Students will select one of the following concentration areas:

- **Renewable energy economics:** The purpose of this concentration is the opportunity to focus on renewable energy options and the key role economics plays in making energy decisions. Students pursuing this concentration will take pertinent policy and science/engineering courses along with key economics courses. Required course: ECO 405.
- **Resource and Environmental Economics and Policy:** The purpose of this concentration is to focus on the economic implications and drivers of natural resource and environmental decisions. Students pursuing this concentration will take pertinent policy and science courses along with key economics courses. Required courses: ECO 381, 477.
- **Agribusiness Administration:** The purpose of this concentration is to obtain the skills necessary to manage an agricultural business. Students pursuing this concentration may pursue business courses in addition to their economics work. Required course: ECO 254
- **Individualized Concentration:** This concentration is for advanced students who are interested in assembling a selection of courses to meet a topical focus not offered in other concentrations. For example, a student might concentrate in quantitative and statistical methods. Students taking the 4+1 program should select the individualized concentration unless other concentrations can be accommodated or preferred. This concentration must be approved by your advisor and the School of Economics director.

4. Mathematics Requirement

Student must complete:

- MAT 126 - Calculus I Credits: 4

5. Statistics Requirement

One of the following:

- STS 232 - Principles of Statistical Inference Credits: 3

- STS 434 - Introduction to Statistics Credits: 4

6. Free Electives:

Students will complete approximately 18 credits of free electives, depending on individual programs.

A Typical Four-year Program in Economics (BS)

(Listed below is the sequence for economics courses. Students meet with their Faculty Advisor to fill in remaining schedule with General Education courses, free and concentration electives and other requirements.)

First Year

- ECO 117 - Issues and Opportunities in Economics Credits: 1
 - ECO 120 - Principles of Microeconomics Credits: 3
 - ECO 121 - Principles of Macroeconomics Credits: 3
- Economics Elective Credits: 3-6

Second Year

- ECO 321 - Intermediate Macroeconomics Credits: 3
 - ECO 217 - Issues and Opportunities in Economics II Credits: 1
 - ECO 420 - Intermediate Microeconomic Theory with Calculus Credits: 3
- Economics Electives: 3-6

Third Year

- ECO 366 - Applied Economic Data Analysis Credits: 3
- If required it is suggested you take ECO 317 this term.
Economic Electives: 3-6

Fourth Year

- ECO 485 - Introduction to Economic Statistics and Econometrics Credits: 3 - 4
- ECO 489 - Senior Seminar Credits: 3
- Economic Electives Credits: 3-6

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: A "C-" or better is required for courses with the PSE course designator for students in all horticulture concentrations.

Students in the Turfgrass Management Concentration have slightly different minimum grade requirements. These students receive an Associate of Science degree in Turfgrass Management from the University of Massachusetts, Amherst Stockbridge School of Agriculture and a Bachelor of Science degree in Environmental horticulture with a concentration in Turfgrass ma from the University of Maine. To receive both degrees, students in this concentration must receive a 'C' or better in the following courses: BIO 327, PSE 100, ENG 101, MAT 115 or MAT 122, ECO 120, PSE 221, PSE 396, PSE 457, and EES 140/141 prior to transferring to UMass.

Other GPA requirements to graduate: None.

Students in the Turfgrass Concentration must have at least a 2.5 GPA prior to transferring to the Stockbridge School of Agriculture.

Required Course(s) for fulfilling Capstone Experience: PSE 430.

Contact Information: Susan Sullivan, Associate Director, 205 Rogers Hall, (207) 581-3029, susan.sullivan@umit.maine.edu

The School of Food and Agriculture is the home of the Environmental Horticulture Program. Student interested in a Bachelor of Science in Environmental Horticulture may choose from one of four concentrations: horticultural business, landscape design, sustainable horticulture, and turfgrass management. This program combines theoretical knowledge and hands-on experience working with plants. Students will study a variety of course materials including landscape design, landscape management, sustainable plant production and maintenance, greenhouse management, plant and soil sciences, turfgrass management, business management, and other related areas. The program 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 areas such as business administration and horticultural science. Students pursuing the horticultural business concentration have the opportunity to work towards a possible 5th year Masters Degree in Business Administration after taking a few extra courses.

The Environmental Horticulture curriculum, requiring both synthesis and application of learned concepts, offers a challenging academic experience for the serious student. Extensive use is made of laboratory and studio activities to illustrate hands-on applications of theoretical principles. Outside the classroom, there are additional opportunities for the student to gain valuable knowledge and experience.

The strong working relationship with state, national and international horticulture industry members with ties to the Environmental Horticulture program, has been an important factor contributing to nearly a 100% employment record for our graduates. This Maine program has been ranked one of the best in the Northeast, see our website for more details.

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.

Required Courses in Suggested Sequence for B.S. in Environmental Horticulture/Horticultural Business Concentration with a BUA Minor

First Year - First Semester

- CMJ 103 - Fundamentals of Public Communication Credits: 3
- OR**
- SFR 222 - Environmental Communication Skills Credits: 3
 - ECO 120 - Principles of Microeconomics Credits: 3
 - ENG 101 - College Composition Credits: 3
 - NFA 117 - Issues and Opportunities Credits: 1
 - PSE 100 - Plant Science Credits: 4

First Year - Second Semester

- BUA 201 - Principles of Financial Accounting Credits: 3
- ECO 121 - Principles of Macroeconomics Credits: 3
- MAT 115 - Applied Mathematics for Business and Economics Credits: 3
- PSY 100 - General Psychology Credits: 3
- Elective Credits: 3

Second Year - First Semester

- BMB 207 - Fundamentals of Chemistry Credits: 3
 - BMB 209 - Fundamentals of Chemistry Laboratory Credits: 1
- or
- CHY 121 - Introduction to Chemistry Credits: 3
 - CHY 123 - Introduction to Chemistry Laboratory Credits: 1
-
- BUA 202 - Principles of Managerial Accounting Credits: 3
 - ECO 254 - Small Business Economics and Management Credits: 3
 - PSE 221 - Woody Landscape Plants Credits: 4

Second Year - Second Semester

- BUA 235 - Information Systems and Technology for Business Credits: 3
- EES 140 - Soil Science Credits: 3
- EES 141 - Soil Science Laboratory Credits: 1
- General Education: Quantitative Literacy Credits: 3
- Elective Credits: 5

Third Year - First Semester

- BIO 327 - Introductory Applied Entomology Credits: 4
- BUA 325 - Principles of Management and Organization Credits: 3
- PSE 219 - SL: Herbaceous Landscape Plants Credits: 3
- PSE 325 - Turfgrass Management Credits: 3
- Elective Credits: 3

Third Year - Second Semester

- BUA 270 - Marketing Credits: 3
- PSE 410 - Plant Propagation Credits: 4
- PSE 415 - Greenhouse Management Credits: 4
- General Education: Western Cultural Tradition Credits: 3
- Elective Credits: 2

Summer

- PSE 396 - Field Experience in Plant, Soil and Environmental Sciences Credits: 1 - 16
Students should register for 2 credits of this course

Fourth Year - First Semester

- BUA 350 - Business Finance Credits: 3
 - PHI 232 - Environmental Ethics Credits: 3
- or**
- General Education: Ethics Credits: 3
 - PSE 424 - Nursery Management Credits: 3
 - PSE 457 - Plant Pathology Credits: 4

Fourth Year - Second Semester

- ENG 317 - Business and Technical Writing Credits: 3
 - PSE 430 - Environmental Horticulture Credits: 3
 - General Education: Cultural Diversity and International Perspectives Credits: 3
 - General Education: Artistic and Creative Expression Credits: 3
 - General Education: Population and the Environment Credits: 3
- or**
- Elective Credits: 0-3

NOTE: The number of elective credits above depends on whether the Ethics course chosen satisfies the Population and Environment General Education Requirement as well.

Required Courses in Suggested Sequence for the B.S. in Environmental Horticulture/Landscape Design Concentration

First Year - First Semester

- CMJ 103 - Fundamentals of Public Communication Credits: 3
- or
- SFR 222 - Environmental Communication Skills Credits: 3
- ECO 120 - Principles of Microeconomics Credits: 3
- ENG 101 - College Composition Credits: 3
- NFA 117 - Issues and Opportunities Credits: 1
- PSE 100 - Plant Science Credits: 4

First Year - Second Semester

- ART 100 - Drawing I Credits: 3
- ECO 254 - Small Business Economics and Management Credits: 3
- PSY 100 - General Psychology Credits: 3
- General Education: Quantitative Literacy Credits: 3
- Elective Credits:3

Second Year - First Semester

- BMB 207 - Fundamentals of Chemistry Credits: 3
- BMB 209 - Fundamentals of Chemistry Laboratory Credits: 1
- Or
- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1

- MAT 115 - Applied Mathematics for Business and Economics Credits: 3
- Or
- MAT 122 - Pre-Calculus Credits: 4

- PSE 221 - Woody Landscape Plants Credits: 4
- Elective Credits: 2

Second Year - Second Semester

- ART 110 - 2-D Design Credits: 3
- EES 140 - Soil Science Credits: 3
- EES 141 - Soil Science Laboratory Credits: 1
- PSE 328 - Landscape Design Credits: 4
- Elective Credits: 3

Third Year - First Semester

- PSE 219 - SL: Herbaceous Landscape Plants Credits: 3
- PSE 227 - Landscape Design and Construction Techniques Credits: 4
- PSE 324 - Digital Graphic Communication Credits: 3
- PSE 325 - Turfgrass Management Credits: 3
- General Education: Cultural Diversity and International Perspectives Credits: 3

Third Year - Second Semester

- PSE 410 - Plant Propagation Credits: 4
- PSE 415 - Greenhouse Management Credits: 4
- General Education: Western Cultural Tradition Credit: 3
- Elective Credits: 5

Summer

- PSE 396 - Field Experience in Plant, Soil and Environmental Sciences Credits: 1 - 16
Students should register for 2 credits of this course.

Fourth Year - First Semester

- BIO 327 - Introductory Applied Entomology Credits: 4
 - PHI 232 - Environmental Ethics Credits: 3
- Or
- General Education: Ethics Credits: 3
 - PSE 424 - Nursery Management Credits: 3
 - PSE 457 - Plant Pathology Credits: 4

Fourth Year - Second Semester

- ENG 317 - Business and Technical Writing Credits: 3
- PSE 425 - Landscape Management Credits: 3
- PSE 430 - Environmental Horticulture Credits: 3
- General Education: Population and the Environment Credits: 3
- Elective Credits: 4 or 7

NOTE: The number of elective credits above depends on whether the Ethics course chosen satisfies the Population and the Environment General Education Requirement as well.

Required Courses in Suggested Sequence for the B.S. in Environmental Horticulture/Sustainable Horticulture Concentration

First Year - First Semester

- BIO 100 - Basic Biology Credits: 4
- ECO 120 - Principles of Microeconomics Credits: 3
- ENG 101 - College Composition Credits: 3
- NFA 117 - Issues and Opportunities Credits: 1
- PSE 100 - Plant Science Credits: 4

First Year - Second Semester

- CMJ 103 - Fundamentals of Public Communication Credits: 3
- Or
- SFR 222 - Environmental Communication Skills Credits: 3

- ECO 254 - Small Business Economics and Management Credits: 3
- MAT 122 - Pre-Calculus Credits: 4
- General Education: Cultural Diversity and International Perspectives Credits: 3

Second Year - First Semester

- BMB 207 - Fundamentals of Chemistry Credits: 3
- BMB 209 - Fundamentals of Chemistry Laboratory Credits: 1
- Or
- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1

- PSE 215 - Vegetable and Fruit Production Credits: 3
- PSE 221 - Woody Landscape Plants Credits: 4
- STS 232 - Principles of Statistical Inference Credits: 3

Second Year - Second Semester

- BMB 208 - Elementary Physiological Chemistry Credits: 3
- BMB 210 - Elementary Physiological Chemistry Laboratory Credits: 1
- or
- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
- EES 140 - Soil Science Credits: 3
- EES 141 - Soil Science Laboratory Credits: 1
- General Education: Artistic and Creative Expression Credits: 3
- Elective Credits: 3

Third Year - First Semester

- BIO 327 - Introductory Applied Entomology Credits: 4

- BIO 464 - Taxonomy of Vascular Plants Credits: 4
- PSE 219 - SL: Herbaceous Landscape Plants Credits: 3
- PSE 325 - Turfgrass Management Credits: 3 (odd years)
- Elective Credits: 1

Third Year - Second Semester

- BIO 319 - General Ecology Credits: 3
- PSE 410 - Plant Propagation Credits: 4
- PSE 415 - Greenhouse Management Credits: 4
- SFR 439 - Plant Anatomy Structure and Function Credits: 3
- Elective Credits: 2

Summer

- PSE 396 - Field Experience in Plant, Soil and Environmental Sciences Credits: 1 - 16
Students should register for 2 credits of this course.

Fourth Year - First Semester

- PHI 232 - Environmental Ethics Credits: 3
- or
- General Education: Ethics Credits: 3
- PSE 403 - Weed Ecology and Management Credits: 3
- or
- WLE 423 - Wetland Ecology and Conservation Credits: 4
- PSE 424 - Nursery Management Credits: 3
- PSE 457 - Plant Pathology Credits: 4

Fourth Year - Second Semester

- ENG 317 - Business and Technical Writing Credits: 3
- PSE 430 - Environmental Horticulture Credits: 3
- General Education: Western Cultural Tradition Credits: 3
- General Education: Population and the Environment Credits: 3
- Elective Credits: 4 or 7

NOTE: The number of elective credits above depends on whether the Ethics course chosen satisfies the Population and the Environment General Education requirement as well.

Required Courses in Suggested Sequence for the B.S. in Environmental Horticulture/Turfgrass Management Concentration

First Year - First Semester

- BIO 100 - Basic Biology Credits: 4
- ECO 120 - Principles of Microeconomics Credits: 3
- ENG 101 - College Composition Credits: 3
- NFA 117 - Issues and Opportunities Credits: 1
- PSE 100 - Plant Science Credits: 4

First Year - Second Semester

- CMJ 103 - Fundamentals of Public Communication Credits: 3
- or**
- SFR 222 - Environmental Communication Skills Credits: 3
-
- MAT 115 - Applied Mathematics for Business and Economics Credits: 3
- or**
- MAT 122 - Pre-Calculus Credits: 4
 - General Education: Western Cultural Tradition Credits: 3
 - General Education: Cultural Diversity and International Perspectives Credits: 3
 - Elective Business Course Credits: 3

Second Year - First Semester

- BMB 207 - Fundamentals of Chemistry Credits: 3
 - BMB 209 - Fundamentals of Chemistry Laboratory Credits: 1
- or**
- CHY 121 - Introduction to Chemistry Credits: 3
 - CHY 123 - Introduction to Chemistry Laboratory Credits: 1
 - BIO 327 - Introductory Applied Entomology Credits: 4
 - PSE 221 - Woody Landscape Plants Credits: 4
 - General Education: Quantitative Literacy Credits: 3

Second Year - Second Semester

- ECO 254 - Small Business Economics and Management Credits: 3
- EES 140 - Soil Science Credits: 3
- EES 141 - Soil Science Laboratory Credits: 1
- PHI 232 - Environmental Ethics Credits: 3

- General Education: Artistic and Creative Expression Credits: 3
- Elective Credits: 3

Third Year - First Semester

- PSE 219 - SL: Herbaceous Landscape Plants Credits: 3
- PSE 424 - Nursery Management Credits: 3
- PSE 457 - Plant Pathology Credits: 4
- Elective Credits: 3

Third Year - Second Semester

- ENG 317 - Business and Technical Writing Credits: 3
- PSE 410 - Plant Propagation Credits: 4
- PSE 415 - Greenhouse Management Credits: 4
- PSE 430 - Environmental Horticulture Credits: 3

Summer

- PSE 396 - Field Experience in Plant, Soil and Environmental Sciences Credits: 1 - 16
Students should register for 2 credits of this course.

The following two semesters are taken at the University of Massachusetts

Fourth Year - First Semester

- STOCKSCH 230 Introduction to Turfgrass Management Credits: 4
- STOCKSCH 310 Principles of Weed Management Credits: 3
- NRC 232 Principles of Arboriculture Credits: 3
- Electives Credits: 6

Fourth Year - Second Semester

- STOCKSCH 104 Plant Nutrients Credits: 1.5
- STOCKSCH 107 Turfgrass Insects Credits: 2
- STOCKSCH 112 Turfgrass Pathology Lab Credits: 2
- STOCKSCH 232 Turfgrass Machinery Credits: 2
- STOCKSCH 240 Applied Calculations in Turf Credits: 2

- STOCKSCH 275 Turfgrass Physiology and Ecology Credits: 3
- STOCKSCH 340 Advanced Turfgrass Credits: 2

NOTE:

NOTES:

An internship experience is required and may be met by taking either PSE 396 Field Experience in Plant, Soil and Environmental Sciences (UMaine) or STOCKSCH 198T Turfgrass Internship (UMass).

Successful completion of the above sequence will result in a B.S. Degree in Environmental Horticulture with a concentration in Turfgrass Management from the University of Maine and an A.S. Degree in Turfgrass Management from the Stockbridge School of Agriculture, University of Massachusetts Amherst.

Financial Economics

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 ECO 120, ECO 121, ECO 321, and ECO 420. A "C" or better is required in the capstone (ECO 489 or approved substitute)

Other GPA requirements to graduate: Economics (ECO) coursework must be completed with a 2.0 cumulative average.

Required Course(s) for fulfilling Capstone Experience: ECO 489 or approved substitute

Contact Information: Karen Moffet, School of Economics, 206 Winslow Hall, (207) 581-3154.

This program is designed to prepare students for employment in occupations where specific knowledge of financial economics will be useful in entry-level positions and in enhancing subsequent opportunities for advancement. The program also provides a strong undergraduate background for graduate professional degrees in business, economics, and law. This approach incorporates the fundamentals of economic theory in the areas of macroeconomics and monetary economics along with the applied analytical tools of finance and econometrics.

Students are required to work with their advisors on selecting appropriate economics electives in addition to the required economics and business core. Students are also encouraged to discuss career or graduate school preparation with their advisor.

School Requirements:

Economics majors must complete a minimum of 27 (ECO) core credits, 15 economics elective credits and 18 business (BUA) credits at the University of Maine. Students must complete the following:

1. Required Economics (ECO) courses:

- ECO 117 - Issues and Opportunities in Economics Credits: 1 (not required for internal or external transfers)

- ECO 120 - Principles of Microeconomics Credits: 3
- ECO 121 - Principles of Macroeconomics Credits: 3
- ECO 217 - Issues and Opportunities in Economics II Credits: 1
- ECO 321 - Intermediate Macroeconomics Credits: 3
- ECO 339 - International Finance Credits: 3
- ECO 353 - Money and Banking Credits: 3
- ECO 366 - Applied Economic Data Analysis Credits: 3
- ECO 420 - Intermediate Microeconomic Theory with Calculus Credits: 3
- ECO 485 - Introduction to Economic Statistics and Econometrics Credits: 3 - 4
- ECO 489 - Senior Seminar Credits: 3 (or other approved Capstone)

Both ECO 217 and ECO 317 have been added to the core curriculum. (ECO 117/217/317 may not be required for internal or external transfers)

15 ECO Credits: 9 at the 300 level and 6 at the 400 level

2. Required Maine Business School courses:

- BUA 201 - Principles of Financial Accounting Credits: 3
- BUA 202 - Principles of Managerial Accounting Credits: 3
- BUA 350 - Business Finance Credits: 3
- BUA 352 - Financial Institutions Credits: 3

Two additional courses from among the following:

- BUA 351 - Valuation and Corporate Investment Decisions Credits: 3
- BUA 353 - Investment Strategy Credits: 3
- BUA 454 - Financial Derivatives Credits: 3

3. Mathematics requirement:

Student must complete

- MAT 126 - Calculus I Credits: 4

4. Statistics requirement:

One of the following statistics courses (or equivalent):

- STS 232 - Principles of Statistical Inference Credits: 3
- STS 434 - Introduction to Statistics Credits: 4

A Typical Four-year Program in Economics (B.S. FIE)

(Listed below is the sequence for economics courses. Students meet with their Faculty Advisor to fill in remaining schedule with General Education courses, business courses, free electives and other requirements.)

First Year

- ECO 117 - Issues and Opportunities in Economics Credits: 1
- ECO 120 - Principles of Microeconomics Credits: 3
- ECO 121 - Principles of Macroeconomics Credits: 3

Second Year

- ECO 217 - Issues and Opportunities in Economics II Credits: 1
 - ECO 321 - Intermediate Macroeconomics Credits: 3
 - ECO 420 - Intermediate Microeconomic Theory with Calculus Credits: 3
- If required it is suggested you take ECO 217 this term.
Economics Electives Credits: 3-6

Third Year

- ECO 339 - International Finance Credits: 3
 - ECO 353 - Money and Banking Credits: 3
 - ECO 366 - Applied Economic Data Analysis Credits: 3
- If required it is suggested you take ECO 317 this term.

Fourth Year

- ECO 485 - Introduction to Economic Statistics and Econometrics Credits: 3 - 4
- ECO 489 - Senior Seminar Credits: 3
- Economics Electives Credits: 3-12

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: Food Science and Human Nutrition majors must have a "C" or better in all required FSN courses taken.

Other GPA requirements to graduate: None.

Required Course(s) for fulfilling Capstone Experience: FSN 401 or FSN 520.

Contact Information: Mona Therrien, Undergraduate Program Coordinator, 5735 Hitchner Hall, (207)-581-3130, mona.therrien@umit.maine.edu

The mission of the program in Food Science and Human Nutrition is to provide undergraduate education in three concentrations: food science, human nutrition and dietetics, and food management. Each concentration prepares students for different careers in the area of food science and human nutrition.

Food Science is the application of the principles of the basic sciences to food systems. The Food Science concentration, an approved Institute of Food Technologists program, is challenging and requires a strong background in mathematics and science. Employment opportunities are excellent in the government, food industries, or institutions of higher education with starting salaries from \$35,000 to \$50,000 with an undergraduate degree (BS). Students in Food Science with a grade point average of 3.5 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. More information about this option can be found in the Graduate Catalog.

Human Nutrition and Dietetics is the study of the effect of nutrients on people's health and the role of diet in prevention or treatment of chronic diseases. It is a challenging, diverse, rewarding and growing field that requires a strong background in science. The Human Nutrition and Dietetics concentration (Didactic Program in Nutrition and Dietetics) at the University of Maine is accredited by the Accreditation Council for Education in Nutrition and Dietetics of the Academy of Nutrition and Dietetics. After graduation, students are eligible to apply for an Internship Program in Nutrition and Dietetics, which leads to a Registered (RD) and/or Licensed (LD) Dietitian credential. RDs work in many different settings to assist people with planning their nutrition including: hospitals and other healthcare facilities, sports nutrition and corporate wellness programs, community and public health settings, business and industry, and private practice. Those not interested in obtaining an RD could be employed as dietary managers, nutrition educators, public health nutritionists, food service administrators, and consultants for the food and nutrition industries.

Food Management provides a unique combination of nutrition, food science and business. This option provides flexibility in planning a curriculum to suit an individual's needs. Graduates find employment in restaurants, hospitals, schools, food companies, airline catering, consultants, and marketing and business management.

Food Science and Human Nutrition and Dietetics majors will find that the curriculum with additional courses meets the entrance requirements for medical, dental, and veterinary schools. For Food Science students, an additional course in physics is required. For Human Nutrition and Dietetics students, additional courses in physics, chemistry and mathematics are required.

In all concentrations, students can apply for competitive scholarships within the School, and College and through professional organizations such as the Maine Nutrition Council, Academy of Nutrition and Dietetics, Institute of Food Technologists, Northeast IFT Section, and industry. All scholarships are based upon scholastic ability, extracurricular activities, and interests. Many students in this major have been successful in obtaining scholarships.

Students in all concentrations have the opportunity to gain valuable experience in their field by doing research with professors through for-credit independent studies, work-study and/or work merit. Also we encourage and assist students in getting summer employment or internships in their area of interest.

The School of Food and Agriculture is the only school in the State of Maine to provide undergraduate degrees in food science and human nutrition.

The courses needed for the three concentrations in Food Science and Human Nutrition are given below. Students who are interested in these programs can contact the Undergraduate Coordinator. 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.

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. The requirements in Food Science and Human Nutrition will be sufficient for admission to graduate schools in each program. Students taking the food management requirements would be prepared for graduate school in business if they take the appropriate business courses at the undergraduate level.

Food Science and Human Nutrition

- Satisfy general education requirements
- Satisfy bachelor of science requirements
- Minimum food science and human nutrition requirements: FSN 101, 103, 270, 330
- NFA 117 - Issues and Opportunities
- Biology requirement: BIO 100
- Mathematics requirement: STS 232
- Communications requirements: ENG 101 and 317, CMJ 103
- Psychology requirement: PSY 100
- Grades of C- or lower in FSN courses may not be applied towards the major.

Food Management Concentration

- Satisfy the core requirements of the degree program
- Satisfy the bachelor of science requirements
- Chemistry requirements: BMB 207, 208, 209, 210
- Food Science and Human Nutrition requirements: FSN 202, 238, 305, 340, 396, 425, 436, 440, 512, and 520
- Mathematics requirement: MAT 115
- Business requirements: BUA 201, 235, 325, 337, and ECO 254
- Economics requirements: ECO 120, 121
- Other requirements: COS 103, INV 180

Food Science Concentration

- Satisfy the core requirements of the degree program
- Satisfy the bachelor of science requirements
- Biology requirements: BIO 200 or BIO 208
- Biochemistry and Microbiology Requirements: BMB 300, 305, 322, 323
- Chemistry requirements: CHY 121, 122, 123, 124, 251, 253
- Food Science and Human Nutrition requirements: FSN 340, 396, 425, 436, 438, 439, 450, 482, 483, 485, 486, 502, 520, 585, 587
- Mathematics requirement: MAT 126
- Physics requirement: PHY 111

Human Nutrition and Dietetics Concentration

- Satisfy core requirements of the degree program
- Satisfy the bachelor of science requirements
- Biology requirement: BIO 208
- Chemistry requirements: BMB 207, 208, 209, 221, 222, 322

- Food Science and Human Nutrition requirements: FSN 202, 230, 238, 265, 301, 305, 401, 410, 412, 420, 430
- Mathematics requirement: MAT122 or 126
- Business requirements: ECO 120 or 121, ECO 254
- Pathophysiology requirement: NUR 303

Required Courses in Suggested Sequence for the B.S. in Food Science and Human Nutrition

Food Management Concentration

First Year - First Semester

- BIO 100 - Basic Biology Credits: 4
- ENG 101 - College Composition Credits: 3
- FSN 101 - Introduction to Food and Nutrition Credits: 3
- NFA 117 - Issues and Opportunities Credits: 1
- PSY 100 - General Psychology Credits: 3

First Year - Second Semester

- CMJ 103 - Fundamentals of Public Communication Credits: 3
- COS 103 - Introduction to Spreadsheets Credits: 1
- FSN 103 - Science of Food Preparation Credits: 4
- MAT 115 - Applied Mathematics for Business and Economics Credits: 3
- General Education: Artistic and Creative Expression Credits: 3

Second Year - First Semester

- BUA 201 - Principles of Financial Accounting Credits: 3
- ECO 120 - Principles of Microeconomics Credits: 3
- FSN 202 - Foodservice Management Credits: 3
- FSN 305 - Foods Laboratory Credits: 1
- PSE 105 - Principles of Sustainable Agriculture Credits: 3
- Elective Credits: 3

Second Year - Second Semester

- BUA 235 - Information Systems and Technology for Business Credits: 3
- ECO 121 - Principles of Macroeconomics Credits: 3
- ECO 254 - Small Business Economics and Management Credits: 3
- FSN 238 - Applied Food Microbiology and Sanitation Credits: 3
- General Education: Western Cultural Tradition Credits: 3

Third Year - First Semester

- BMB 207 - Fundamentals of Chemistry Credits: 3
- BMB 209 - Fundamentals of Chemistry Laboratory Credits: 1
- FSN 270 - World Food and Nutrition Credits: 3
- FSN 330 - Introduction to Food Science Credits: 3
- FSN 340 - Food Processing Laboratory Credits: 1
- Elective Credits: 3

Third Year - Second Semester

- BMB 208 - Elementary Physiological Chemistry Credits: 3
- BMB 210 - Elementary Physiological Chemistry Laboratory Credits: 1
- ENG 317 - Business and Technical Writing Credits: 3
- FSN 436 - Food Law Credits: 3
- INV 180 - Create: Innovation Engineering I Credits: 3
- STS 232 - Principles of Statistical Inference Credits: 3

Fourth Year - First Semester

- BUA 325 - Principles of Management and Organization Credits: 3
- FSN 425 - Contemporary Issues in the Food Industry Credits: 1
- FSN 520 - Food Product Development Credits: 3 (see Graduate Catalog for description)
- Elective Credits: 9

Fourth Year - Second Semester

- BUA 337 - Production and Operations Management Credits: 3
- FSN 396 - Field Experience in Food Science and Human Nutrition Credits: 1 - 16
- FSN 440 - Utilization of Aquatic Food Resources Credits: 3
- FSN 512 - Hazard Analysis Critical Control Points Credits: 3 (see Graduate Catalog for course description)
- Elective Credits: 5

Human Nutrition and Dietetics Concentration

First Year - First Semester

- BIO 100 - Basic Biology Credits: 4
- ENG 101 - College Composition Credits: 3
- FSN 101 - Introduction to Food and Nutrition Credits: 3
- NFA 117 - Issues and Opportunities Credits: 1
- PSY 100 - General Psychology Credits: 3

First Year - Second Semester

- BIO 208 - Anatomy and Physiology Credits: 4
 - CMJ 103 - Fundamentals of Public Communication Credits: 3
 - FSN 103 - Science of Food Preparation Credits: 4

 - MAT 122 - Pre-Calculus Credits: 4
- or**
- MAT 126 - Calculus I Credits: 4

Second Year - First Semester

- BMB 207 - Fundamentals of Chemistry Credits: 3
 - BMB 209 - Fundamentals of Chemistry Laboratory Credits: 1
- or**
- CHY 121 - Introduction to Chemistry Credits: 3
 - CHY 123 - Introduction to Chemistry Laboratory Credits: 1
-
- FSN 202 - Foodservice Management Credits: 3
 - General Education: Western Cultural Tradition Credits: 3
 - Elective Credits: 4

Second Year - Second Semester

- BMB 208 - Elementary Physiological Chemistry Credits: 3
- or**
- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
 - ECO 120 - Principles of Microeconomics Credits: 3
- or**
- ECO 121 - Principles of Macroeconomics Credits: 3
 - ECO 254 - Small Business Economics and Management Credits: 3
 - FSN 230 - Nutritional and Medical Terminology Credits: 1
 - FSN 238 - Applied Food Microbiology and Sanitation Credits: 3
 - FSN 265 - Functional Concepts in Nutrition Credits: 3

Third Year - First Semester

- BMB 221 - Organic Chemistry Credits: 3
 - BMB 222 - Laboratory in Organic Chemistry Credits: 1
- or**
- CHY 251 - Organic Chemistry I Credits: 3
 - CHY 253 - Organic Chemistry Laboratory I Credits: 2
-
- FSN 301 - Life Cycle Nutrition Credits: 3
 - FSN 305 - Foods Laboratory Credits: 1
 - FSN 330 - Introduction to Food Science Credits: 3

- Elective Credits: 6

Third Year - Second Semester

- BMB 322 - Biochemistry Credits: 3
 - FSN 430 - Counseling and Diet Therapy Credits: 3
 - NUR 303 - Pathophysiology Credits: 3
 - PSY 241 - Statistics in Psychology Credits: 4
- OR
- STS 232 - Principles of Statistical Inference Credits: 3

Fourth Year - First Semester

- ENG 317 - Business and Technical Writing Credits: 3
- FSN 270 - World Food and Nutrition Credits: 3
- FSN 410 - Human Nutrition and Metabolism Credits: 3
- FSN 412 - Medical Nutrition Therapy I Credits: 3
- General Education: Artistic and Creative Expression Credits: 3
- Elective Credits: 3

Fourth Year - Second Semester

- FSN 401 - Community Nutrition Credits: 4
- FSN 420 - Medical Nutrition Therapy II Credits: 4
- General Education: Human Values and Social Context Credits: 3
- General Education: Ethics Credits: 3

Food Science Concentration

First Year - First Semester

- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- FSN 101 - Introduction to Food and Nutrition Credits: 3
- MAT 126 - Calculus I Credits: 4
- NFA 117 - Issues and Opportunities Credits: 1
- PSY 100 - General Psychology Credits: 3

First Year - Second Semester

- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
- CMJ 103 - Fundamentals of Public Communication Credits: 3

- ENG 101 - College Composition Credits: 3
- FSN 103 - Science of Food Preparation Credits: 4

Second Year - First Semester

- BIO 100 - Basic Biology Credits: 4
- BMB 221 - Organic Chemistry Credits: 3
- BMB 222 - Laboratory in Organic Chemistry Credits: 1
- OR
- CHY 251 - Organic Chemistry I Credits: 3
- CHY 253 - Organic Chemistry Laboratory I Credits: 2
- FSN 330 - Introduction to Food Science Credits: 3
- FSN 340 - Food Processing Laboratory Credits: 1
- General Education: Western Cultural Tradition Credits: 3

Second Year - Second Semester

- BIO 200 - Biology of Organisms Credits: 4
- OR
- BIO 208 - Anatomy and Physiology Credits: 4
- BMB 322 - Biochemistry Credits: 3
- BMB 323 - Biochemistry Laboratory Credits: 2
- FSN 270 - World Food and Nutrition Credits: 3
- STS 232 - Principles of Statistical Inference Credits: 3

Third Year - First Semester

- BMB 300 - General Microbiology Credits: 3
- BMB 305 - General Microbiology Laboratory Credits: 2
- FSN 502 - Food Preservation Credits: 3 (see Graduate Catalog for course description)
- FSN 520 - Food Product Development Credits: 3 (see Graduate Catalog for course description)
- PHY 111 - General Physics I Credits: 4

Third Year - Second Semester

- ENG 317 - Business and Technical Writing Credits: 3
- FSN 438 - Food Microbiology Credits: 3
- FSN 439 - Food Microbiology Laboratory Credits: 2
- FSN 585 - Sensory Evaluation I Credits: 3 (see Graduate catalog for course description)
- Elective Credits: 3

Fourth Year - First Semester

- FSN 396 - Field Experience in Food Science and Human Nutrition Credits: 1 - 16
- FSN 425 - Contemporary Issues in the Food Industry Credits: 1
- FSN 482 - Food Chemistry Credits: 3
- FSN 483 - Food Chemistry Laboratory Credits: 1
- General Education: Artistic and Creative Expression Credits: 3
- Elective Credits: 6

Fourth Year - Second Semester

- FSN 436 - Food Law Credits: 3
- FSN 450 - Food Biotechnology Credits: 3
- FSN 485 - Introduction to Food Engineering Principles Credits: 3
- FSN 486 - Food Engineering Laboratory Credits: 1
- FSN 587 - Food Analysis Credits: 3 (see Graduate Catalog for course description)
- General Education: Human Values and Social Context Credits: 3

Required Courses in Suggested Sequence for the Five-Year Combined BS/MS degree in Food Science and Human Nutrition

Food Science Concentration

First Year - First Semester

- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- FSN 101 - Introduction to Food and Nutrition Credits: 3
- MAT 126 - Calculus I Credits: 4
- NFA 117 - Issues and Opportunities Credits: 1
- PSY 100 - General Psychology Credits: 3

First Year - Second Semester

- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
- CMJ 103 - Fundamentals of Public Communication Credits: 3
- ENG 101 - College Composition Credits: 3
- FSN 103 - Science of Food Preparation Credits: 4

Second Year - First Semester

- BIO 100 - Basic Biology Credits: 4

- CHY 251 - Organic Chemistry I Credits: 3
- CHY 253 - Organic Chemistry Laboratory I Credits: 2
- FSN 330 - Introduction to Food Science Credits: 3
- FSN 340 - Food Processing Laboratory Credits: 1
- General Education: Western Cultural Tradition Credits: 3

Second Year - Second Semester

- BIO 200 - Biology of Organisms Credits: 4
- BMB 322 - Biochemistry Credits: 3
- BMB 323 - Biochemistry Laboratory Credits: 2
- FSN 270 - World Food and Nutrition Credits: 3
- STS 232 - Principles of Statistical Inference Credits: 3

Third Year - First Semester

- BMB 300 - General Microbiology Credits: 3
- BMB 305 - General Microbiology Laboratory Credits: 2
- FSN 502 - Food Preservation Credits: 3
- FSN 520 - Food Product Development Credits: 3 (see Graduate Catalog for course description)
- Elective Credits: 3

Third Year - Second Semester

- ENG 317 - Business and Technical Writing Credits: 3
- FSN 438 - Food Microbiology Credits: 3
- FSN 439 - Food Microbiology Laboratory Credits: 2
- FSN 585 - Sensory Evaluation I Credits: 3 (see Graduate catalog for course description)
- Elective Credits: 3

Fourth Year - First Semester

- FSN 396 - Field Experience in Food Science and Human Nutrition Credits: 1 - 16
- FSN 425 - Contemporary Issues in the Food Industry Credits: 1
- FSN 482 - Food Chemistry Credits: 3
- FSN 483 - Food Chemistry Laboratory Credits: 1
- PHY 111 - General Physics I Credits: 4
- General Education: Artistic and Creative Expression Credits: 3
- Elective Credits: 3

Fourth Year - Second Semester

- FSN 436 - Food Law Credits: 3
- FSN 450 - Food Biotechnology Credits: 3
- FSN 485 - Introduction to Food Engineering Principles Credits: 3
- FSN 486 - Food Engineering Laboratory Credits: 1
- FSN 587 - Food Analysis Credits: 3 (see Graduate Catalog for course description)
- General Education: Human Values and Social Context Credits: 3

Awarded B.S. degree after completion of fourth year, second semester.

Fourth Year - Summer

- FSN 695 - Food Science and Human Nutrition Practicum Credits: 3
(see Graduate catalog for course description)

Fifth Year - First Semester

- FSN 571 - Technical Presentations Credits: 1
- 500 level FSN course Credits: 3
- 400+ level Professional Electives Credits: 4
(see Graduate catalog for course descriptions)

Fifth Year - Second Semester

- 500 or 600 level FSN course Credits: 3
- 500 level elective Credits: 3
- FSN 671 - Advanced Graduate Seminar Credits: 1
- 400+ level elective Credits: 1
(See Graduate catalog for course descriptions)

Awarded MS degree after completion of the fifth year.

Forest Operations, Bioproducts, and Bioenergy

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: William H. Livingston, Associate Director for Undergraduate Programs, 201b Nutting Hall, 581-2990, WilliamL@maine.edu

The interdisciplinary Bachelor of Science in Forest Operations, Bioproducts, and Bioenergy (FBB) at the University of Maine extends basic forestry training to include analysis of harvesting operations as well as forest resources utilization through a series of focused courses. Those courses focus on forest harvesting and wood uses in sawmills, pulp and paper manufacturing, composite materials and energy generation using biomass. The program covers the broad range from the basics of forest resource management through all of the major aspects of utilization. The efficient and environmentally acceptable growth, management, extraction, and transportation of timber for the manufacture of forest products are major challenges to one of the region's most important industries. The FBB program has been designed to address these challenges by combining course work, field work and faculty expertise in forest management, forest ecology, and wood science, along with an emphasis in business administration and entrepreneurship.

The Forest Operations, Bioproducts, and Bioenergy program is accredited by both the Society of American Foresters and the Society of Wood Science and Technology. It is the only program of its type in the United States to be accredited by both professional organizations.

The Forest Operations, Bioproducts, and Bioenergy program at the University of Maine retains a strong field orientation. Training in a forest setting begins with the first semester. The University's 1,270-acre Dwight B. Demeritt Forest is adjacent to the campus. In addition, the nearby Penobscot Experimental Forest and other properties owned and managed by the University, provide nearly 15,000 acres of living laboratories for forestry education and research. Maine's vibrant bioproducts industry in combination with large areas of 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 land-management organizations and the bioproducts industry. Students in the Forest Operations, Bioproducts, and Bioenergy 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 FBB faculty have active research programs, and they are involved in various outreach activities for their professions. Students learn from faculty who continually explore and extend the latest knowledge in their areas of expertise, and students meet directly with these faculty for academic advising.

The program aims to develop individuals who have (a) the knowledge and abilities to better manage timber resources and forest operations in an environment of increasing public scrutiny and environmental concern; (b) an understanding of the processes and challenges related to the efficient and environmentally acceptable harvest and processing of timber resources for materials, chemicals, and energy; and (c) an appreciation for the local, regional, and global competition for forest product raw materials and markets. Graduates of the program will develop critical and analytical knowledge with skills related to the efficient, safe, and environmentally compatible conduct of forest operations. In addition, graduates will have a thorough understanding of the timber production life cycle from the forest through the mill to the customer.

Graduates of the FBB program are prepared for careers in industrial and consulting forestry, as well as in the administration and supervision of wood processing facilities. Specific career areas include: forest land management; wood appraisal and procurement; forest road planning and design; harvest planning and administration; mill supervision and quality control; and wood products business/marketing. Opportunities also exist for graduate education at both the M.S. and Ph.D. levels in the areas of forest operations, wood science and technology, and forest management.

The FBB program is part of the School of Forest Resources which has the largest scholarship endowment fund on campus for an academic unit, and the School awarded nearly \$400,000 for the 2015-16 academic year to help support undergraduate studies. Some scholarships are specifically available for students in the Forest Operations, Bioproducts, and Bioenergy program.

Under the New England Regional Student Program, administered through the New England Board of Higher Education, the Bachelor of Science in Forest Operations, Bioproducts, and Bioenergy is open to applicants who reside in Connecticut, Massachusetts, Rhode Island, or Vermont for reduced tuition (in-state tuition plus 50percent).

The BS in Forest Operations, Bioproducts, and Bioenergy 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. Recognizing the significance of the forest products industries to society, as well as the opportunities for professional employment of highly trained and broadly educated college graduates, the FBB program is designed to provide students with relevant and marketable knowledge and proficiencies in subject areas essential to the conduct of forest operations from the forest to the final product. Examples of these subjects include: forest ecology and silviculture, timber harvest planning and administration; forest road planning and construction; timber procurement; principals of "green" manufacturing; bioenergy; and introductory business administration. During the four year program, FBB integrates the fields of forest management, forest operations, and wood science and technology into the overall context of a broad education in the liberal arts. The result is a program addressing the science, management, business, and processing and utilization of timber resources.

Required Courses in Suggested Sequence for the B.S. in Forest Operations, Bioproducts, and Bioenergy

First Year - First Semester

- ENG 101 - College Composition Credits: 3
- MAT 126 - Calculus I Credits: 4
- SFR 101 - Introduction to Forest Resources Credits: 1
- SFR 103 - Introduction to Forest Resource Professions Credits: 1
- SFR 106 - Forest Land Navigation and Outdoor Preparedness Credits: 1
- SFR 107 - Forest Vegetation Credits: 3
- Elective and General Education Courses Credit: 3

First Year - Second Semester

- ECO 120 - Principles of Microeconomics Credits: 3
- SFR 100 - Introduction to Forest Biology Credits: 3
- SFR 102 - Structure and Function of Woody Plants Laboratory Credits: 1
- SFR 205 - Forest Measurements and Statistics Credits: 3

- SFR 222 - Environmental Communication Skills Credits: 3

Or

- CMJ 103 - Fundamentals of Public Communication Credits: 3

Elective and General Education Courses Credits:3

Second Semester- May Term

- SFR 397 - Field Experience in Forestry Credits: 0-6
- Section1: Forest Inventory Credits:1
- Section2: Chainsaw/Fire Card Credits:1

Second Year - First Semester

- ECO 121 - Principles of Macroeconomics Credits: 3
- PHY 111 - General Physics I Credits: 4
- or
- PHY 121 - Physics for Engineers and Physical Scientists I Credits: 4
- SFR 208 - Geomatics, Coordinate Geometry, and GPS Credits: 4
- SFR 211 - Forest Operations Planning Credits: 4

Second Year - Second Semester - Winter Term

- SFR 398 - Field Experience in Forest Operations, Bioproducts and Bioenergy Credits: Ar

Second Year - Second Semester

- BUA 201 - Principles of Financial Accounting Credits: 3
 - CHY 121 - Introduction to Chemistry Credits: 3
 - CHY 123 - Introduction to Chemistry Laboratory Credits: 1
 - SFR 215 - Introduction to Forest Bioproducts and Bioenergy Credits: 3
 - SFR 400 - Applied Geographic Information Systems Credits: 4
- See Footnote 1

Third Year - First Semester

- SFR 407 - Forest Ecology Credits: 3
 - SFR 408 - Silviculture Credits: 3
 - SFR 409 - Forest Ecology and Silviculture Field Laboratory Credits: 2
 - SFR 450 - Processing of Biomaterials Credits: 4 (offered Fall, even years, if odd year take Technical Elective)
 - SFR 458 - Tree Pests and Disease Lab Credits: 1
- BUA Elective Credits: 3

Third Year - Second Semester

- ENG 317 - Business and Technical Writing Credits: 3
- EES 140 - Soil Science Credits: 3
- SFR 402 - Advanced Forest Measurements and Models Credits: 3
- SFR 453 - Biocomposite Materials Credits: 4 (offered Spring, even years)

- SFR 455 - Bioenergy Sources, Systems and Environmental Effects Credits: 3
- SFR 460 - Mill Tour Credits: 1

Fourth Year - First Semester

- SFR 444 - Forest Resources Economics Credits: 3
- SFR 477 - Forest Landscape Management and Planning Credits: 3
- Technical Elective (Related to FBB, approved by advisor) Credits: 3
- Elective and General Education Courses Credits: 3

Fourth Year - Second Semester

- SFR 446 - Forest Resources Policy Credits: 3
- SFR 464 - Forest Resources Business, Marketing and Entrepreneurship Credits: 3
- SFR 492 - Capstone Directed Study Credits: 1-4
- Elective and General Education Courses Credits: 3

See Footnote 1

Any student who receives a semester GPA of less than 2.0 or receives a Conduct Violation must meet with the Associate Director for Undergraduate Programs, School of Forest Resources, during the first week of the following semester to formulate an agreement on what the student will do to improve his/her record. The agreement may require passing a 1 credit course on academic recovery. The student must also meet with his/her academic advisor to review the course schedule for the coming semester. Failure to meet these expectations may result in the student being dismissed from the program.

Footnotes

¹ SFR 492 can be taken over 1 or 2 semesters, 1 to 4 credits per semester with advisor approval. A minimum of 3 credits is needed for graduation, and a maximum of 4 credits can be earned.

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 492

Contact Information: William H. Livingston, Associate Director for Undergraduate Programs, 201b Nutting Hall, 581-2990, WilliamL@maine.edu

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 1,270-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 15,000 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 the largest scholarship endowment fund on campus for an academic unit, and the School awarded nearly \$400,000 for the 2015-16 academic year 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 (in-state tuition plus 50 percent).

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.

Required Courses in Suggested Sequence for the B.S. in Forestry

First Year - First Semester

- MAT 122 - Pre-Calculus Credits: 4
- SFR 101 - Introduction to Forest Resources Credits: 1
- SFR 103 - Introduction to Forest Resource Professions Credits: 1
- SFR 106 - Forest Land Navigation and Outdoor Preparedness Credits: 1
- SFR 220 - Environment and Society Credits: 3
- SFR 107 - Forest Vegetation Credits: 3

Elective and General Education Courses Credits: 3

First Year - Second Semester

- ECO 120 - Principles of Microeconomics Credits: 3
 - ENG 101 - College Composition Credits: 3
 - SFR 100 - Introduction to Forest Biology Credits: 3
 - SFR 102 - Structure and Function of Woody Plants Laboratory Credits: 1
 - SFR 205 - Forest Measurements and Statistics Credits: 3

 - SFR 222 - Environmental Communication Skills Credits: 3
- Or
- CMJ 103 - Fundamentals of Public Communication Credits: 3

Second Semester - May Term

- SFR 397 - Field Experience in Forestry Credits: 0-6
- Section1: Forest Inventory Credits:1
Section2: Chainsaw/Fire Card Credits:1

Second Year - First Semester

- PHY 111 - General Physics I Credits: 4
- or
- PHY 121 - Physics for Engineers and Physical Scientists I Credits: 4
-
- SFR 208 - Geomatics, Coordinate Geometry, and GPS Credits: 4
 - SFR 211 - Forest Operations Planning Credits: 4
 - SFR 228 - Forest Recreation Management Credits: 3

Second Year - Second Semester - Winter Term

- SFR 398 - Field Experience in Forest Operations, Bioproducts and Bioenergy Credits: Ar

Second Year - Second Semester

- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- EES 140 - Soil Science Credits: 3
- SFR 215 - Introduction to Forest Bioproducts and Bioenergy Credits: 3
- SFR 400 - Applied Geographic Information Systems Credits: 4

Third Year - First Semester

- SFR 407 - Forest Ecology Credits: 3
- SFR 408 - Silviculture Credits: 3
- SFR 409 - Forest Ecology and Silviculture Field Laboratory Credits: 2
- SFR 457 - Tree Pests and Disease Credits: 3
- SFR 458 - Tree Pests and Disease Lab Credits: 1

Third Year - Second Semester

- SFR 402 - Advanced Forest Measurements and Models Credits: 3
 - SFR 406 - Remote Sensing Image Interpretation and Forest Mapping Credits: 3
 - SFR 446 - Forest Resources Policy Credits: 3

 - WLE 230 - Introduction to Wildlife Conservation Credits: 3
 - or
 - WLE 323 - Introduction to Conservation Biology Credits: 3
- See Footnote 1
- Elective and General Education Courses Credits: 4

Fourth Year - First Semester

- ENG 317 - Business and Technical Writing Credits: 3
- SFR 444 - Forest Resources Economics Credits: 3
- SFR 477 - Forest Landscape Management and Planning Credits: 3
- SFR 478 - Tools for Forest Management Credits: 1
- SFR Directed Electives (See Footnote 2) Credits: 3
- Elective and General Education Courses Credits: 3

Fourth Year - Second Semester

- ERS 350 - Fresh-Water Flow Credits: 3
- SFR 464 - Forest Resources Business, Marketing and Entrepreneurship Credits: 3
- SFR 492 - Capstone Directed Study Credits: 1-4

See Footnote 2

SFR Directed Electives Credits: 3

1 WLE 323 is offered in the fall semester; can be switched with elective credit scheduled for fall of senior year. This requirement can be satisfied by another WLE course with advisor approval.

2 Any SFR 492 can be taken over 1 or 2 semesters, 1 to 4 credits per semester with advisor approval. A minimum of 3 credits is needed for graduation, and a maximum of 4 credits can be earned. Any SFR 4XX course that is not part of the forestry requirements, or other course with advisor approval

Notes:

Notes: Any student who receives a semester GPA of less than 2.0 or receives a Conduct Violation must meet with the Associate Director for Undergraduate Programs, School of Forest Resources, during the first week of the following semester to formulate an agreement on what the student will do to improve his/her record. The agreement may require passing a 1 credit course on academic recovery. The student must also meet with his/her academic advisor to review the course schedule for the coming semester. Failure to meet these expectations may result in the student being dismissed from the program.

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, wge@umit.maine.edu

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, marine physical sciences, or aquaculture. The biological concentration emphasizes ecology, behavior, physiology, genetics, and population and community structure of marine animals, plants, and microbes. The physical 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 in each concentration are encouraged to spend a fall 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 Antarctic 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 Aquaculture Research Center, 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. A shuttle provides transportation between the Orono and Darling campuses during the academic year. 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

Students must earn a minimum grade of C- in all required courses.

- Satisfy university-wide general education requirements
- Earn at least 120 credits
- College: NFA 117 (marine emphasis)
- Biology: BIO 100, BMB 280
- Chemistry: CHY 121/122, 123/124
- Mathematics: MAT 126 and MAT 232
- Physics: PHY 111, 112, or PHY 121, 122
- Earth Science: SMS 108 or ERS 101 or ERS 102 or ERS 109
- Marine Policy: SMS 230

- Core SMS marine science courses: SMS 100, SMS 201, SMS 203, SMS 204, SMS 302, SMS 303, SMS 304, SMS 402, *plus* 15 credits of Marine Science electives at the 300+ level.
- 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

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:

- The 15 credits of SMS electives 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.
- Organic chemistry or biochemistry: BMB 221/222 or CHY 251/253
- 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 353, BIO 445, BIO 450, BIO 452, BIO 453, BIO 462, BIO 465, BIO 480, BMB 300/305, BMB 322, BMB 430/431, BMB 490

* *SMS Marine Biology electives include:*

INT 308, INT 441, INT 484, SMS 300, SMS 306, SMS 321, SMS 322, SMS 350, SMS 352, SMS 354, SMS 373, SMS 374, SMS 375, SMS 422, SMS 425, SMS 480, SMS 481, SMS 482, SMS 483, SMS 484, SMS 485/486

Concentration in Marine Physical Sciences:

Students who wish to declare a concentration in Marine Physical Sciences must meet the requirements for the Marine Science major (above) in addition to the following:

- Mathematics: MAT 127
- Physics: PHY 121, 122
- An additional 15 credits that should be chosen from the list of SMS Physical Oceanography electives which include: INT 484, SMS 300 or SMS 352, SMS 325, SMS 330, SMS 333, SMS 350, SMS 375, SMS 410, SMS 460, SMS 481, SMS 482, SMS 484, SMS 490, SMS 491, SMS 520, SMS 560
- Complete an additional 6 credits either from the SMS Physical Oceanography electives list or selected from the following list of courses: CHY 242, CHY 251, CHY 252, CHY 371, CHY 372/374, CHY 461, ERS 314, ERS 315, ERS 534, MAT 228, MAT 258, MAT 332, MAT 351, MAT 434, MAT 437, PHY 238, PHY 452, SIE 433

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:

- SMS 211, SMS 401, SMS 422, SMS 425, SMS 449, SMS 467.
- Choose one pair: SMS 309 and SMS 409, or SMS 420 and SMS 421.

Required Courses in Suggested Sequence for the B.S. in Marine Science: Marine Biology Concentration

First Year - First Semester

- BIO 100 - Basic Biology Credits: 4
- ENG 101 - College Composition Credits: 3
- MAT 122 - Pre-Calculus Credits: 4
- NFA 117 - Issues and Opportunities Credits: 1
- SMS 100 - Introduction to Ocean Science Credits: 3

First Year - Second Semester

- MAT 126 - Calculus I Credits: 4
- SMS 108 - Beaches and Coasts Credits: 3
- SMS 201 - Biology of Marine Organisms Credits: 3
- SMS 203 - Introduction to Integrative Marine Science Credits: 1
- General Education Requirement Credits: 3

Second Year - First Semester

- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- SMS 230 - Introduction to Marine Policy and Fisheries Management Credits: 3
- STS 232 - Principles of Statistical Inference Credits: 3
- PHY 111 - General Physics I Credits: 4
- SMS Marine Science Elective Credits: 3

Second Year - Second Semester

- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
- PHY 112 - General Physics II Credits: 4
- SMS 204 - Integrative Marine Science II: Physics and Chemistry of Marine Systems Credits: 2
- General Education Requirement Credits: 3

Third Year - First Semester

- BMB 221 - Organic Chemistry Credits: 3
with
- BMB 222 - Laboratory in Organic Chemistry Credits: 1
or
- CHY 251 - Organic Chemistry I Credits: 3
with
- CHY 253 - Organic Chemistry Laboratory I Credits: 2
- SMS 302 - Oceanography Credits: 3
- SMS 303 - Integrative Marine Science III: Oceanography Credits: 2
- Recommended SMS Marine Science Elective Credits: 3-4
- General Education Requirement Credits: 3

Third Year - Second Semester

- BMB 280 - Introduction to Molecular and Cellular Biology Credits: 3
- Marine Science Electives Credits: 3-6
- General Education Requirement Credits: 3-6

Fourth Year - First Semester

Semester by the sea (optional) may be taken first semester or either the junior or senior year (12-15 credits). Courses include:

- INT 441 Maritime History and Archaeology Credits: 3
- INT 484 Introduction to Systems Modeling Credits: 2
- SMS 350 Undergraduate Seminar Credits: 1-3
- SMS 352 Marine Ecology Credits: 4
- SMS 480 Biology of Marine Invertebrates Credits: 4
- SMS 481 Design of Marine Organisms Credits: 4
- SMS 482 Human Impacts on the Ocean Credits: 3 (alternate years)

or other fall courses:

- SMS 400 - Capstone Research Experience in Marine Science Credits: 1-4
- SMS 404 - Capstone Seminar in Marine Science Credits: 1
- General Education Requirements Credits: 3-6
- Marine Science Elective Credits: 3-6

Fourth Year - Second Semester

- SMS 304 - Integrative Marine Science IV: Comparative Physiology, Cellular and Molecular Biology Credits: 2
- SMS 400 - Capstone Research Experience in Marine Science Credits: 1-4
- SMS 402 - Oceans and Climate Change Credits: 3
- SMS 404 - Capstone Seminar in Marine Science Credits: 1
- Marine Science Electives Credits: 3-6
- General Education Requirements Credits: 3-6

Required Courses in Suggested Sequence for the B.S. in Marine Science: Marine Physical Sciences Concentration

First Year - First Semester

- BIO 100 - Basic Biology Credits: 4
- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- MAT 126 - Calculus I Credits: 4

- NFA 117 - Issues and Opportunities Credits: 1
- SMS 100 - Introduction to Ocean Science Credits: 3

First Year - Second Semester

- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
- ENG 101 - College Composition Credits: 3
- MAT 127 - Calculus II Credits: 4
- SMS 201 - Biology of Marine Organisms Credits: 3
- SMS 203 - Introduction to Integrative Marine Science Credits: 1

Second Year - First Semester

- CHY 242 - Principles of Quantitative Analysis and Solution Equilibria Credits: 5
- PHY 121 - Physics for Engineers and Physical Scientists I Credits: 4
- General Education Requirement Credits: 3

Second Year - Second Semester

- STS 232 - Principles of Statistical Inference Credits: 3
 - PHY 122 - Physics for Engineers and Physical Scientists II Credits: 4
 - SMS 108 - Beaches and Coasts Credits: 3
 - SMS 204 - Integrative Marine Science II: Physics and Chemistry of Marine Systems Credits: 2
 - SMS Marine Science physical oceanography elective Credits: 3-6
- or
- General Education Requirement Credits: 3

Third Year - First Semester

- SMS 230 - Introduction to Marine Policy and Fisheries Management Credits: 3
- SMS 302 - Oceanography Credits: 3
- SMS 303 - Integrative Marine Science III: Oceanography Credits: 2
- SMS Marine Science Physical Oceanography elective Credits: 3-6

Third Year - Second Semester

- BMB 280 - Introduction to Molecular and Cellular Biology Credits: 3
- SMS 330 - Descriptive Physical Oceanography Credits: 3
- SMS Marine Science physical oceanography elective Credits: 3-6
- General Education Requirements Credits: 3-6

Fourth Year - First Semester

Semester by the sea (optional) may be taken first semester or either the junior or senior year (12-15 credits). Courses include:

- INT 441 Maritime History and Archaeology Credits: 3
- INT 484 Introduction to Systems Modeling Credits: 2
- SMS 350 Undergraduate Seminar Credits: 1-3
- SMS 352 Marine Ecology Credits: 4
- SMS 480 Biology of Marine Invertebrates Credits: 4
- SMS 481 Design of Marine Organisms Credits: 4
- SMS 482 Human Impacts on the Ocean Credits: 3 (alternate years)

or other fall courses:

- SMS 400 - Capstone Research Experience in Marine Science Credits: 1-4
- SMS 404 - Capstone Seminar in Marine Science Credits: 1
- General Education Requirements Credits: 0-6
- Integrative Marine Science course Credits: 2
- SMS Marine Science Physical Oceanography elective Credits: 3-6

Fourth Year - Second Semester

- SMS 304 - Integrative Marine Science IV: Comparative Physiology, Cellular and Molecular Biology Credits: 2
- SMS 400 - Capstone Research Experience in Marine Science Credits: 1-4
- SMS 402 - Oceans and Climate Change Credits: 3
- SMS 404 - Capstone Seminar in Marine Science Credits: 1
- Recommended SMS Electives Credits: 3-4
- General Education Electives Credits: 6-9

Required Courses in Suggested Sequence for the B.S. in Marine Science: Aquaculture Concentration

First Year - First Semester

- BIO 100 - Basic Biology Credits: 4
- SMS 211 - Introduction to Aquaculture Credits: 3
- MAT 122 - Pre-Calculus Credits: 4
- NFA 117 - Issues and Opportunities Credits: 1
- SMS 100 - Introduction to Ocean Science Credits: 3

First Year - Second Semester

- MAT 126 - Calculus I Credits: 4
- SMS 108 - Beaches and Coasts Credits: 3

- SMS 201 - Biology of Marine Organisms Credits: 3
- SMS 203 - Introduction to Integrative Marine Science Credits: 1
- ENG 101 - College Composition Credits: 3

Second Year - First Semester

- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- SMS 230 - Introduction to Marine Policy and Fisheries Management Credits: 3
- STS 232 - Principles of Statistical Inference Credits: 3
- PHY 111 - General Physics I Credits: 4

Second Year - Second Semester

- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
- PHY 112 - General Physics II Credits: 4
- SMS 204 - Integrative Marine Science II: Physics and Chemistry of Marine Systems Credits: 2
- General Education Requirement Credits: 6

Third Year - First Semester

- SMS 302 - Oceanography Credits: 3
- SMS 303 - Integrative Marine Science III: Oceanography Credits: 2
- SMS 422 - Biology of Fishes Credits: 3
- SMS 449 - Aquaculture Systems Credits: 3
- General Education Requirement Credits: 3

Third Year - Second Semester

- BMB 280 - Introduction to Molecular and Cellular Biology Credits: 3
- SMS 402 - Oceans and Climate Change Credits: 3
- SMS 425 - Applied Population Genetics Credits: 3
- SMS 467 - Fish Nutrition and Feeding Credits: 3
- General Education Requirement Credits: 3

Fourth Year - First Semester

- SMS 400 - Capstone Research Experience in Marine Science Credits: 1-4
- SMS 404 - Capstone Seminar in Marine Science Credits: 1
- SMS 420 - Fish Aquaculture I Credits: 3

Fourth Year - Second Semester

- SMS 304 - Integrative Marine Science IV: Comparative Physiology, Cellular and Molecular Biology Credits: 2
- SMS 400 - Capstone Research Experience in Marine Science Credits: 1-4
- SMS 401 - Critical Issues in Aquaculture Credits: 1
- SMS 404 - Capstone Seminar in Marine Science Credits: 1
- SMS 421 - Fish Aquaculture II Credits: 3
- General Education Requirement Credits: 6

Medical Laboratory Sciences

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120

Minimum Cumulative GPA required to graduate: 2.5

Minimum Grade requirements for courses to count toward major: None.

Other GPA requirements to graduate: Medical Laboratory Sciences majors require a minimum cumulative 2.5 GPA in all courses required for their major to be considered for admission to the practicum at Eastern Maine Medical Center or other hospital in their senior year.

Required Course(s) for fulfilling Capstone Experience: BIO 426

Contact Information: Seanna Annis, Coordinator of Medical Laboratory Sciences, 13 Deering Hall, (207)581-2621, seanna.annis@umit.maine.edu

Students in Medical Laboratory Sciences (Medical Technology) prepare to become medical laboratory scientists who work in the laboratory/diagnostic sector of the health professions industry and research laboratories. Students must enroll as pre-medical laboratory science students and apply for formal admission to the program after completing three semesters of study. Admission is not automatic and depends on academic performance and aptitude for the field. Medical laboratory science students are on campus for three academic years and then spend the senior year in a ten to twelve-month medical center practicum. The University of Maine is affiliated with the School of Medical Laboratory Sciences at Eastern Maine Medical Center (EMMC) in Bangor, ME and the School of Medical Technology at the Cleveland Clinic in Cleveland, OH. Juniors in the Medical Laboratory Sciences program apply directly to the EMMC or other accredited programs for admission to the practicum. Obtaining admission to medical facilities offering a practicum is a competitive process and a student must have a minimum GPA of 2.5 overall and 2.5 in the sciences to be considered for admission to most practicum programs. Completing coursework at the University of Maine does not guarantee a position in a practicum. For enrollment in a practicum program, students must successfully undergo a criminal background check. Laboratories hiring graduates of these programs will also conduct criminal background checks and

require drug testing. After completing the practicum, students are eligible to take the accreditation examination administered by the American Society of Clinical Pathology.

For the BS in Medical Laboratory Sciences, a minimum grade of "C" is required in BIO 100 and BIO208.

Students majoring in Medical Laboratory Sciences must earn a score of 4 or 5 in order to receive advanced placement credit for BIO 100.

Specific Requirements

Students may earn the BS in Medical Laboratory Sciences by completing the curriculum outlined as follows. A minimum of 16 credits of chemistry is required by the National Accrediting Agency for Medical Laboratory Science. The senior year practicum meets the requirement for the General Education Capstone Experience and Writing Intensive in the major.

Chemistry Requirement

- CHY 121 - Introduction to Chemistry Credits: 3
 - CHY 122 - The Molecular Basis of Chemical Change Credits: 3
 - CHY 123 - Introduction to Chemistry Laboratory Credits: 1
 - CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1

 - BMB 221 - Organic Chemistry Credits: 3
 - BMB 222 - Laboratory in Organic Chemistry Credits: 1
- OR**
- CHY 251 - Organic Chemistry I Credits: 3
 - CHY 253 - Organic Chemistry Laboratory I Credits: 2

 - BMB 322 - Biochemistry Credits: 3
 - BMB 323 - Biochemistry Laboratory Credits: 2

Curriculum for the B.S. in Medical Laboratory Sciences

Courses are arranged in the recommended sequence. See the Coordinator of the Medical Laboratory Sciences Program for variations in the order of the courses.

First Year - First Semester

- BIO 100 - Basic Biology Credits: 4
 - CHY 121 - Introduction to Chemistry Credits: 3
 - CHY 123 - Introduction to Chemistry Laboratory Credits: 1
 - ENG 101 - College Composition Credits: 3

 - MAT 122 - Pre-Calculus Credits: 4
- or
- MAT 126 - Calculus I Credits: 4

 - NFA 117 - Issues and Opportunities Credits: 1

First Year - Second Semester

- BIO 208 - Anatomy and Physiology Credits: 4
- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
- General Education Requirements Credits: 6

Second Year - First Semester

- BMB 221 - Organic Chemistry Credits: 3
 - BMB 222 - Laboratory in Organic Chemistry Credits: 1
- OR**
- CHY 251 - Organic Chemistry I Credits: 3
 - CHY 253 - Organic Chemistry Laboratory I Credits: 2
-
- BMB 300 - General Microbiology Credits: 3
 - BMB 305 - General Microbiology Laboratory Credits: 2
 - General Education Requirement Credits: 6

Second Year - Second Semester

- BMB 280 - Introduction to Molecular and Cellular Biology Credits: 3
- BMB 322 - Biochemistry Credits: 3
- BMB 323 - Biochemistry Laboratory Credits: 2
- BMB 420 - Infectious Disease Credits: 3
- BMB 421 - Infectious Disease Laboratory Credits: 2
- STS 232 - Principles of Statistical Inference Credits: 3

Third Year - First Semester

- BMB 400 - Molecular Genetics Credits: 3
- BMB 440 - Introductory Immunology Credits: 3
- BMB 441 - Introductory Immunology Laboratory Credits: 1
- General Education Requirements or Electives Credits: 7

Third Year - Second Semester

- BIO 405 - Medical Laboratory Methods of Infectious Disease Credits: 3
- BIO 421 - Introduction to Medical Laboratory Methods Credits: 4
- BIO 480 - Cell Biology Credits: 3
- BIO 483 - Cell Biology Laboratory Credits: 1
- General Education Requirements or Electives Credits: 5

Fourth Year

Practicum in Medical Laboratory Sciences at Eastern Maine Medical Center or Cleveland Clinic (or another accredited program)
- 32 credits.

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: Robert Gundersen, Chair, Hitchner Hall Room 117, (207) 581-2802, gundersn@maine.edu OR John Singer, Undergraduate Coordinator, Hitchner Hall, Room 280, (207) 581-2808, jsinger@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.

Required Courses in Suggested Sequence for the B.S. in Microbiology

First Year - First Semester

- BIO 100 - Basic Biology Credits: 4

- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- ENG 101 - College Composition Credits: 3
- MAT 126 - Calculus I Credits: 4
- NFA 117 - Issues and Opportunities Credits: 1

First Year - Second Semester

- BIO 200 - Biology of Organisms Credits: 4
- BMB 280 - Introduction to Molecular and Cellular Biology Credits: 3
- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
- General Education Requirement Credits: 3

Second Year - First Semester

- BMB 300 - General Microbiology Credits: 3
- BMB 305 - General Microbiology Laboratory Credits: 2
- CHY 251 - Organic Chemistry I Credits: 3
- CHY 253 - Organic Chemistry Laboratory I Credits: 2
- General Education Requirement Credits: 6

Second Year - Second Semester

- BMB 322 - Biochemistry Credits: 3
- BMB 323 - Biochemistry Laboratory Credits: 2
- BMB 420 - Infectious Disease Credits: 3
- BMB 421 - Infectious Disease Laboratory Credits: 2
- CHY 252 - Organic Chemistry II Credits: 3
- CHY 254 - Organic Chemistry Laboratory II Credits: 2

Third Year - First Semester

- BMB 400 - Molecular Genetics Credits: 3
- BMB 440 - Introductory Immunology Credits: 3
- BMB 441 - Introductory Immunology Laboratory Credits: 1
- BMB 464 - Analytical and Preparative Biochemical Laboratory Methods Credits: 4
- PHY 111 - General Physics I Credits: 4

Third Year - Second Semester

- BMB 430 - Bacterial Physiology Credits: 3
- BMB 431 - Bacterial Physiology Laboratory Credits: 1
- or
- BMB 455 - Virology Credits: 3
- BMB 456 - Virology Laboratory Credits: 1

- BMB 471 - Cell Culture Laboratory Credits: 1
- STS 232 - Principles of Statistical Inference Credits: 3
- PHY 112 - General Physics II Credits: 4
- General Education Requirements Credits: 3

Fourth Year - First Semester

- BMB 490 - Microbial Genetics Credits: 5
- BMB 491 - Biochemistry, Microbiology and Molecular Biology Research Credits: Ar
- BMB 580 - Microbiology Seminar Credits: 1 (see Graduate Catalog for course description)
- General Education Requirements Credits: 6

Fourth Year - Second Semester

- BMB 430 - Bacterial Physiology Credits: 3
- BMB 431 - Bacterial Physiology Laboratory Credits: 1
- or
- BMB 455 - Virology Credits: 3
- BMB 456 - Virology Laboratory Credits: 1

- BMB 491 - Biochemistry, Microbiology and Molecular Biology Research Credits: Ar
- BMB 580 - Microbiology Seminar Credits: 1 (see Graduate Catalog for course description)
- Elective Credits: 6

Molecular and Cellular 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: For the Molecular & Cellular Biology 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 Molecular & Cellular Biology major requires a minimum GPA of 2.0 for all required BMB courses and Science Electives.

Required Course(s) for fulfilling Capstone Experience: BMB 491

Contact Information: Robert Gundersen, Chair, Hitchner Hall Room 117, (207) 581-2802, gundersn@maine.edu
OR John Singer, Undergraduate Coordinator, Hitchner Hall, Room 280, (207) 581-2808, jsinger@maine.edu

The Molecular and Cellular Biology 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 & Cellular Biology 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 Cellular Biology 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 Cellular Biology

Molecular and Cellular Biology 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.

Required Courses in Suggested Sequence for the B.S. in Molecular and Cellular Biology

First Year - First Semester

- BIO 100 - Basic Biology Credits: 4
- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- ENG 101 - College Composition Credits: 3
- MAT 126 - Calculus I Credits: 4
- NFA 117 - Issues and Opportunities Credits: 1

First Year - Second Semester

- BIO 200 - Biology of Organisms Credits: 4
- BMB 280 - Introduction to Molecular and Cellular Biology Credits: 3
- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
- MAT 127 - Calculus II Credits: 4

Second Year - First Semester

- BMB 300 - General Microbiology Credits: 3
- BMB 305 - General Microbiology Laboratory Credits: 2
- CHY 251 - Organic Chemistry I Credits: 3
- CHY 253 - Organic Chemistry Laboratory I Credits: 2
- General Education Requirements Credits: 6

Second Year - Second Semester

- BMB 322 - Biochemistry Credits: 3

- BMB 323 - Biochemistry Laboratory Credits: 2
- CHY 252 - Organic Chemistry II Credits: 3
- CHY 254 - Organic Chemistry Laboratory II Credits: 2
- General Education Requirement Credits: 6

Third Year - First Semester

- BIO 462 - Principles of Genetics Credits: 3
- BMB 400 - Molecular Genetics Credits: 3
- BMB 464 - Analytical and Preparative Biochemical Laboratory Methods Credits: 4
- PHY 111 - General Physics I Credits: 4

Third Year - Second Semester

- BIO 480 - Cell Biology Credits: 3
- BMB 460 - Advanced Biochemistry Credits: 3
- PHY 112 - General Physics II Credits: 4
- STS 232 - Principles of Statistical Inference Credits: 3
- General Education Requirements Credits: 3

Fourth Year - First Semester

- BMB 490 - Microbial Genetics Credits: 5
- BMB 491 - Biochemistry, Microbiology and Molecular Biology Research Credits: Ar
- BMB 580 or BMB 582 Seminar Credit: 1 (see Graduate Catalog for course descriptions)
- Program Elective Credits: 3
- General Education Requirements Credits: 3

Fourth Year - Second Semester

- BMB 491 - Biochemistry, Microbiology and Molecular Biology Research Credits: Ar
- BMB 580 or BMB 582 Seminar Credits: 1 (see Graduate Catalog for course descriptions)
- Program Elective Credits: 7
- Elective Credits: 1

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 75% to be given a passing grade of "C."

Other GPA requirements to graduate: Cumulative science GPA of 3.0. This includes BIO 100; BIO 208; BMB 207/209 or CHY 121/123, and BMB 240/241.

Required Course(s) for fulfilling Capstone Experience: NUR 411 or NUR 447 or NUR 455

Contact Information: Nancy Fishwick, Director, 217 Dunn Hall, 581-2607

The School of Nursing baccalaureate curriculum provides study in liberal arts, sciences and the nursing major. 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 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 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. Professional liability and health insurance is strongly recommended for all nursing students.

Prior to beginning the first clinical course 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 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. Currently the CBC costs approximately \$40.00. 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.

In addition to purchasing course textbooks, students are required to buy lab kits for NUR 200 and NUR 301; the lab kits are available in the UMaine bookstore. The totes will also be used during community health clinical placements.

Course fee: Course fee of \$50.00 per credit hour are assessed on clinical and lab nursing courses.

The School of Nursing hosts a Recognition Ceremony on campus for graduating seniors each May and December. The cost of the event is assumed by the graduating class. 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. 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 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 nursing program, applicants must have completed at least one semester of course work with a minimum 3.0 science grade point average and a cumulative GPA of 3.0. Internal transfers must have completed at least one semester of science (BIO 100 or BMB 207/209) and MAT 111 or Statistics. Students interested in the nursing major must submit a Change of Major form along with an essay that describes the rationale for selecting the profession of nursing and the potential strengths they bring to the profession. 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 are assessed via the essay. Writing ability is also a consideration.

External transfer: Students must complete an undergraduate application, identify nursing as their preferred major and submit an essay. Review of applicants will occur in March for Fall entry only. External transfers must have a minimum GPA of 3.5 and must have completed a minimum of 30 credits in the following areas: Biology or Anatomy and Physiology, English Composition, Math and/or Statistics, and Social Sciences (such as Psychology, Sociology, Growth and Development). If an external candidate is admissible to the University, but not directly admissible to the School of Nursing, their admission to the university does not in any way assure students that they will be admitted to the nursing major. Admitted students in this category should plan to meet with the Assistant Director of the School of Nursing to determine the best course of action which might include completing one or two semesters of prerequisite course work and making application as an internal candidate. External transfer students who are directly admitted to the School of Nursing will have a letter from the Office of Admission stating this.

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 offered admission, 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.

Pre-Nursing Concentration

The Pre-Nursing Program is the same as our regular nursing program, however, it is taken over a longer period time. The pre-nursing curriculum gives the student every possibility of being successful in the nursing program. The first two years prepare the student for upper level nursing courses by providing a strong scientific foundation. The students take general education, social science and elective courses which help round out the college experience. Students have the first two semesters to demonstrate their academic ability to progress in the nursing curriculum.

The pre-nursing student will begin nursing courses in the first semester of the second year.

BSN Program of Study

First Year-First Semester

- BIO 100 - Basic Biology Credits: 4
 - BMB 207 - Fundamentals of Chemistry Credits: 3
 - BMB 209 - Fundamentals of Chemistry Laboratory Credits: 1
- Or
- CHY 121 - Introduction to Chemistry Credits: 3
 - CHY 123 - Introduction to Chemistry Laboratory Credits: 1
 - ENG 101 - College Composition Credits: 3
 - FSN 101 - Introduction to Food and Nutrition Credits: 3
 - NUR 101 - Issues and Opportunities in Nursing Credits: 1
- Students may choose to take BMB 207 and 209 or CHY 121 and 123.

First Year-Second Semester

- BIO 208 - Anatomy and Physiology Credits: 4
- BMB 240 - Microbiology for the Professional Nurse Credits: 3
- BMB 241 - Microbiology for the Professional Nurse Laboratory Credits: 2
- NUR 102 - Foundations of Nursing Practice I Credits: 1
- PSY 100 - General Psychology Credits: 3
- Math Credits: 3

Second Year-First Semester

- CHF 201 - Introduction to Child Development Credits: 3
- Or
- PSY 223 - Psychology of Childhood Credits: 3
 - STS 232 - Principles of Statistical Inference Credits: 3
 - NUR 103 - Foundations of Nursing Practice II Credits: 3
 - NUR 165 - Introduction to Care of the Older Adult Credits: 1
 - SOC 101 - Introduction to Sociology Credits: 3
 - Philosophy Credits: 3
 - Students can take either CHF 201 or PSY 223.

Second Year-Second Semester

- NUR 200 - Care of Adults I Credits: 3
- NUR 201 - Care of Adults I Clinical Credits: 1
- NUR 202 - Application of Theory to Nursing Practice I Credits: 1
- NUR 265 - Human Genetics and Genomics for Nursing Practice Credits: 1
- NUR 300 - Health Assessment Through the Lifespan Credits: 4
- NUR 303 - Pathophysiology Credits: 3
- General Education Credits: 3

Third Year-First Semester

- NUR 301 - Care of Adults II Credits: 3
- NUR 302 - Application of Theory to Nursing Practice II Credits: 1
- NUR 306 - Care of Adults II Clinical Credits: 2
- NUR 316 - Pharmacology for Nursing Practice Credits: 3
- NUR 415 - Socio-Cultural Issues in Health and Health Care Credits: 3
- General Elective Credits: 3

Third Year-Second Semester

- NUR 310 - Health Related Research Credits: 3
- NUR 334 - Care of Adults III Credits: 3
- NUR 335 - Care of Adults III Clinical Credits: 2
- NUR 340 - Psychiatric Mental Health Nursing Credits: 3
- NUR 341 - Clinical Practice in Psychiatric Mental Health Nursing Credits: 2
- NUR 365 - Healthcare Informatics Credits: 1

Fourth Year-First Semester

- NUR 413 - Nursing Care Management of Women, Infants and Families Credits: 3
- NUR 414 - Maternal, Newborn, and Women's Health Nursing Clinical Credits: 1
- NUR 416 - Nursing Care Management of Children and Families Credits: 3
- NUR 417 - Nursing Care Management of Children and Families Credits: 1
- NUR 435 - Nursing Care of Patients and Families at End of Life Credits: 1
- NUR 452 - Community and Population Health Credits: 3
- NUR 453 - Community Nursing Care Management Credits: 2

Fourth Year-Second Semester

- NUR 444 - Management and Leadership in Health Care System Credits: 3
- NUR 447 - Clinical Reflection Seminar Credits: 1
- NUR 455 - Senior Clinical Practicum Credits: 4
- Directed Nursing Elective Credits: 3
- Directed Nursing Elective Credits: 1
- General Elective

Pre-Nursing Program of Study

First Year-First Semester

- BIO 100 - Basic Biology Credits: 4
- ENG 101 - College Composition Credits: 3
- FSN 101 - Introduction to Food and Nutrition Credits: 3
- NUR 101 - Issues and Opportunities in Nursing Credits: 1

- Math Credits: 3

First Year-Second Semester

- BIO 208 - Anatomy and Physiology Credits: 4
- CHF 201 - Introduction to Child Development Credits: 3
- Or
- PSY 223 - Psychology of Childhood Credits: 3
- PSY 100 - General Psychology Credits: 3
- General Education Credits: 3
- Students may take either CHF 201 or PSY 223.

Second Year-First Semester

- BMB 207 - Fundamentals of Chemistry Credits: 3
- BMB 209 - Fundamentals of Chemistry Laboratory Credits: 1
- Or
- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- STS 232 - Principles of Statistical Inference Credits: 3
- NUR 102 - Foundations of Nursing Practice I Credits: 1
- Philosophy Credits:3
- General Elective Credits: 3
- Students can take either BMB 207 and 209 or CHY 121 and 123.

Second Year-Second Semester

- BMB 240 - Microbiology for the Professional Nurse Credits: 3
- BMB 241 - Microbiology for the Professional Nurse Laboratory Credits: 2
- NUR 103 - Foundations of Nursing Practice II Credits: 3
- NUR 165 - Introduction to Care of the Older Adult Credits: 1
- SOC 101 - Introduction to Sociology Credits: 3
- General Education Credits: 3

Third Year-First Semester

- NUR 200 - Care of Adults I Credits: 3
- NUR 201 - Care of Adults I Clinical Credits: 1
- NUR 202 - Application of Theory to Nursing Practice I Credits: 1
- NUR 265 - Human Genetics and Genomics for Nursing Practice Credits: 1
- NUR 300 - Health Assessment Through the Lifespan Credits: 4
- NUR 303 - Pathophysiology Credits: 3

Third Year-Second Semester

- NUR 301 - Care of Adults II Credits: 3
- NUR 302 - Application of Theory to Nursing Practice II Credits: 1
- NUR 306 - Care of Adults II Clinical Credits: 2
- NUR 310 - Health Related Research Credits: 3
- NUR 316 - Pharmacology for Nursing Practice Credits: 3
- NUR 365 - Healthcare Infomatics Credits: 1
- NUR 404 - Fundamentals of Pharmacology Credits: 3

Fourth Year-First Semester

- NUR 334 - Care of Adults III Credits: 3
- NUR 335 - Care of Adults III Clinical Credits: 2
- NUR 340 - Psychiatric Mental Health Nursing Credits: 3
- NUR 341 - Clinical Practice in Psychiatric Mental Health Nursing Credits: 2
- NUR 415 - Socio-Cultural Issues in Health and Health Care Credits: 3

Fourth Year-Second Semester

- NUR 413 - Nursing Care Management of Women, Infants and Families Credits: 3
- NUR 414 - Maternal, Newborn, and Women's Health Nursing Clinical Credits: 1
- NUR 416 - Nursing Care Management of Children and Families Credits: 3
- NUR 417 - Nursing Care Management of Children and Families Credits: 1
- NUR 452 - Community and Population Health Credits: 3
- NUR 453 - Community Nursing Care Management Credits: 2

Fifth Year-First Semester

- NUR 435 - Nursing Care of Patients and Families at End of Life Credits: 1
- NUR 444 - Management and Leadership in Health Care System Credits: 3
- NUR 447 - Clinical Reflection Seminar Credits: 1
- NUR 455 - Senior Clinical Practicum Credits: 4
- Directed Nursing Elective Credits: 3
- Directed Nursing Elective Credits: 1

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

Concentrations: Students need to complete requirements for one concentration.

Contact Information: William H. Livingston, Associate Director for Undergraduate Programs, 201b Nutting Hall, 581-2990, WilliamL@maine.edu

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 Massachusetts or Rhode Island for reduced tuition (in-state tuition plus 50 percent).

Three concentrations allow a student to focus on what best meets their interests and professional goals. The Parks and Recreation Management Concentration is for students wanting careers in park and outdoor recreation settings with an emphasis on forest resource management. The curriculum for the Parks and Recreation Management Concentration is accredited by the Society of American Foresters. The Nature Based Tourism Concentration emphasizes outdoor enjoyment of forest resources and strategies for developing a successful tourism program. The Conservation Law Enforcement Concentration is for students who want careers as park and forest rangers.

All students in Parks, Recreation and Tourism need to take the core requirements. After the first 2 semesters, students need to select a concentration and complete its requirements as well.

Core requirements - 49 credits:

- ECO 120 - Principles of Microeconomics Credits: 3
- ENG 101 - College Composition Credits: 3
- ENG 317 - Business and Technical Writing Credits: 3
- MAT 122 - Pre-Calculus 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
- SFR 103 - Introduction to Forest Resource Professions Credits: 1
- SFR 106 - Forest Land Navigation and Outdoor Preparedness Credits: 1
- SFR 107 - Forest Vegetation Credits: 3
- SFR 220 - Environment and Society Credits: 3
- SFR 222 - Environmental Communication Skills Credits: 3
- SFR 228 - Forest Recreation Management Credits: 3
- SFR 399 - Field Experience in Parks, Recreation and Tourism Credits: Ar
- SFR 400 - Applied Geographic Information Systems Credits: 4
- SFR 479 - Environmental Attitudes and Behaviors Credits: 3
- SFR 480 - Wilderness and Protected Areas Management Credits: 3

Parks and Recreation Management Concentration (see footnote 1) requirements - 64 credits:

- CHY 121 - Introduction to Chemistry Credits: 3
- AND**
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- OR**
- PHY 111 - General Physics I Credits: 4
-
- EES 140 - Soil Science Credits: 3
 - SFR 150 - Introduction to Tourism Credits: 3
 - SFR 205 - Forest Measurements and Statistics Credits: 3
-
- SFR 211 - Forest Operations Planning Credits: 4
- OR
- SFR 108 - Introduction to Arboriculture and Community Forestry Credits: 3
- AND

- SFR 109 - Introduction to Arboriculture Lab Credits: 1
 - SFR 226 - Park Systems of the World Credits: 3
 - SFR 397 - Field Experience in Forestry Credits: 0-6
 - SFR 407 - Forest Ecology Credits: 3
 - SFR 408 - Silviculture Credits: 3
 - SFR 409 - Forest Ecology and Silviculture Field Laboratory Credits: 2
 - SFR 434 - Recreation Site Planning and Management Credits: 3
 - SFR 444 - Forest Resources Economics Credits: 3
 - SFR 446 - Forest Resources Policy Credits: 3
 - SFR 452 - Environmental Interpretation Credits: 4 (fall odd yrs)
 - SFR 458 - Tree Pests and Disease Lab Credits: 1
 - SFR 464 - Forest Resources Business, Marketing and Entrepreneurship Credits: 3
 - SFR 477 - Forest Landscape Management and Planning Credits: 3
 - SFR 491 - Senior Capstone in Parks, Recreation and Tourism Credits: 3
- OR**
- SFR 492 - Capstone Directed Study Credits: 1-4
 - SFR Directed Electives (SFR 4XX or advisor approval) Credits: 9
- SOC 101 - Introduction to Sociology Credits: 3
- OR**
- PSY 10X Basic psychology course Credits: 3

¹The curriculum for the Parks and Recreation Management Concentration is accredited by the Society of American Foresters

Nature-Based Tourism Concentration requirements - 51 credits:

- BUA 201 - Principles of Financial Accounting Credits: 3
 - BUA 270 - Marketing Credits: 3
 - or Additional directed elective Credits: 3
 - ECO 121 - Principles of Macroeconomics Credits: 3
 - ECO 422 - Rural Economic Development Credits: 3
 - ERS 101 - Introduction to Geology Credits: 4
 - STS 215 - Introduction to Statistics for Business and Economics Credits: 3
- OR**
- STS 232 - Principles of Statistical Inference Credits: 3
- PSY 100 - General Psychology Credits: 3
 - SFR 150 - Introduction to Tourism Credits: 3
 - SFR 226 - Park Systems of the World Credits: 3
 - SFR 236 - Commercial Outdoor Recreation Management Credits: 3
 - SFR 349 - Applied Forest Ecology and Silviculture Credits: 4
 - SFR 396 - Internship in Parks, Recreation and Tourism Credits: Ar
 - SFR 452 - Environmental Interpretation Credits: 4
 - SFR 493 - Sustainable Tourism Planning Credits: 3

- WLE 230 - Introduction to Wildlife Conservation Credits: 3

OR

- WLE 323 - Introduction to Conservation Biology Credits: 3
- Directed Electives Credits: 12 (Directed electives need to be related to the major, such as courses needed to complete a Business Administration minor. Advisor approval is needed for a course to meet this requirement)

Conservation Law Enforcement Concentration requirement - 64-65 credits

- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- EES 140 - Soil Science Credits: 3
- EES 324 - Environmental Protection Law and Policy Credits: 3
- PSY 100 - General Psychology Credits: 3
- SFR 205 - Forest Measurements and Statistics Credits: 3
- SFR 208 - Geomatics, Coordinate Geometry, and GPS Credits: 4

- SFR 211 - Forest Operations Planning Credits: 4

OR

- SFR 108 - Introduction to Arboriculture and Community Forestry Credits: 3

AND

- SFR 109 - Introduction to Arboriculture Lab Credits: 1

- SFR 226 - Park Systems of the World Credits: 3

OR

- SFR 452 - Environmental Interpretation Credits: 4

- SFR 349 - Applied Forest Ecology and Silviculture Credits: 4
- SFR 434 - Recreation Site Planning and Management Credits: 3
- SFR 444 - Forest Resources Economics Credits: 3
- SFR 446 - Forest Resources Policy Credits: 3

- SFR 491 - Senior Capstone in Parks, Recreation and Tourism Credits: 3

OR

- SFR 492 - Capstone Directed Study Credits: 1-4

- SOC 101 - Introduction to Sociology Credits: 3

Criminology Electives: Credits 9: need to be selected from the following list. Other courses can be used with advisor approval.

- SOC 214 - Crime and Criminal Justice Credits: 3
- SOC 314 - Law and Society Credits: 3
- SOC 208 - Problems of Violence and Terrorism Credits: 3
- SOC 240 - Topics in Sociology Credits: 3
- SOC 337 - Sociology of Mental Illness Credits: 3
- POS 282 - Introduction to American Law Credits: 3
- POS 383 - American Constitutional Law Credits: 3
- POS 384 - American Civil Liberties Credits: 3
- POS 470 - International Law Credits: 3
- PSY 212 - Abnormal Psychology Credits: 3
- PSY 230 - Social Psychology Credits: 3

Conservation Electives: Credits 6: need to be selected from the following list. Other courses can be used with advisor approval.

- ANT 250 - Conservation Anthropology: The Socio-Cultural Dimension of Environmental Issues Credits: 3
- INT 105 - (ECO, REP) Environmental Policy Credits: 3
- SMS 230 - Introduction to Marine Policy and Fisheries Management Credits: 3
- ECO 377 - Introduction to Natural Resource Economics and Policy Credits: 3
- SFR 457 - Tree Pests and Disease Credits: 3
- SFR 458 - Tree Pests and Disease Lab Credits: 1

General Elective Courses - 12-20 credits

-Students need to take general elective courses that will bring the total credit hours to at least 120 credits. One of these courses will need to satisfy the General Education Requirements for Artistic and Creative Expression.

- WLE 323 - Introduction to Conservation Biology Credits: 3

General Elective Courses - 12-20 credits

Students need to take general elective courses that will bring the total credit hours to at least 120 credits. One of these courses will need to satisfy the General Education Requirements for Artistic and Creative Expression

Required Courses in Suggested Sequence for the B.S. in Parks, Recreation and Tourism

Concentration in Parks and Recreation Management (see footnote 1)

First Year - First Semester

- MAT 122 - Pre-Calculus Credits: 4
- SFR 101 - Introduction to Forest Resources Credits: 1
- SFR 103 - Introduction to Forest Resource Professions Credits: 1
- SFR 106 - Forest Land Navigation and Outdoor Preparedness Credits: 1
- SFR 107 - Forest Vegetation Credits: 3
- SFR 226 - Park Systems of the World Credits: 3
- SFR 220 - Environment and Society Credits: 3

First Year - Second Semester

- ENG 101 - College Composition Credits: 3
- SFR 100 - Introduction to Forest Biology Credits: 3
- SFR 102 - Structure and Function of Woody Plants Laboratory Credits: 1
- SFR 150 - Introduction to Tourism Credits: 3
- SFR 205 - Forest Measurements and Statistics Credits: 3

- SFR 222 - Environmental Communication Skills Credits: 3

OR

- CMJ 103 - Fundamentals of Public Communication Credits: 3

First Year - May Term

- SFR 397 - Field Experience in Forestry Credits: 0-6

Second Year - First Semester

- CHY 121 - Introduction to Chemistry Credits: 3

AND

- CHY 123 - Introduction to Chemistry Laboratory Credits: 1

OR

- PHY 111 - General Physics I Credits: 4

- ECO 120 - Principles of Microeconomics Credits: 3

- SFR 211 - Forest Operations Planning Credits: 4

OR

- SFR 108 - Introduction to Arboriculture and Community Forestry Credits: 3

AND

- SFR 109 - Introduction to Arboriculture Lab Credits: 1

- SFR 228 - Forest Recreation Management Credits: 3

Second Year - Second Semester

- EES 140 - Soil Science Credits: 3

- SFR 400 - Applied Geographic Information Systems Credits: 4

- SOC 101 - Introduction to Sociology Credits: 3

OR

- PSY 1XX - Psychology course Credits: 3

General Education Elective in Creative and Artistic Expression Credits: 3

Elective Course Credits: 3

Second Year - May Term

- SFR 397 - Field Experience in Forestry Credits: 0-6

OR

- SFR 399 - Field Experience in Parks, Recreation and Tourism Credits: Ar

Third Year - First Semester

- SFR 407 - Forest Ecology Credits: 3

- SFR 408 - Silviculture Credits: 3

- SFR 409 - Forest Ecology and Silviculture Field Laboratory Credits: 2

- SFR 458 - Tree Pests and Disease Lab Credits: 1

- Directed Elective Credits: 3 see Footnote 1
- Elective Course Credits:3

Third Year - Second Semester

- ENG 317 - Business and Technical Writing Credits: 3
- SFR 446 - Forest Resources Policy Credits: 3
- SFR 479 - Environmental Attitudes and Behaviors Credits: 3
- SFR Directed Elective Credits: 3 see Footnote 2
- Elective Course Credits: 3

Fourth Year - First Semester

- SFR 434 - Recreation Site Planning and Management Credits: 3
- SFR 444 - Forest Resources Economics Credits: 3
- SFR 452 - Environmental Interpretation Credits: 4
- SFR 477 - Forest Landscape Management and Planning Credits: 3

Fourth Year - Second Semester

- SFR 464 - Forest Resources Business, Marketing and Entrepreneurship Credits: 3
- SFR 480 - Wilderness and Protected Areas Management Credits: 3

- SFR 491 - Senior Capstone in Parks, Recreation and Tourism Credits: 3

OR

- SFR 492 - Capstone Directed Study Credits: 1-4
See Footnote 3

- Directed Elective Credits: 3 See footnote 2
- Elective Course Credits: 1 or 3 See footnote 4

Footnotes

¹The curriculum for the Parks and Recreation Management Concentration is accredited by the Society of American Foresters.

²Any SFR 4XX course that is not part of the forestry requirements, or other course with advisor approval.

³SFR 492 can be taken over 1 or 2 semesters, 1 to 4 credits per semester with advisor approval. A minimum of 3 credits is needed for graduation, and a maximum of 4 credits can be earned.

⁴Take the number of elective course credits needed to attain 120 credits total

Concentration in Nature Based Tourism

First Year - First Semester

- MAT 122 - Pre-Calculus Credits: 4
- SFR 101 - Introduction to Forest Resources Credits: 1
- SFR 103 - Introduction to Forest Resource Professions Credits: 1
- SFR 106 - Forest Land Navigation and Outdoor Preparedness Credits: 1
- SFR 107 - Forest Vegetation Credits: 3
- SFR 220 - Environment and Society Credits: 3
- Elective Course Credits: 3

First Year - Second Semester

- ENG 101 - College Composition Credits: 3
 - ECO 120 - Principles of Microeconomics Credits: 3
 - SFR 100 - Introduction to Forest Biology Credits: 3
 - SFR 102 - Structure and Function of Woody Plants Laboratory Credits: 1
 - SFR 150 - Introduction to Tourism Credits: 3

 - SFR 222 - Environmental Communication Skills Credits: 3
- OR
- CMJ 103 - Fundamentals of Public Communication Credits: 3

Second Year - First Semester

- BUA 201 - Principles of Financial Accounting Credits: 3
- ECO 121 - Principles of Macroeconomics Credits: 3
- ERS 101 - Introduction to Geology Credits: 4
- SFR 226 - Park Systems of the World Credits: 3
- SFR 228 - Forest Recreation Management Credits: 3

Second Year - Second Semester

- BUA 270 - Marketing Credits: 3
- OR**
- Directed Elective Credits: 3 See Footnote 1

 - STS 215 - Introduction to Statistics for Business and Economics Credits: 3
- OR**
- STS 232 - Principles of Statistical Inference Credits: 3

- PSY 100 - General Psychology Credits: 3
- SFR 400 - Applied Geographic Information Systems Credits: 4
- General Education Elective in Creative and Artistic Expression Credits: 3

Second Semester - Summer Term

- SFR 396 - Internship in Parks, Recreation and Tourism Credits: Ar
- SFR 399 - Field Experience in Parks, Recreation and Tourism Credits: Ar

Third Year - First Semester

- ENG 317 - Business and Technical Writing Credits: 3
- SFR 236 - Commercial Outdoor Recreation Management Credits: 3
- SFR 349 - Applied Forest Ecology and Silviculture Credits: 4
- Directed Electives Credits: 3 see Footnote 1

Third Year - Second Semester

- ECO 422 - Rural Economic Development Credits: 3
- SFR 479 - Environmental Attitudes and Behaviors Credits: 3
- WLE 230 - Introduction to Wildlife Conservation Credits: 3
- OR**
- WLE 323 - Introduction to Conservation Biology Credits: 3
see Footnote 2
- Directed Electives Credits: 6 see Footnote 1

Fourth Year - First Semester

- SFR 452 - Environmental Interpretation Credits: 4
- Directed Elective Credits: 3 see Footnote 1
- Elective Course Credits: 8

Fourth Year - Second Semester

- SFR 480 - Wilderness and Protected Areas Management Credits: 3
- SFR 493 - Sustainable Tourism Planning Credits: 3
- Elective Course Credits: 6

Footnotes

1. Directed electives need to be related to the major, such as courses needed to complete a Business Administration minor. Advisor approval is needed for a course to meet this requirement.
2. WLE 323 is offered in the fall semester; it can be switched with elective credit scheduled for fall of senior year. This requirement can be satisfied by another WLE course with advisor approval.

Concentration in Conservation Law Enforcement

First Year - First Semester

- ENG 101 - College Composition Credits: 3
- MAT 122 - Pre-Calculus Credits: 4
- SFR 101 - Introduction to Forest Resources Credits: 1
- SFR 103 - Introduction to Forest Resource Professions Credits: 1
- SFR 106 - Forest Land Navigation and Outdoor Preparedness Credits: 1
- SFR 107 - Forest Vegetation Credits: 3
- SFR 220 - Environment and Society Credits: 3

First Year - Second Semester

- SFR 100 - Introduction to Forest Biology Credits: 3
- SFR 102 - Structure and Function of Woody Plants Laboratory Credits: 1
- SFR 205 - Forest Measurements and Statistics Credits: 3

- SFR 222 - Environmental Communication Skills Credits: 3
- OR
- CMJ 103 - Fundamentals of Public Communication Credits: 3

- SOC 101 - Introduction to Sociology Credits: 3
- PSY 100 - General Psychology Credits: 3

Second Year - First Semester

- SFR 208 - Geomatics, Coordinate Geometry, and GPS Credits: 4

- SFR 211 - Forest Operations Planning Credits: 4
- OR

- SFR 108 - Introduction to Arboriculture and Community Forestry Credits: 3

AND

- SFR 109 - Introduction to Arboriculture Lab Credits: 1

- SFR 228 - Forest Recreation Management Credits: 3

Second Year - Second Semester

- CHY 121 - Introduction to Chemistry Credits: 3
 - CHY 123 - Introduction to Chemistry Laboratory Credits: 1
 - EES 140 - Soil Science Credits: 3
 - SFR 400 - Applied Geographic Information Systems Credits: 4
- Criminology Elective: Credits 3 (see Footnote1)

Second Year - Summer Term

- SFR 399 - Field Experience in Parks, Recreation and Tourism Credits: Ar

Third Year - First Semester

- ECO 120 - Principles of Microeconomics Credits: 3
 - EES 324 - Environmental Protection Law and Policy Credits: 3
 - SFR 434 - Recreation Site Planning and Management Credits: 3
 - WLE 323 - Introduction to Conservation Biology Credits: 3
- Criminology Elective Credits: 3 (see footnote1)

Third Year - Second Semester

- ENG 317 - Business and Technical Writing Credits: 3
- SFR 479 - Environmental Attitudes and Behaviors Credits: 3
- General Education Elective in Creative and Artistic Expression Credits: 3
- Conservation Elective Credits: 3 (see footnote 2)
- Elective Course Credits: 3

Fourth Year - First Semester

- SFR 226 - Park Systems of the World Credits: 3

OR

- SFR 452 - Environmental Interpretation Credits: 4
- SFR 349 - Applied Forest Ecology and Silviculture Credits: 4
- SFR 444 - Forest Resources Economics Credits: 3
- Conservation Elective Credits: 3 (see footnote 2)

Fourth Year - Second Semester

- SFR 446 - Forest Resources Policy Credits: 3
 - SFR 480 - Wilderness and Protected Areas Management Credits: 3
 - SFR 491 - Senior Capstone in Parks, Recreation and Tourism Credits: 3
- OR**
- SFR 492 - Capstone Directed Study Credits: 1-4
 - Elective Course Credits: 6-7 See Footnote 3

Footnotes

Footnote 1

1. Criminology electives need to be selected from the below list. Other courses can be used with advisor approval.

- SOC 208 - Problems of Violence and Terrorism Credits: 3
- SOC 214 - Crime and Criminal Justice Credits: 3
- SOC 240 - Topics in Sociology Credits: 3
- SOC 314 - Law and Society Credits: 3
- POS 282 - Introduction to American Law Credits: 3
- POS 383 - American Constitutional Law Credits: 3
- POS 384 - American Civil Liberties Credits: 3
- POS 470 - International Law Credits: 3
- PSY 212 - Abnormal Psychology Credits: 3
- PSY 230 - Social Psychology Credits: 3

Footnote 2

Conservation electives need to be selected from the following list. Other courses can be used with advisor approval.

- ANT 250 - Conservation Anthropology: The Socio-Cultural Dimension of Environmental Issues Credits: 3
- INT 105 - (ECO, REP) Environmental Policy Credits: 3
- SMS 230 - Introduction to Marine Policy and Fisheries Management Credits: 3
- ECO 377 - Introduction to Natural Resource Economics and Policy Credits: 3
- SFR 457 - Tree Pests and Disease Credits: 3
- SFR 458 - Tree Pests and Disease Lab Credits: 1

Footnotes 3

SFR 492 can be taken over 1 or 2 semesters, 1 to 4 credits per semester with advisor approval. A minimum of 3 credits is needed for graduation, and a maximum of 4 credits can be earned.

Footnote 4

Take enough elective credits to bring the total credits to 120.

Note

Any student who receives a semester GPA of less than 2.0 or receives a Conduct Violation must meet the Associate Director for Undergraduate Programs, School of Forest Resources, during the first week of the following semester to formulate an agreement on what the student will do to improve his/her record. The agreement may require passing a 1 credit course on academic recovery. The student must also meet with his/her academic advisor to review the course schedule for the coming semester. Failure to meet these expectations may result in the student being dismissed from the program.

Social Work

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120

Minimum Cumulative GPA required to graduate: 2.5

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, Rm 107 Social Work Building, 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 field instruction. During the junior and senior years, students complete internships in programs such as child protective services, medical social work, adolescent pregnancy prevention services, geriatric social work, community mental health services, and community organization. Sequencing of courses which are a prerequisite for enrollment into the Junior Year Field Experience is important.

Requirements:

The School of Social Work requires a 2.5 overall GPA.

Prerequisites

Applicants should be able to use a basic word-processing computer program.

Academic credit for life experience and previous work experience cannot be given in lieu of the senior field practicum or professional foundation courses.

The following courses are a prerequisite for enrolling in the practice sequence:

- SWK 380 - The Biological Person and the Environment Credits: 3

or

- BIO 208 - Anatomy and Physiology Credits: 4

- ENG 212 - Persuasive and Analytical Writing Credits: 3

or

- ENG 317 - Business and Technical Writing Credits: 3

One of the following PHI courses in Ethics:

- PHI 100 - Contemporary Moral Problems Credits: 3

- PHI 230 - Ethics Credits: 3

- PHI 235 - Biomedical Ethics Credits: 3

- PHI 240 - Social and Political Philosophy Credits: 3

- PHI 344 - Theories of Justice Credits: 3

- POS 100 - American Government Credits: 3

- PSY 100 - General Psychology Credits: 3

- PSY 241 - Statistics in Psychology Credits: 4

or

- STS 232 - Principles of Statistical Inference Credits: 3

- SOC 101 - Introduction to Sociology Credits: 3

- SWK 101 - Opportunities for the Social Work Major Credits: 1

- SWK 330 - Contemporary Issues in Diversity and Pluralism Credits: 3

or

- SOC 201 - Social Inequality Credits: 3

Requirements For the Social Work Major

In addition to the courses which are required for enrollment into the Social Work practice sequence the following courses must be completed in order to earn the B.S. in Social Work degree:

- SWK 320 - Introduction to Social Work Credits: 3
- SWK 350 - Human Behavior and the Social Environment I Credits: 3
- SWK 351 - Human Behavior in the Social Environment II Credits: 3
- SWK 361 - Generalist Social Work Practice I Credits: 3
- SWK 395 - Beginning Field Experience in Social Work Credits: 1 - 3

(2 semesters)

- SWK 440 - Social Welfare Policy and Issues Credits: 3
- SWK 462 - Generalist Social Work Practice II Credits: 3
- SWK 463 - Generalist Social Work Practice III Credits: 3
- SWK 491 - Methods of Social Work Research Credits: 3
- SWK 495 - Field Practicum in Social Work Credits: 1-6

(2 semesters) Correct course sequencing is essential for the Social Work major. Social Work majors should become familiar with information on course sequencing and other requirements described in detail in the B.S. in Social Work Program Guide. Social Work majors are encouraged to review their program course plan with their academic advisors each semester to insure timely and efficient progress through their program.

Ethics

In addition to academic expectations, Social Work students are expected to demonstrate professional behavior consistent with the ethics of the Social Work profession as reflected in the Code of Ethics of the National Association of Social Workers. Behavior contrary to these standards will be cause for review of the student's admission to or continuation in the Social Work major.

Behavior

Because the role of the social worker involves helping people from a variety of backgrounds and with a range of problems, it is important that Social Work students have the emotional and psychological resources to render effective assistance to those in need. After admission to the major, students who demonstrate behaviors which suggest that their own difficulties are not sufficiently resolved to be able to help and support others at this time may be asked to seek professional help or to withdraw from the program.

Admission to the Practice Sequence

In the fall semester of the junior year, students must apply for permission to enroll in the first course of the Practice Sequence, SWK 361 - Generalist Social Work Practice I. To be admitted to the practice sequence, a student must have completed the social work prerequisites and/or be currently enrolled in any not yet completed. For full acceptance into the sequence, the student must have achieved a grade point average of 2.5 or higher. Application forms are distributed in September and may be obtained from the School of Social Work. Completed application packets are due on or before October 15 of the student's junior year. Only complete applications packets are reviewed by the B.S. in Social Work Admissions Committee.

Field Practicum

Study for the Social Work major includes courses in theory, research, and practice. Study culminates during the senior year in a 400-hour supervised practicum in a social agency. In the practicum, students refine and integrate their academic knowledge and practice skills. Prior to the field practicum, students must complete the junior level field experience (SWK 395).

Graduation Requirements

A grade of "C-" or better is mandatory in all prerequisite courses, a grade of "C" in all required courses, and a grade point average of 2.50 or higher must be maintained. Students must conduct themselves in a professional manner consistent with the Code of Ethics of the National Association of Social Workers.

Master of Social Work Program

The School of Social Work offers graduate study leading to the Master of Social Work (M.S.W.) degree (see Graduate School online catalog for more information).

Required Courses in Suggested Sequence for the B.S. in Social Work

Social work courses listed following an asterisk (*) must be taken during the semester indicated.

First Year-First Semester

- ENG 101 - College Composition Credits: 3
- POS 100 - American Government Credits: 3
- SOC 101 - Introduction to Sociology Credits: 3
- SWK 101 - Opportunities for the Social Work Major Credits: 1
- General Education: Artistic and Creative Expression Credits: 3
- Elective Credits: 3

First Year-Second Semester

- PHI 100 - Contemporary Moral Problems Credits: 3
or
- PHI 230 - Ethics Credits: 3
or
- PHI 235 - Biomedical Ethics Credits: 3
or
- PHI 240 - Social and Political Philosophy Credits: 3
or
- PHI 344 - Theories of Justice Credits: 3

- PSY 100 - General Psychology Credits: 3

- SWK 330 - Contemporary Issues in Diversity and Pluralism Credits: 3
or
- SOC 201 - Social Inequality Credits: 3
- General Education Population and Environment Credits: 3
- Elective Credits: 3

Second Year-First Semester

- Lab Science Credits: 4
- SWK 320 - Introduction to Social Work Credits: 3
- Electives Credits: 6

- General Education: Mathematics Credits: 3

Second Year-Second Semester

- Application Science - Credits: 3
- General Education - Mathematics - Credits: 3
- PSY 241 or MAT 232

Third Year-First Semester

* SWK 350, 395, and 491 must be taken during this semester.

- ENG 212 - Persuasive and Analytical Writing Credits: 3
- or
- ENG 317 - Business and Technical Writing Credits: 3

- SWK 350 - Human Behavior and the Social Environment I Credits: 3
- SWK 395 - Beginning Field Experience in Social Work Credits: 1 - 3
- SWK 491 - Methods of Social Work Research Credits: 3
- SWK 380 - The Biological Person and the Environment Credits: 3

Please Note: SWK 380 does not fulfill the General Education Science requirement but does fulfill the School of Social Work Anatomy and Physiology requirement.

Third Year-Second Semester

* SWK 351, 361, 395, and 440 must be taken during this semester.

- SWK 351 - Human Behavior in the Social Environment II Credits: 3
- SWK 361 - Generalist Social Work Practice I Credits: 3
- SWK 395 - Beginning Field Experience in Social Work Credits: 1 - 3
- SWK 440 - Social Welfare Policy and Issues Credits: 3
- Electives Credits: 3

Fourth Year-First Semester

* SWK 462, and 495 must be taken during this semester.

- SWK 462 - Generalist Social Work Practice II Credits: 3
- SWK 495 - Field Practicum in Social Work Credits: 1-6
- Electives Credits: 6

Fourth Year-Second Semester

* SWK 463, and 495 must be taken during this semester.

- SWK 463 - Generalist Social Work Practice III Credits: 3
- SWK 495 - Field Practicum in Social Work Credits: 1-6
- Elective Credits: 3

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: None.

Other GPA requirements to graduate: None.

Required Course(s) for fulfilling Capstone Experience: PSE430

Contact Information: Susan Sullivan, Associate Director, 205 Rogers Hall, (207) 581-3029, susan.sullivan@umit.maine.edu

The Bachelor of Science in Sustainable Agriculture, which is offered through the School of Food and Agriculture, is an interdisciplinary program offered cooperatively by the faculties of the Schools of Food and Agriculture, Biology and Ecology and Economics. The program is designed for students interested in working in the growing field of ecologically-based agriculture in areas of production, research and consumer education. The BS degree in Sustainable Agriculture can also be used as preparation for postgraduate study in a variety of disciplines.

The Sustainable Agriculture program emphasizes: how to increase farm profits by decreasing the costs of crop and livestock production; how to build soil tilth 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; how to create a strong, diversified agriculture that is stable through market and weather fluctuations.

Black Bear Food Guild:

The Guild is a student-run organization that manages a three-acre certified organic vegetable operation within the University of Maine's Rogers' Experimental Farm, located approximately three miles from campus. The Guild markets their produce through a community share-holder plan, at the local Farmers Market, and through a farm stand at the field site. BBFG members make use of Sustainable Agriculture faculty and staff as resources for planning and managing the operation, but the emphasis is on student cooperative decision-making. Students often fulfill their degree requirement for the Field Experience through a summer with the BBFG.

Required Courses in Suggested Sequence for the BS in Sustainable Agriculture

First Year - First Semester

- AVS 145 - Animal Science Credits: 4
- or**
- FSN 101 - Introduction to Food and Nutrition Credits: 3
- BIO 100 - Basic Biology Credits: 4
- NFA 117 - Issues and Opportunities Credits: 1
- PSE 100 - Plant Science Credits: 4
- PSE 105 - Principles of Sustainable Agriculture Credits: 3

First Year - Second Semester

- ECO 254 - Small Business Economics and Management Credits: 3
- ENG 101 - College Composition Credits: 3
- MAT 122 - Pre-Calculus Credits: 4
- PSE 101 - Cropping Systems Credits: 4

Second Year - First Semester

- BMB 207 - Fundamentals of Chemistry Credits: 3
- BMB 209 - Fundamentals of Chemistry Laboratory Credits: 1
- or**
- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1

- CMJ 102 - Fundamentals of Interpersonal Communication Credits: 3
- or**
- CMJ 103 - Fundamentals of Public Communication Credits: 3
- or**
- SFR 222 - Environmental Communication Skills Credits: 3

- PSE 203 - Weed Biology and Identification Credits: 3 (even years)
- PSE 215 - Vegetable and Fruit Production Credits: 3

- WLE 200 - Ecology Credits: 3
- or**
- BIO 319 - General Ecology Credits: 3 (Spring)

Second Year - Second Semester

- BMB 208 - Elementary Physiological Chemistry Credits: 3
- BMB 210 - Elementary Physiological Chemistry Laboratory Credits: 1
- or**
- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1

- EES 140 - Soil Science Credits: 3
- EES 141 - Soil Science Laboratory Credits: 1
- STS 232 - Principles of Statistical Inference Credits: 3
- Elective Credits: 3

Summer

- PSE 396 - Field Experience in Plant, Soil and Environmental Sciences Credits: 1 - 16

Third Year - First Semester

- BIO 327 - Introductory Applied Entomology Credits: 4
 - PHI 232 - Environmental Ethics Credits: 3
- or
- General Education: Ethics Credits: 3
 - PSE 312 - Sustainable Food Systems: Challenges and Opportunities Credits: 3
 - PSE 320 - Soil Organic Matter Management Credits: 3
 - General Education: Western Cultural Tradition Credits: 3

Third Year - Second Semester

- PSE 410 - Plant Propagation Credits: 4
- PSE 415 - Greenhouse Management Credits: 4
- PSE 440 - Environmental Soil Chemistry and Plant Nutrition Credits: 3
- Elective Credits: 3

Fourth Year - First Semester

- PSE 403 - Weed Ecology and Management Credits: 3
- PSE 457 - Plant Pathology Credits: 4
- General Education: Cultural Diversity and International Perspectives Credits: 3
- General Education: Social Context and Institutions Credits: 3
- Elective Credits: 3

Fourth Year - Second Semester

- PSE 430 - Environmental Horticulture Credits: 3
- PSE 479 - Crop Ecology and Physiology Credits: 3
- General Education: Artistic and Creative Expression Credits: 3
- Elective Credits: 5

Wildlife Ecology

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 121

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 C- in MAT 126, and Grade of C- in WLE 200 or SMS 300 or BIO 319 needed to progress to WLE 220.

Other GPA requirements to graduate: None.

Required Course(s) for fulfilling Capstone Experience: WLE 450 and WLE 455

Contact Information: Lindsay C. N. Seward, Undergraduate Coordinator, 238 Nutting Hall, (207) 581-2847, wildeco@maine.edu

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 allow students to meet certification requirements of the American Fisheries Society. The Wildlife Ecology curriculum plus a concentration in Wildlife Science and Management qualify students to meet professional certification requirements of The Wildlife Society.

Requirements for BS in Wildlife Ecology

Graduates must complete 121 credits including:

- Satisfy general education requirements.
- Complete all courses listed in the curriculum for the B.S. in Wildlife Ecology.
- One additional field course.
- Complete a Concentration

Also Recommended

Field Experience in the profession, either through a paid or volunteer position or internship.

Concentrations in Wildlife Ecology

Students are encouraged to focus 12-17 Elective Credits in an area of concentration which is listed on the transcript at graduation. Available Concentrations are:

- Conservation Biology
- Fisheries
- Wildlife Science and Management

Required Courses in Suggested Sequence for the BS in Wildlife Ecology

First Year - First Semester

- BIO 100 - Basic Biology Credits: 4
- ENG 101 - College Composition Credits: 3

- MAT 122 - Pre-Calculus Credits: 4
- or
- MAT 126 - Calculus I Credits: 4

- WLE 100 - Introduction to Wildlife Resources Credits: 1
- General Education Elective Credits: 3

First Year - Second Semester

- BIO 200 - Biology of Organisms Credits: 4
- CMJ 103 - Fundamentals of Public Communication Credits: 3
- or
- SFR 222 - Environmental Communication Skills Credits: 3 (fall course)
- ECO 120 - Principles of Microeconomics Credits: 3
- WLE 150 - Wildlife Field Trip Credits: 1
- General Education Elective Credits: 3

Second Year - First Semester

- BIO 329 - Vertebrate Biology Credits: 3
- BIO 331 - Vertebrate Biology Laboratory Credits: 1
- BMB 207 - Fundamentals of Chemistry Credits: 3
- BMB 209 - Fundamentals of Chemistry Laboratory Credits: 1
- WLE 200 - Ecology Credits: 3
- WLE 201 - Ecology Laboratory Credits: 3

Second Year - Second Semester

- BMB 208 - Elementary Physiological Chemistry Credits: 3
- BMB 210 - Elementary Physiological Chemistry Laboratory Credits: 1
- EES 140 - Soil Science Credits: 3
- WLE 220 - Introduction to Ecological Statistics Credits: 4
- General Education Elective Credits: 3

May Term

- WLE 250 - Wildlife Field Survey Credits: 3

Third Year - First Semester

- BIO 326 - General Entomology Credits: 4
- or
- BIO 353 - Invertebrate Zoology Credits: 4

- BIO 464 - Taxonomy of Vascular Plants Credits: 4
- WLE 410 - Wildlife Population Dynamics and Conservation Credits: 3
- WLE 411 - Wildlife Population Dynamics Lab Credits: 1
- Aquatic Ecology Elective Credits: 3

Third Year - Second Semester

- BIO 350 - Concepts and Applications of Genetics Credits: 3
- or
- BIO 465 - Evolution Credits: 3
- SFR 400 - Applied Geographic Information Systems Credits: 4
- WLE 470 - Wildlife Policy and Administration Credits: 3
- Second Field Course Credits: 1-3
- Elective Credits: 3

Fourth Year - First Semester

- ECO 377 - Introduction to Natural Resource Economics and Policy Credits: 3
- SFR 349 - Applied Forest Ecology and Silviculture Credits: 4
- or
- WLE 423 - Wetland Ecology and Conservation Credits: 4
- WLE 461 - Human Dimensions of Fisheries and Wildlife Conservation Credits: 3
- Elective Credits: 6

Fourth Year - Second Semester

- WLE 450 - Wildlife-Habitat Relationships Credits: 3
 - WLE 455 - Wildlife-Habitat Evaluation Credits: 2
- Elective (General Education or Concentration) Credits: 10-11

Notes:

The core curriculum satisfies the General Education Social Context and Institutions and Population and the Environment requirements, however electives must be chosen to meet Concentration Requirements and the remaining General Education Requirements (Western Cultural Tradition, Cultural Diversity and International Perspectives, Artistic and Creative Expression, and Ethics).

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 438 or BIO 447 or BIO 450 or BIO 463 or HON 499*. See concentration curriculums for specific requirements. *The thesis topic must be in Zoology and the thesis advisor should be in the School of Biology and Ecology.

Contact Information: Karen Pelletreau, Undergraduate Program Coordinator, School of Biology and Ecology, 321 Murray Hall, (207) 581-2529, karen.pelletreau@maine.edu

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, and physics required. The B.S. requires more in depth study of chemistry, math, and physics while the B.A. requires more social sciences and humanities. The B.S. provides preparation for the health professions and graduate study while the B.A. ensures a broad liberal arts education and allows more flexibility for minors and double majors.

Zoology B.S.

Zoology B.A.

Zoology B.S.

The B.S. degree in Zoology offered by the School of Biology and Ecology. For information about areas of research and for an overview of our facilities, cooperative programs, and list of faculty in the School of Biology and Ecology, see our web site.

Students choosing Zoology as a second major must complete the second major by selecting courses in Areas I-V that are not being used to satisfy the requirements of their first major.

Students majoring in Zoology are not eligible for a minor or second major in Biology or Botany because of extensive overlap in the requirements for these degrees.

Students majoring in Zoology must complete an assessment exit exam in their last semester prior to graduating.

Students majoring in Zoology must earn a score of 4 or 5 in order to receive advanced placement credit for BIO 100.

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 or have a cumulative GPA of 2.0 or better.

The study of zoology increases our knowledge of human biology and of the biology of the many species of animals that we interact with. 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.

Zoology 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 zoology including cells and molecules, genetics and development, physiology, anatomy, evolution and biodiversity, and ecology and behavior. Each student works with an academic adviser in the faculty 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, and 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.

Biology Club

Students majoring in Biology, Botany, Zoology, and Medical Laboratory Sciences (Medical Technology) 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.

Concentrations in the B.S. Degree in Zoology

Optional concentrations are available in:

- Pre-medical Studies
- Ecology

These concentrations are described in detail following the suggested sequence of courses for the B.S. in Zoology.

Accelerated Binary Degree Programs, including the BS Degree in Zoology

The University of Maine and the University of New England College of Osteopathic Medicine (UNECOM), New England College of Optometry (NECO) and Logan College of Chiropractic (LCC) 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 BS in Zoology upon the successful completion of the first year curriculum at UNECOM, NECO, or LCC. Contact the Office of Health Professions (207) 581-2587 for complete program details and a curriculum for the first three years.

Combined B.S. and M.S. degrees in Botany, Entomology, or Zoology

These Four Plus programs allow highly dedicated students to earn both the B.S. and M.S. degrees in five to six years. This allows the student to save time and reduces the cost of the M.S. degree. See our web site for details.

Basic Biological Sciences for the B.S. in Zoology

Note: BIO 208, Anatomy and Physiology, BIO 222 Biology: The Living Science and BIO 223 Biology: the Living Science Laboratory will not count towards the major for students majoring in Zoology.

- BIO 100 - Basic Biology Credits: 4
- BIO 200 - Biology of Organisms Credits: 4

Biological Sciences Areas I-V

The following are minimum requirements for these 5 areas: 24 credits, 3 credits/area, 4 laboratory (L) courses, and at least 3 animal (A) courses from areas III - V.

If BIO 438, BIO 447, BIO 450, or BIO 463 is taken as a capstone, it can satisfy the area in which it is listed and can count as a laboratory course (if labeled L) but cannot count towards the 24 credits required in Areas I-V.

I. Cell and Molecular Biology

If only one course is selected from this area, it must be BMB 280 or BIO 480

- BIO 336 - Developmental Biology Credits: 4
 - BIO 438 - Morphogenesis in Development and Disease Credits: 3
 - BIO 441 - Microscopy Credits: 2
 - BIO 450 - Histology Credits: 4
 - BIO 474 - Neurobiology Credits: 3
 - BIO 480 - Cell Biology Credits: 3
 - BIO 483 - Cell Biology Laboratory Credits: 1
 - BMB 280 - Introduction to Molecular and Cellular Biology Credits: 3
 - BMB 300 - General Microbiology Credits: 3
 - BMB 305 - General Microbiology Laboratory Credits: 2
 - BMB 420 - Infectious Disease Credits: 3
 - BMB 421 - Infectious Disease Laboratory Credits: 2
- L-BIO 336, BIO 450, BIO 483, BMB 305, BMB 421

II. Genetics

- BIO 350 - Concepts and Applications of Genetics Credits: 3
 - BIO 462 - Principles of Genetics Credits: 3
 - BMB 400 - Molecular Genetics Credits: 3
 - BMB 490 - Microbial Genetics Credits: 5
- L-BMB 490

III. Physiology

- BIO 307 - Introduction to Neuroscience Credits: 3
 - BIO 377 - Medical Physiology Credits: 3
 - BIO 378 - Medical Physiology Laboratory Credits: 2
 - BIO 452 - Plant Physiology Credits: 3
 - BIO 479 - Endocrinology Credits: 3
 - BIO 480 - Cell Biology Credits: 3
 - BIO 483 - Cell Biology Laboratory Credits: 1
 - BMB 430 - Bacterial Physiology Credits: 3
 - BMB 431 - Bacterial Physiology Laboratory Credits: 1
 - BMB 440 - Introductory Immunology Credits: 3
 - BMB 441 - Introductory Immunology Laboratory Credits: 1
 - SMS 485 - Comparative Animal Physiology Credits: 3
- L-BIO 378, BIO 483, BIO 431, BMB 441
A-BIO 307, BIO 377, BIO 479, BMB 440, SMS 485
P-BIO 452

IV. Biodiversity and Evolution

- BIO 310 - Plant Biology Credits: 4
- BIO 326 - General Entomology Credits: 4
- BIO 329 - Vertebrate Biology Credits: 3
- BIO 331 - Vertebrate Biology Laboratory Credits: 1
- BIO 335 - Human Anatomy Credits: 4
- BIO 342 - Plants in Our World Credits: 3
- BIO 353 - Invertebrate Zoology Credits: 4
- BIO 430 - Ecology and Systematics of Aquatic Insects Credits: 4
- BIO 432 - Biology of the Fungi Credits: 4
- BIO 433 - Mammalogy Credits: 4
- BIO 464 - Taxonomy of Vascular Plants Credits: 4
- BIO 465 - Evolution Credits: 3
- SFR 439 - Plant Anatomy Structure and Function Credits: 3
- SMS 373 - Marine and Freshwater Algae Credits: 4

L-BIO 310, BIO 326, BIO 331, BIO 335, BIO 353, BIO 430, BIO 432, BIO 433, BIO 464, SFR 439, SMS 373

A-BIO, 326, BIO 329, BIO 335, BIO 353, BIO 430, BIO 433

P-BIO 310, BIO 342, BIO 432, BIO 464, SFR 439, SMS 373

V. Ecology and Behavior

If only one course is selected from this area, it must be BIO 319, SMS 300, or WLE 200, only one of which may be taken for degree credit.

- BIO 205 - Field Natural History of Maine Credits: 4
- BIO 319 - General Ecology Credits: 3
- BIO 327 - Introductory Applied Entomology Credits: 4
- BIO 354 - Animal Behavior Credits: 3
- BIO 355 - Animal Behavior Laboratory Credits: 2
- BIO 434 - Avian Biology and Ecology Credits: 3
- BIO 437 - Avian Biology and Ecology Laboratory Credits: 1
- BIO 447 - Experimental Ecology Credits: 4
- BIO 455 - Biological Invasions Credits: 4
- BIO 463 - River Ecology Credits: 4
- BIO 468 - Lake Ecology Credits: 3
- BIO 476 - Paleoecology Credits: 4
- EES 140 - Soil Science Credits: 3
- EES 141 - Soil Science Laboratory Credits: 1
- EES 475 - Field Studies in Ecology Credits: 1-3
- INT 482 - (SBE, PSE) Pesticides and the Environment Credits: 3
- PSE 320 - Soil Organic Matter Management Credits: 3
- PSE 457 - Plant Pathology Credits: 4
- SMS 300 - Marine Ecology Credits: 3

- WLE 200 - Ecology Credits: 3
- WLE 201 - Ecology Laboratory Credits: 3
- WLE 423 - Wetland Ecology and Conservation Credits: 4

L-BIO 205, BIO 327, BIO 355, BIO 437, BIO 447, BIO 463, BIO 476, EES 141, EES 475, PSE 457, WLE 201, WLE 280, WLE 423

A-BIO 327, BIO 354, BIO 434

P-PSE 457

Affiliated Sciences and Math for the B.S. in Zoology

To complete your B.S. in Zoology you must take courses in Chemistry, Mathematics, and Physics. Below we have outlined your options for completing each requirement.

Required Courses

- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1

Organic Chemistry Option 1

- BMB 221 - Organic Chemistry Credits: 3
- BMB 222 - Laboratory in Organic Chemistry Credits: 1
- BMB 322 - Biochemistry Credits: 3
- BMB 323 - Biochemistry Laboratory Credits: 2

-Total Organic Chemistry Credits: 9

Organic Chemistry Option 2

- CHY 251 - Organic Chemistry I Credits: 3
- CHY 253 - Organic Chemistry Laboratory I Credits: 2
- BMB 322 - Biochemistry Credits: 3
- BMB 323 - Biochemistry Laboratory Credits: 2

-Total Organic Chemistry Credits: 10

Organic Chemistry Option 3

- CHY 251 - Organic Chemistry I Credits: 3
- CHY 253 - Organic Chemistry Laboratory I Credits: 2
- CHY 252 - Organic Chemistry II Credits: 3
- CHY 254 - Organic Chemistry Laboratory II Credits: 2

-Total Organic Chemistry Credits: 10

Mathematics

- MAT 126 - Calculus I Credits: 4
- STS 232 - Principles of Statistical Inference Credits: 3

-Total Mathematics Credits: 7

Physics Option 1

- PHY 111 - General Physics I Credits: 4
- PHY 112 - General Physics II Credits: 4

-Total Physics Credits: 8

Physics Option 2

- PHY 121 - Physics for Engineers and Physical Scientists I Credits: 4
- PHY 122 - Physics for Engineers and Physical Scientists II Credits: 4

-Total Physics Credits: 8

Courses in Suggested Sequence for the B.S. in Zoology

First Year -First Semester

- BIO 100 - Basic Biology Credits: 4
 - CHY 121 - Introduction to Chemistry Credits: 3
(Enrollment in CHY 121 requires readiness for MAT 122 or equivalent. Students who are not ready to take MAT 122 or its equivalent take CHY 121 in the second year.)
 - CHY 123 - Introduction to Chemistry Laboratory Credits: 1
 - ENG 101 - College Composition Credits: 3
- or
- General Education Requirement¹ Credits: 3
 - MAT 122 - Pre-Calculus Credits: 4
- or
- MAT 126 - Calculus I Credits: 4
 - NFA 117 - Issues and Opportunities Credits: 1

First Year - Second Semester

- BIO 200 - Biology of Organisms Credits: 4
 - CHY 122 - The Molecular Basis of Chemical Change Credits: 3
 - CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
 - ENG 101 - College Composition Credits: 3
(If not taken in the first semester)
 - General Education Requirement¹ Credits: 3-6
- or
- MAT 126 - Calculus I Credits: 4
(If not taken in the first semester)

Second Year - First Semester

- CHY 251 - Organic Chemistry I Credits: 3
(See Footnote 3)
- CHY 253 - Organic Chemistry Laboratory I Credits: 2
(See Footnote 3)
- STS 232 - Principles of Statistical Inference Credits: 3
- General Education Requirement or Elective Credits: 3
- Biological Sciences Area Choice² Credits: 3-4

Second Year - Second Semester

- CHY 252 - Organic Chemistry II Credits: 3
(see Footnote 3)
- CHY 254 - Organic Chemistry Laboratory II Credits: 2
- Biological Sciences Area Choice² Credits: 3-5
- General Education Requirement or Elective Credits: 6
(see Footnote 3)

Third Year - First Semester

- PHY 111 - General Physics I Credits: 4
(See Footnote 4)
- General Education Requirement or Elective Credits: 6
- Biological Sciences Area Choice² Credits: 5-7

Third Year - Second Semester

- PHY 112 - General Physics II Credits: 4

(See Footnote 4)

- General Education Requirement or Elective Credits: 6-9
- Biological Sciences Area Choice² Credits: 3-4

Fourth Year - First Semester

- Biological Sciences Area Choice² Credits: 4
- Capstone⁵ or Elective Credits: 3
- General Education Requirements or Electives Credits: 6-9

Fourth Year - Second Semester

- Biological Sciences Area Choice² Credits 4-9
- Elective or Capstone⁵ Credits: 3
- General Education Requirements or Electives Credits: 6-9

Footnotes

¹See the General Education requirements for all students at the University. If BIO 400 (Biological Sciences Writing Intensive) is used to satisfy the General Education Writing Intensive in the major requirement, then it must be taken in conjunction with a selected upper-level BIO course (see listings in Schedule of Classes), usually during the third or fourth year

²See above lists of courses in the five Biological Sciences Areas and follow requirements for total number of credits, number of credits per area, number of courses with laboratories (L), and number of animal (A) and plant (P) courses in areas III-V

³Alternatively, students may take BMB 221/222 and BMB 322/323 or CHY 251/253 and BMB 322/323

⁴Alternatively, students may take PHY 121/122

⁵The General Education capstone experience requirement may be completed with BIO 388, 392, 402, 438, 447, 450, 463, or HON 499

Concentration in Ecology

This concentration is intended for students interested in exposure to ecological principles within the context of a rigorous biological sciences curriculum. Students in this concentration must meet all of the requirements for the Zoology B.S. degree. The concentration also includes WLE 220 Introduction to Statistical Ecology and a requirement for a course on environmental influences. A total of 29-35 credits are required to complete the concentration depending on the selections made for each of the requirements.

Specific requirements:

1. Affiliated Sciences and Math

- WLE 220 - Introduction to Ecological Statistics Credits: 4

This course can substitute for STS 232- Principles of Statistical Inference.

2. Area I. Cell and Molecular Biology

Free choice among Area I courses in the Zoology curriculum Credits: 3-4

3. Area II. Genetics

Free choice among Area II courses in the Zoology curriculum Credits: 3-5

4. Area III. Physiology

Free choice among Area III courses in the Zoology curriculum Credits: 3

5. Area IV. Biodiversity

- BIO 465 - Evolution Credits: 3
- In Addition, 3 credits chosen from Area IV courses in the Zoology curriculum. Credits: 6-7

6. Area V. Ecology and Behavior

- BIO 319 - General Ecology Credits: 3

Or

- WLE 200 - Ecology Credits: 3

Or

- SMS 300 - Marine Ecology Credits: 3

Choose one course from above.

In addition: Choose 3 credits from the following courses:

6-7 credits total.

- BIO 205 - Field Natural History of Maine Credits: 4
- BIO 327 - Introductory Applied Entomology Credits: 4
- BIO 354 - Animal Behavior Credits: 3
- BIO 355 - Animal Behavior Laboratory Credits: 2
- BIO 434 - Avian Biology and Ecology Credits: 3
- BIO 437 - Avian Biology and Ecology Laboratory Credits: 1
- BIO 447 - Experimental Ecology Credits: 4
- BIO 455 - Biological Invasions Credits: 4
- BIO 463 - River Ecology Credits: 4
- BIO 468 - Lake Ecology Credits: 3
- BIO 476 - Paleocology Credits: 4
- EES 475 - Field Studies in Ecology Credits: 1-3
- PSE 457 - Plant Pathology Credits: 4
- PSE 469 - Soil Microbiology Credits: 3
- SFR 457 - Tree Pests and Disease Credits: 3
- WLE 201 - Ecology Laboratory Credits: 3
- WLE 423 - Wetland Ecology and Conservation Credits: 4

7. Primary and Secondary Producers

Choose at least one course labeled A and one labeled P from Areas I-V in the Zoology curriculum. These courses can also satisfy requirements in Areas I-V for the basic Zoology major and so do not add to the number of credits needed beyond the basic Zoology major.

8. Area VI. Environmental Influences

Three credits are required. Choose from these courses:

- EES 140 - Soil Science Credits: 3
- EES 141 - Soil Science Laboratory Credits: 1
- PSE 320 - Soil Organic Matter Management Credits: 3
- ERS 101 - Introduction to Geology Credits: 4
- ERS 102 - Environmental Geology Credits: 4
- ERS 108 - Beaches and Coasts Credits: 3
- INT 482 - (SBE, PSE) Pesticides and the Environment Credits: 3
- SFR 406 - Remote Sensing Image Interpretation and Forest Mapping Credits: 3

9. Field Experience

Choose at least one course from this list. This course can also satisfy one of the areas above.

- BIO 205 - Field Natural History of Maine Credits: 4
- BIO 355 - Animal Behavior Laboratory Credits: 2
- BIO 430 - Ecology and Systematics of Aquatic Insects Credits: 4
- BIO 437 - Avian Biology and Ecology Laboratory Credits: 1
- BIO 463 - River Ecology Credits: 4
- EES 475 - Field Studies in Ecology Credits: 1-3
- WLE 423 - Wetland Ecology and Conservation Credits: 4

10. Capstone

Choose one of these courses*:

- BIO 388 - Research Capstone in Biology Credits: 1-3
 - BIO 392 - Independent Study Capstone in Biology Credits: 1-3
 - BIO 447 - Experimental Ecology Credits: 4
 - BIO 463 - River Ecology Credits: 4
 - HON 499 - Honors Thesis Credits: 3
- (Must be a topic in Biology and the thesis advisor should be in SBE)

11. Writing requirement (students in the Honors program are exempt)

One course required. Choose from the following courses*:

- ENG 212 - Persuasive and Analytical Writing Credits: 3
- ENG 317 - Business and Technical Writing Credits: 3

*These courses satisfy the general education writing intensive requirement and so do not add to the number credits needed beyond the basic Zoology major

Concentration in Pre-medical Studies

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.

Requirements for the concentration

Students in the pre-medical studies concentration must meet all of the requirements for the ZOL-BS.

Specific requirements:

Affiliated Sciences and Math

- Choose CHY 251-254 to meet the organic chemistry requirement

Area I. Cell and Molecular Biology

Choose at least one of the following courses:

If only one course is chosen, it must be BMB 280 or BIO 480.

- BIO 336 - Developmental Biology Credits: 4
- BIO 480 - Cell Biology Credits: 3
- BIO 483 - Cell Biology Laboratory Credits: 1
- BMB 280 - Introduction to Molecular and Cellular Biology Credits: 3
- BMB 300 - General Microbiology Credits: 3
- BMB 305 - General Microbiology Laboratory Credits: 2

Area II. Genetics

- BIO 350 - Concepts and Applications of Genetics Credits: 3

Area III. Physiology

Choose at least one of these courses:

- BIO 377 - Medical Physiology Credits: 3
- BIO 378 - Medical Physiology Laboratory Credits: 2
- BIO 480 - Cell Biology Credits: 3

- BIO 483 - Cell Biology Laboratory Credits: 1
- BMB 440 - Introductory Immunology Credits: 3
- BMB 441 - Introductory Immunology Laboratory Credits: 1

Area IV. Biodiversity

Choose at least one of these courses:

- BIO 465 - Evolution Credits: 3
- BIO 465 is required plus 3 additional credits chosen from the courses in the Zoology curriculum Credits: 6-7

Area V. Ecology and Behavior

- Free choice among the Area V courses in the ZOL-BS curriculum.

Capstone

Choose one of these courses:

- BIO 388 - Research Capstone in Biology Credits: 1-3
- BIO 438 - Morphogenesis in Development and Disease Credits: 3
- BIO 450 - Histology Credits: 4
- HON 499 - Honors Thesis Credits: 3

Other required courses

- BMB 322 - Biochemistry Credits: 3
- and
- BMB 323 - Biochemistry Laboratory Credits: 2
(See Footnote 1)
 - PSY 100 - General Psychology Credits: 3
(See Footnote 2)
 - SOC 101 - Introduction to Sociology Credits: 3
(See Footnote 2)
 - ENG 212 - Persuasive and Analytical Writing Credits: 3
(See Footnote 3)
 - Literature course: An English literature course at the 200 level or above
(See Footnote 4)
 - PHI 235 - Biomedical Ethics Credits: 3
(See Footnote 5)

Footnotes:

¹Required by medical schools. If CHY 251-254 have been completed, BMB 323 can count as one of the four labs required in Areas I-V.

²Satisfies general education Social Contexts and Institutions.

³Satisfies general education Writing Intensive not required for students completing HON 211 and HON 212.

⁴Satisfies a general education area depending on the course chosen. Not required for students completing HON 211 and 212.

⁵Satisfies general education requirements for Ethics, Western Cultural Tradition, and Social Contexts and Institutions.

Recommended courses

- BIO 208 - Anatomy and Physiology Credits: 4

Notes

a. Inclusion of BIO 480, Cell Biology, is highly recommended. This course can only count in one area.

b. Physician assistant and pharmacy schools require two semesters of anatomy and physiology. This requirement can be met by combining BIO 208, Anatomy and Physiology, and BIO 377, 378 Medical physiology and lab OR by combining BIO 335, Human Anatomy, and BIO 377, 378 Medical physiology and lab. Check with the Health Professions Specialist for details of the program you want to pursue.

c. Students pursuing this concentration may want to consider a minor in Neuroscience, Chemistry, Psychology, or Business.

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Zoology B.A.

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Students choosing Zoology as a second major must complete the second major by selecting courses in Areas I-V that are not being used to satisfy the requirements of their first major.

Students majoring in Zoology are not eligible for a minor or second major in Biology or Botany because of extensive overlap in the requirements for these degrees.

Students majoring in Zoology must complete an assessment exit exam in their last semester prior to graduating.

Students majoring in Zoology must earn a score of 4 or 5 in order to receive advanced placement credit for BIO 100.

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 or have a cumulative GPA of 2.0 or better.

The study of zoology increases our knowledge of human biology and of the biology of the many species of animals that we interact with. 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.

Zoology 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 zoology including cells and molecules, genetics and development, physiology, anatomy, evolution and biodiversity, and ecology and behavior. Each student works with an academic adviser in the faculty 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, and 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.

Biology Club

Students majoring in Biology, Botany, Zoology, and Medical Laboratory Sciences (Medical Technology) 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.

Optional Concentration in the B.A. degree in Zoology

Students may complete the basic B.A. in Zoology or they may add the optional Ecology Concentration. This concentration is described in detail following the suggested sequence of courses for the B.A. in Zoology.

Basic Biological Sciences for the B.A. in Zoology

Note: BIO 208, Anatomy and Physiology, BIO 222 Biology: The Living Science and BIO 223 Biology: the Living Science Laboratory will not count towards the major for students majoring in Zoology.

- BIO 100 - Basic Biology Credits: 4
- BIO 200 - Biology of Organisms Credits: 4

Biological Sciences Areas I-V

The following are minimum requirements for these 5 areas: 24 credits, 3 credits/area, 4 laboratory (L) courses, and at least 3 animal (A) courses from areas III - V.

If BIO 438, BIO 447, BIO 450, or BIO 463 is taken as a capstone, it can satisfy the area in which it is listed and can count as a laboratory course (if labeled L) but cannot count towards the 24 credits required in Areas I-V.

I. Cell and Molecular Biology

If only one course is selected from this area, it must be BMB 280 or BIO 480

- BIO 336 - Developmental Biology Credits: 4
- BIO 438 - Morphogenesis in Development and Disease Credits: 3
- BIO 441 - Microscopy Credits: 2
- BIO 450 - Histology Credits: 4
- BIO 474 - Neurobiology Credits: 3
- BIO 480 - Cell Biology Credits: 3
- BIO 483 - Cell Biology Laboratory Credits: 1
- BMB 280 - Introduction to Molecular and Cellular Biology Credits: 3
- BMB 300 - General Microbiology Credits: 3
- BMB 305 - General Microbiology Laboratory Credits: 2
- BMB 420 - Infectious Disease Credits: 3
- BMB 421 - Infectious Disease Laboratory Credits: 2
- L - BIO 336, BIO 450, BIO 483, BMB 305, BMB 421

II. Genetics

- BIO 350 - Concepts and Applications of Genetics Credits: 3
- BIO 462 - Principles of Genetics Credits: 3
- BMB 400 - Molecular Genetics Credits: 3
- BMB 490 - Microbial Genetics Credits: 5
- L - BMB 490

III. Physiology

- BIO 307 - Introduction to Neuroscience Credits: 3
- BIO 377 - Medical Physiology Credits: 3
- BIO 378 - Medical Physiology Laboratory Credits: 2
- BIO 452 - Plant Physiology Credits: 3
- BIO 479 - Endocrinology Credits: 3
- BIO 480 - Cell Biology Credits: 3
- BIO 483 - Cell Biology Laboratory Credits: 1
- BMB 430 - Bacterial Physiology Credits: 3
- BMB 431 - Bacterial Physiology Laboratory Credits: 1
- BMB 440 - Introductory Immunology Credits: 3
- BMB 441 - Introductory Immunology Laboratory Credits: 1
- SMS 485 - Comparative Animal Physiology Credits: 3
- L - BIO 378, BIO 483, BMB 431, BMB 441
- A - BIO 307, BIO 377, BIO 479, BMB 440, SMS 485
- P - BIO 452

IV. Biodiversity and Evolution

- BIO 310 - Plant Biology Credits: 4
- BIO 326 - General Entomology Credits: 4
- BIO 329 - Vertebrate Biology Credits: 3
- BIO 331 - Vertebrate Biology Laboratory Credits: 1
- BIO 335 - Human Anatomy Credits: 4
- BIO 342 - Plants in Our World Credits: 3
- BIO 353 - Invertebrate Zoology Credits: 4
- BIO 430 - Ecology and Systematics of Aquatic Insects Credits: 4
- BIO 432 - Biology of the Fungi Credits: 4
- BIO 433 - Mammalogy Credits: 4
- BIO 464 - Taxonomy of Vascular Plants Credits: 4
- BIO 465 - Evolution Credits: 3
- SFR 439 - Plant Anatomy Structure and Function Credits: 3
- SMS 373 - Marine and Freshwater Algae Credits: 4

- L - BIO 310, BIO 326, BIO 331, BIO 335, BIO 353, BIO 430, BIO 432, BIO 433, BIO 464, SFR 439, SMS 373
- A - BIO 326, BIO 329, BIO 335, BIO 353, BIO 430, BIO 433
- P - BIO 310, BIO 342, BIO 432, BIO 464, SFR 439, SMS 373

V. Ecology and Behavior

If only one course is selected from this area, it must be BIO 319, SMS 300, or WLE 200, only one of which may be taken for degree credit.

- BIO 205 - Field Natural History of Maine Credits: 4
- BIO 319 - General Ecology Credits: 3
- BIO 327 - Introductory Applied Entomology Credits: 4
- BIO 354 - Animal Behavior Credits: 3
- BIO 355 - Animal Behavior Laboratory Credits: 2
- BIO 434 - Avian Biology and Ecology Credits: 3
- BIO 437 - Avian Biology and Ecology Laboratory Credits: 1
- BIO 447 - Experimental Ecology Credits: 4
- BIO 455 - Biological Invasions Credits: 4
- BIO 463 - River Ecology Credits: 4
- BIO 468 - Lake Ecology Credits: 3
- BIO 476 - Paleoecology Credits: 4
- EES 140 - Soil Science Credits: 3
- EES 141 - Soil Science Laboratory Credits: 1
- EES 475 - Field Studies in Ecology Credits: 1-3
- INT 482 - (SBE, PSE) Pesticides and the Environment Credits: 3
- PSE 320 - Soil Organic Matter Management Credits: 3
- PSE 457 - Plant Pathology Credits: 4
- SMS 300 - Marine Ecology Credits: 3
- WLE 200 - Ecology Credits: 3
- WLE 201 - Ecology Laboratory Credits: 3
- WLE 423 - Wetland Ecology and Conservation Credits: 4
- L - BIO 205, BIO 327, BIO 355, BIO 437, BIO 447, BIO 463, BIO 476, EES 141, EES 475, PSE 457, WLE 201, WLE 280, WLE 423
- A - BIO 327, BIO 354, BIO 434
- P - PSE 457

Affiliated Sciences and Math for the B.A. in Zoology

To complete your B.A. in Zoology you must take courses in Chemistry, Mathematics, and Physics. Below we have outlined your options for completing each requirement.

Required Courses

- CHY 121 - Introduction to Chemistry Credits: 3
- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1

Organic Chemistry Option 1

- BMB 221 - Organic Chemistry Credits: 3
 - BMB 222 - Laboratory in Organic Chemistry Credits: 1
- Total Organic Chemistry Credits: 4

Organic Chemistry Option 2

- CHY 251 - Organic Chemistry I Credits: 3
- CHY 253 - Organic Chemistry Laboratory I Credits: 2
- BMB 322 - Biochemistry Credits: 3
- BMB 323 - Biochemistry Laboratory Credits: 2

-Total Organic Chemistry Credits: 10

Organic Chemistry Option 3

- CHY 251 - Organic Chemistry I Credits: 3
- CHY 252 - Organic Chemistry II Credits: 3
- CHY 253 - Organic Chemistry Laboratory I Credits: 2
- CHY 254 - Organic Chemistry Laboratory II Credits: 2

-Total Organic Chemistry Credits: 10

Mathematics

- MAT 126 - Calculus I Credits: 4
- Or
- STS 232 - Principles of Statistical Inference Credits: 3

-Total Mathematics Credits: 3-4

Physics Option 1

- PHY 105 - Descriptive Physics Credits: 4

-Total Physics Credits: 4

Physics Option 2

- PHY 111 - General Physics I Credits: 4
- PHY 112 - General Physics II Credits: 4

-Total Physics Credits: 8

Other Requirements for the B.A. in Zoology

Students are required to develop an enriched international perspective. This may be done by:

- (1) establishing proficiency in a foreign language at the intermediate level,
- (2) completing at least one semester in a University of Maine approved foreign exchange program, or
- (3) completing 9 credits in General Education courses in Cultural Diversity and International Perspectives. In addition, the College of Natural Sciences, Forestry, and Agriculture requires 27 credits of General Education courses in Human Values and Social Context for the B.A. and at least 12 of those credits must be at the 200 level or above.

Courses in Suggested Sequence for the B.A. in Zoology

First Year - First Semester

- BIO 100 - Basic Biology Credits: 4
 - CHY 121 - Introduction to Chemistry Credits: 3
(Enrollment in CHY 121 requires readiness for MAT 122 or equivalent. Students who are not ready to take MAT 122 or its equivalent take CHY 121 in the second year.)
 - CHY 123 - Introduction to Chemistry Laboratory Credits: 1
 - ENG 101 - College Composition Credits: 3
- or
- General Education Requirement¹ Credits: 3
 - MAT 122 - Pre-Calculus Credits: 4
 - NFA 117 - Issues and Opportunities Credits: 1

First Year - Second Semester

- BIO 200 - Biology of Organisms Credits: 4
- CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
- ENG 101 - College Composition Credits: 3
- If not taken in the first semester
- General Education Requirement¹ Credits: 3-6

Second Year - First Semester

- BMB 221 - Organic Chemistry Credits: 3
(See Footnote 3)
with

- BMB 222 - Laboratory in Organic Chemistry Credits: 1
- STS 232 - Principles of Statistical Inference Credits: 3
(See Footnote 4)
- Biological Sciences Area Choice² Credits: 3
- General Education Requirement or Elective Credits: 3
- International Perspective⁵ Credits: 3

Second Year - Second Semester

- Biological Sciences Area Choice² Credits: 3-5
- International Perspective⁵ Credits: 2-4
- General Education Requirement or Elective Credits: 6-9

Third Year - First Semester

- PHY 105 - Descriptive Physics Credits: 4
(See Footnote 6)
- Biological Sciences Area Choice² Credits: 2-4
- International Perspective⁵ Credits: 3
- General Education Requirement or Elective Credits: 3

Third Year - Second Semester

- General Education Requirement or Elective Credits: 3-12
- Biological Sciences Area Choice² Credits: 3-4

Fourth Year - First Semester

- Biological Sciences Area Choice² Credits: 3-4
- Capstone⁷ Credits: 3
- General Education Requirements or Electives Credits: 7-10

Fourth Year - Second Semester

- Biological Sciences Area Choice² Credits: 3-10
- General Education Requirements or Electives Credits: 4-12

Footnotes

¹See the General Education requirements for all students at the University. If BIO 400 (Biological Sciences Writing Intensive) is used to satisfy the General Education Writing Intensive in the major requirement, then it must be taken in conjunction with a selected upper-level BIO course (see listings in Schedule of Classes), usually during the third or fourth year

²See above lists of courses in the five Biological Sciences Areas and follow requirements for total number of credits, number of credits per area, number of courses with laboratories (L), and number of animal (A) courses in areas III-V

³Alternatively, students may take CHY 251/253 and BMB 322/323 or CHY 251/253 and CHY 252/254

⁴Alternatively, students may take MAT 126

⁵See Other Requirements above for ways to satisfy this requirement for the B.A. degree

⁶Alternatively, students may take PHY 111 and 112

⁷The General Education capstone experience may be completed with BIO 388, 392, 402, 438, 447, 450, 463, or HON 499

Concentration in Ecology

This concentration is intended for students interested in exposure to ecological principles within the context of a rigorous biological sciences curriculum. Students in this concentration must meet all of the requirements for the Zoology B.A. degree. The concentration also includes WLE 220 Introduction to Statistical Ecology and a requirement for a course on environmental influences. A total of 29-35 credits are required to complete the concentration depending on the selections made for each of the requirements.

Specific requirements:

1. Affiliated Sciences and Math

- WLE 220 - Introduction to Ecological Statistics Credits: 4
This course can substitute for STS 232-Principles of Statistical Inference.

2. Area I. Cell and Molecular Biology

Free choice among Area I courses in the Zoology curriculum Credits: 3-4

3. Area II. Genetics

Free choice among Area II courses in the Zoology curriculum Credits: 3-5

4. Area III. Physiology

Free choice among Area III courses in the Zoology curriculum Credits: 3-5

5. Area IV. Biodiversity

- BIO 465 - Evolution Credits: 3
- In addition, 3 credits chosen from the Area IV courses in the Zoology curriculum Credits: 6-7

6. Area V. Ecology and Behavior

- BIO 319 - General Ecology Credits: 3

Or

- SMS 300 - Marine Ecology Credits: 3

Or

- WLE 200 - Ecology Credits: 3

Choose one course from above.

In addition: Choose 3 credits from the following courses:

6-7 credits total.

- BIO 205 - Field Natural History of Maine Credits: 4
- BIO 327 - Introductory Applied Entomology Credits: 4
- BIO 354 - Animal Behavior Credits: 3
- BIO 355 - Animal Behavior Laboratory Credits: 2
- BIO 434 - Avian Biology and Ecology Credits: 3
- BIO 437 - Avian Biology and Ecology Laboratory Credits: 1
- BIO 447 - Experimental Ecology Credits: 4
- BIO 455 - Biological Invasions Credits: 4
- BIO 463 - River Ecology Credits: 4
- BIO 468 - Lake Ecology Credits: 3
- BIO 476 - Paleocology Credits: 4
- EES 475 - Field Studies in Ecology Credits: 1-3
- PSE 457 - Plant Pathology Credits: 4
- PSE 469 - Soil Microbiology Credits: 3
- SFR 457 - Tree Pests and Disease Credits: 3
- WLE 201 - Ecology Laboratory Credits: 3
- WLE 423 - Wetland Ecology and Conservation Credits: 4

7. Primary and Secondary Producers

Choose at least one course labeled A and one labeled P from Areas I-V in the Zoology curriculum. These courses can also satisfy requirements in Areas I-V for the basic Zoology major and so do not add to the number of credits needed beyond the basic Zoology major.

8. Area VI. Environmental Influences

Three credits are required. Choose from these courses:

- EES 140 - Soil Science Credits: 3
- EES 141 - Soil Science Laboratory Credits: 1
- ERS 101 - Introduction to Geology Credits: 4
- ERS 102 - Environmental Geology Credits: 4
- ERS 108 - Beaches and Coasts Credits: 3
- INT 482 - (SBE, PSE) Pesticides and the Environment Credits: 3
- PSE 320 - Soil Organic Matter Management Credits: 3
- SFR 406 - Remote Sensing Image Interpretation and Forest Mapping Credits: 3

9. Field Experience

Choose at least one course from this list. This course can also satisfy one of the areas above.

- BIO 205 - Field Natural History of Maine Credits: 4

- BIO 355 - Animal Behavior Laboratory Credits: 2
- BIO 430 - Ecology and Systematics of Aquatic Insects Credits: 4
- BIO 437 - Avian Biology and Ecology Laboratory Credits: 1
- BIO 463 - River Ecology Credits: 4
- EES 475 - Field Studies in Ecology Credits: 1-3
- WLE 423 - Wetland Ecology and Conservation Credits: 4

10. Capstone

Choose one of these courses*:

- BIO 388 - Research Capstone in Biology Credits: 1-3
 - BIO 392 - Independent Study Capstone in Biology Credits: 1-3
 - BIO 447 - Experimental Ecology Credits: 4
 - BIO 463 - River Ecology Credits: 4
 - HON 499 - Honors Thesis Credits: 3
- (Must be a topic in Biology and the thesis advisor should be in SBE).

11. Writing requirement (students in the Honors program are exempt)

One course required. Choose from the following courses*:

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- ENG 212 - Persuasive and Analytical Writing Credits: 3
- ENG 317 - Business and Technical Writing Credits: 3

These courses satisfy the general education writing intensive requirement and so do not add to the number of credits needed beyond the basic Zoology major.

Minor

Minor: Animal and Veterinary Sciences

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: C- or higher.

Contact Information: Mary Fernandez, Student Academic Services Coordinator, 201A Rogers Hall, (207) 581-2938, mary.fernandez@umit.maine.edu

This minor is intended for students from various backgrounds who wish to adapt their education to 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.

Required Courses:

- AVS 145 - Animal Science Credits: 4
- AVS 346 - Dairy Cattle Technology Credits: 3
- AVS 455 - Animal Nutrition Credits: 4
- AVS 466 - Livestock Feeds and Feeding Credits: 2

Plus at least 5 credits from the following list:

- AVS 203 - Equine Management Credits: 3
- AVS 249 - Laboratory and Companion Animal Science Credits: 2
- AVS 347 - Dairy Cattle Technology Laboratory Credits: 2
- AVS 351 - Animal Science Techniques Credits: 3
- AVS 405 - Livestock and Companion Animal Behavior Credits: 3
- AVS 437 - Animal Diseases Credits: 3
- AVS 480 - Physiology of Reproduction Credits: 3

Minor: Aquaculture

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.

Contact Information: William Ellis, Associate Professor of Oceanography and Associate Director, 360 Aubert Hall, (207) 581-4360, wge@umit.maine.edu

The minor in aquaculture is designed for students in the College of Natural Sciences, Forestry and Agriculture 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:

Core:

- SMS 211 - Introduction to Aquaculture Credits: 3
- SMS 401 - Critical Issues in Aquaculture Credits: 1
- SMS 420 - Fish Aquaculture I Credits: 3
- SMS 449 - Aquaculture Systems Credits: 3

Plus at least 8 credits from the following:

- FSN 440 - Utilization of Aquatic Food Resources Credits: 3
- SMS 309 - Techniques in Shellfish Aquaculture Credits: 2
- SMS 421 - Fish Aquaculture II Credits: 3
- SMS 422 - Biology of Fishes Credits: 3
- SMS 467 - Fish Nutrition and Feeding Credits: 3

Minor: Biochemistry

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: Robert Gundersen, Chair, Hitchner Hall Room 117, (207) 581-2802, gundersn@maine.edu OR

John Singer, Undergraduate Coordinator, Hitchner Hall, Room 280, (207) 581-2808, jsinger@maine.edu

Courses:

- BMB 322 - Biochemistry Credits: 3
- BMB 323 - Biochemistry Laboratory Credits: 2
- BMB 460 - Advanced Biochemistry Credits: 3
- Plus 10 credits of upper (300 or higher) level courses offered by the department and required for the major

Minor: Biology

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 22

GPA requirements to earn minor: 2.0

Minimum Grade requirements for courses to count toward minor: Biology minors must have a "C" or better in BIO 100 and BIO 200.

Contact Information: Ann Dieffenbacher-Krall, Assistant Director of School of Biology and Ecology, 100 Murray Hall, (207) 581-2510, annd@maine.edu

The minor in Biology is designed for students in other fields who would like to develop a basic understanding of modern biology. The minor is not open to students majoring or minoring in Botany or Zoology. The requirements for the minor in Biology include the courses listed below. Students must obtain a minimum grade of C in BIO 100 and BIO 200 and a minimum GPA for the minor of 2.0.

Courses:

- BIO 100 - Basic Biology Credits: 4
- BIO 200 - Biology of Organisms Credits: 4
- BMB 280 - Introduction to Molecular and Cellular Biology Credits: 3

or

- BIO 480 - Cell Biology Credits: 3
- BIO 319 - General Ecology Credits: 3

or

- SMS 300 - Marine Ecology Credits: 3

or

- WLE 200 - Ecology Credits: 3
- Any courses from Biological Sciences Areas I-V in Biology BA and BS programs^{1,2} Credits: 8

¹Students majoring in Biochemistry, Microbiology, or Molecular and Cellular Biology must choose from Areas III, IV, and V only, and the courses must not be BMB courses

²Students majoring in Animal and Veterinary Sciences, Ecology and Environmental Sciences, Marine Science, or Wildlife Ecology must choose courses from Areas I-V that are not on the list of courses that count towards their major

Minor: Botany

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 22

GPA requirements to earn minor: 2.0

Minimum Grade requirements for courses to count toward minor: Botany minors must have a "C" or better in BIO 100 and BIO 200.

Contact Information: Ann Dieffenbacher-Krall, Assistant Director of School of Biology and Ecology, 100 Murray Hall, (207) 581-2510, annd@maine.edu

The minor in Botany is designed for students in other fields who would like to develop a basic understanding of modern plant biology. The minor is not open to students majoring or minoring in Biology or Zoology. The requirements for the minor in Botany include the courses listed below. Students must obtain a minimum grade of C in BIO 100 and BIO 200 and a minimum GPA for the minor of 2.0.

Courses:

- BIO 100 - Basic Biology Credits: 4
- BIO 200 - Biology of Organisms Credits: 4
- Any courses, at least three of which must be plant courses (P), from Biological Sciences Areas I-V in Botany B.A. and B.S. programs^{1,2} Credits: 14

¹Students majoring in Biochemistry, Microbiology, or Molecular and Cellular Biology must choose courses that are not BMB courses.

²Students majoring in Animal and Veterinary Sciences, Ecology and Environmental Sciences, Environmental Horticulture, Marine Science, Sustainable Agriculture, or Wildlife Ecology must choose courses from Areas I-V that are not on the list of courses that count towards their major.

Minor: Climate Sciences

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: Alice R. Kelley, Undergraduate Coordinator, 111 Bryand Global Science Center, 207-581-2056, akelley@maine.edu

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.

18 Credits from the courses listed below, with only two courses at the 100 level:

- ERS 102 - Environmental Geology Credits: 4
- ERS 108 - Beaches and Coasts Credits: 3
- ERS 121 - Humans and Global Change Credits: 3
- ERS 191 - Energy in the Earth System Credits: 3
- ERS 200 - Earth Systems Credits: 4

- ERS 201 - Global Environmental Change Credits: 4
- ERS 240 - The Atmosphere Credits: 4
- ERS 312 - Geochemistry Credits: 3
- ERS 315 - Principles of Sedimentology and Stratigraphy Credits: 4
- ERS 323 - Extreme Weather Credits: 3
- ERS 330 - Earth Materials Credits: 4
- ERS 350 - Fresh-Water Flow Credits: 3
- ERS 361 - The Principles of Geomorphology Credits: 3
- ERS 408 - Coastal Processes and Coastal Zone Management Credits: 3
- ERS 441 - Glaciers and Our Landscape Credits: 3
- ERS 460 - Marine Geology Credits: 3.0
- ERS 461 - Fluvial Processes in Geomorphology Credits: 3

Minor: Communication Sciences and Disorders

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

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.

Required Courses

Students must earn a minimum of "C" in each course applied to the minor. A minimum of 12 CSD credit hours must be taken at the University of Maine. The Department of Communication Sciences and Disorders must approve all transfer courses applied to the minor.

- CSD 130 - Introduction to Communication Sciences and Disorders Credits: 3
- 15 additional credit hours of CSD courses

Minor: Earth Sciences

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: Alice R. Kelley, Undergraduate Coordinator, 111 Bryand Global Science Center, 207-581-2056, akelley@maine.edu

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 8 credits of which are 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.

Courses:

- ERS 101 - Introduction to Geology Credits: 4
- 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 151 - Experiencing Earth Credits: 4
- ERS 191 - Energy in the Earth System Credits: 3
- ERS 200 - Earth Systems Credits: 4
- ERS 201 - Global Environmental Change Credits: 4
- ERS 209 - Geology of Maine Credits: 3
- ERS 210 - Geology Applied to Engineering Credits: 3
- ERS 211 - Geology Applied to Engineering Laboratory Credits: 1
- ERS 230 - Earth and Climate Science Geomatics Credits: 4
- ERS 240 - The Atmosphere Credits: 4
- ERS 312 - Geochemistry Credits: 3
- ERS 315 - Principles of Sedimentology and Stratigraphy Credits: 4
- ERS 316 - Structural Geology Credits: 4
- ERS 317 - Introduction to Geophysics Credits: 3
- ERS 330 - Earth Materials Credits: 4
- ERS 350 - Fresh-Water Flow Credits: 3
- ERS 361 - The Principles of Geomorphology Credits: 3
- ERS 420 - Computer Scripting for Data Analysis Credits: 3
- ERS 433 - Igneous and Metamorphic Petrology Credits: 4
- ERS 441 - Glaciers and Our Landscape Credits: 3
- ERS 491 - Introduction to Meteorology and Climatology Credits: 3

Minor: Ecology and Environmental Sciences

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.

Contact Information: Julie Eubanks, Program Coordinator, 246 Nutting Hall, (207) 581-3176

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.

Courses:

- EES 100 - Human Population and the Global Environment Credits: 3
and
- EES 489 - Critical Issues in Ecology and Environmental Sciences Policy Credits: 4

Choose one from each of the following groups

Choose one from each of the following groups

Earth Sciences

- EES 140 - Soil Science Credits: 3
or
- ERS 101 - Introduction to Geology Credits: 4

Ecology

- WLE 200 - Ecology Credits: 3
or
- BIO 319 - General Ecology Credits: 3

Field Ecology

- BIO 205 - Field Natural History of Maine Credits: 4

Policy

- ECO 377 - Introduction to Natural Resource Economics and Policy Credits: 3
or
- EES 324 - Environmental Protection Law and Policy Credits: 3
or
- ECO 381 - Sustainable Development Principles and Policy Credits: 3
or
- WLE 323 - Introduction to Conservation Biology Credits: 3

Total Credit Hours: 19 or 20

Minor: Economics

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: Karen Moffet, School of Economics, 206 Winslow Hall, (207) 581-3154.

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.

Required Courses:

- ECO 120 - Principles of Microeconomics Credits: 3
- ECO 121 - Principles of Macroeconomics Credits: 3

And one of the following:

- ECO 321 - Intermediate Macroeconomics Credits: 3
- ECO 350 - Intermediate Microeconomic Theory Credits: 3
- ECO 420 - Intermediate Microeconomic Theory with Calculus Credits: 3

Economics Elective Courses

Economic courses of the student's choosing, totaling nine (9) credits, with six (6) credits at the 300 level or higher.

Minor: Environmental Horticulture

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: A "C-" or better is required for all PSE courses.

Contact Information: Mary Fernandez, Student Academic Services Coordinator, 201A Rogers Hall, 207-581-2938, mary.fernandez@umit.maine.edu

This minor is intended for students in other fields of study who have an interest in obtaining basic knowledge in the area of horticulture. It allows students to explore the art and science of growing plants and utilizing them in landscape designs. The students take fundamental courses in plant science, soil science, and plant identification. Students may then build off of this base of horticultural knowledge with elective courses that specialize in plant production, landscape design, or botany. Courses in this

minor provide hands-on experience in horticultural facilities including the Roger Clapp Greenhouses, the Lyle E. Littlefield Gardens, and the Design Studio.

Please note:

The following courses are not acceptable course choices for Sustainable Agriculture majors:

BIO 327
PSE 320
PSE 403
PSE 415
PSE 440
PSE 457

Required Courses:

- EES 140 - Soil Science Credits: 3
- EES 141 - Soil Science Laboratory Credits: 1
- PSE 100 - Plant Science Credits: 4
- PSE 219 - SL: Herbaceous Landscape Plants Credits: 3
- PSE 221 - Woody Landscape Plants Credits: 4

Plus one from the following list:

- PSE 227 - Landscape Design and Construction Techniques Credits: 4
- PSE 325 - Turfgrass Management Credits: 3
- PSE 415 - Greenhouse Management Credits: 4
- PSE 424 - Nursery Management Credits: 3

Plus one from the following list:

- BIO 310 - Plant Biology Credits: 4
- BIO 327 - Introductory Applied Entomology Credits: 4
- BIO 342 - Plants in Our World Credits: 3
- BIO 452 - Plant Physiology Credits: 3
- BIO 464 - Taxonomy of Vascular Plants Credits: 4
- PSE 320 - Soil Organic Matter Management Credits: 3
- PSE 328 - Landscape Design Credits: 4
- PSE 403 - Weed Ecology and Management Credits: 3
- PSE 410 - Plant Propagation Credits: 4
- PSE 440 - Environmental Soil Chemistry and Plant Nutrition Credits: 3
- PSE 457 - Plant Pathology Credits: 4
- PSE 469 - Soil Microbiology Credits: 3

- SFR 439 - Plant Anatomy Structure and Function Credits: 3

Minor: Equine Studies

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: C- or higher

Contact Information: Mary Fernandez, Student Academic Services Coordinator, 201A Rogers Hall, 207-581-2938, mary.fernandez@umit.maine.edu

This minor is intended for students from various backgrounds who wish to adapt their education to 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:

- No more than 6 total credits from the AVS major can be used toward this minor.

Required Courses:

- AVS 203 - Equine Management Credits: 3
- AVS 303 - Equine Management Cooperative Credits: 2
- AVS 353 - Equine Reproduction and Breeding Management Credits: 3

Plus at least 10 credits from the following lists, but no more than one course from Group B

Group A - Equine courses

AVS 253 can count twice toward the minor.

- AVS 196 - Introduction to Equine Cooperative Credits: 0-1
- AVS 253 - Principles of Western Riding Credits: 3
- AVS 393 - Training the Standardbred Horse Credits: 3
- AVS 397 - Equine Internship Credits: 1-4
- AVS 433 - Equine Exercise Physiology Credits: 3

Group B - Non-Equine courses relevant to Equine Studies

AVS majors cannot use AVS courses to meet this requirement.

- AVS 368 - Independent Study in the Animal Sciences Credits: Ar
- AVS 437 - Animal Diseases Credits: 3
- AVS 455 - Animal Nutrition Credits: 4
- BIO 377 - Medical Physiology Credits: 3
- BMB 322 - Biochemistry Credits: 3
- BMB 420 - Infectious Disease Credits: 3
- BMB 440 - Introductory Immunology Credits: 3
- BUA 201 - Principles of Financial Accounting Credits: 3
- ECO 254 - Small Business Economics and Management Credits: 3
- EHD 202 - Education in a Multicultural Society Credits: 3
- PSE 101 - Cropping Systems Credits: 4
- PSE 105 - Principles of Sustainable Agriculture Credits: 3
- PSE 305 - Problems in Plant, Soil and Environmental Sciences Credits: Ar

Minor: Fisheries

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.

Contact Information: William Ellis, Associate Professor of Oceanography and Associate Director, 360 Aubert Hall, 207-581-4360, wge@umit.maine.edu

The Fisheries minor is designed for students in the College of Natural Sciences, Forestry and Agriculture 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.

Requirements:

- WLE 200 - Ecology Credits: 3
- or
- BIO 319 - General Ecology Credits: 3
- or
- SMS 300 - Marine Ecology Credits: 3

Required:

- WLE 410 - Wildlife Population Dynamics and Conservation Credits: 3

SMS 321 or WLE 340 is required plus one additional course from the following list:

- SMS 211 - Introduction to Aquaculture Credits: 3
- SMS 230 - Introduction to Marine Policy and Fisheries Management Credits: 3
- SMS 321 - Introduction to Fisheries Science Credits: 3
- SMS 422 - Biology of Fishes Credits: 3
- WLE 340 - Freshwater Fisheries Ecology and Management Credits: 3

One of the following courses:

- BIO 447 - Experimental Ecology Credits: 4
- BIO 468 - Lake Ecology Credits: 3
- SMS 302 - Oceanography Credits: 3

One of the following courses:

- STS 232 - Principles of Statistical Inference Credits: 3
- WLE 220 - Introduction to Ecological Statistics Credits: 4

One of the following courses:

- ECO 377 - Introduction to Natural Resource Economics and Policy Credits: 3
- SMS 230 - Introduction to Marine Policy and Fisheries Management Credits: 3
- WLE 470 - Wildlife Policy and Administration Credits: 3
- Minimum course prerequisites for the fisheries minor are BIO 100, BIO 200 (or SMS 201 & 203), MAT 111 and ECO 100 or ECO 120. Some combinations of courses in the minor also will require CHY 121/123, CHY 122/124, PHY 112 and SMS 100 as prerequisites

Minor: Food Science

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: C- or better

Contact Information: Mary Fernandez, Student Academic Services Coordinator, 201A Rogers Hall, 207-581-2938, mary.fernandez@umit.maine.edu

Residency Requirement: 15 of the 18 credits for this minor must be taken at the University of Maine

This minor allows graduates 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:

- 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
- 15 of the 18 credits for this minor must be taken at the University of Maine.
- Seniors may take the 500-level graduate classes, if they meet the prerequisite.

Required Course:

- FSN 330 - Introduction to Food Science Credits: 3

The additional 15 credits may include:

- ECO 190 - World Food Supply, Population and the Environment Credits: 3

- FSN 121 - Brewing with Food Science Credits: 3
- FSN 238 - Applied Food Microbiology and Sanitation Credits: 3
- FSN 340 - Food Processing Laboratory Credits: 1
- FSN 396 - Field Experience in Food Science and Human Nutrition Credits: 1 - 16
- FSN 397 - Independent Studies Credits: 1-6
- FSN 436 - Food Law Credits: 3
- FSN 438 - Food Microbiology Credits: 3
- FSN 440 - Utilization of Aquatic Food Resources Credits: 3
- FSN 450 - Food Biotechnology Credits: 3
- FSN 482 - Food Chemistry Credits: 3
- FSN 483 - Food Chemistry Laboratory Credits: 1
- FSN 485 - Introduction to Food Engineering Principles Credits: 3
- FSN 486 - Food Engineering Laboratory Credits: 1
- FSN 502 - Food Preservation Credits: 3 (see Graduate Catalog for course description)
- FSN 520 - Food Product Development Credits: 3 (see Graduate Catalog for course description)
- FSN 585 - Sensory Evaluation I Credits: 3 (see Graduate Catalog for course description)
- FSN 586 - Sensory Evaluation II Credits: 3 (see Graduate Catalog for course description)
- FSN 587 - Food Analysis Credits: 3 (see Graduate Catalog for course description)

Minor: Forest Ecosystem Science

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: William H. Livingston, Associate Director for Undergraduate Programs, 201b Nutting Hall, 581-2990, WilliamL@maine.edu

Students minoring in Forest Ecosystems Science must be assigned an advisor from the School of Forest Resources faculty.

Core Requirements:

- BIO 100 - Basic Biology Credits: 4
- or
- BIO 222 - Biology: The Living Science Credits: 3
- or
- SFR 100 - Introduction to Forest Biology Credits: 3
- SFR 102 - Structure and Function of Woody Plants Laboratory Credits: 1
- SFR 107 - Forest Vegetation Credits: 3

Additional Courses:

To complete the minor, select courses from the following list with no more than one of the classes being required for the major: At least 11 credits are needed.

- SFR 101 - Introduction to Forest Resources Credits: 1
- SFR 111 - Forest Through Time Credits: 1
- SFR 112 - Forests Through Time: Discussions Credits: 2
- SFR 205 - Forest Measurements and Statistics Credits: 3
- SFR 208 - Geomatics, Coordinate Geometry, and GPS Credits: 4
- SFR 349 - Applied Forest Ecology and Silviculture Credits: 4
- SFR 400 - Applied Geographic Information Systems Credits: 4
- SFR 406 - Remote Sensing Image Interpretation and Forest Mapping Credits: 3
- SFR 407 - Forest Ecology Credits: 3
- SFR 408 - Silviculture Credits: 3
- SFR 409 - Forest Ecology and Silviculture Field Laboratory Credits: 2
- SFR 410 - Forest Regeneration Credits: 3
- SFR 444 - Forest Resources Economics Credits: 3
- SFR 446 - Forest Resources Policy Credits: 3
- SFR 457 - Tree Pests and Disease Credits: 3
- SFR 458 - Tree Pests and Disease Lab Credits: 1

Minor: Forest Products

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.

Contact Information: William H. Livingston, Associate Director for Undergraduate Programs, 201b Nutting Hall, 581-2990, WilliamL@maine.edu

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.

Required Courses:

- SFR 215 - Introduction to Forest Bioproducts and Bioenergy Credits: 3
- SFR 346 - Special Problems in Forest Operations, Bioproducts, and Bioenergy Credits: Ar
- SFR 450 - Processing of Biomaterials Credits: 4
- SFR 453 - Biocomposite Materials Credits: 4

- SFR 455 - Bioenergy Sources, Systems and Environmental Effects Credits: 3
- SFR 464 - Forest Resources Business, Marketing and Entrepreneurship Credits: 3

Minor: Forest Recreation Management

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.

Contact Information: William H. Livingston, Associate Director for Undergraduate Programs, 201b Nutting Hall, 581-2990, WilliamL@maine.edu

Students minoring in Forest Recreation Management 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.

Required Courses:

- SFR 150 - Introduction to Tourism Credits: 3
- SFR 220 - Environment and Society Credits: 3
- SFR 228 - Forest Recreation Management Credits: 3
- SFR 434 - Recreation Site Planning and Management Credits: 3
- SFR 452 - Environmental Interpretation Credits: 4

Plus one of the following:

- SFR 236 - Commercial Outdoor Recreation Management Credits: 3
- SFR 446 - Forest Resources Policy Credits: 3
- SFR 479 - Environmental Attitudes and Behaviors Credits: 3
- SFR 480 - Wilderness and Protected Areas Management Credits: 3

Minor: Human Nutrition

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: C- or better

Contact Information: Mary Fernandez, Student Academic Services Coordinator, 201A Rogers Hall, 207-581-2938, mary.fernandez@umit.maine.edu

Residency Requirement: 15 of the 18 credits for this minor must be taken at the University of Maine

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:

- The minor does not lead to credentialing in the field of dietetics without further study
- 15 of the 18 credits for this minor must be taken at the University of Maine

Required Course:

- FSN 101 - Introduction to Food and Nutrition Credits: 3

Plus 15 credits from the following list:

- FSN 103 - Science of Food Preparation Credits: 4
- FSN 202 - Foodservice Management Credits: 3
- FSN 230 - Nutritional and Medical Terminology Credits: 1
- FSN 238 - Applied Food Microbiology and Sanitation Credits: 3
- FSN 265 - Functional Concepts in Nutrition Credits: 3
- FSN 270 - World Food and Nutrition Credits: 3
- FSN 301 - Life Cycle Nutrition Credits: 3
- FSN 305 - Foods Laboratory Credits: 1
- FSN 330 - Introduction to Food Science Credits: 3
- FSN 401 - Community Nutrition Credits: 4
- FSN 410 - Human Nutrition and Metabolism Credits: 3
- FSN 412 - Medical Nutrition Therapy I Credits: 3
- FSN 420 - Medical Nutrition Therapy II Credits: 4
- FSN 430 - Counseling and Diet Therapy Credits: 3
- FSN 436 - Food Law Credits: 3
- FSN 482 - Food Chemistry Credits: 3
- FSN 501 - Advanced Human Nutrition Credits: 3 (see Graduate Catalog for course description)
- FSN 508 - Nutrition and Aging Credits: 3 (see Graduate Catalog for course description)

Minor: Microbiology

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: Robert Gundersen, Chair, Hitchner Hall Room 117, (207) 581-2802, gundersn@maine.edu OR

John Singer, Undergraduate Coordinator, Hitchner Hall, Room 280, (207) 581-2808, jsinger@maine.edu

Courses:

- BMB 300 - General Microbiology Credits: 3
- BMB 305 - General Microbiology Laboratory Credits: 2
- BMB 322 - Biochemistry Credits: 3
- BMB 323 - Biochemistry Laboratory Credits: 2
- Plus 8 credits of upper (300 or higher) level microbiology courses required for the major

Minor: Molecular and Cellular Biology

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.

Contact Information: Robert Gundersen, Chair, Hitchner Hall Room 117, (207) 581-2802, gundersn@maine.edu OR

John Singer, Undergraduate Coordinator, Hitchner Hall, Room 280, (207) 581-2808, jsinger@maine.edu

Courses:

- BMB 280 - Introduction to Molecular and Cellular Biology Credits: 3
- BMB 322 - Biochemistry Credits: 3
- BMB 323 - Biochemistry Laboratory Credits: 2
- BMB 400 - Molecular Genetics Credits: 3
- Plus 7 credits of upper (300 or higher) level courses offered by the department and required for the major

Minor: Neuroscience

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.

Contact Information: Ann Dieffenbacher-Krall, Assistant Director of School of Biology and Ecology, 100 Murray Hall, (207) 581-2510, annd@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, Zoology, or Psychology must include 12 credits from outside the department of their major, and students majoring in other fields must include at least 9 hours of BIO and 9 hours of PSY designed courses. Introductory Chemistry is strongly advised.

Required Core Courses (6 credits)

- BIO 307 - Introduction to Neuroscience Credits: 3
- PSY 365 - Biopsychology and Behavioral Neuroscience Credits: 3

Intermediate Courses; Choose at least two (6-9 credits)

- BIO 474 - Neurobiology Credits: 3
- PSY 465 - Hormones, Brain and Behavior Credits: 3
- PSY 466 - Cognitive Neuroscience Credits: 3

Related Courses; Choose as needed to complete the 18 credit requirement:

- BIO 329 - Vertebrate Biology Credits: 3
- BIO 336 - Developmental Biology Credits: 4

- BIO 350 - Concepts and Applications of Genetics Credits: 3
- BIO 354 - Animal Behavior Credits: 3
- BIO 377 - Medical Physiology Credits: 3
- BIO 438 - Morphogenesis in Development and Disease Credits: 3
- BIO 462 - Principles of Genetics Credits: 3
- BIO 465 - Evolution Credits: 3
- BIO 479 - Endocrinology Credits: 3
- BIO 480 - Cell Biology Credits: 3
- PSY 422 - Infancy: Neurobehavioral Development Credits: 3
- PSY 350 - Cognition Credits: 3
- PSY 361 - Sensation and Perception Credits: 3
- PSY 401 - Health Psychology Credits: 3

Minor: Plant Science

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: A "C-" or better is required for all PSE courses.

Contact Information: Mary Fernandez, Student Academic Services Coordinator, 201A Rogers Hall, 207-581-2938, mary.fernandez@umit.maine.edu

This minor includes courses that present the underlying principles distinguishing sustainable agriculture from conventional chemical-based agriculture. The minor includes several courses that introduce students to the philosophy, terminology and science that form the foundation of agricultural systems that are ecologically-based. Upper level classes build on the foundation classes to give students practical knowledge in the management of crops in ways that are consistent with maintaining healthy soils, decreasing weed and pest populations, and growing nutritional food crops while minimizing or eliminating the use of toxic pesticides and chemical fertilizers.

Please note:

- The following courses are not acceptable course choices for Environmental Horticulture majors; PSE 403, PSE 410, PSE 415, and PSE 457.
- The following courses are not acceptable course choices for Sustainable Agriculture majors; PSE 101, PSE 403, PSE 415, PSE 440, PSE 457 and PSE 479.
- PSE 101 - Cropping Systems is offered Spring - even years.

Required Courses:

- BIO 452 - Plant Physiology Credits: 3
- PSE 100 - Plant Science Credits: 4

- PSE 101 - Cropping Systems Credits: 4
- EES 140 - Soil Science Credits: 3
- EES 141 - Soil Science Laboratory Credits: 1

Plus two from the following list:

- BIO 464 - Taxonomy of Vascular Plants Credits: 4
- PSE 403 - Weed Ecology and Management Credits: 3
- PSE 410 - Plant Propagation Credits: 4
- PSE 415 - Greenhouse Management Credits: 4
- PSE 440 - Environmental Soil Chemistry and Plant Nutrition Credits: 3
- PSE 457 - Plant Pathology Credits: 4
- PSE 479 - Crop Ecology and Physiology Credits: 3
- SFR 439 - Plant Anatomy Structure and Function Credits: 3
- WLE 423 - Wetland Ecology and Conservation Credits: 4

Minor: Pre-Medical Studies

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 43

GPA requirements to earn minor: 2.0

Minimum Grade requirements for courses to count toward minor: None.

Contact Information: Ann Dieffenbacher-Krall, Assistant Director of School of Biology and Ecology, 100 Murray Hall, (207) 581-2510, annd@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 Specialist 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, Botany, Food Science and Human Nutrition (Food Science Concentration), Microbiology, Molecular and Cellular Biology, and Zoology.

Courses:

- BIO 100 - Basic Biology Credits: 4
- BIO 200 - Biology of Organisms Credits: 4

- BMB 322 - Biochemistry Credits: 3
 - BMB 323 - Biochemistry Laboratory Credits: 2
 - CHY 121 - Introduction to Chemistry Credits: 3
 - CHY 122 - The Molecular Basis of Chemical Change Credits: 3
 - CHY 123 - Introduction to Chemistry Laboratory Credits: 1
 - CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
 - CHY 251 - Organic Chemistry I Credits: 3
 - CHY 252 - Organic Chemistry II Credits: 3
 - CHY 253 - Organic Chemistry Laboratory I Credits: 2
 - CHY 254 - Organic Chemistry Laboratory II Credits: 2
 - MAT 126 - Calculus I Credits: 4
 - PHY 111 - General Physics I Credits: 4
- and
- PHY 112 - General Physics II Credits: 4
- or
- PHY 121 - Physics for Engineers and Physical Scientists I Credits: 4
- and
- PHY 122 - Physics for Engineers and Physical Scientists II Credits: 4

Minor: Renewable Energy Economics and Policy

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: Karen Moffet, School of Economics, 206 Winslow Hall, 581-3154

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 and humanities. At minimum, the minor includes 18 credit hours of coursework, 9 of which are required core courses.

Core Courses: (9 Credits)

- ECO 381 - Sustainable Development Principles and Policy Credits: 3
- ECO 405 - Sustainable Energy Economics & Policy Credits: 3
- EES 324 - Environmental Protection Law and Policy Credits: 3

Elective Courses: (9 credits)

- ECO 180 - Citizens, Energy & Sustainability Credits: 3
- EET 460 - Renewable Energy and Electricity Production Credits: 3
- ERS 191 - Energy in the Earth System Credits: 3
- ERS 369 - Energy Resources and Climate Change Credits: 3
- PHI 232 - Environmental Ethics Credits: 3

or

- PHI 432 - Environmental Philosophy and Policy Credits: 3
- SFR 455 - Bioenergy Sources, Systems and Environmental Effects Credits: 3
- Other courses with permission

Minor: Resource and Agribusiness Management

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: None.

Contact Information: Mario Teisl, Director, School of Economics, 206 Winslow Hall, (207) 581-3162.

Other courses may be substituted with the consent of the student's advisor and ECO Undergraduate Coordinator.

Courses:

- ECO 120 - Principles of Microeconomics Credits: 3
- ECO 254 - Small Business Economics and Management Credits: 3
- ECO 350 - Intermediate Microeconomic Theory Credits: 3
- ECO 366 - Applied Economic Data Analysis Credits: 3

or

- ECO 488 - Spreadsheet Modeling and Decision Analysis Credits: 3

Plus two courses selected from the following:

- ECO 377 - Introduction to Natural Resource Economics and Policy Credits: 3
- or**
- ECO 477 - Economics of Environmental and Resource Management Credits: 3
-
- ECO 381 - Sustainable Development Principles and Policy Credits: 3
 - EES 324 - Environmental Protection Law and Policy Credits: 3

Minor: Soil Science

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.

Contact Information: Ivan Fernandez, School of Forest Resources, Professor of Soil Science, Cooperating Professor, Climate Change Institute and School of Food and Agriculture, 1 Deering Hall, 207-581-2932, ivanf@maine.edu

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:

- PSE440 - Environmental Soil Chemistry and Plant Nutrition is offered Spring - even years.
- PSE442 - Pedology: The Science of Soil Morphology, Genesis and Classification is offered Fall - even years.
- PSE444 - Field Soil Morphology and Classification Techniques is offered Fall - even years and serves as a Co-requisite for PSE442.

Required Courses:

- EES 140 - Soil Science Credits: 3
- EES 141 - Soil Science Laboratory Credits: 1
- PSE 440 - Environmental Soil Chemistry and Plant Nutrition Credits: 3
- PSE 469 - Soil Microbiology Credits: 3

Plus three from the following list:

- ERS 330 - Earth Materials Credits: 4
- ERS 441 - Glaciers and Our Landscape Credits: 3
- PSE 320 - Soil Organic Matter Management Credits: 3
- PSE 442 - Pedology: The Science of Soil Morphology, Genesis and Classification Credits: 3
- PSE 444 - Field Soil Morphology and Classification Techniques Credits: 1
- WLE 413 - Wetland Delineation and Mapping Credits: 4
- WLE 423 - Wetland Ecology and Conservation Credits: 4

*Additional options for classes are possible with approval by minor advisor.

Minor: Sustainable Agriculture

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.

Contact Information: Mary Fernandez, Student Academic Services Coordinator, 201A Rogers Hall, (207) 581-2938, mary.fernandez@umit.maine.edu

This minor gives students a broad overview of the many areas that are encompassed by plant sciences. It includes several lab classes which allow hands-on experience in the identification, production and anatomical study of a wide-range of herbaceous and woody plants. The required courses cover both basic and applied sciences. Elective courses allow the individual to choose from courses focusing on plants in natural ecosystems, in the managed ecosystems of farms, greenhouses and nurseries, or in the laboratory.

Please note:

- The following courses are not acceptable course choices for Environmental Horticulture majors: PSE 403 and PSE 415.
- PSE 101 - Cropping Systems is offered Spring - even years.

Required Courses:

- EES 140 - Soil Science Credits: 3
- EES 141 - Soil Science Laboratory Credits: 1
- PSE 100 - Plant Science Credits: 4
- PSE 101 - Cropping Systems Credits: 4
- PSE 105 - Principles of Sustainable Agriculture Credits: 3

Plus two from the following list:

- PSE 203 - Weed Biology and Identification Credits: 3
- PSE 312 - Sustainable Food Systems: Challenges and Opportunities Credits: 3
- PSE 320 - Soil Organic Matter Management Credits: 3
- PSE 403 - Weed Ecology and Management Credits: 3
- PSE 415 - Greenhouse Management Credits: 4

Minor: Sustainable Food Systems

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: Mary Fernandez, Student Academic Services Coordinator, 201A Rogers Hall, 207-581-2938, mary.fernandez@umit.maine.edu

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:

- This minor is not an option for Sustainable Agriculture majors.
- No more than 9 total credits may be from 100-level classes.
- PSE 105 is a prerequisite for PSE 312.

Required Courses:

- FSN 101 - Introduction to Food and Nutrition Credits: 3
- PSE 105 - Principles of Sustainable Agriculture Credits: 3
- PSE 312 - Sustainable Food Systems: Challenges and Opportunities Credits: 3

Plus 9 credits from the following list:

- ECO 190 - World Food Supply, Population and the Environment Credits: 3
- FSN 270 - World Food and Nutrition Credits: 3
- FSN 330 - Introduction to Food Science Credits: 3
- FSN 436 - Food Law Credits: 3
- FSN 440 - Utilization of Aquatic Food Resources Credits: 3
- FSN 450 - Food Biotechnology Credits: 3
- PAX 370 - Building Sustainable Communities Credits: 3
- PSE 101 - Cropping Systems Credits: 4
- PSE 320 - Soil Organic Matter Management Credits: 3

Minor: Zoology

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 and BIO 200.

Contact Information: Amy Dieffenbacher-Krall, Assistant Director of School of Biology and Ecology, 100 Murray Hall, (207)581-2510, annd@maine.edu

The minor in Zoology is designed for students in other fields who would like to develop a basic understanding of modern animal biology. The minor is not open to students majoring or minoring in Biology or Botany. The requirements for the minor in Zoology include the courses listed below. Students must obtain a minimum grade of C in BIO 100 and BIO 200 and a minimum GPA for the minor of 2.0.

Courses:

- BIO 100 - Basic Biology Credits: 4
- BIO 200 - Biology of Organisms Credits: 4
- Any courses, at least three of which must be animal courses (A), from Biological Sciences Areas I-V in Zoology B.A. and B.S. programs^{1,2} Credits: 14

¹Students majoring in Biochemistry, Microbiology, or Molecular and Cellular Biology must choose courses that are not BMB courses.

²Students majoring in Animal and Veterinary Sciences, Ecology and Environmental Sciences, Marine Science, or Wildlife Ecology must choose courses from Areas I-V that are not on the list of courses that count towards their major.

Division of Lifelong Learning

The Division of Lifelong Learning provides lifelong learning opportunities that reflect the University's outreach mission and land-grant heritage by offering instructional delivery systems tailored for external constituents, such as off-campus or after hours live instruction; web-based courses; interactive television and video conferencing; computer conferencing and other forms of electronic instruction. The Division provides a broad range of programs and services to meet the needs of degree seeking professionals, and adult learners as well as students through the University of Maine System and selected students in Maine high schools qualified to take college classes. It serves matriculated degree candidates, students with time conflicts between classes and other responsibilities, multi-campus students, and adults considering a return to pursue a college degree, and it provides an important link between the University of Maine and Maine's citizens and workers. Established in 1996, the Division is composed of Bureau of Labor Education, Conference Services, Continuing and Online Education, the Diversity Leadership Institute, the Hutchinson Center, Maine Studies, Peace and Reconciliation Studies, Summer University and Winter Sessions, and the Women's Resource Center. For further information: dll.umaine.edu/ or call (207) 581-3113.

ACADEMIC PROGRAMS:

Bachelor of University Studies
Minor in Labor Studies
Minor in Maine Studies
Minor in Peace and Reconciliation Studies
Certificate in Classical Studies
Certificate in Environmental Horticulture Studies
Certificate in Equine Studies
Certificate in Maine Studies
Certificate in Peace and Reconciliation Studies
Certificate in Studies in Accounting

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 education is a necessary and vital component of a democratic society, as well as a lifelong process. The BLE conducts educational programs, presentations, and research on labor and labor-related issues of interest to workers, students, educators, leaders and staff of union organizations, and public policy makers, and through the publication of briefing papers, the Bureau analyzes important public policy issues. Through teaching, research and public service, the Bureau helps Maine workers and others assess their own situation in relation to the global, economic, political and social environment. The BLE offers labor studies courses entitled: LST 101 - Introduction to Labor Studies and LST 201 - Work and Labor in a Global Environment. For further information: dll.umaine.edu/ble or call (207) 581-4124.

Conference Services

Conference Services furthers the academic mission of the University of Maine by bringing together participant groups and qualified resource people to share information and ideas, identify best practices, develop new skills and insights, and to find solutions to current problems. It accomplishes this by professionally coordinating a rich and diverse selection of conferences, meetings, seminars and symposia annually, thereby showcasing the University's facilities and resources through its research, and educational endeavors. Conference Services is responsible for the administration of CEUs for all externally initiated non-credit programs. For further information: www.umaine.edu/conferences or call (207) 581-4092.

University of Maine Hutchinson Center

The Hutchinson Center, located in Belfast, one hour south of the University of Maine's Orono campus, provides educational opportunities including access to courses that meet UMaine general education requirements, bachelor's degrees and graduate degrees. Credit and non-credit courses are delivered live, online or via videoconference technology. A state-of-the art telecommunications facility, with high tech biology and chemistry labs, art studio, and air-conditioned classrooms, the Hutchinson Center also hosts many community conferences and meetings.

For further information: The Hutchinson Center, 80 Belmont Avenue, Belfast ME 04914, (207) 338-8000/1-800-753-9044, Fax: (207)338-8031 or on the web at www.hutchinsoncenter.umaine.edu.

Women's Resource Center

The Women's Resource Center (WRC) promotes and maintains a close relationship between the women on the University of Maine campus and women in the larger Maine community. Located at 102 Fernald Hall, the WRC works with women of all ages. WRC offers mentoring opportunities with women activists; organizes initiatives to support economic equity for women including support for women in underrepresented career fields; gender equity programs for college students, staff, pre-college girls and educators; and organizes education and action to support reproductive rights. Leadership, skill development and research opportunities are available to University of Maine undergraduate and graduate students through the WRC. The Center serves as a resource for individuals and organizations, offering information and referrals for women's programs and services, on and off campus in order to create a broader understanding of the diverse experiences of all women. The Center provides an accessible meeting space for small groups, collaboration with the Student Women's Association, and information about events of interest to women. For more information: www.wrc.umaine.edu/ or call (207) 581-1508.

University of Maine Diversity Leadership Institute (UMDLI)

Established in 2004, as a program of the Division of Lifelong Learning, the UMDLI offers opportunities for members to participate in diversity leadership education that provides personal growth and prepares them to act as social change agents for the campus and their communities. The program examines the concepts of discrimination, racism, privilege, prejudice, and stereotyping; allows participants to assess their perceptions about themselves and others with regard to differences; and explores the importance of diversity on campus; looks at how diversity enhances the environment; provides participants with skills to assist in developing and enhancing student, faculty, and staff awareness of racial, ethnic and cultural issues in higher education; and provides the structure to build and nurture ongoing relationships, dialogues, and support systems through an active, growing alumni/alumnae group (alums) that is a catalyst for influencing campus decision-making and goal setting. For more information: contact devon@maine.edu or visit umaine.edu/umkli/

Major

University Studies

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to graduate: 120 (30 credits are required for the major)

Minimum Grade requirements for courses to count toward major: C or better

GPA requirements to graduate: 2.0

Required Course(s) for fulfilling Capstone Experience: UST 499

Contact Information: Barbara Howard, Director, 122 Chadbourne Hall, (207)581-3143; howard@maine.edu

The Bachelor of University Studies (B.U.S.) is UMaine's degree completion program for busy 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 also available in a part-time, online format to accommodate the needs of working adults.

The B.U.S. curriculum can be totally self-designed, or students may select one of four existing tracks (24 credit hours). The B.U.S. program offers the following track options:

- Self-Designed Track
- Labor Studies Track
- Leadership Studies Track
- Maine Studies Track
- Peace and Reconciliation Studies Track.

With its multiple track options, the B.U.S. program provides an opportunity both for students who would benefit from an individually-designed interdisciplinary 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 C 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 (on-line) 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 UM curriculum, and draft a proposed plan of study, either self-designed using existing UMaine courses or 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 suspended from degree candidacy for failing to complete an approved plan (Self-Designed Track students) or falling below the required grade point average 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.

BUS Residency Policy

Matriculated students in the Bachelor of University Studies may meet their residency requirement in one of two ways:

- earn a minimum of 30 credits originating from the University of Maine at the 300 level or higher over any year of study.
- complete 30 of their final 45 credits from the University of Maine.

Appropriate UMaine Domestic Study Away paperwork must be completed for all coursework taken outside of the University of Maine to ensure academic and financial approval.

Required courses:

- UST 100 - Introduction to the Bachelor of University Studies Credits: 1
Offered in an on-line, six-week format.
- UST 300 - Core Course in University Studies Credits: 3
(Meets upper level Writing Intensive requirement in the major)
- UST 499 - Senior Capstone Credits: 3
(meets General Education Capstone requirement)

Optional General Education Core Sequence (recommended):

- UST 200 - Crucial Question 1. Defining Human: What does it mean to be human? : Who are we? How do we know? Credits: 3
- UST 210 - Crucial Question 2: Explorations & Encounters: What is the World (and how do we know it?) Credits: 3
- UST 310 - Crucial Questions 3: Self and Others Credits: 3
- UST 320 - Crucial Questions 4: Human Futures Credits: 3
- Each Crucial Questions course is offered in an on-line semester format for 3 credits. Taken together, the 12 credits will satisfy University General Education credits the majority of Human Values and Social Context, Ethics, and Writing Intensive requirements. See B.U.S. website for complete information.

CLAS Pathway

Bachelor of University Studies, CLAS Pathway information regarding this pathway is located under the College of Liberal Arts and Sciences

Self-Designed Track

The Bachelor of University Studies Self-Designed Track provides an opportunity for students to benefit from a custom tailored, interdisciplinary program of study. Many students with interests in an interdisciplinary approach to professional, personal, or civic goals are looking for a focus that encourages them to develop a program of study that encompasses their interests. B.U.S. students in the individualized track have the option to pursue an academic minor in a variety of academic subjects.

Self-Designed Tracks must be approved by an interdisciplinary faculty committee. Approval of the plan within two semesters of admission and maintenance of a 2.0 GPA is required to remain in good standing as a degree candidate.

Labor Studies Track (24 credits)*

The Labor Studies Track (24 credit hours) is structured to be taught online with a focus on creating dialog with students about the theories, ideologies, and beliefs that support, and are interwoven within the framework of, the labor movement and the practical skills involved in running labor organizations and representing employees. Students develop an understanding of these foundational pieces and build upon them using an interdisciplinary approach.

Faculty Coordinator: Marc Cryer

Required Courses (6 credits)

- LST 101 - Introduction to Labor Studies Credits: 3
- LST 201 - Work and Labor in a Global Economy Credits: 3

At least one of the following (3 credits)

- BUA 331 - Labor-Management Relations Credits: 3
- HTY 477 - The American Worker Credits: 3
- PAX 360 - Conflict Resolution: A Relational Approach To Working Through Conflict Credits: 3
- PAX 451 - Mediation: Its Premises, Practices and Policies Credits: 3
- SOC 201 - Social Inequality Credits: 3
- WGS 201 - Topics in Women's, Gender, and Sexuality Studies Credits: 3

Electives (15 credits - select 5 courses from the list below)

- CMJ 257 - Business and Professional Communication Credits: 3
- CMJ 367 - Public Relations Credits: 3
- ECO 120 - Principles of Microeconomics Credits: 3
- ECO 121 - Principles of Macroeconomics Credits: 3
- ECO 471 - Public Finance and Fiscal Policy Credits: 3
- ENG 212 - Persuasive and Analytical Writing Credits: 3
- HTY 104 - United States History Since 1877 Credits: 3
- HTY 241 - History of Globalization, 1900-Present Credits: 3
- HTY 330 - Robber Barons, Reformers and Radicals 1877-1914 Credits: 3

- HTY 467 - Early 20th Century America, 1914-1945 Credits: 3
- HTY 468 - America Since 1945 Credits: 3
- HTY 492 - Technology and Society Since 1800 Credits: 3
- HTY 494 - Women, History and American Society: Selected Topics Credits: 3
- PHI 233 - Business Ethics Credits: 3
- PHI 240 - Social and Political Philosophy Credits: 3
- PHI 342 - Marxist Philosophy I: The Philosophy of Karl Marx Credits: 3
- PHI 344 - Theories of Justice Credits: 3
- PHI 345 - Global Justice Credits: 3
- POS 120 - Introduction to World Politics Credits: 3
- POS 203 - American State and Local Government Credits: 3
- POS 357 - Film and Politics Credits: 3
- POS 362 - Maine Government Credits: 3
- POS 363 - Urban Government and Politics Credits: 3
- POS 380 - Interest Groups and American Politics Credits: 3
- POS 381 - Political Parties and Elections Credits: 3
- POS 385 - Women and Politics Credits: 3
- POS 453 - Political Behavior and Participation Credits: 3
- SOC 302 - The Structure of Societies Credits: 3
- SWK 330 - Contemporary Issues in Diversity and Pluralism Credits: 3
- WGS 101 - Women's, Gender and Sexuality Studies Credits: 3

*Students must also complete BUS program requirements, university general education requirements, and all other UMaine graduation requirements.

Leadership Studies Track (24 credits)*

The interdisciplinary Leadership Studies Track consists of 24 credit hours and 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 track prepares students for diverse, real-life experiences as citizen leaders in local, state, national, and global communities.

Faculty Coordinator: Richard Powell

Required Courses (12 credits)

- LDR 100 - Foundations of Leadership Credits: 3
- LDR 200 - Leadership Ethics Credits: 3
- LDR 300 - Advanced Leadership Theory and Practice Credits: 3
- LDR 499 - Leadership Engagement Practicum Credits: 3

Leadership Behavior and Skills Elective (3 credits)

Select one course from the following list:

- CMJ 102 - Fundamentals of Interpersonal Communication Credits: 3
- CMJ 103 - Fundamentals of Public Communication Credits: 3
- CMJ 345 - SL: Small Group Communication Credits: 3

- CMJ 347 - Argument and Critical Thinking Credits: 3
- CMJ 360 - Nonverbal Communication Credits: 3
- CMJ 367 - Public Relations Credits: 3
- CMJ 370 - Visual Communication Credits: 3
- ENG 317 - Business and Technical Writing Credits: 3
- ENG 415 - Advanced Report & Proposal Writing Credits: 3
- ENG 418 - Topics in Professional Writing Credits: 3
- INV 180 - Create: Innovation Engineering I Credits: 3
- INV 282 - Communicate: Innovation Engineering II Credits: 3
- MSL 401 - Mission Command and the Army Profession Credits: 4
- NAV 303 - Leadership and Management Credits: 3
- PAX 360 - Conflict Resolution: A Relational Approach To Working Through Conflict Credits: 3
- PAX 451 - Mediation: Its Premises, Practices and Policies Credits: 3
- PAX 470 - Sustainable Communication: The Theory and Practice of Nonviolent Communication Credits: 3

Leadership in Communities/Groups/Orgs Elective (9 credits)

Select three courses from the following list:

- LDR 350 - Topics in Leadership Studies Credits: 3
- ANT 270 - Environmental Justice Movements in the United States Credits: 3
- ANT 470 - Religion and Politics Credits: 3
- BUA 270 - Marketing Credits: 3
- BUA 325 - Principles of Management and Organization Credits: 3
- BUA 327 - Business and Society Credits: 3
- CHF 201 - Introduction to Child Development Credits: 3
- CLA 400 - Hero: Myth and Meaning Credits: 3
- CMJ 225 - Sex, Gender and Communication Credits: 3
- CMJ 403 - Persuasion and Social Influence Credits: 3
- CMJ 405 - Women and Communication Credits: 3
- CMJ 420 - Health Communication Credits: 3
- CMJ 430 - Intercultural Communication Credits: 3
- CMJ 470 - Communication in Organizations Credits: 3
- ECO 254 - Small Business Economics and Management Credits: 3
- EHD 202 - Education in a Multicultural Society Credits: 3
- EHD 203 - Educational Psychology Credits: 3
- ENG 253 - Shakespeare: Selected Plays Credits: 3
- HON 170 - Currents and Context Credits: 1
- HON 308 - Visiting Scholar in Ethics Tutorial Credits: 3
- HTY 279 - European Military History Credits: 3
- INV 401 - Systems: Innovation Engineering IV Credits: 3
- KPE 209 - Wilderness First Responder Credits: 3
- KPE 286 - Challenge Course Facilitator Skills Credits: 3
- KPE 287 - Ropes Course Management Credits: 1
- KPE 311 - Maine Wilderness Guide Credits: 3
- KPE 344 - Principles of Coaching Credits: 3
- MES 301 - Rachel Carson, Maine, and the Environment Credits: 3
- MSL 301 - Adaptive Team Leadership Credits: 3
- MSL 302 - Applied Team Leadership Credits: 3
- MSL 350 - The Evolution of American Warfare Credits: 3

- MSL 402 - Mission Command and the Company Grade Officer Credits: 4
- NAV 303 - Leadership and Management Credits: 3
- NAV 304 - Leadership and Ethics Credits: 3
- NUR 409 - Professional Issues: Leadership and Organization Credits: 3
- NUR 453 - Community Nursing Care Management Credits: 2
- NUR 454 - Clinical Adult Nursing Management Credits: 2
- PAX 290 - Nonviolence: Perceptions and Perspectives Credits: 3
- PAX 370 - Building Sustainable Communities Credits: 3
- PAX 400 - Martin Luther King and the Promise of Social Renewal Credits: 3
- PAX 401 - Women Social Activists: Warriors for Peace and Justice Credits: 3
- PHI 230 - Ethics Credits: 3
- PHI 231 - Topics in Applied Ethics Credits: 3
- PHI 232 - Environmental Ethics Credits: 3
- PHI 233 - Business Ethics Credits: 3
- PHI 235 - Biomedical Ethics Credits: 3
- PHI 236 - Feminist Ethical, Social and Political Theory Credits: 3
- PHI 240 - Social and Political Philosophy Credits: 3
- PHI 344 - Theories of Justice Credits: 3
- PHI 345 - Global Justice Credits: 3
- PHI 346 - The Philosophy of Mahatma Gandhi Credits: 3
- PHI 432 - Environmental Philosophy and Policy Credits: 3
- POS 301 - Classical Political Thought Credits: 3
- POS 302 - Medieval 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 306 - Crafting the American Constitution Credits: 3
- POS 307 - Democratic Theory Credits: 3
- POS 353 - The U.S. Congress Credits: 3
- POS 354 - The U.S. Presidency Credits: 3
- POS 357 - Film and Politics Credits: 3
- POS 385 - Women and Politics Credits: 3
- POS 386 - Religion and Politics in the United States Credits: 3
- POS 474 - Conduct of Foreign Policy Credits: 3
- POS 475 - International Security Credits: 3
- POS 486 - Religious Thought, the American Identity, and U.S. Public Policy Credits: 3
- PSY 230 - Social Psychology Credits: 3
- PSY 251 - Psychology of Motivation Credits: 3
- PSY 423 - The Psychology of Parenting Credits: 3
- SFR 106 - Forest Land Navigation and Outdoor Preparedness Credits: 1
- SOC 201 - Social Inequality Credits: 3
- SOC 202 - Social Problems Credits: 3
- SOC 301 - Self and Society Credits: 3
- SOC 329 - Sociology of Gender Credits: 3
- SOC 325 - Sociology of Religion Credits: 3
- SWK 330 - Contemporary Issues in Diversity and Pluralism Credits: 3
- SWK 350 - Human Behavior and the Social Environment I Credits: 3
- SWK 351 - Human Behavior in the Social Environment II Credits: 3
- SWK 440 - Social Welfare Policy and Issues Credits: 3
- THE 466 - Stage Directing Credits: 3
- WGS 201 - Topics in Women's, Gender, and Sexuality Studies Credits: 3

- WGS 230 - Women, Health, and the Environment Credits: 3
- WGS 301 - Intermediate Topics in Women's, Gender, and Sexuality Studies Credits: 3
- WGS 340 - Transnational Feminisms Credits: 3

Maine Studies Track (24 credits)*

The Maine Studies Track (24 credit hours) offers students the opportunity to pursue the study of Maine through courses in history, literature, women's studies, and Native-American studies. The program recognizes the value of interdisciplinary and multidisciplinary approaches to understanding historical and contemporary issues such as developing Maine's economy, protecting its environment, and appreciating the cultures of the state's diverse population.

Required Courses (9 credits):

- HTY 210 - History of Maine Credits: 3
- MES 101 - Introduction to Maine Studies Credits: 3
- MES 201 - The Maine Coast Credits: 3

Electives

15 credits- select 5 courses from the list below:

- ANT 426 - Native American Folklore Credits: 3
- ENG 244 - Writers of Maine Credits: 3
- ENG 429 - Topics in Literature and Language Credits: 3
- ERS 102 - Environmental Geology Credits: 4
- ERS 209 - Geology of Maine Credits: 3
- FAS 101 - Introduction to Franco American Studies Credits: 3
- FAS 200 - Primary Sources in Franco American Studies Credits: 3
- FAS 240 - French Exploration and Settlement of Maine, 1604-1760 Credits: 3
- GEO 212 - Geography of Maine Credits: 3
- or**
- HTY 212 - Geography of Maine Credits: 3
- HTY 211 - Maine and the Sea Credits: 3
- HTY 222 - Maine Indian History in the Twentieth Century Credits: 3
- or**
- NAS 230 - Maine Indian History in the Twentieth Century Credits: 3
- HTY 316 - Shipwreck Sites: Archaeological and Historical Investigations Credits: 3
- HTY 398 - Historical Issues Credits: 3
- INT 491 - (University Wide) A Midwife's Tale and the Social Web Credits: 3
- or**
- WGS 401 - Advanced Topics in Women's, Gender, and Sexuality Studies Credits: 3
Topic: A Midwife's Tale and the Social Web
- MES 301 - Rachel Carson, Maine, and the Environment Credits: 3
- MES 498 - Advanced Topics in Maine Studies Credits: 1-3
- NAS 102 - Introduction to Wabanaki Culture, History and Contemporary Issues Credits: 3
- NAS 401 - Advanced Topics in Native American Studies Credits: 3
- POS 203 - American State and Local Government Credits: 3
- WGS 201 - Topics in Women's, Gender, and Sexuality Studies Credits: 3

*Students must also complete BUS program requirements, university general education requirements, and all other UMaine graduation requirements.

Peace and Reconciliation Studies Track (24 credits)*

The Peace and Reconciliation Studies Track (24 credit hours) focuses on education for peace, justice, human rights, nonviolence, tolerance, global understanding, interdependence and mutuality, and environmental responsibility. Peace Studies' mission is to guide students to an understanding of the underlying spiritual processes involved in the creation of the individual who is a peacemaker and in the creation of a culture of peace. In every age, there have been efforts for the creation of a sustainable peace, including the development of ethics, great literature and art, and the appearance of great figures that have led us forward to this point in human development.

Faculty Coordinator: Barbara Blazej

Required Courses (9 credits):

- PAX 201 - Introduction to Peace and Reconciliation Studies Credits: 3
- PAX 290 - Nonviolence: Perceptions and Perspectives Credits: 3
- PAX 410 - Theories in Peace and Reconciliation Studies Credits: 3

Electives (15 credits - select 5 courses from the list below)

- PAX 250 - Peace and Pop Culture Credits: 3
- PAX 260 - Realistic Pacifism Credits: 3
- PAX 350 - Buddhism, Peace and Contemplative Traditions Credits: 3
- PAX 351 - This Sacred Earth: Ecology and Spirituality Credits: 3
- PAX 360 - Conflict Resolution: A Relational Approach To Working Through Conflict Credits: 3
- PAX 370 - Building Sustainable Communities Credits: 3
- PAX 380 - Ecovillages and Ecocities: Models of Global Restoration Credits: 3
- PAX 398 - Topics in Peace and Reconciliation Studies Credits: 3
- PAX 400 - Martin Luther King and the Promise of Social Renewal Credits: 3
- PAX 401 - Women Social Activists: Warriors for Peace and Justice Credits: 3
- PAX 451 - Mediation: Its Premises, Practices and Policies Credits: 3
- PAX 452 - Advanced Study in Transformative Mediation Credits: 3
- PAX 491 - Forgiveness: Creating a Culture of Peace and Reconciliation Credits: 3
- PAX 495 - Advanced Topics in Peace and Reconciliation Studies Credits: 3
- PAX 498 - Special Projects in Peace and Reconciliation Studies Credits: 1-6

*Students must complete all other BUS program requirements, university general education requirements, and all other UMaine graduation requirements.

Minor

Minor: Labor Studies

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@umit.maine.edu

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.

Curriculum

The Minor in Labor Studies requires a minimum of eighteen credit hours of course study in the labor-related courses listed below. The two Required Core Courses constitute six credit hours; another six credit hours must be taken from Core Electives, and the remaining six credits are to be selected from the list of elective courses. In addition, elective courses must be taken from (at least) two different disciplines.

Required Core Courses

Required Core Courses will consist of the following two 3-credit courses, for 6 credits:

- LST 101 - Introduction to Labor Studies Credits: 3
- LST 201 - Work and Labor in a Global Economy Credits: 3

Electives

Electives will consist of at least four courses (in at least two different disciplines) from the following list of course, for a minimum of **12 credits**.

Core Electives

Each student must take at least two of these courses:

- BUA 331 - Labor-Management Relations Credits: 3
- HTY 477 - The American Worker Credits: 3 *
- PAX 360 - Conflict Resolution: A Relational Approach To Working Through Conflict Credits: 3
- PAX 451 - Mediation: Its Premises, Practices and Policies Credits: 3
- SOC 201 - Social Inequality Credits: 3
- WGS 201 - Topics in Women's, Gender, and Sexuality Studies Credits: 3

Course Topic: Women and Work

*most strongly recommended elective.

Other Electives

- ECO 120 - Principles of Microeconomics Credits: 3
- ECO 121 - Principles of Macroeconomics Credits: 3
- HTY 104 - United States History Since 1877 Credits: 3
- HTY 241 - History of Globalization, 1900-Present Credits: 3
- HTY 467 - Early 20th Century America, 1914-1945 Credits: 3
- HTY 468 - America Since 1945 Credits: 3

- HTY 492 - Technology and Society Since 1800 Credits: 3
- HTY 494 - Women, History and American Society: Selected Topics Credits: 3
(Women & Work Topic **only**; rarely taught)
- POS 120 - Introduction to World Politics Credits: 3
- POS 203 - American State and Local Government Credits: 3
- POS 380 - Interest Groups and American Politics Credits: 3
- PHI 233 - Business Ethics Credits: 3
- PHI 342 - Marxist Philosophy I: The Philosophy of Karl Marx Credits: 3
- PHI 344 - Theories of Justice Credits: 3
- SOC 302 - The Structure of Societies Credits: 3
- WGS 340 - Transnational Feminisms Credits: 3

Transfer of Elective Courses

A maximum of 9 credits may be accepted as transfer credits, at the discretion of the director.

Additional Notes for Elective Courses

- 1) Students are responsible for taking any necessary prerequisite courses for these electives, OR for requesting a waiver directly from the respective course instructors.
- 2) Anyone wanting to take or count any other elective labor-related courses towards the Labor Studies Minor Program which are not on this list, or courses from other campuses or institutions, must obtain prior approval in writing from the Director of the Bureau of Labor Education. The Bureau of Labor Education reserves the right to make any decisions regarding course applicability

Minor: Maine Studies

OVERVIEW OF DEGREE REQUIREMENTS

Minimum number of credits required to earn minor: 18

GPA requirements to earn minor: Cumulative GPA of 2.0 in all Maine-related courses counting towards 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.

Contact Information: Carol Toner, Maine Studies Program Director, 112A Chadbourne Hall, 581-3147

The Minor in Maine Studies offers students the opportunity to investigate Maine's cultural, historical, and physical landscapes. The program recognizes the value of a multidisciplinary approach to understanding Maine's historical and contemporary issues. The Maine Studies minor is useful for those who plan to work in Maine, especially teachers, social workers, business people, policy makers and government employees. Students interested in a Maine studies minor must 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 credit hours must be University of Maine courses. Students may complete the minor through courses on campus or at a distance.

Students interested in the Maine Studies minor should contact the Maine Studies office at 581-3147 or email carol.toner@umit.maine.edu

Curriculum: Required courses (6 credits)

- MES 101 - Introduction to Maine Studies Credits: 3
- MES 201 - The Maine Coast Credits: 3

Select 12 credits from the following list:

Anthropology

- ANT 425 - Recorded Interviewing Techniques and Methods Credits: 3
- ANT 426 - Native American Folklore Credits: 3

Art

- ARH 361 - Topics in Art History Credits: 3
Topic: Art, Maine, and a Sense of Place

Biology

- BIO 205 - Field Natural History of Maine Credits: 4

Earth Science (Geology)

- ERS 102 - Environmental Geology Credits: 4
- ERS 209 - Geology of Maine Credits: 3

English

- ENG 244 - Writers of Maine Credits: 3
 - ENG 429 - Topics in Literature and Language Credits: 3
- Topic: Maine Women Writers

Franco American Studies

- FAS 101 - Introduction to Franco American Studies Credits: 3
 - FAS 230 - Franco American Women's Experience Credits: 3
 - FAS 329 - Topics in Franco American Studies Credits: 3
- Topic: Borders and Beyond

Geography

- GEO 212 - Geography of Maine Credits: 3

History

- HTY 210 - History of Maine Credits: 3
- HTY 211 - Maine and the Sea Credits: 3
- HTY 316 - Shipwreck Sites: Archaeological and Historical Investigations Credits: 3

Interdisciplinary Curricula

- INT 491 - (University Wide) A Midwife's Tale and the Social Web Credits: 3

Maine Studies

- MES 301 Rachel Carson, The Environment, and the Maine Coast Credits: 3

Native American Studies

- NAS 102 - Introduction to Wabanaki Culture, History and Contemporary Issues Credits: 3
- NAS 401 - Advanced Topics in Native American Studies Credits: 3

Political Science

- POS 203 - American State and Local Government Credits: 3

Women's, Gender, and Sexuality Studies

- WGS 201 - Topics in Women's, Gender, and Sexuality Studies Credits: 3
Topic: Maine Women

Minor: Peace and Reconciliation Studies

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: C

Contact Information: Director of the Peace and Reconciliation Studies Program, 120 Chadbourne Hall, (207)581-2609

The Peace and Reconciliation Studies minor requires a minimum of 18 credits of study: 9 (or more) credits of required PAX courses and 9 (or more) credits of PAX electives. Required courses are listed below. Also available are a variety of unique courses, updated each semester.

Many PAX courses satisfy general education requirements. (See the list on our website). Also available is a Special Projects in Peace and Reconciliation Studies (PAX 498), which offers independent study, research, and written projects in Peace and Reconciliation. The course is conducted under the guidance of a Peace and Reconciliation Studies faculty member.

Enrollment is open to all undergraduate students at the University of Maine and there are no admissions requirements beyond those of the college a student is entering.

Students who wish to enroll in the Peace and Reconciliation Studies minor can read more on our website and can visit the Peace and Reconciliation Studies office, 120 Chadbourne Hall, (207) 581-2609, for assistance or further information.

Curriculum: Required core courses (9 credits):

- PAX 201 - Introduction to Peace and Reconciliation Studies Credits: 3
- PAX 290 - Nonviolence: Perceptions and Perspectives Credits: 3
- PAX 410 - Theories in Peace and Reconciliation Studies Credits: 3

Nine credits of PAX courses from the following list:

- PAX 250 - Peace and Pop Culture Credits: 3
- PAX 260 - Realistic Pacifism Credits: 3
- PAX 350 - Buddhism, Peace and Contemplative Traditions Credits: 3
- PAX 351 - This Sacred Earth: Ecology and Spirituality Credits: 3
- PAX 360 - Conflict Resolution: A Relational Approach To Working Through Conflict Credits: 3
- PAX 370 - Building Sustainable Communities Credits: 3
- PAX 380 - Ecovillages and Ecocities: Models of Global Restoration Credits: 3
- PAX 398 - Topics in Peace and Reconciliation Studies Credits: 3
- PAX 400 - Martin Luther King and the Promise of Social Renewal Credits: 3
- PAX 401 - Women Social Activists: Warriors for Peace and Justice Credits: 3
- PAX 451 - Mediation: Its Premises, Practices and Policies Credits: 3
- PAX 452 - Advanced Study in Transformative Mediation Credits: 3
- PAX 470 - Sustainable Communication: The Theory and Practice of Nonviolent Communication Credits: 3
- PAX 491 - Forgiveness: Creating a Culture of Peace and Reconciliation Credits: 3
- PAX 495 - Advanced Topics in Peace and Reconciliation Studies Credits: 3
- PAX 498 - Special Projects in Peace and Reconciliation Studies Credits: 1-6

Non-Degree Certificates

Certificate: Classical Studies

OVERVIEW OF REQUIREMENTS

Minimum number of credits required to earn certificate: 18

Minimum Cumulative GPA required to earn certificate: None

Minimum Grade requirements for courses to count toward certificate: A "C" or better in courses taken for certificate

Other GPA requirements to earn certificate: 2.0 minimum for courses taken in the certificate

Contact Information: please contact the coordinator in 208 Little Hall, (207) 581-2075.

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 interdisciplinary curriculum is particularly useful to the student with interests in ancient history, philosophy, art history, anthropology, literature and political science.

A minimum of 18 credits or 6 courses is required. There are two tracks - Classical Studies, Ancient Language and Classical Studies. Courses in the Certificate are available online, including all CLA courses and all Latin courses.

Classical Studies, Ancient Language:

Students who elect the language track choose Latin as their ancient language. Students will take two semesters of Latin. The remaining courses will be drawn from courses with a CLA or LAT designator, or from the list of approved courses below. Some of the approved courses are not offered online.

Classical Studies:

Students who choose this track may elect to take all courses in the Classics curriculum (i.e., with a CLA designator) or combine two courses with a CLA designator with the courses listed below.

For more information about Classical Studies, visit the coordinator at 208 Little Hall, phone (207)581-2075

Art History Courses

- ARH 155 - Art and Visual Culture in the Ancient and Medieval Worlds Credits: 3
- ARH 251 - Classical Art and Architecture Credits: 3

Classics Courses (all online)

- CLA 101 - Greek Literature in English Translation Credits: 3
- CLA 102 - Latin Literature in English Translation Credits: 3
- CLA 201 - Women in the Ancient World Credits: 3
- CLA 202 - Mythology of the Ancient Near East, North African and Greece Credits: 3
- CLA 400 - Hero: Myth and Meaning Credits: 3
- CLA 401 - Amazons: Myth and Reality Credits: 3

English Courses

- ENG 231 - Western Tradition in Literature: Homer Through the Renaissance Credits: 3

History Courses

- HTY 105 - History of Ancient and Medieval Europe Credits: 3

Latin Courses (all online)

- LAT 101 - Elementary Latin I Credits: 4

- LAT 102 - Elementary Latin II Credits: 4
- LAT 203 - Readings in Latin Literature I Credits: 3
- LAT 204 - Readings in Latin Literature II Credits: 3
- Any 400 level Latin Class (online by request)

Modern Languages Courses

- MLC 231 - Western Tradition in Literature: Homer Through the Renaissance Credits: 3
- MLC 293 - Study Abroad Credits: 1-6
- Topic: Travels in the Ancient Mediterranean (offered sporadically)

Philosophy Course

- PHI 210 - History of Ancient Philosophy Credits: 3

Political Science Course

- POS 301 - Classical Political Thought Credits: 3

Certificate: Environmental Horticulture Studies

OVERVIEW OF REQUIREMENTS

Minimum number of credits required to earn certificate: 14

Minimum Cumulative GPA required to earn certificate: 2.0

Minimum Grade requirements for courses to count toward certificate: A "C-" or better is required.

Other GPA requirements to earn certificate: None.

Contact Information: Mary Fernandez, Student Academic Services Coordinator, 201A Rogers Hall (207) 581-2938, mary.fernandez@umit.maine.edu

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 that would allow them 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 PSE100; Plant Science.

The two areas of focus can be started upon completion of the Core.

Program Requirement:

A grade of C- or better is required.

Plant Materials - the CORE (14 Credits)

- PSE 100 - Plant Science Credits: 4
- PSE 110 - Introduction to Horticulture and Green Design Credits: 3
- PSE 219 - SL: Herbaceous Landscape Plants Credits: 3
- PSE 221 - Woody Landscape Plants Credits: 4

Focus in Plant Production (25 credits)

The CORE plus (11 cr.)

- PSE 410 - Plant Propagation Credits: 4
- PSE 415 - Greenhouse Management Credits: 4
- PSE 424 - Nursery Management Credits: 3

Focus in Garden Design (22 credits)

The CORE plus (8 cr.)

- PSE 227 - Landscape Design and Construction Techniques Credits: 4
- PSE 328 - Landscape Design Credits: 4

Certificate: Equine Studies

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, 344 Hitchner Hall, (207) 581-2782, robert.causey@umit.maine.edu

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.

Requirements for completion of the Certificate:

The student must complete 12 or more credits from this list:

- AVS 203 - Equine Management Credits: 3
- AVS 253 - Principles of Western Riding Credits: 3
- AVS 353 - Equine Reproduction and Breeding Management Credits: 3
- AVS 393 - Training the Standardbred Horse Credits: 3
- AVS 397 - Equine Internship Credits: 1-4
- AVS 433 - Equine Exercise Physiology Credits: 3

Certificate: Innovation Engineering

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 creating in INV 180, communicating in INV 282, commercializing in INV 392, and of applying a systems focus in INV 401.

Eligible students:

Undergraduate students matriculated in any field may take coursework in Innovation Engineering; these students should notify Professor Margo Lukens, (lukens@maine.edu), the Director of Academic Programs in Innovation Engineering and complete the form found at <http://foster.target.maine.edu/> signifying their intention to complete the Certificate.

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 sending a completed form (found at <http://foster.target.maine.edu/>) to Professor Margo Lukens (lukens@maine.edu), Director of Academic Programs in Innovation Engineering, Foster Center for Student Innovation, University of Maine, Orono, ME 04469-5798. 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 180 - Create, INV 282 - Communicate, INV 392 - Commercialize, and INV 401 - Systems. Courses should be taken in the following order:

- INV 180 Create
- INV 282 Communicate
- INV 392 Commercialize
- INV 401 Systems

At UMaine, students can begin the core sequence with INV 180 in either fall or spring, and follow it with INV 282 in either fall or spring; INV 392 is usually offered during fall semesters, and INV 401 annually in spring semester. Offering patterns at the Hutchinson Center (Belfast) allow students to complete the certificate within 12 months.

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-

Certificate: Maine Studies

OVERVIEW OF REQUIREMENTS

Minimum number of credits required to earn certificate: 18

Minimum Cumulative GPA required to earn certificate: C

Minimum Grade requirements for courses to count toward certificate: None.

Other GPA requirements to earn certificate: Cumulative GPA of 2.0 in all Maine-related courses counting towards the certificate.

Contact Information: Carol Toner, Maine Studies Program Director, 112A Chadbourne Hall, 581-3147

The Certificate in Maine Studies offers non-degree students the opportunity to investigate Maine's cultural, historical, and physical landscapes. The program recognizes the value of a multidisciplinary approach to understanding Maine's historical and contemporary issues. The Certificate in Maine Studies is useful for those who plan to work in Maine, especially teachers, social workers, business people, policy makers and government employees. Students interested in the Certificate in Maine Studies must 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 credit hours must be University of Maine courses. Students may complete the Certificate through courses on campus or at a distance.

Students interested in the Certificate in Maine Studies should contact the Maine Studies office at 581-3147 or email carol.toner@umit.maine.edu

Required Courses: (6 credits)

- MES 101 - Introduction to Maine Studies Credits: 3

- MES 201 - The Maine Coast Credits: 3

Select 12 credits from the following list:

Anthropology

- ANT 425 - Recorded Interviewing Techniques and Methods Credits: 3
- ANT 426 - Native American Folklore Credits: 3

Art

- ARH 361 - Topics in Art History Credits: 3
- Topic: Art, Maine, and a Sense of Place

Biology

- BIO 205 - Field Natural History of Maine Credits: 4

English

- ENG 244 - Writers of Maine Credits: 3
- ENG 429 - Topics in Literature and Language Credits: 3
- Topic: Maine Women Writers

Franco American Studies

- FAS 101 - Introduction to Franco American Studies Credits: 3
- FAS 230 - Franco American Women's Experience Credits: 3
- FAS 329 - Topics in Franco American Studies Credits: 3
- Topic: Borders and Beyond

Geography

- GEO 212 - Geography of Maine Credits: 3

Earth Sciences (Geology)

- ERS 102 - Environmental Geology Credits: 4
- ERS 209 - Geology of Maine Credits: 3

History

- HTY 210 - History of Maine Credits: 3
- HTY 211 - Maine and the Sea Credits: 3
- HTY 316 - Shipwreck Sites: Archaeological and Historical Investigations Credits: 3

Interdisciplinary Curricula

- INT 491 - (University Wide) A Midwife's Tale and the Social Web Credits: 3

Maine Studies

- MES 301 - Rachel Carson, Maine, and the Environment Credits: 3

Native American Studies

- NAS 102 - Introduction to Wabanaki Culture, History and Contemporary Issues Credits: 3
- NAS 401 - Advanced Topics in Native American Studies Credits: 3

Political Science

- POS 203 - American State and Local Government Credits: 3

Women's, Gender and Sexuality Studies

- WGS 201 - Topics in Women's, Gender, and Sexuality Studies Credits: 3
- Topic: Maine Women

Certificate: Peace and Reconciliation Studies

OVERVIEW OF REQUIREMENTS

Minimum number of credits required to earn certificate: 18

Minimum Cumulative GPA required to earn certificate: None

Minimum Grade requirements for courses to count toward certificate: A "C" or better in all PAX courses

Other GPA requirements to earn certificate: 2.0 minimum for courses taken in the certificate

Contact Information: Peace and Reconciliation Studies Office, 120 Chadbourne Hall, (207)581-2609

Peace and Reconciliation Studies is defined as the interdisciplinary examination of the conditions that make for peace, with a special emphasis on reconciliation (forgiveness) as a vital factor in the realization of peace. It also investigates the obstacles to the realization of these conditions, drawing on theories and methods from diverse cultures and traditions to focus on what makes for the development of a just and peaceful world order. Peace and Reconciliation Studies relates scholarship to praxis and challenges those who engage in it to develop new ways of thinking and acting in the world.

Curriculum

Peace and Reconciliation Studies offers an 18-credit interdisciplinary curriculum with the following requirements. Any course with a PAX designator that is offered at any UMS site, is also part of the Peace and Reconciliation Studies Curriculum. If there is a course outside of Peace and Reconciliation Studies that you feel has value and relevance to the concentration, and you wish to take it as part of your program, please contact the Peace and Reconciliation Studies Office at (207)581-2609.

Required Courses: (9 credits, available online)

- PAX 201 - Introduction to Peace and Reconciliation Studies Credits: 3
- PAX 290 - Nonviolence: Perceptions and Perspectives Credits: 3
- PAX 410 - Theories in Peace and Reconciliation Studies Credits: 3

Three other PAX courses from the following list:

- PAX 250 - Peace and Pop Culture Credits: 3
- PAX 260 - Realistic Pacifism Credits: 3
- PAX 350 - Buddhism, Peace and Contemplative Traditions Credits: 3
- PAX 351 - This Sacred Earth: Ecology and Spirituality Credits: 3
- PAX 360 - Conflict Resolution: A Relational Approach To Working Through Conflict Credits: 3
- PAX 370 - Building Sustainable Communities Credits: 3
- PAX 380 - Ecovillages and Ecocities: Models of Global Restoration Credits: 3
- PAX 398 - Topics in Peace and Reconciliation Studies Credits: 3
- PAX 400 - Martin Luther King and the Promise of Social Renewal Credits: 3
- PAX 401 - Women Social Activists: Warriors for Peace and Justice Credits: 3
- PAX 451 - Mediation: Its Premises, Practices and Policies Credits: 3
- PAX 452 - Advanced Study in Transformative Mediation Credits: 3
- PAX 470 - Sustainable Communication: The Theory and Practice of Nonviolent Communication Credits: 3
- PAX 491 - Forgiveness: Creating a Culture of Peace and Reconciliation Credits: 3
- PAX 495 - Advanced Topics in Peace and Reconciliation Studies Credits: 3
- PAX 498 - Special Projects in Peace and Reconciliation Studies Credits: 1-6

Certificate: Studies in Accounting

OVERVIEW OF REQUIREMENTS

Minimum number of credits required to earn certificate: 24

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: Dr. Richard Borgman, MBA Director, 5723 DP Corbett Business Building, Rm 209, Tel: (207) 581-1971, borgman@maine.edu.

The University of Maine Business School Certificate of Studies in Accounting (CSA) is designed for individuals who possess a bachelor's degree and are interested in preparing for entry level positions in the accounting field and/or prepare for the Certified Public Accounting (CPA) exam in Maine. The CSA provides an understanding of the body of technical knowledge common to all practicing accountants and is also useful when considering further studies in accounting or a graduate degree. The Certificate Program is twenty-four credit hours in accounting (8 courses).

It is advisable to consult the State of Maine Office of Professional Licensing to get up-to-date information about the state's requirements for the CPA, fee structure, and test dates visit the Maine Government webpage.

Applicants must have a bachelor's degree from a regionally accredited institution and provide an official transcript to the Maine Business School from each institution attended.

All courses must be taken for credit (no pass/fail permitted) with a C- minimum each. A cumulative GPA of 2.0 is required for granting of the CSA with at least 12 credit hours (4 courses) taken at The University of Maine. Students planning to pursue the MBA at UMaine should have a minimum grade of B- in each course. Accepted MBA students may take a 600 level accounting course as an elective for the CSA. Students are assigned an accounting faculty advisor.

For further information visit the MBA program page on the UMaine website and look for graduatecertificates.

Courses

- BUA 201 - Principles of Financial Accounting Credits: 3
- BUA 202 - Principles of Managerial Accounting Credits: 3
- BUA 301 - Intermediate Accounting I Credits: 3
- BUA 302 - Intermediate Accounting II Credits: 3
- BUA 305 - Cost Accounting Credits: 3
- BUA 310 - Auditing Credits: 3
- BUA 312 - Federal Taxation of Individuals Credits: 3

In addition, choose one of the following courses:

- BUA 406 - Advanced Managerial Accounting Credits: 3
- BUA 409 - Accounting for Governmental and Not-For-Profit Entities Credits: 3

Other Programs

Academ-e

The Academ-e is an early college distance education program designed to offer qualified high school juniors and seniors University of Maine courses, using state-of-the-art teaching and learning technologies combined with one on-campus experience. The first early college online education program in Maine, the University of Maine's Academ-e offers courses for university credit to Maine high school juniors and seniors through online, video-conferencing and on-campus elements. Responding to the changing nature of Maine's public schools through their increasing use of technology in teaching and learning, the Academ-e early college program serves qualified Maine high school juniors and seniors, as well as those who are home-schooled, in an adult education diploma or GED program, or attending one of Maine's approved independent high schools. The Academ-e consists of courses representing five broad areas: mathematics, sciences, arts, humanities and social sciences. Through nominations by high school principals, guidance counselors and teachers, all Maine approved high schools will have the opportunity to nominate students for the program.

Academ-e courses carry University of Maine credit and students establish a transcript from UMaine enabling them to apply their credit hours to a degree program at UMaine or to other colleges and universities into which they will eventually matriculate. It is expected that students receive dual credits (i.e., both high school and university credit).

Courses are primarily offered in an asynchronous online environment and consequently are not dictated by pre-set University or high school schedules. Students study and learn in a location and time of their choosing (e.g., school, home, library, UMS campus, etc.) that allows access to internet-based courses any time during the day, evenings or weekends. Courses are also

designed to ensure adequate student and faculty interaction while accommodating students' schedules and personal circumstances.

For more information: Email - Academ-e@umit.maine.edu or Phone- 207-581-3452 • or see the Academ-e website.

Continuing and Distance Education

Continuing and Distance Education supports the educational needs and interests of part-time, evening, weekend, campus-based, and distance students working toward an undergraduate or graduate degree or taking courses (credit or non-credit) for personal and professional growth. CED offers degree programs, professional certificates, and community engagement opportunities designed to meet the needs of the Maine workforce and the lifelong learning pursuits of Maine citizens.

CED offers a wide range of courses on the Orono campus, the region, and statewide in face-to-face, hybrid, and online formats. Academic advisors are available through the Lifelong Learning Advising Center to assist students with course selection and registration. Regular tuition rates apply. To enroll in a CED course call or visit the CED office in 122 Chadbourne Hall, (207) 581-3143, or visit us on the web.

Hutchinson Center

Hutchinson Center

The Hutchinson Center provides access to University of Maine degree programs plus a variety of community education and outreach programs. Located one hour south of the University of Maine's Orono campus in Belfast, the Hutchinson Center offers undergraduate and graduate courses. Educational opportunities include access to UMaine bachelor's degrees, graduate degrees and courses that meet general education requirements for Bachelor of Art or Bachelor of Science degrees. Credit and non-credit courses are delivered live, online or via videoconference technology. A state-of-the art telecommunications facility, with high tech biology and chemistry labs, art studio, and air-conditioned classrooms, the Hutchinson Center also hosts many community conferences and meetings.

For further information: The Hutchinson Center, 80 Belmont Avenue, Belfast, ME 04915, (207) 338-8000/ 1-800-753-9044, Fax: (207)338-8013 or on the web at www.hutchinsoncenter.umaine.edu.

Peace and Reconciliation Studies

Peace and Reconciliation Studies

The University of Maine Peace and Reconciliation Studies Program focuses on education for peace, justice, human rights, nonviolence, tolerance, global understanding, interdependence and mutuality, and environmental responsibility. Through its academic studies and various educational, research, and outreach programs, Peace and Reconciliation Studies infuses concerns for peace and the practice of transformative conflict resolution into the University of Maine campus and community. The Peace and Reconciliation Studies Program joins with the people of Maine in creating cultures of peace in our state, nation and world. For more information see our website.

Peace and Reconciliation Studies Minor

The Peace and Reconciliation Studies minor requires a minimum of 18 credits of study: 12 credits of required PAX courses and 6 credits (or more) of PAX electives. Required courses include PAX 201, Introduction to Peace and Reconciliation Studies (which satisfies the general education requirement in the Social Contexts and Institutions, and Cultural Diversity and International Perspectives categories), PAX 410 - Theories in Peace Studies and two PAX courses chosen from PAX offerings each semester. Also available is Special Projects in Peace and Reconciliation Studies (PAX 498), which offers advanced individual study, research, and written projects in Peace and Reconciliation Studies and related areas. This course is conducted under the guidance

of a faculty member associated with the Peace and Reconciliation Studies Program. Students who wish to enroll in the Peace and Reconciliation Studies minor should visit the Peace and Reconciliation Studies office, 120 Chadbourne Hall, (207) 581-2609, for assistance or further information. Enrollment is open to all undergraduate students at the University of Maine and there are no admissions requirements beyond those of the college a student is entering.

Summer University

Summer University, established in 1895, is designed to meet the needs of full-time, part-time, day, evening, weekend, on-campus and distance students during the months of May, June, July and August. Serving degree and non-degree students, Summer University offers over 500 courses through variable calendars to those seeking educational experiences for personal and/or professional growth. Credit earned in Summer University is fully recognized. Credit may be counted toward the degrees that the University of Maine confers or may be transferred to other colleges and universities.

The Summer University office is located in 122 Chadbourne Hall, (207) 581-3143. Students who are seeking academic advising may contact a DLL Advisor through the Summer University office.

Travel Study

Continuing and Online Education collaborates with faculty members to offer travel study opportunities, that enhance classroom learning and provide direct contact with diverse cultures in a variety of international settings. Credit is variable depending upon the length of the course and its academic requirements. Recent programs have included courses in Ireland, England, Italy, Honduras, Nicaragua, Quebec, Jamaica, Tanzania, France, Cuba and Mexico. To learn more about Travel Study, contact Continuing and Distance Education office at (207) 581-3143 or visit our website.

Winter Session

Winter Session is a fully online, condensed term that runs for three weeks between the Fall and Spring semesters. Serving both traditional and non-traditional students, Winter Session offers 15-20 courses and runs in an intensive 3-week format. Like Summer University, credit may be counted toward the degrees that the University of Maine confers or may be transferred to other colleges and universities. Winter Session is managed by the Division of Lifelong Learning, housed at 122 Chadbourne Hall, (207) 581-3143.

Students seeking academic advising may contact a DLL Advisor through the DLL Advising Center.

The 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 François Amar, Dean, the Honors College at the University of Maine, 145 Estebrook Hall, Orono ME 04469-5727. The phone number is (207) 581-3263 and information can also be requested at honors@maine.edu. The College maintains a web site at www.honors.umaine.edu.

Click the link below to view additional information about the Honors College and its curriculum.

The Honors College

Other Programs

The 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 disciplines, 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.

Students and faculty involved in the Honors College come from all areas of the University. As a community of approximately eight hundred students within the University of Maine, the Honors College offers small, interdisciplinary classes, where students and faculty members interact closely, sharing ideas and insights developed through critical exploration of primary sources.

The College fosters the idea that genuine excellence in college-level studies means substantial competence in areas outside a major field of specialization as well as excellence within it. The Honors curriculum expands students' perspectives by exploring areas of thought beyond their major fields while also providing them opportunities to work in their majors with greater intensity than might be possible within a conventional course pattern. Honors study begins with interdisciplinary breadth and concludes with unparalleled depth in the major field.

First- and second-year Honors preceptorials are limited to between 12 and 15 students. Together with faculty preceptors, the students study the origins and development of civilization and culture. Every semester the College offers a number of diverse upper-level Honors tutorials, each of which brings together eight students, a member of faculty, and a topic that engages them in a focused academic inquiry. The curriculum culminates with a year-long senior thesis in which the Honors student, working closely with a faculty advisor, embarks on a course of independent scholarship, developing and completing a research or creative project.

Administrative Structure

The Honors College is University-wide and is administered by a dean who reports to the provost. Several representative bodies provide policy advice to the College, including the Honors Faculty Advisory Committee representing the Honors Faculty; the Honors Council; the Board of Advocates and the Student Advisory Board. Students are also represented on the Curriculum committee and the Honors Council.

Admission

Entering first-year students are invited to join the Honors College on the basis of their admission records. To be eligible, students should have a strong academic record, good standardized test scores, and show curiosity, initiative, and intellectual flexibility in academic work. Students may also ask to be considered for admission by contacting the Honors College office. Second-semester first-year students and first-semester second-year students are invited into the College through faculty recommendations. Transfer students wishing to join the Honors College should consult with the associate dean who will determine appropriate credit for prior courses.

Honors Thesis and Degree Designation

The level of honors [Honors, High Honors, Highest Honors] awarded depends on the quality of the senior thesis or project and the performance at the oral defense which assesses both the student's work on the thesis and the discussion of their reading list.

The honors designation appears on both the student's diploma and on the transcript; the thesis title also appears on the transcript. More information on the Honors thesis can be found at www.honors.umaine.edu/current-students/academics/thesis/honors-thesis/.

College and University Requirements

Successful completion of the Honors Core (HON 111, HON 112, HON 211, HON 212) and the cultural and civic engagement experiences (HON 180 and HON 170) satisfies all of the undergraduate General Education Human Values and Social Context and Ethics requirements. 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). HON 211 and HON 212 are also designated as Writing Intensive. All tutorials satisfy at least one of the Human Values and Social Contexts requirements. In practice, this means that students who complete the Civilizations sequence and HON 170 and 180 have satisfied all of the University's general education requirements with the exception of the mathematics, science, and (in some cases) the capstone requirements.

A "C" or better is required in all Honors courses to satisfy the requirements of the Honors College. Additionally, a minimum average GPA of 3.0 ("B") is required in the Honors Core (HON 111, HON 112, HON 211, HON 212). These courses may be repeated once for credit.

In addition to taking all the required Honors College courses, a minimum cumulative GPA of 3.30 is required to graduate with Honors. Many of the University's majors accept the Honors thesis as a capstone experience. Some departments also allow HON 499 to satisfy the requirement for a writing intensive course in the major. For specific information, contact the Honors College.

For Further Information

Questions about the Honors College should be addressed to François G. Amar, Dean, the Honors College at the University of Maine, 5727 Estabrooke Hall, Orono ME 04469-5727. The phone number is (207) 581-3263 and information can also be requested at honors@maine.edu or by visiting our website at www.honors.umaine.edu

Curriculum

The Honors College requires its students to complete the four core courses HON 111, HON 112, HON 211, and HON 212; two 1-credit courses, HON 170 and HON 180; one Honors tutorial (HON 3xx) or Tutorial Alternative (HON 349); and the Honors Thesis (HON 498 and HON 499). Thus 24 to 27 credit hours of HON designated coursework are required graduate with Honors; however, 24 credits may replace other university requirements. All Honors designated course work must be completed with a "C" or better to count for credit towards the Honors designation. At graduation, students must achieve a 3.30 minimum 3.30 GPA in all their course work to be awarded an Honors degree. Sample curricula integrating Honors requirements with the course of study for each major are available from the Honors College or at www.honors.umaine.edu/academics/curricula/.

There is flexibility in the timing of the completion of many of the requirements but the following outlines a typical path through the Honors curriculum:

First-year

- HON 111 - Civilizations: Past, Present and Future I Credits: 4 (Fall)
- HON 112 - Civilizations: Past, Present and Future II Credits: 4 (Spring)

Second-year

- HON 211 - Civilizations: Past, Present and Future III Credits: 4

(Fall)

- HON 212 - Civilizations: Past, Present and Future IV Credits: 4
- (Spring)

Third-year

One of:

- HON 3xx - Honors Tutorial, Credits: 3
- OR
- HON 349 - Tutorial Alternative Portfolio Credits: 0
- OR
- HON 350 - Honors Seminar Credits: 3

Recommended:

- HON 391 - Introduction to Thesis Research Credits: 1

Fourth-year

- HON 498 - Honors Directed Study Credits: 3
- (Fall)
- HON 499 - Honors Thesis Credits: 3
- (Spring)

Note:

The following 1-credit courses are offered each semester and are required to be taken before graduation.

- HON 170 - Currents and Context Credits: 1
- HON 180 - A Cultural Odyssey Credits: 1

University Wide Academic Programs

Minor

Minor: Innovation Engineering

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-

Contact Information: Jason Bolton, Interim Director of Academic Programs in Innovation Engineering, Foster Center for Student Innovation, (207) 581-1454, jason.bolton@maine.edu

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, Natural Sciences Forestry and Agriculture, 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:

- 12 credit hours of core courses (INV 180, INV 282, INV 392, and INV 401)
- at least 6 more hours of elective INV courses. The elective courses may include
- a proposal and project sequence (INV 405 followed by INV 406, OR a student may petition to substitute the capstone project from their major for INV 406),
- or special topics courses, internships, or independent study (INV 470, INV 471, INV 480, or INV 490).

INV 101, the course for first-year participants in the Innovation Living-Learning Community, may be counted for credit (1 cr.) towards the Minor.

Minor: Interdisciplinary Disability Studies

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).

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

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, 400, 450 (with permission of instructor), 470, 480 and 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, 400, and 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.gilson@umit.maine.edu.

Other Programs

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 125 East Annex. 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 Tutor Program

The Tutor Program provides small group tutoring for University of Maine students who need academic assistance in select 100 and 200 level non-web based courses. The Tutor Program's role is to help students "learn how-to-learn" course material and how to utilize the resources available on campus. A staff of peer tutors facilitates learning by encouraging students to work together to process course material as well as sharpen reasoning and questioning skills.

Students work with peer tutors in small study groups of up to 6 students, who are in the same course and have the same professor. Groups meet twice weekly, for a maximum of 2 hours per week, throughout the semester. Tutoring sessions are held Monday-Friday, during the day or evening and are conducted in a classroom on campus. Tutor groups are assigned after Add/Drop week and continue through the 8th week of the semester as funding allows.

Course material is not "re-taught" to students in the traditional sense. Instead, peer tutors use the course material to develop games and other "hands-on" activities that require students to work and manipulate the subject matter. As a result, students develop effective learning strategies and critical thinking skills.

Additionally, the Tutor Program offers drop-in tutoring, by appointment only, for specific courses at the Tutor Program classroom in Fogler Library. The schedule for drop-in tutoring is posted on the Tutor Program website by the second week of the semester.

To make an appointment, to request a small group tutor, or to schedule a drop-in appointment, go to <https://synapse.umaine.edu/> or stop by 104 Dunn Hall, or call (207) 581-2351.

Interested in becoming a peer tutor? The Tutor Program hires peer tutors in quantitative, science, and other general education courses. If interested, stop by 104 Dunn Hall to fill out an application. To view the eligibility requirements go to the tutor program website.

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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) 581-1830.

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 Sam Kunz at (207) 581-1359 or skunz@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 advise students in any academic major who are interested in a health-professions career to pursue the minor in Pre-Medical Studies outlined below in addition to their major. Some majors offer a concentration in pre-medical studies. To find out more, visit the premed web page.

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.

Introduction to the Health Professions

The University of Maine offers a special course for students thinking about a career in the health professions. The 4 credit course introduces students to the many different components of the modern health care system.

Minor in Pre-Medical Studies

The courses within the Minor in Pre-Medical Studies meet the entrance requirements of the majority of professional schools and colleges offering post-baccalaureate programs in the health professions. The STEM/Health Professions Career Consultant can help students research the admission requirements of specific schools. You can view the Minor in Pre-Medical Studies in the Majors/Minors section of this catalog.

STEM/Health Professions Career Consultant

The University of Maine's STEM/Health Professions Career Consultant provides wide-ranging support services to students planning to attend medical school or other professional schools. The STEM/Health Professions Career Consultant

- advises students about the entrance requirements of professional schools
- helps students schedule courses and entrance examinations
- helps them prepare for admissions interviews
- coordinates letters of recommendation and assists with the application process

- arranges visits of medical school admissions officials to the University of Maine
- provides support to the Health Professions Club

The Maine Mentor Program

The Maine Mentor program partners with area healthcare facilities to match qualified undergraduates with physicians and other regional professionals to job-shadow and learn first hand the challenges of a medical career. This kind of experience, coupled with a record of volunteer service in medically related fields, is very important for students applying to medical schools.

Undergraduate Research

The University of Maine offers qualified students outstanding opportunities to work with its research faculty in a wide variety of disciplines. Participation in research helps students to develop critical thinking skills and the habits of independent scholarship, and therefore is highly valued by medical and other professional schools. Students planning careers in the health professions should work with their academic advisors and the Office of Health Professions to identify research opportunities early in their undergraduate careers.

Three plus Four Medical School Program

The University of Maine and the University of New England College of Osteopathic Medicine (UNECOM) cooperatively offer a special program for the most capable students enabling them to be admitted to UNECOM after completing three years at the University of Maine as majors in Biology, Biochemistry, or Microbiology. Students accepted into this program by UNECOM earn their baccalaureate degree from the University of Maine upon completion of their first year of medical school at UNECOM. For more details and a complete UMaine curriculum, contact the STEM/Health Professions Career Consultant at (207) 581-1359.

Three plus Four Optometry Program

This agreement allows highly qualified students to enter an accelerated program resulting in the OD (Doctor of Optometry). Accepted students become candidates for reserved slots in the New England College of Optometry program and may enter the four-year optometry program after three years of undergraduate study. Acceptance to the New England College of Optometry is contingent upon maintenance of an excellent undergraduate academic record while at UMaine as a biology major. Upon successful completion of the initial year at New England College of Optometry, students are awarded a baccalaureate degree from the University of Maine. The OD is awarded by New England College of Optometry upon successful completion of three additional years of optometry study. Interested candidates should contact the STEM/Health Professions Career Consultant at (207) 581-1359.

Three plus Three Chiropractic Program

The University of Maine and Logan University have joined together in order to offer students an opportunity to complete their undergraduate and doctor of chiropractic degrees in less time. Students complete 90 semester hours of credits at the University of Maine as a biology major. All students who successfully complete the pre-chiropractic program with a cumulative GPA of 3.25 or higher and meet all other admissions criteria shall be accepted at Logan University. Upon completion of the first year of course work at Logan University, students will be awarded a baccalaureate degree from the University of Maine. For more information, please contact the STEM/Health Professions Career Consultant at (207) 581-1359.

Dedicated Undergraduate Scholarships

Each year the University awards over \$30,000 in scholarships to undergraduates planning careers in the health professions.

Gilbert Loan Fund

Each year the University of Maine makes low-interest loans totaling several hundred thousand dollars to its graduates who are in medical, dental or veterinary school, to help finance their professional studies. This program is made possible through a multi-million-dollar bequest to the University in the name of Charles E. Gilbert.

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:

- Enroll and successfully complete the 100 and 200 level course.
- Attend a five week off-campus course the summer prior to enrolling in the Advance Course.
- 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. Four-year scholarship winners (with 1100+ SAT scores (combine math and verbal only)) or three-year Advanced Designee scholarship winners (with 1200+ SAT scores) who attend the University of Maine will receive an additional \$2,500 grant annually from the University of Maine if they are awarded their Army ROTC scholarship prior to April 1st of their senior high school year and graduate in the top 20% of their class. 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:

- Be a US citizen
- Be at least 17 but less than 23 years of age
- Be physically qualified
- Possess satisfactory records of academic ability and moral integrity
- Demonstrate those characteristics desired of a Naval Officer and
- 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.

Study Abroad

The University of Maine offers many study abroad opportunities for academic credit. Study abroad leads to world awareness, cultural understanding, personal growth, independence and self-sufficiency. For those studying in another language, it can lead to language fluency. A Study Abroad experience adds depth to a résumé and can give students a competitive edge in the job market as it reflects an open and flexible outlook to life.

The University of Maine offers several options for studying 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. Many programs offer instruction in English, while others require intermediate language skills. Some offer pre-program language immersion short-courses, in preparation for a semester or year of study in that language. Financial aid can be used for all University-approved programs. All areas of the world are available.

The Study Abroad program is housed within the Office of International Programs, 240 Estabrooke Hall; (207) 581-1509. For further information, contact the Office of International Programs or check the website.

University Wide Academic Programs

University Wide Academic Programs

Minor

Minor: Innovation Engineering

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-

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 - or special topics courses, internships, or independent study (INV 470, INV 471, INV 480, or INV 490).

INV 101, the course for first-year participants in the Innovation Living-Learning Community, may be counted for credit (1 cr.) towards the Minor.

Minor: Interdisciplinary Disability Studies

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).

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

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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) 581-1830.

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 Sam Kunz at (207) 581-1359 or skunz@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 advise students in any academic major who are interested in a health-professions career to pursue the minor in Pre-Medical Studies outlined below in addition to their major. Some majors offer a concentration in pre-medical studies. To find out more, visit the [premed web page](#).

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.

Introduction to the Health Professions

The University of Maine offers a special course for students thinking about a career in the health professions. The 4 credit course introduces students to the many different components of the modern health care system.

Minor in Pre-Medical Studies

The courses within the Minor in Pre-Medical Studies meet the entrance requirements of the majority of professional schools and colleges offering post-baccalaureate programs in the health professions. The STEM/Health Professions Career Consultant can help students research the admission requirements of specific schools. You can view the Minor in Pre-Medical Studies in the Majors/Minors section of this catalog.

STEM/Health Professions Career Consultant

The University of Maine's STEM/Health Professions Career Consultant provides wide-ranging support services to students planning to attend medical school or other professional schools. The STEM/Health Professions Career Consultant

- advises students about the entrance requirements of professional schools
- helps students schedule courses and entrance examinations
- helps them prepare for admissions interviews
- coordinates letters of recommendation and assists with the application process
- arranges visits of medical school admissions officials to the University of Maine
- provides support to the Health Professions Club

The Maine Mentor Program

The Maine Mentor program partners with area healthcare facilities to match qualified undergraduates with physicians and other regional professionals to job-shadow and learn first hand the challenges of a medical career. This kind of experience, coupled with a record of volunteer service in medically related fields, is very important for students applying to medical schools.

Undergraduate Research

The University of Maine offers qualified students outstanding opportunities to work with its research faculty in a wide variety of disciplines. Participation in research helps students to develop critical thinking skills and the habits of independent scholarship, and therefore is highly valued by medical and other professional schools. Students planning careers in the health professions should work with their academic advisors and the Office of Health Professions to identify research opportunities early in their undergraduate careers.

Three plus Four Medical School Program

The University of Maine and the University of New England College of Osteopathic Medicine (UNECOM) cooperatively offer a special program for the most capable students enabling them to be admitted to UNECOM after completing three years at the University of Maine as majors in Biology, Biochemistry, or Microbiology. Students accepted into this program by UNECOM earn their baccalaureate degree from the University of Maine upon completion of their first year of medical school at UNECOM. For more details and a complete UMaine curriculum, contact the STEM/Health Professions Career Consultant at (207) 581-1359.

Three plus Four Optometry Program

This agreement allows highly qualified students to enter an accelerated program resulting in the OD (Doctor of Optometry). Accepted students become candidates for reserved slots in the New England College of Optometry program and may enter the four-year optometry program after three years of undergraduate study. Acceptance to the New England College of Optometry is contingent upon maintenance of an excellent undergraduate academic record while at UMaine as a biology major. Upon successful completion of the initial year at New England College of Optometry, students are awarded a baccalaureate degree from the University of Maine. The OD is awarded by New England College of Optometry upon successful completion of three additional years of optometry study. Interested candidates should contact the STEM/Health Professions Career Consultant at (207) 581-1359.

Three plus Three Chiropractic Program

The University of Maine and Logan University have joined together in order to offer students an opportunity to complete their undergraduate and doctor of chiropractic degrees in less time. Students complete 90 semester hours of credits at the University of Maine as a biology major. All students who successfully complete the pre-chiropractic program with a cumulative GPA of 3.25 or higher and meet all other admissions criteria shall be accepted at Logan University. Upon completion of the first year of course work at Logan University, students will be awarded a baccalaureate degree from the University of Maine. For more information, please contact the STEM/Health Professions Career Consultant at (207) 581-1359.

Dedicated Undergraduate Scholarships

Each year the University awards over \$30,000 in scholarships to undergraduates planning careers in the health professions.

Gilbert Loan Fund

Each year the University of Maine makes low-interest loans totaling several hundred thousand dollars to its graduates who are in medical, dental or veterinary school, to help finance their professional studies. This program is made possible through a multi-million-dollar bequest to the University in the name of Charles E. Gilbert.

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. Four-year scholarship winners (with 1100+ SAT scores (combine math and verbal only)) or three-year Advanced Designee scholarship winners (with 1200+ SAT scores) who attend the University of Maine will receive an additional \$2,500 grant annually from the University of Maine if they are awarded their Army ROTC scholarship prior to April 1st of their senior high school year and graduate in the top 20% of their class. 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.

Study Abroad

The University of Maine offers many study abroad opportunities for academic credit. Study abroad leads to world awareness, cultural understanding, personal growth, independence and self-sufficiency. For those studying in another language, it can lead to language fluency. A Study Abroad experience adds depth to a résumé and can give students a competitive edge in the job market as it reflects an open and flexible outlook to life.

The University of Maine offers several options for studying 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. Many programs offer instruction in English, while others require intermediate language skills. Some offer pre-program language immersion short-courses, in preparation for a semester or year of study in that language. Financial aid can be used for all University-approved programs. All areas of the world are available.

The Study Abroad program is housed within the Office of International Programs, 240 Estabrooke Hall; (207) 581-1509. For further information, contact the Office of International Programs or check the website.

The Honors College

The 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 François Amar, Dean, the Honors College at the University of Maine, 145 Estebrook Hall, Orono ME 04469-5727. The phone number is (207) 581-3263 and information can also be requested at honors@maine.edu. The College maintains a web site at www.honors.umaine.edu.

Click the link below to view additional information about the Honors College and its curriculum.

The Honors College

Other Programs

The Honors College

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Students and faculty involved in the Honors College come from all areas of the University. As a community of approximately eight hundred students within the University of Maine, the Honors College offers small, interdisciplinary classes, where students and faculty members interact closely, sharing ideas and insights developed through critical exploration of primary sources.

The College fosters the idea that genuine excellence in college-level studies means substantial competence in areas outside a major field of specialization as well as excellence within it. The Honors curriculum expands students' perspectives by exploring areas of thought beyond their major fields while also providing them opportunities to work in their majors with greater intensity than might be possible within a conventional course pattern. Honors study begins with interdisciplinary breadth and concludes with unparalleled depth in the major field.

First- and second-year Honors preceptorials are limited to between 12 and 15 students. Together with faculty preceptors, the students study the origins and development of civilization and culture. Every semester the College offers a number of diverse upper-level Honors tutorials, each of which brings together eight students, a member of faculty, and a topic that engages them in a focused academic inquiry. The curriculum culminates with a year-long senior thesis in which the Honors student, working closely with a faculty advisor, embarks on a course of independent scholarship, developing and completing a research or creative project.

Administrative Structure

The Honors College is University-wide and is administered by a dean who reports to the provost. Several representative bodies provide policy advice to the College, including the Honors Faculty Advisory Committee representing the Honors Faculty; the Honors Council; the Board of Advocates and the Student Advisory Board. Students are also represented on the Curriculum committee and the Honors Council.

Admission

Entering first-year students are invited to join the Honors College on the basis of their admission records. To be eligible, students should have a strong academic record, good standardized test scores, and show curiosity, initiative, and intellectual flexibility in academic work. Students may also ask to be considered for admission by contacting the Honors College office. Second-semester first-year students and first-semester second-year students are invited into the College through faculty recommendations. Transfer students wishing to join the Honors College should consult with the associate dean who will determine appropriate credit for prior courses.

Honors Thesis and Degree Designation

The level of honors [Honors, High Honors, Highest Honors] awarded depends on the quality of the senior thesis or project and the performance at the oral defense which assesses both the student's work on the thesis and the discussion of their reading list. The honors designation appears on both the student's diploma and on the transcript; the thesis title also appears on the transcript. More information on the Honors thesis can be found at www.honors.umaine.edu/current-students/academics/thesis/honors-thesis/.

College and University Requirements

Successful completion of the Honors Core (HON 111, HON 112, HON 211, HON 212) and the cultural and civic engagement experiences (HON 180 and HON 170) satisfies all of the undergraduate General Education Human Values and Social Context and Ethics requirements. 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). HON 211 and HON 212 are also designated as Writing Intensive. All tutorials satisfy at least one of the Human Values and Social Contexts requirements. In practice, this means that students who complete the Civilizations sequence and HON 170 and 180 have satisfied all of the University's general education requirements with the exception of the mathematics, science, and (in some cases) the capstone requirements.

A "C" or better is required in all Honors courses to satisfy the requirements of the Honors College. Additionally, a minimum average GPA of 3.0 ("B") is required in the Honors Core (HON 111, HON 112, HON 211, HON 212). These courses may be repeated once for credit.

In addition to taking all the required Honors College courses, a minimum cumulative GPA of 3.30 is required to graduate with Honors. Many of the University's majors accept the Honors thesis as a capstone experience. Some departments also allow HON 499 to satisfy the requirement for a writing intensive course in the major. For specific information, contact the Honors College.

For Further Information

Questions about the Honors College should be addressed to François G. Amar, Dean, the Honors College at the University of Maine, 5727 Estabrooke Hall, Orono ME 04469-5727. The phone number is (207) 581-3263 and information can also be requested at honors@maine.edu or by visiting our website at www.honors.umaine.edu

Curriculum

The Honors College requires its students to complete the four core courses HON 111, HON 112, HON 211, and HON 212; two 1-credit courses, HON 170 and HON 180; one Honors tutorial (HON 3xx) or Tutorial Alternative (HON 349); and the Honors Thesis (HON 498 and HON 499). Thus 24 to 27 credit hours of HON designated coursework are required graduate with Honors; however, 24 credits may replace other university requirements. All Honors designated course work must be completed with a "C" or better to count for credit towards the Honors designation. At graduation, students must achieve a 3.30 minimum 3.30 GPA in

all their course work to be awarded an Honors degree. Sample curricula integrating Honors requirements with the course of study for each major are available from the Honors College or at www.honors.umaine.edu/academics/curricula/.

There is flexibility in the timing of the completion of many of the requirements but the following outlines a typical path through the Honors curriculum:

First-year

- HON 111 - Civilizations: Past, Present and Future I Credits: 4 (Fall)
- HON 112 - Civilizations: Past, Present and Future II Credits: 4 (Spring)

Second-year

- HON 211 - Civilizations: Past, Present and Future III Credits: 4 (Fall)
- HON 212 - Civilizations: Past, Present and Future IV Credits: 4 (Spring)

Third-year

One of:

- HON 3xx - Honors Tutorial, Credits: 3
OR
- HON 349 - Tutorial Alternative Portfolio Credits: 0
OR
- HON 350 - Honors Seminar Credits: 3

Recommended:

- HON 391 - Introduction to Thesis Research Credits: 1

Fourth-year

- HON 498 - Honors Directed Study Credits: 3 (Fall)
- HON 499 - Honors Thesis Credits: 3 (Spring)

Note:

The following 1-credit courses are offered each semester and are required to be taken before graduation.

- HON 170 - Currents and Context Credits: 1
- HON 180 - A Cultural Odyssey Credits: 1

Enrollment Status

Full-time Status

Full-time undergraduate students can be registered for sufficient credits each semester to complete their academic programs in four years (eight regular semesters). For most programs, this means students must average 15 credits per semester to earn the minimum of 120 credits required for graduation. Some programs require more than 120 credits.

The University treats undergraduate students registered for 12 or more credits as full-time students for purposes of calculating student financial aid, determining eligibility for campus housing, athletic eligibility, veteran's benefits, student fees, and for all other activities which vary according to enrollment status. Failure to register for at least 12 credits per semester will jeopardize eligibility in the above mentioned areas. Classes taken with an Audit status (no grade or credit hours earned) are not counted when determining enrollment status. 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 Aid will receive this information and if required will update the financial aid award. If the award is adjusted the student will receive an email notification.

For the spring semester students are encouraged to update the enrollment status in November. Failure to report a change in enrollment plans may result in a delay in 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 formally register in courses in select Cooperative Education, Field Experience, or Internships as part of their UMaine programs.
- Graduating seniors who need less than 12 credits to complete requirements and have applied to graduate.

Reduced Course Load Policy:

It is the policy and practice of the University of Maine to comply 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 undergraduates and six for graduate students. On the recommendation of the Office of Disability 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 no fewer than six 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 in accordance with 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 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 health care professional and an official transcript from any institution(s) they attended prior to enrolling at the University of Maine.

The Office of Disability Support 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 Disability Support Services (East Annex Bldg., 581-2319).

Non-Degree Students

Students wishing to take courses at the University of Maine but 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, located in Chadbourne Hall). Except for courses offered through Continuing Education/Summer Session, the University allows non-degree registration in regular courses on a space-available basis.

Some non-degree students register and are advised through the appropriate academic colleges rather than through DLL. These 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 are eligible for campus housing on a space-available basis. The University of Maine does not normally award student aid to non-degree students.

Absence from the University Options

Students who plan to be away from the University for any period of time should choose the most appropriate method from the options below.

Domestic Study Away

Students who wish to take a course, semester or an academic year at another institution may request approval for domestic study away. This is important for student aid purposes and for maintaining enrollment in one's degree program at UMaine. Students must be in good academic standing and have no financial indebtedness to any of the UMaine System Institutions. To ensure that the maximum number of credits transfer, it is important that students plan course selection carefully with their academic advisor. Students must obtain prior approval for domestic study away from the associate dean of their college. Students who are applying for financial aid must complete a Domestic Study Away form available on the Office of Student Records website: <http://studentrecords.umaine.edu/forms/>

Leave of Absence

Students who wish to take a semester or two off from taking classes may request a leave of absence. Students taking a leave of absence retain the right to return to their college and keep the same catalog requirements without needing to reapply to the University. Students must be in good academic standing and have no financial indebtedness to the University. Students must obtain approval for a leave of absence the semester prior to the desired leave from the associate dean of their college.

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 resume the pursuit of their academic and co-curricular goals later. Students who wish to leave the University for more than two semesters should request a withdrawal. Withdrawing officially is preferable to simply ceasing to attend because it may prevent the assignment of failing grades that then are forever part of one's transcript. Withdrawing also allows for exploration of options to aid when 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 will need to apply for readmission when they choose to return. Students who are absent for two or more years will need to meet the catalog requirement in effect at the time of readmission. The re-admit form is available on the Office of Student Records website: <http://studentrecords.umaine.edu/forms/> Refer to the Academic Calendar for specific dates and information pertaining to withdrawn classes. Students need to contact the associate dean of their college to withdraw from the University.

Registration for Classes

Immunization

Maine law prohibits students born after 1956 from registering for classes until they have filed proof of immunization against measles, mumps, rubella, tetanus, and diphtheria with the Office of Student Records. New students will receive information about how to comply with this law upon admission to the University.

Maximum Number of Credits

Students select and register for classes in consultation with an academic advisor. Students wishing to register for more than 18 hours in a semester must obtain permission from the associate dean of their college.

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 in nature 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 professor teaching the course. Courses numbered 600-699 are highly advanced courses for graduate students exclusively.

Schedule of Classes

Not every course is offered every semester. The Schedule of Classes lists the courses scheduled to be taught in a given semester, showing the days, times, and building locations where they meet. Students should use the Catalog and the Schedule of Classes to prepare a tentative class schedule before meeting with their academic advisors.

Registration

The University of Maine gives priority in registration to those students who are closest to graduation. The details of the registration procedure may vary depending upon which of the University's colleges, schools or departments offer the student's major program. In general, after meeting with an academic advisor, students are enabled to perform the actual registration using a personal computer.

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. Withdrawals after the eleventh week are graded with the "F" grade.

Less than Full-Semester Length Classes: Drop deadlines for classes meeting less than the full-semester are available in the student information system.

Continuing Education Registration

The Continuing Education Division (CED) schedules courses in the evenings and on weekends for the convenience of students who can attend the University only on a part-time and evening basis. The content of these courses is the same as that of the same courses offered during the regular daytime hours. Degree students may register for a CED-sponsored course during the first week of the semester if space is available. Special policies for CED-sponsored courses governing cancellation, adding and dropping, and obtaining refunds are published in the CED fall and spring course schedules and the Summer Session catalog. A complete listing of courses offered through CED is available from the CED Office, Division of Lifelong Learning, 5713 Chadbourne Hall.

Definition of an Undergraduate Student Credit Hour

The University of Maine defines a Student Credit Hour in an undergraduate program as an expectation, on average, of approximately 45 clock hours of student academic engagement per credit hour per course. Student Academic Engagement in a course can take many forms including, but not limited to: class time, testing, reading, writing, studying, discussion group time, laboratory work, internships, practica, practicing, performing or otherwise working on course content.

Grades and Grading

Academic Integrity

Academic honesty is very important. It is dishonest to cheat on exams, to copy terms papers or to submit papers written by another person, to "fake" experimental results, or to copy parts of books or articles into your own papers without putting the copied material in quotation marks and clearly indicating its source. Students committing or aiding 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. For details concerning these policies and the avenues of appeal open to students contact the Division of Student Affairs.

Attendance

The overall policy of the University is that students are responsible for attending all class meetings for courses for which they are registered. Each instructor determines the specific attendance policy for the course and makes it known to students. Instructors may assign a lower letter grade for failure to adhere to the attendance policy.

Students sometimes miss classes because of ill health, family emergency, 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 for making up missed work. If absences are extensive, even for legitimate reasons, it may be impossible to meet the objectives of the course.

Participation Policy for Online Courses

The University of Maine expects all students enrolled in online coursework to actively participate in the course. For fully asynchronous courses and for asynchronous elements of hybrid courses, "participation" is 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): e.g. participation in on-line discussion about academic matters, podcast viewing, group writing sessions, whole class or one-on-one chat, completion of assignments. Broad discretion regarding the required frequency and quality of a student's participation rests with the instructor of record and should be delineated in the course syllabus.

Final Examinations

At the end of each semester final examinations are held in most courses. Final examinations are held according to a published schedule and cannot be taken before the scheduled time. Students who are scheduled for four or more final examinations in one day may have an examination rescheduled through the Office of Student Records. A student who misses the regular examination at the end of a semester for a legitimate reason should make arrangements with the instructor to make up the examination.

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, but such fine distinctions may be inappropriate for many courses. Whatever the system used, it is important to understand that there is no University-wide equivalence between percentage grades (such as 80%) and letter grades (such as B). Each instructor makes these determinations according to the grading system described in the course syllabus.

The qualitative value of the five basic letter grades is defined as follows:

- **A**, Superior work.

- **B**, Good work.
- **C**, Satisfactory but undistinguished work.
- **D**, Poor work that does not adequately prepare students for more advanced work in the discipline. While some courses completed with D grades may contribute towards the total credits needed for graduation, others may be unacceptable for certain specific requirements and within the academic major.
- **F**, Failure. No credit is earned for a failed course. If student has not participated in at least half of the class, then the L grade is appropriate.

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:

- **AU**, assigned only for courses taken under the audit option.
- **DG**, deferred grade. This is used only for courses that extend beyond a single semester.
- **F***, for a course failed on the pass/fail grading option. No credit is earned and the GPA is not affected.
- **I**, for "Incomplete." This grade means that, in consultation with the student, the instructor has postponed the assignment of a final grade to allow the student to complete specific work not turned in before the end of the semester. Instructors assign the "I" grade only when they are persuaded that events beyond the student's control prevented the completion of assigned work on time and when the student has participated in more than 50% of the class. If the incomplete work is not submitted within the time allotted by the faculty member, the grade will automatically be changed to an "F" grade. 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. Refer to the Incomplete Grade and Graduation section below.
- **L**, Failure for lack of participation. This grade indicates that a student participated in less than 50% of the class, but did not formally withdraw from the course. This grade counts the same as an F.
- **LP**, Low Pass, for a course passed on the pass/fail grading option with a D+, D, or D-. Credit is earned, but the grade point average (GPA) is not affected.
- **P**, for a course passed on the pass/fail grading option with a C- or above. Credit is earned, but the grade point average (GPA) is not affected.
- **TH**, final grade deferred. This is used only for the undergraduate thesis.
- **W**, indicating that the student officially withdrew from the course.

Incomplete Grade and Graduation

A student is allowed to graduate with an "I" on the academic transcript only if all of the following conditions are met:

1. The course was taken no more than one academic year preceding graduation.

2. The student has at least 120 credits of graded work.
3. All college, department, and general education requirements have been satisfied.
4. The incomplete when counted as an "F" grade does not reduce the accumulative grade point average below 2.0

No grade or incomplete grades remaining on the record at the time of graduation will subsequently be replaced by a regular grade on the official record. If the incomplete work is made up following graduation but within the regularly allowable time period, the grade(s) will be noted at the end of the transcript and will not affect the grade point average which was in effect at the time of graduation.

Grading Options

Students select one of three grading options for each course at the time of registration.

- 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 for A-F grades.
- Pass/Fail option. Students may take a limited number of courses Pass/Fail. Students passing the course receive the P or LP grade and degree credit; students failing the course receive the F* grade and no degree credit. Neither grade affects the student's grade point average. The purpose of the Pass/Fail option is to encourage students to take elective courses outside their area of expertise by allowing them to do so without risk to their GPA. Students taking Pass/Fail courses may be ineligible for some academic awards, or for selection as Valedictorian or Salutatorian. The following restrictions apply to use of the Pass/Fail option:
 - Students must have sophomore standing or higher and have a grade point average of at least 2.0 to register for a course Pass/Fail.
 - No more than one course per semester may be taken Pass/Fail.
 - 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 general education.
 - Students normally select the Pass/Fail option when registering, but have until the end of the add/drop period for the course to change to the Pass/Fail option or back to the Grade option.
- 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, but full tuition is charged. The Audit option is appropriate only under special circumstances, and should only be used upon the advice of an academic advisor.
- Courses may be changed from the Grade or Pass/Fail option to the Audit option before the date specified in the Academic Calendar with the approval of an academic advisor and the student's dean. A student cannot change from an Audit to a grade beyond the add period for that class.

Deferred Grades for Honors Students

Students who are registered for Honors Directed Study (HON 498) and Honors Thesis (HON 499) have the option to receive a deferred grade ("T") while they are working on the Honors thesis. Students will not be allowed to graduate with a "T" 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 via the Internet using MaineStreet. Course grades are available as they are received from instructors and processed following final exams.

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. Records are considered to be correct if a student does not report errors to the Office of Student Records within six months of the completion of a course.

Appealing Grade Assignments

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 in the online Student Handbook.

Repeat Policy

A student may repeat a course regardless of the grade or grades previously earned in that course. Full tuition is charged each time a course is repeated, but credit for a given course may be earned only once, even if the course is passed more than once. Only the most recent grade earned in a repeated course counts towards the accumulative grade-point average, even if the most recent grade is lower than one previously received for that course. When a repeated course is failed, any previously earned credit for that course is lost. The grades for all attempts of a course taken for credit appear on the student's transcript. 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. Please note that there may be Student Financial Aid implications for repeating a course more than once after the student has earned a passing grade.

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 about such limitations, and to discuss the advisability of repeating a course if they are eligible. Repeating a course may affect financial aid eligibility. 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.

Academic Standing

A student's academic standing depends upon the number of degree credits completed and the cumulative Grade Point Average (GPA). Degree credits are the number of course credits completed in courses numbered 100 and above in which a passing grade was earned. The GPA is the overall numerical grade, which may range from 0.00 to 4.00. This is calculated for each semester (the semester GPA) and overall for all courses taken (the cumulative GPA).

The university calculates the GPA by multiplying the number of credits for each course by the numerical equivalent of the letter grade earned for that course (See "grading system.") This calculation yields the number of quality points earned for that course. The semester GPA is obtained by dividing the total quality points earned in a semester by the total number of credits for which the student was registered that semester, not counting courses from which the student withdrew with a passing grade or courses taken Pass/Fail. The cumulative GPA is the total number of quality points earned at UMaine divided by the total number of credits taken at UMaine. These calculations are carried to two decimal places.

Academic Recognition

The University recognizes outstanding academic achievement in several ways. Two of the most prestigious are the Presidential Scholar and the Dean's List. These achievements are based on calculable credits. Courses taken pass/fail are not calculable credit courses.

These recognitions of academic achievement are generated 35 calendar days after the last day of the final exam period. A student with any Incomplete or Missing Grade for the semester at the point when the records are reviewed is not eligible. Eligibility will not be recalculated after that date.

Academic achievements are recorded on the official transcript and are generated at the end of the fall and spring terms only.

Presidential Scholar

To be recognized as a Presidential Scholar, a student must be degree-seeking, have completed 12 or more calculable credits in the semester, and have earned a 4.0 semester GPA.

Full-time Dean's List

To be eligible for the Full-time Dean's List, a student must have completed 12 or more calculable credits in the semester and have earned a 3.50 or higher semester 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 calculable credits over both terms and have earned a combined GPA in those terms of 3.50 or higher.

Academic Actions (Probation, Suspension, Dismissal)

Degree seeking students who fail to meet the minimum academic standards for making satisfactory progress toward their degree, both in a single semester and overall are subject to an academic action.

A university-wide academic standing committee administers the academic standing policy by placing students on probation, suspension or dismissal.

A limited number of students are reviewed for suspension after the fall semester, including students in the Foundations program,

and those operating under a fall-only contract in one of the degree granting colleges. All others not making satisfactory progress are placed on probation, often on a contract and subject to a thorough review at the end of the academic year.

Academic Probation

The minimum acceptable cumulative grade point average needed for graduation is 2.0. Therefore any GPA below 2.0 is a warning to a student that such work will not permit graduation. Students are placed on probation following a semester in which her or his cumulative grade point average falls below 2.0. Further a student may be placed on probation following a semester in which he or she receives a semester grade point average less than 2.0, even though their cumulative grade point average remains at a 2.0 or higher.

A student on probation who does not improve her or his cumulative grade point average to a 2.0 may be continued on probation, suspended, or dismissed. A student on academic probation may be required to meet certain academic conditions defined by his or her college dean, such as level of coursework, academic achievement, etc. These conditions must be met for the student to be removed from probation and not suspended or dismissed. The action is posted to the official academic record.

Academic Suspension

Students who fail to meet certain minimum academic standards may be subject to Academic Suspension (The Foundations Program students will need to meet specific requirements that are clearly outlined and mutually agreed upon).

Situations that lead to academic suspension are any one of the following:

1. Students receive a semester grade point average at or below 1.0
2. Students on academic probation fail to meet academic conditions as defined by the college dean, program director, or school director
3. First-year students acquire a cumulative average less than 1.5 at the end of the first two semesters; Sophomores (24-53 credits) acquire a cumulative average of 1.7 or less; Juniors (54-83 credits) acquire a cumulative average of 1.8 or less; Seniors (84+ credits) acquire a cumulative average of 1.9 or less

Exceptions to suspension may be made for degree seeking students who have met any of the following conditions:

1. Earned a semester average of at least 2.0 while on probation, but who have not achieved a 2.0 cumulative grade point average.
2. Taken only one course in a semester and receive a semester average of 1.0 or below
3. Been in good academic standing for three full-time semesters prior to a semester average at or below 1.0

A student on suspension is separated from the University for a minimum of one semester. A suspended student must file an application for readmission. The action is posted to the official academic record. Students may request permission from their associate dean or program or school director or coordinator to take one or two courses as a non-degree student while they are under suspension. However, students are ineligible for financial aid in this circumstance

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 average or otherwise fail to meet conditions set by the college.

A student who has been dismissed is considered separated from the University permanently and is not normally allowed readmission. The action is posted to the official academic records.

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 the program. Since this is a program dismissal and not a dismissal from the University, the student may seek other opportunities 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 outline in the notification of dismissal correspondence. The decision of the committee is final.

Summer Session Courses for Suspended and Dismissed Students

Students who receive notification of suspension or dismissal who are currently attending a summer session course will be allowed to complete that course for 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 grade point average 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.

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 grade point average. 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 accumulative grade point average. 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/>.

Degree / Graduation Requirements

Degree / Graduation Requirements

Each student is responsible for knowing and following the policies governing his or her 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.

Degree Requirements for Graduation

Degree requirements may change over time. Generally students are responsible for meeting the degree requirements published in the catalog in effect when they entered the university. Students who change to a different college must meet the college and university requirements in effect at the time of the change. Students who change to a different major must meet the major requirements in effect at the time of the change. Students who are absent from the university for two or more years must meet the program requirements in effect at the time of their return to the university.

Candidates for baccalaureate degrees must meet all of the following requirements:

1. Receive acceptable grades in all required courses and credits, including General Education, college and major courses. 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 general education.
2. Accumulate the number of degree credits specified by the program in which they are registered (120 credits minimum).
3. Achieve a cumulative grade point average of not less than 2.0 in University of Maine courses.
4. Earn a minimum of 30 credits originating from the University of Maine campus at the 300 level or higher over any year of study.* 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.

*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.

Double Degrees

Students may earn a second baccalaureate degree by completing at least 30 credits beyond the number required for the primary degree, and by completing all requirements of the second degree and, if the second degree is in a different college from the first, by completing all requirements of the second college.

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) in writing no later than first semester of the senior year. At that time the student must declare a primary degree. The student will receive two diplomas.

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. If readmitted within two years of graduation, students may apply towards the 30-credit minimum any credits previously earned in excess of the minimum number required for the first degree. Students enrolling for a second degree two or more years after completing the first one must complete at least 30 additional credits, regardless of the number of credits earned previously.

Grade Point Average is based on a student's entire undergraduate career. A student's GPA will continue when re-admitted to a second degree program. The original GPA is fixed at graduation and will not be adjusted subsequently.

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 that 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 may also complete a second major subsequent to graduation. Students selecting this option must be readmitted to the college where the new major resides, and are required to satisfy only the specific requirements for the chosen second major that are in force at the time of readmission. Students who had declared the second major prior to graduation may continue to follow the catalog requirements in effect for that major if they have no break from the university or return within two years.

Students completing a second major via this mechanism will not receive a second, revised diploma, but the phrase "with a second major in X" will be added to the transcript to recognize the accomplishment.

Minors

Minors are sets of courses designed to provide a student with substantial knowledge of a subject area outside of their major course of study. A minor is available to any degree-matriculated student as long as the program of study for the minor does not significantly overlap with the student's major course of study. The unit or units involved will determine how much overlap is appropriate at the time of declaration. Normally no more than one third of the requirements for the minor can overlap with the major requirements.

A student's transcript will indicate a declared minor. However, students need to officially declare their minor with the department, unit, or school where the minor is offered. If this is not done, there is no guarantee that proper certification of the minor will appear on the final transcript. If a student begins work on a minor but fails to meet all of the requirements, there is no penalty.

Minors are normally awarded at the same time a degree is conferred. Students who complete their baccalaureate but not their minor(s) requirements by graduation will be allowed to return to the university to complete the minor as long as the following criteria are met:

1. The student has declared the minor by the time of graduation; and
2. The student completes the requirements within a two-year period of the awarding of the accompanying baccalaureate degree

Concentrations

A concentration is a set of courses available only to students within a declared major. Concentrations allow a student to place substantial emphasis on an academic subfield of the discipline. All concentrations within a major must share a subset of the core courses required for the major. In addition to these core courses, a concentration consists of a set of courses within the subfield, primarily within the upper level elective category of the major (300 or 400 level courses). Concentrations may not be completed after the accompanying degree has been earned. A student's transcript will indicate a completed concentration. However, students need to officially declare their concentration with the department, unit, or school where the concentration is offered.

Latin Honors

Degrees with Latin honors are conferred at commencement for the following attainments of rank:

- Summa cum laude: 3.7 GPA
- Magna cum laude: 3.5 GPA
- Cum laude: 3.3 GPA

The University bases the GPA only on the student's work at the University of Maine, and that must amount to at least 60 credits or 50 percent of the total degree credits required in the student's program of study, whichever is greater.

Honors

Degrees designated with Honors, with High Honors, or with Highest Honors are awarded only to graduates successfully completing requirements in the University of Maine's Honors College.

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.
- 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 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 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 May ceremony each year.

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 March 15, for degrees to be awarded in May
- By July 15, for degrees to be awarded in August
- by November 15, for degrees to be awarded in December

General information and details of the application process are available at <http://www.studentrecords.umaine.edu/graduation/>

Note: Students completing degree requirements during May Term are considered as August degree candidates.

Graduation Timeline

Each college performs final certification of degree completion within 60 days after the end of the term.

Students who apply for graduation but do not meet the minimum requirements will be notified by the college.

General Education

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 general education, and it amounts to about one third of every program. The design of general education 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 at any other UMS institution currently accredited by NEASC will be regarded as having completed all of their General Education 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 General Education courses required by the major

Students who have previously earned a baccalaureate degree from a regionally accredited institution do not have to meet General Education requirements to earn a degree from UMaine. 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 of 300 / 400-level courses from UMaine.

Note: Courses must be taken for letter grade only to satisfy a general education requirement.

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
- ANT 317 - Fundamentals of Archaeology Credits: 3
- ANT 477 - Field Research in Archaeology Credits: 2-6
- ANT 479 - Laboratory Techniques in Prehistoric Archaeology Credits: 3

- * AST 109 - Introduction to Astronomy Credits: 3
- AVS 211 - Introduction to Aquaculture Credits: 3
- * BIO 222 - Biology: The Living Science Credits: 3
- BMB 207 - Fundamentals of Chemistry Credits: 3
- BMB 208 - Elementary Physiological Chemistry Credits: 3
- * CHY 101 - Chemistry for Everyday Living Credits: 3
- * CHY 121 - Introduction to Chemistry Credits: 3
- * CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- * EES 140 - Soil Science Credits: 3
- ERS 100 - An Introductory Survey of Geology Credits: 3
- ERS 103 - Dynamic Earth Credits: 3
- ERS 108 - Beaches and Coasts Credits: 3
- ERS 191 - Energy in the Earth System Credits: 3
- * ERS 210 - Geology Applied to Engineering Credits: 3
- FSN 101 - Introduction to Food and Nutrition Credits: 3
- FSN 121 - Brewing with Food Science Credits: 3
- GEE 298 - Introduction to Nanoscale Science and Engineering Credits: 3
- KPE 253 - Lifetime Fitness for Health Credits: 3
- PSE 105 - Principles of Sustainable Agriculture Credits: 3
- PSE 110 - Introduction to Horticulture and Green Design Credits: 3
- * SFR 111 - Forest Through Time Credits: 1
- * SFR 112 - Forests Through Time: Discussions Credits: 2
- SFR 215 - Introduction to Forest Bioproducts and Bioenergy 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 120 - Introduction to Forensics Credits: 3
- SMS 211 - Introduction to Aquaculture Credits: 3
- SMS 374 - Deep Sea Biology Credits: 3
- * WLE 200 - Ecology Credits: 3
- WLE 413 - Wetland Delineation and Mapping Credits: 4

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.

- ANT 478 - Zooarchaeology Credits: 4
- * AST 109 - Introduction to Astronomy Credits: 3
- * AST 110 - Introduction to Astronomy Laboratory Credits: 1
- AVS 145 - Animal Science Credits: 4
- BIO 100 - Basic Biology Credits: 4
- BIO 200 - Biology of Organisms Credits: 4
- BIO 205 - Field Natural History of Maine Credits: 4
- BIO 208 - Anatomy and Physiology Credits: 4
- * BIO 222 - Biology: The Living Science Credits: 3

- * BIO 223 - Biology: The Living Science Laboratory Credits: 1
- 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 463 - River Ecology 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 101 - Chemistry for Everyday Living Credits: 3
- * CHY 102 - Chemistry for Everyday Living Laboratory Credits: 1
- * CHY 121 - Introduction to Chemistry Credits: 3
- * CHY 122 - The Molecular Basis of Chemical Change Credits: 3
- * CHY 123 - Introduction to Chemistry Laboratory Credits: 1
- * CHY 124 - The Molecular Basis of Chemical Change Laboratory Credits: 1
- * EES 140 - Soil Science Credits: 3
- * EES 141 - Soil Science Laboratory Credits: 1
- ERS 101 - Introduction to Geology Credits: 4
- ERS 102 - Environmental Geology Credits: 4
- ERS 200 - Earth Systems Credits: 4
- ERS 201 - Global Environmental Change Credits: 4
- * ERS 210 - Geology Applied to Engineering Credits: 3
- * ERS 211 - Geology Applied to Engineering Laboratory Credits: 1
- ERS 240 - The Atmosphere Credits: 4
- PHY 101 - Physics by Inquiry I Credits: 4
- PHY 102 - Physics by Inquiry II 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
- * SFR 111 - Forest Through Time Credits: 1
- * SFR 112 - Forests Through Time: Discussions Credits: 2
- * SMS 110 - Concepts in Oceanography Credits: 3
- * SMS 111 - Concepts in Oceanography Laboratory Credits: 1
- SMS 373 - Marine and Freshwater Algae Credits: 4
- * WLE 200 - Ecology Credits: 3
- * WLE 201 - Ecology Laboratory Credits: 3
- WLE 423 - Wetland Ecology and Conservation Credits: 4

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 120 - Religions of the World Credits: 3
- ANT 221 - Introduction to Folklore Credits: 3
- ANT 316 - Shipwreck Sites: Archaeological and Historical Investigations Credits: 3
- ANT 330 - The U.S. Folk 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 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
- ARH 451 - Art Theory and Criticism Credits: 3
- ARH 452 - Critical Methods in History of Art Credits: 3
- ARH 466 - Twentieth Century Art and Architecture Seminar 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
- 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
- CLA 400 - Hero: Myth and Meaning Credits: 3

- CLA 401 - Amazons: Myth and Reality Credits: 3
- CMJ 201 - Communication Studies I Credits: 3
- CMJ 211 - Journalism Studies I: Introduction and History Credits: 3
- CMJ 375 - Journalism Studies II: Law and Ethics Credits: 3
- ECO 335 - History of Economic Thought Credits: 3
- ECO 343 - North American Economic Integration Credits: 3
- ENG 131 - The Nature of Story Credits: 3
- ENG 222 - Reading Poems Credits: 3
- ENG 231 - Western Tradition in Literature: Homer Through the Renaissance Credits: 3
- ENG 235 - Literature and the Modern World Credits: 3
- ENG 236 - Intro to Canadian Literature Credits: 3
- ENG 243 - Topics in Multicultural Literature Credits: 3
- ENG 244 - Writers of Maine Credits: 3
- ENG 245 - American Short Fiction Credits: 3
- ENG 246 - American Women's Literature Credits: 3
- ENG 251 - English Literature Survey: Beginnings Through Neoclassicism Credits: 3
- ENG 253 - Shakespeare: Selected Plays Credits: 3
- ENG 256 - British Women's Literature Credits: 3
- ENG 271 - The Act of Interpretation Credits: 3
- ENG 280 - Introduction to Film Credits: 3
- ENG 341 - Colonial and Early National American Literature Credits: 3
- ENG 342 - Native American Literature Credits: 3
- ENG 343 - Nineteenth-Century American Literature Credits: 3
- ENG 351 - Medieval English Literature Credits: 3
- ENG 353 - Shakespeare and the English Renaissance Credits: 3
- ENG 355 - Restoration and Eighteenth-Century British Literature Credits: 3
- ENG 357 - Nineteenth-Century British Literature Credits: 3
- ENG 361 - Modernism Credits: 3
- ENG 363 - Literature of the Postmodern Period Credits: 3
- ENG 364 - Contemporary Literature Credits: 3
- ENG 371 - Readings in Literary Theory and Criticism Credits: 3
- ENG 381 - Themes in Literature Credits: 3
- ENG 382 - Major Genres in Historical Perspective Credits: 3
- ESS 315 - Teaching Social Studies in the Elementary School Credits: 3
- FAS 101 - Introduction to Franco American Studies Credits: 3
- FRE 463 - Quebec Poetry Credits: 3
- FRE 464 - Quebec Theatre Credits: 3
- FRE 495 - Senior Project in French Credits: 0-3
- GEO 349 - Early Modern North America in Atlantic Perspective Credits: 3
- GER 401 - Major Cultural Periods Credits: 3
- GER 413 - German Literature and Culture, 1900 to 1945 Credits: 3
- GER 420 - German Film Credits: 3
- GER 495 - Senior Project in German Credits: 1-3
- HTY 103 - Creating America to 1877 Credits: 3
- HTY 104 - United States History Since 1877 Credits: 3
- HTY 105 - History of Ancient and 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 Modern Latin America 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 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 312 - Furs, Frontiers, and Fame: North American Exploration Credits: 3
- HTY 316 - Shipwreck Sites: Archaeological and Historical Investigations Credits: 3
- HTY 330 - Robber Barons, Reformers and Radicals 1877-1914 Credits: 3
- HTY 332 - Womanhood in America Credits: 3
- HTY 338 - Everyday Life in America, 1600-1850 Credits: 3
- HTY 349 - Early Modern North America in Atlantic Perspective Credits: 3
- HTY 403 - Early Middle Ages Credits: 3
- HTY 404 - Late Middle Ages Credits: 3
- HTY 405 - Early Modern Europe: Renaissance, Reformation and the Foundation of the Modern World-System Credits: 3
- HTY 411 - The Holocaust Credits: 3
- HTY 420 - Science and Society Since 1800 Credits: 3
- HTY 450 - History of the British Empire Credits: 3
- HTY 456 - History of Modern Britian Credits: 3
- HTY 461 - Colonial British America to 1763 Credits: 3
- HTY 462 - The American Revolution Credits: 3
- HTY 464 - America at the Crossroads: The Era of Civil War Reconstruction 1840-1876 Credits: 3
- HTY 467 - Early 20th Century America, 1914-1945 Credits: 3
- HTY 468 - America Since 1945 Credits: 3
- HTY 473 - History of U.S. Foreign Relations I Credits: 3
- HTY 474 - History of U.S. Foreign Relations II Credits: 3
- HTY 477 - The American Worker Credits: 3
- HTY 483 - Violence in North American History Credits: 3
- HTY 487 - The First World War Credits: 3
- HTY 491 - Technology and Society Until 1800 Credits: 3
- HTY 492 - Technology and Society Since 1800 Credits: 3
- HTY 494 - Women, History and American Society: Selected Topics Credits: 3
- INT 441 - (ANT, HTY, SMS) Maritime History and Archaeology of New England Credits: 3
- LAT 203 - Readings in Latin Literature I Credits: 3
- LAT 204 - Readings in Latin Literature II Credits: 3
- MLC 231 - Western Tradition in Literature: Homer Through the Renaissance Credits: 3
- MLC 495 - Senior Project in Modern Languages Credits: 1-3
- MSL 301 - Adaptive Team Leadership 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 - Methods of Reasoning Credits: 3
- PHI 104 - Existentialism and Literature Credits: 3
- PHI 105 - Introduction to Religious Studies Credits: 3
- PHI 200 - Problems in Recent Philosophy Credits: 3
- PHI 210 - History of Ancient Philosophy Credits: 3
- PHI 212 - Hegel and 19th Century Philosophy Credits: 3
- PHI 214 - 20th Century Continental Philosophy Credits: 3
- PHI 223 - Modern Jewish Thought Credits: 3
- PHI 230 - Ethics Credits: 3
- PHI 231 - Topics in Applied Ethics Credits: 3
- PHI 235 - Biomedical Ethics Credits: 3
- PHI 236 - Feminist Ethical, Social and Political Theory Credits: 3
- PHI 240 - Social and Political Philosophy Credits: 3
- PHI 244 - Philosophy of Law Credits: 3
- PHI 250 - Formal Logic Credits: 3
- PHI 260 - Philosophy of Language Credits: 3
- PHI 262 - Philosophy of Art Credits: 3
- PHI 312 - History of Modern Philosophy Credits: 3
- PHI 317 - Existentialism and Phenomenology Credits: 3
- PHI 342 - Marxist Philosophy I: The Philosophy of Karl Marx Credits: 3
- PHI 344 - Theories of Justice Credits: 3
- PHI 353 - Philosophy of Mind Credits: 3
- PHI 364 - Views of Self: East and West Credits: 3
- PHI 382 - Theories of Myth Credits: 3
- PHI 420 - Topics in Recent Continental Philosophy Credits: 3
- POS 120 - Introduction to World Politics Credits: 3
- POS 201 - Introduction to Political Theory Credits: 3
- POS 241 - Introduction to Comparative Politics Credits: 3
- POS 243 - Canadian Government and Politics Credits: 3
- POS 273 - International Relations Credits: 3
- POS 301 - Classical Political Thought Credits: 3
- POS 302 - Medieval 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 307 - Democratic Theory Credits: 3
- POS 344 - Public Policy in Canada Credits: 3
- POS 372 - Canadian Foreign Policy Credits: 3
- POS 384 - American Civil Liberties Credits: 3
- POS 401 - Seminar in Political Theory Credits: 3
- SFR 220 - Environment and Society Credits: 3
- SFR 480 - Wilderness and Protected Areas Management Credits: 3
- SPA 307 - Readings in Peninsular Literature Credits: 3
- SPA 401 - Golden Age Credits: 3
- SPA 403 - Cervantes Credits: 3
- SPA 406 - Spanish Literature of the Twentieth Century Credits: 3
- SPA 495 - Senior Project in Spanish Credits: 0-3

- SVT 221 - Boundary Law Credits: 3
- THE 112 - Survey of 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 256 - Ethnic Conflict Credits: 3
- ANT 261 - Islamic Fundamentalism Credits: 3
- ANT 270 - Environmental Justice Movements in the United States Credits: 3
- ANT 400 - Basic Theory in Cultural Anthropology Credits: 3
- ANT 430 - Who Owns Native Cultures? Credits: 3
- ANT 441 - People and Cultures of the Pacific Islands Credits: 3
- ANT 454 - Cultures and Societies of the Middle East Credits: 3
- ANT 458 - Anthropology of War Credits: 3
- ANT 459 - Peoples and Cultures of South America Credits: 3
- ANT 464 - Ecological Anthropology Credits: 3
- ANT 465 - Political Anthropology Credits: 3
- ANT 466 - Economic Anthropology Credits: 3
- ANT 469 - Theories of Religion Credits: 3
- ANT 470 - Religion and Politics Credits: 3
- ANT 476 - The Ancient Maya Credits: 3
- ARH 270 - Topical Survey in History of Art Credits: 3
- BUA 220 - The Legal Environment of Business Credits: 3
- BUA 331 - Labor-Management Relations Credits: 3
- CET 451 - Construction Law 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 Mass Communication Credits: 3
- CMJ 102 - Fundamentals of Interpersonal Communication Credits: 3
- CMJ 103 - Fundamentals of Public Communication Credits: 3
- CMJ 107 - Communication and the Environment Credits: 3
- CMJ 202 - Communication Studies II Credits: 3
- CMJ 211 - Journalism Studies I: Introduction and History Credits: 3
- CMJ 314 - International Mass Communication Credits: 3
- CMJ 375 - Journalism Studies II: Law and Ethics Credits: 3
- CMJ 380 - Advertising, Media and Society Credits: 3
- CMJ 405 - Women and Communication Credits: 3
- CMJ 410 - Social Influence of Mass Communication Credits: 3
- CMJ 412 - Electronic Media Management and Programming Credits: 3
- CMJ 420 - Health Communication Credits: 3
- DIS 400 - Disability as Diversity I Credits: 3
- DIS 450 - Disability: Population-Environment Diversity 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 285 - Economics of Sports Credits: 3
- ECO 377 - Introduction to Natural Resource Economics and Policy Credits: 3
- ECO 443 - Introduction to Modern Economic Growth Credits: 3
- ECO 471 - Public Finance and Fiscal Policy Credits: 3
- ECO 475 - Industrial Organization Credits: 3
- ENG 280 - Introduction to Film Credits: 3
- FAS 101 - Introduction to Franco American Studies Credits: 3
- FSN 301 - Life Cycle Nutrition Credits: 3
- GER 307 - German for the Professions 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 Ancient and 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 210 - History of Maine Credits: 3
- HTY 220 - North American Indian History 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 278 - American Military History Credits: 3
- HTY 338 - Everyday Life in America, 1600-1850 Credits: 3
- HTY 341 - The Making of Modern China Credits: 3
- HTY 437 - History of Modern Japan Credits: 3
- HTY 442 - The United States and Vietnam: A History Credits: 3
- HTY 449 - History of South Africa Credits: 3
- HTY 462 - The American Revolution Credits: 3
- HTY 473 - History of U.S. Foreign Relations I Credits: 3
- HTY 474 - History of U.S. Foreign Relations II Credits: 3
- INA 101 - Introduction to International Affairs Credits: 3
- INT 333 - (University Wide) Why Do We Believe the Things We Do? Credits: 3
- INT 490 - (University Wide) Lies, Deception and Heroification Credits: 3
- INT 491 - (University Wide) A Midwife's Tale and the Social Web Credits: 3
- INV 180 - Create: Innovation Engineering I Credits: 3
- INV 392 - Commercialize: Innovation Engineering III Credits: 3
- LAT 203 - Readings in Latin Literature I Credits: 3
- LAT 204 - Readings in Latin Literature II Credits: 3
- LBR 200 - Information Literacy Credits: 3
- LDR 100 - Foundations of Leadership Credits: 3
- LDR 300 - Advanced Leadership Theory and Practice 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
- MLC 421 - World Cinema: Multiple Perspectives on Identity and Culture Credits: 3
- MSL 350 - The Evolution of American Warfare Credits: 3
- MSL 401 - Mission Command and the Army Profession Credits: 4
- MSL 402 - Mission Command and the Company Grade Officer Credits: 4
- NAS 101 - Introduction to Native American Studies Credits: 3
- NAS 102 - Introduction to Wabanaki Culture, History and Contemporary Issues Credits: 3
- NAS 270 - Native American Women 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
- PAX 360 - Conflict Resolution: A Relational Approach To Working Through Conflict Credits: 3
- PAX 400 - Martin Luther King and the Promise of Social Renewal Credits: 3
- PAX 401 - Women Social Activists: Warriors for Peace and Justice Credits: 3
- PHI 100 - Contemporary Moral Problems Credits: 3
- PHI 105 - Introduction to Religious Studies Credits: 3
- PHI 212 - Hegel and 19th Century Philosophy Credits: 3
- PHI 214 - 20th Century Continental Philosophy Credits: 3
- PHI 231 - Topics in Applied Ethics Credits: 3
- PHI 232 - Environmental Ethics Credits: 3
- PHI 233 - Business Ethics Credits: 3
- PHI 235 - Biomedical Ethics Credits: 3
- PHI 236 - Feminist Ethical, Social and Political Theory Credits: 3
- PHI 244 - Philosophy of Law Credits: 3
- PHI 345 - Global Justice Credits: 3
- PHI 353 - Philosophy of Mind Credits: 3
- PHI 432 - Environmental Philosophy and Policy Credits: 3
- POS 100 - American Government Credits: 3
- POS 201 - Introduction to Political Theory 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 273 - International Relations Credits: 3
- POS 301 - Classical Political Thought Credits: 3
- POS 302 - Medieval Political Thought Credits: 3
- POS 305 - Late Modern Political Thought Credits: 3
- POS 306 - Crafting the American Constitution Credits: 3
- POS 335 - Major Governments of Western Europe Credits: 3
- POS 336 - Government and Politics in Russia Credits: 3
- POS 337 - Government and Politics in Eurasia Credits: 3
- POS 344 - Public Policy in Canada Credits: 3
- POS 348 - The Politics of Sport in America Credits: 3

- POS 352 - American Public Opinion Credits: 3
- POS 353 - The U.S. Congress Credits: 3
- POS 354 - The U.S. Presidency Credits: 3
- POS 363 - Urban Government and Politics Credits: 3
- POS 368 - China Credits: 3
- POS 372 - Canadian Foreign Policy Credits: 3
- POS 374 - American Foreign Policy Credits: 3
- POS 380 - Interest Groups and American Politics Credits: 3
- POS 381 - Political Parties and Elections Credits: 3
- POS 383 - American Constitutional Law Credits: 3
- POS 384 - American Civil Liberties Credits: 3
- POS 385 - Women and Politics Credits: 3
- POS 386 - Religion and Politics in the United States Credits: 3
- POS 401 - Seminar in Political Theory Credits: 3
- POS 467 - African Politics Credits: 3
- POS 474 - Conduct of Foreign Policy Credits: 3
- POS 475 - International Security Credits: 3
- POS 484 - The American Constitution and Criminal Due Process Credits: 3
- POS 486 - Religious Thought, the American Identity, and U.S. Public Policy Credits: 3
- PSY 100 - General Psychology Credits: 3
- PSY 230 - Social Psychology Credits: 3
- PSY 423 - The Psychology of Parenting Credits: 3
- SFR 222 - Environmental Communication Skills Credits: 3
- SFR 225 - Readings in Outdoor Recreation 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 202 - Social Problems Credits: 3
- SOC 208 - Problems of Violence and Terrorism Credits: 3
- SOC 214 - Crime and Criminal Justice Credits: 3
- SOC 220 - Deviance and Social Control Credits: 3
- SOC 240 - Topics in Sociology Credits: 3
- SOC 314 - Law and Society Credits: 3
- SOC 318 - Sociology of the Family Credits: 3
- SOC 329 - Sociology of Gender Credits: 3
- SOC 330 - Perspectives on Women Credits: 3
- SOC 337 - Sociology of Mental Illness Credits: 3
- SOC 325 - Sociology of Religion Credits: 3
- SPA 420 - Spanish Film Credits: 3
- SPA 496 - Service Learning in Spanish Credits: 3
- SWK 320 - Introduction to Social Work Credits: 3
- SWK 365 - Problems of Child Abuse and Neglect: A Multidisciplinary Approach Credits: 3
- SWK 440 - Social Welfare Policy and Issues Credits: 3
- WGS 101 - Women's, Gender and Sexuality Studies Credits: 3
- WGS 103 - Introduction to Lesbian, Gay, Bisexual, and Transgender Studies Credits: 3
- WGS 270 - Native American Women Credits: 3

- WGS 480 - Senior Seminar in Women's, Gender, and Sexuality Studies Credits: 3
- WGS 451 - Women's Sexuality 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 140 - Cities of the Ancient World Credits: 3
- ANT 207 - Introduction to World 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 249 - Religion and Violence Credits: 3
- ANT 250 - Conservation Anthropology: The Socio-Cultural Dimension of Environmental Issues Credits: 3
- ANT 256 - Ethnic Conflict Credits: 3
- ANT 261 - Islamic Fundamentalism Credits: 3
- ANT 270 - Environmental Justice Movements in the United States Credits: 3
- ANT 400 - Basic Theory in Cultural Anthropology Credits: 3
- ANT 317 - Fundamentals of Archaeology Credits: 3
- ANT 330 - The U.S. Folk Experience Credits: 3
- ANT 426 - Native American Folklore Credits: 3
- ANT 430 - Who Owns Native Cultures? Credits: 3
- ANT 441 - People and Cultures of the Pacific Islands Credits: 3
- ANT 451 - Native American Cultures and Identities Credits: 3
- ANT 454 - Cultures and Societies of the Middle East Credits: 3
- ANT 458 - Anthropology of War Credits: 3
- ANT 459 - Peoples and Cultures of South America Credits: 3
- ANT 464 - Ecological Anthropology Credits: 3
- ANT 465 - Political Anthropology Credits: 3
- ANT 466 - Economic Anthropology Credits: 3
- ANT 469 - Theories of Religion Credits: 3
- ANT 470 - Religion and Politics Credits: 3
- ANT 476 - The Ancient Maya Credits: 3
- ANT 477 - Field Research in Archaeology Credits: 2-6
- ANT 480 - Andean Prehistory Credits: 3
- ARA 101 - Elementary Arabic I Credits: 5
- ARA 102 - Elementary Arabic II Credits: 5
- 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
- ARH 369 - Film and Video Theory Seminar Credits: 3
- ARH 493 - Medieval Research Seminar Credits: 3
- ARH 494 - Renaissance Research Seminar Credits: 3
- BUA 328 - Canadian/U.S. Business: A Comparison Credits: 3
- BUA 343 - Introduction to International Business Credits: 3
- CAN 101 - Introduction to Canadian Studies Credits: 3
- CHI 101 - Elementary Chinese I Credits: 5
- CHI 102 - Elementary Chinese II Credits: 5
- CLA 101 - Greek Literature in English Translation Credits: 3
- CLA 102 - Latin Literature in English Translation Credits: 3
- CLA 400 - Hero: Myth and Meaning Credits: 3
- CLA 401 - Amazons: Myth and Reality Credits: 3
- CMJ 314 - International Mass Communication Credits: 3
- CMJ 360 - Nonverbal Communication Credits: 3
- CMJ 366 - Speech Play and Performance Credits: 3
- CMJ 401 - Speech, Space, Event: Critical Applications Credits: 3
- CMJ 405 - Women and Communication Credits: 3
- CSD 222 - International and National Issues of Language Usage Credits: 3
- DIS 300 - Disability: Interaction of Human Diversity and Global Environment Credits: 3
- DIS 400 - Disability as Diversity I Credits: 3
- ECO 339 - International Finance Credits: 3
- ECO 340 - The Canadian Economy: Issues and Policies Credits: 3
- EHD 202 - Education in a Multicultural Society Credits: 3
- EHD 425 - Field Experience: Urban and Rural Education Credits: 3
- ENG 131 - The Nature of Story Credits: 3
- ENG 236 - Intro to Canadian Literature Credits: 3
- ENG 237 - Coming of Age in America Credits: 3
- ENG 243 - Topics in Multicultural Literature Credits: 3
- ENG 246 - American Women's Literature Credits: 3
- ENG 256 - British Women's Literature Credits: 3
- ENG 341 - Colonial and Early National American Literature Credits: 3
- ENG 342 - Native American Literature Credits: 3
- FAS 101 - Introduction to Franco American Studies Credits: 3
- FAS 230 - Franco American Women's Experience Credits: 3
- FAS 250 - Exile, Migrations and Communities Credits: 3
- FAS 442 - French Language of North America Credits: 3
- FRE 101 - Elementary French I Credits: 3 - 4
- FRE 102 - Elementary French II Credits: 3 - 4
- FRE 117 - Accelerated French I Credits: 6
- FRE 201 - Intermediate French I Credits: 3 - 4
- FRE 202 - Intermediate French II Credits: 3 - 4
- FRE 218 - Accelerated French II Credits: 6
- FRE 305 - French Conversation and Composition I Credits: 3
- FRE 306 - French Conversation and Composition II Credits: 3
- FRE 307 - French for Business Credits: 3

- FRE 309 - Readings in French Literature Credits: 3
- FRE 310 - Readings in Francophone Literature Credits: 3
- FRE 315 - Advanced French Conversation Credits: 3
- FRE 320 - French Pronunciation Credits: 3
- FRE 350 - Multidisciplinary Readings in French Credits: 1
- FRE 397 - French (May Term) Credits: 3
- FRE 398 - French Immersion: Western France Credits: 3
- FRE 400 - Advanced French Grammar Credits: 3
- FRE 401 - Translation and Comparative Stylistics Credits: 3
- FRE 406 - Eighteenth Century French Literature Credits: 3
- FRE 407 - 19th Century French Literature Credits: 3
- FRE 408 - Twentieth Century French Literature Credits: 3
- FRE 413 - Advanced Composition and Stylistics Credits: 3
- FRE 430 - French Film Survey Credits: 3
- FRE 442 - French Language of North America Credits: 3
- FRE 463 - Quebec Poetry Credits: 3
- FRE 464 - Quebec Theatre Credits: 3
- FRE 465 - North American French Novel Credits: 3
- FRE 490 - Advanced Topics in French Credits: 1-3
- FRE 495 - Senior Project in French Credits: 0-3
- FRE 498 - Independent Projects II Credits: 1-3
- FSN 270 - World Food and Nutrition Credits: 3
- GEE 250 - Sustainable Solutions in the Developing World Credits: 3
- GEO 100 - World Geography Credits: 3
- GEO 275 - Geography of Globalization Credits: 3
- GEO 349 - Early Modern North America in Atlantic Perspective Credits: 3
- GER 101 - Elementary German I Credits: 3 - 4
- GER 102 - Elementary German II Credits: 4
- GER 121 - Elementary German (Schnelldeutsch) Credits: 6
- GER 203 - Intermediate German I Credits: 3
- GER 204 - Intermediate German II Credits: 3 - 4
- GER 223 - Intermediate German (Schnelldeutsch) Credits: 6
- GER 305 - Practical German Credits: 3
- GER 306 - Readings in German Literature I Credits: 3
- GER 307 - German for the Professions Credits: 3
- GER 401 - Major Cultural Periods Credits: 3
- GER 402 - Contemporary Germany Credits: 3
- GER 490 - Topics in German Credits: 1-3
- GER 495 - Senior Project in German Credits: 1-3
- GER 497 - Projects in German I Credits: 1-3
- 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 Modern Latin America Credits: 3
- HTY 112 - Introduction to Africa 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 240 - Creation of the Atlantic World, 1450-1888 Credits: 3
- HTY 241 - History of Globalization, 1900-Present Credits: 3
- HTY 275 - Geography of Globalization Credits: 3
- HTY 312 - Furs, Frontiers, and Fame: North American Exploration Credits: 3
- HTY 332 - Womanhood in America Credits: 3
- HTY 341 - The Making of Modern China Credits: 3
- HTY 349 - Early Modern North America in Atlantic Perspective Credits: 3
- HTY 350 - Nations in Latin America Credits: 3
- HTY 403 - Early Middle Ages Credits: 3
- HTY 405 - Early Modern Europe: Renaissance, Reformation and the Foundation of the Modern World-System Credits: 3
- HTY 411 - The Holocaust Credits: 3
- HTY 437 - History of Modern Japan Credits: 3
- HTY 442 - The United States and Vietnam: A History Credits: 3
- HTY 446 - History of Modern Middle East, 1800-Present Credits: 3
- HTY 449 - History of South Africa Credits: 3
- HTY 450 - History of the British Empire Credits: 3
- HTY 460 - Modern Canada Credits: 3
- HTY 473 - History of U.S. Foreign Relations I Credits: 3
- HTY 474 - History of U.S. Foreign Relations II Credits: 3
- HTY 477 - The American Worker Credits: 3
- HTY 483 - Violence in North American History Credits: 3
- HTY 484 - History of Jazz Credits: 3
- HTY 487 - The First World War Credits: 3
- HTY 494 - Women, History and American Society: Selected Topics Credits: 3
- INT 441 - (ANT, HTY, SMS) Maritime History and Archaeology of New England Credits: 3
- INT 490 - (University Wide) Lies, Deception and Heroification Credits: 3
- INT 491 - (University Wide) A Midwife's Tale and the Social Web Credits: 3
- LAT 203 - Readings in Latin Literature I Credits: 3
- LAT 204 - Readings in Latin Literature II Credits: 3
- LAT 452 - Roman Philosophical Thought Credits: 3
- LAT 453 - Poetry of the Republic and Early Empire Credits: 3
- LAT 454 - Prose of the Republic and of Early Empire Credits: 3
- LAT 497 - Projects in Latin I Credits: Ar
- LAT 498 - Projects in Latin II Credits: Ar
- MLC 175 - Multiculturalism in America Credits: 3
- MLC 190 - Topics in Modern Languages Credits: 3
- MLC 495 - Senior Project in Modern Languages Credits: 1-3
- MSL 302 - Applied Team Leadership Credits: 3
- MSL 402 - Mission Command and the Company Grade Officer Credits: 4
- MUL 120 - World Music Credits: 3
- NAS 101 - Introduction to Native American Studies Credits: 3
- NAS 102 - Introduction to Wabanaki Culture, History and Contemporary Issues Credits: 3
- NAS 230 - Maine Indian History in the Twentieth Century Credits: 3
- NAS 270 - Native American Women Credits: 3
- NAS 401 - Advanced Topics in Native American Studies Credits: 3
- NAV 310 - Evolution of Warfare Credits: 3

- NUR 415 - Socio-Cultural Issues in Health and Health Care Credits: 3
- NUR 452 - Community and Population Health 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 370 - Building Sustainable Communities Credits: 3
- PAX 380 - Ecovillages and Ecocities: Models of Global Restoration Credits: 3
- PAX 400 - Martin Luther King and the Promise of Social Renewal Credits: 3
- PAX 401 - Women Social Activists: Warriors for Peace and Justice Credits: 3
- PAX 491 - Forgiveness: Creating a Culture of Peace and Reconciliation Credits: 3
- PHI 223 - Modern Jewish Thought Credits: 3
- PHI 236 - Feminist Ethical, Social and Political Theory Credits: 3
- PHI 286 - Religions and Philosophies of the East: Hinduism Credits: 3
- PHI 287 - Religions and Philosophies of the East: Buddhism Credits: 3
- PHI 317 - Existentialism and Phenomenology Credits: 3
- PHI 346 - The Philosophy of Mahatma Gandhi Credits: 3
- PHI 364 - Views of Self: East and West Credits: 3
- PHI 382 - Theories of Myth 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
- POS 273 - International Relations Credits: 3
- POS 336 - Government and Politics in Russia Credits: 3
- POS 337 - Government and Politics in Eurasia Credits: 3
- POS 344 - Public Policy in Canada Credits: 3
- POS 368 - China Credits: 3
- POS 370 - International Terrorism: The Challenges for America Credits: 3
- POS 372 - Canadian Foreign Policy Credits: 3
- POS 374 - American Foreign Policy Credits: 3
- POS 384 - American Civil Liberties Credits: 3
- POS 467 - African Politics Credits: 3
- POS 475 - International Security Credits: 3
- PSY 423 - The Psychology of Parenting Credits: 3
- SFR 226 - Park Systems of the World Credits: 3
- SOC 201 - Social Inequality Credits: 3
- SOC 202 - Social Problems Credits: 3
- SOC 208 - Problems of Violence and Terrorism Credits: 3
- SOC 314 - Law and Society Credits: 3
- SOC 329 - Sociology of Gender Credits: 3
- SOC 330 - Perspectives on Women Credits: 3
- SOC 371 - Immigration, Women and Society Credits: 3
- SPA 101 - Elementary Spanish I Credits: 3 - 4
- SPA 102 - Elementary Spanish II Credits: 3 - 4
- SPA 117 - Accelerated Spanish I Credits: 6
- SPA 203 - Intermediate Spanish I Credits: 3 - 4
- SPA 204 - Intermediate Spanish II Credits: 3 - 4
- SPA 217 - Accelerated Spanish II Credits: 6

- SPA 301 - Introduction to Literary Theory Credits: 3
- SPA 305 - Applied Spanish Credits: 3
- SPA 306 - Workshop in Speaking and Writing Spanish Credits: 3
- SPA 307 - Readings in Peninsular Literature Credits: 3
- SPA 308 - Readings in Spanish American Literature Credits: 3
- SPA 309 - Spanish for the Professions Credits: 3
- SPA 310 - Contemporary Latin American Cultures Credits: 3
- SPA 350 - Multi-disciplinary Readings in Spanish Credits: 1
- SPA 401 - Golden Age Credits: 3
- SPA 403 - Cervantes Credits: 3
- SPA 405 - Spanish Literature of the Nineteenth Century Credits: 3
- SPA 406 - Spanish Literature of the Twentieth Century Credits: 3
- SPA 409 - Contemporary Latin-American Short Story Credits: 3
- SPA 410 - Latin American Novel Credits: 3
- SPA 411 - Contemporary Latin American Theater Credits: 3
- SPA 412 - Contemporary Peninsular Theater Credits: 3
- SPA 444 - Theory and Techniques of Translation Credits: 3
- SPA 490 - Topics and Individual Authors in Spanish Credits: 1-3
- SPA 495 - Senior Project in Spanish Credits: 0-3
- SPA 496 - Service Learning in Spanish Credits: 3
- SPA 497 - Projects in Spanish I Credits: 1-3
- SPA 498 - Projects in Spanish II Credits: 1-3
- SWK 330 - Contemporary Issues in Diversity and Pluralism Credits: 3
- THE 300 - Introduction to Performance Studies Credits: 3
- THE 460 - Theatre History Credits: 3
- VOX 100 - Beginning Spoken Arabic I Credits: 3
- VOX 101 - Beginning Spoken Chinese I Credits: 3
- VOX 102 - Beginning Spoken Farsi I Credits: 3
- VOX 103 - Beginning Spoken Hebrew I Credits: 3
- VOX 104 - Beginning Spoken Hindi I Credits: 3
- VOX 105 - Beginning Spoken Irish Gaelic 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 111 - Beginning Spoken Turkish I Credits: 3
- VOX 130 - Beginning Spoken Arabic II Credits: 3
- VOX 131 - Beginning Spoken Chinese II Credits: 3
- VOX 132 - Beginning Spoken Farsi II Credits: 3
- VOX 133 - Beginning Spoken Hebrew II Credits: 3
- VOX 134 - Beginning Spoken Hindi II Credits: 3
- VOX 135 - Beginning Spoken Irish Gaelic II 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 141 - Beginning Spoken Turkish II Credits: 3
- VOX 160 - Beginning Spoken Arabic III Credits: 3
- VOX 161 - Beginning Spoken Chinese III Credits: 3
- VOX 167 - Beginning Spoken Japanese III Credits: 3
- VOX 168 - Beginning Spoken Korean III Credits: 3
- VOX 190 - Critical Languages (Other) Credits: 3
- VOX 205 - Intermediate Spoken Irish Gaelic I Credits: 3
- VOX 206 - Intermediate Spoken Italian I Credits: 3
- VOX 207 - Intermediate Spoken Japanese I Credits: 3
- VOX 208 - Intermediate Spoken Korean I Credits: 3
- VOX 209 - Intermediate Spoken Portuguese I Credits: 3
- VOX 210 - Intermediate Spoken Russian I Credits: 3
- VOX 240 - Intermediate Spoken Russian II Credits: 3
- VOX 270 - Intermediate Spoken Russian III Credits: 3
- VOX 290 - Intermediate Critical Languages (Other) Credits: 3
- WGS 101 - Women's, Gender and Sexuality Studies Credits: 3
- WGS 103 - Introduction to Lesbian, Gay, Bisexual, and Transgender Studies Credits: 3
- WGS 235 - Franco American Women's Experience Credits: 3
- WGS 270 - Native American Women Credits: 3
- WGS 250 - Women and Music Credits: 3
- WGS 340 - Transnational Feminisms Credits: 3
- WGS 360 - Feminism and Cinema Credits: 3
- WGS 371 - Immigration, Women and Society Credits: 3
- WGS 480 - Senior Seminar in Women's, Gender, and Sexuality Studies 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
- ANT 420 - Human Impacts on Ancient Environments Credits: 3
- ANT 431 - Folklore, the Environment and Public Policy Credits: 3
- ANT 464 - Ecological Anthropology Credits: 3
- ANT 475 - Environmental Archaeology Credits: 3
- ANT 480 - Andean Prehistory Credits: 3
- AVS 152 - History of Infectious Disease and Public Health Credits: 3
- BIO 222 - Biology: The Living Science Credits: 3
- BIO 342 - Plants in Our World Credits: 3
- BIO 455 - Biological Invasions Credits: 4
- BMB 110 - Plagues Past and Present Credits: 3
- CET 412 - Sustainable Population and Environmental Design and Construction Credits: 3

- CIE 210 - Sustainability in Engineering Credits: 3
- CMJ 107 - Communication and the Environment Credits: 3
- CMJ 407 - Environmental Communication 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 - Introduction to Natural Resource Economics and Policy Credits: 3
- ECO 381 - Sustainable Development Principles and Policy Credits: 3
- ECO 405 - Sustainable Energy Economics & Policy Credits: 3
- ECO 477 - Economics of Environmental and Resource Management Credits: 3
- EES 100 - Human Population and the Global Environment Credits: 3
- EES 324 - Environmental Protection Law and Policy Credits: 3
- EES 450 - Principles of Environmental Science 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 191 - Energy in the Earth System Credits: 3
- ERS 201 - Global Environmental Change Credits: 4
- ERS 210 - Geology Applied to Engineering 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 Nutrition Credits: 3
- GEE 250 - Sustainable Solutions in the Developing World 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 275 - Geography of Globalization Credits: 3
- HTY 404 - Late Middle Ages Credits: 3
- HTY 465 - American Landscapes, 1600-1850 Credits: 3
- HTY 479 - U.S. Environmental History Credits: 3
- INT 105 - (ECO, REP) Environmental Policy Credits: 3
- INT 302 - Foundations of Universal Design: The Ecology of Human Environments Credits: 3
- INT 400 - (University Wide) Pop!Tech: The Impact of Technology on Society 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
- NAS 230 - Maine Indian History in the Twentieth Century Credits: 3
- NUR 452 - Community and Population Health Credits: 3
- PAX 380 - Ecovillages and Ecocities: Models of Global Restoration Credits: 3
- PHI 232 - Environmental Ethics Credits: 3

- PHI 432 - Environmental Philosophy and Policy Credits: 3
- PSE 105 - Principles of Sustainable Agriculture Credits: 3
- PSE 121 - Human Societies, Soil and Water: The Unbreakable Link Credits: 3
- * SFR 111 - Forest Through Time Credits: 1
- * SFR 112 - Forests Through Time: Discussions Credits: 2
- 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
- SMS 374 - Deep Sea Biology Credits: 3
- SMS 482 - Semester-by-the-Sea: Human Impacts on the Ocean Credits: 3
- SOC 371 - Immigration, Women and Society Credits: 3
- WGS 230 - Women, Health, and the Environment Credits: 3
- WGS 371 - Immigration, Women and Society 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
- ARH 369 - Film and Video Theory Seminar Credits: 3
- ARH 492 - Baroque Research Seminar Credits: 3
- ARH 493 - Medieval Research Seminar Credits: 3
- ARH 494 - Renaissance Research Seminar Credits: 3
- ART 100 - Drawing I Credits: 3
- ART 110 - 2-D Design Credits: 3
- ART 120 - 3-D Design Credits: 3
- ART 225 - Ceramics I Credits: 3
- ART 270 - Digital Art I Credits: 3
- ART 325 - Ceramics II Credits: 3
- ART 370 - Digital Art II Credits: 3
- ART 372 - Digital Art IIC: Interactivity Credits: 3
- CMJ 106 - Storytelling Credits: 3

- CMJ 261 - Photographic Reporting and Storytelling Credits: 3
- CMJ 351 - Multimedia Production Credits: 4
- CMJ 366 - Speech Play and Performance Credits: 3
- CMJ 434 - Editorial and Opinion Writing Credits: 3
- CMJ 466 - Narrative and Communication 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
- DAN 397 - Intermediate Topics in Dance Credits: 2
- DAN 497 - Advanced Topics in Dance Credits: 2
- ENG 205 - An Introduction to Creative Writing Credits: 3
- ENG 206 - Descriptive and Narrative Writing Credits: 3
- ENG 222 - Reading Poems Credits: 3
- ENG 231 - Western Tradition in Literature: Homer Through the Renaissance Credits: 3
- ENG 235 - Literature and the Modern World 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 246 - American Women's Literature Credits: 3
- ENG 249 - American Sports Literature and Film Credits: 3
- ENG 251 - English Literature Survey: Beginnings Through Neoclassicism Credits: 3
- ENG 253 - Shakespeare: Selected Plays Credits: 3
- ENG 256 - British Women's Literature Credits: 3
- ENG 280 - Introduction to Film Credits: 3
- ENG 309 - Writing Creative Nonfiction Credits: 3
- FRE 430 - French Film Survey Credits: 3
- FRE 463 - Quebec Poetry Credits: 3
- FRE 464 - Quebec Theatre Credits: 3
- GER 413 - German Literature and Culture, 1900 to 1945 Credits: 3
- GER 420 - German Film Credits: 3
- HON 180 - A Cultural Odyssey Credits: 1
- HON 309 - The Honors Read Tutorial Credits: 3
- HTY 484 - History of Jazz Credits: 3
- MLC 231 - Western Tradition in Literature: Homer Through the Renaissance Credits: 3
- MLC 421 - World Cinema: Multiple Perspectives on Identity and Culture 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
- MUO 165 - Athena Consort 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
- MUY 310 - Jazz Improvisation I Credits: 3
- NMD 104 - Design Basics for New Media Credits: 3
- NMD 240 - Introduction to Web Concepts and Design Credits: 3
- NMD 250 - Electronic Music Composition I: Item and Arrangement Credits: 3
- NMD 270 - Digital Art I Credits: 3
- NMD 341 - Photographic Reporting and Storytelling Credits: 3
- NMD 370 - 3D Modeling and Animation Credits: 3
- PAX 250 - Peace and Pop Culture Credits: 3
- PHI 104 - Existentialism and Literature Credits: 3
- PHI 262 - Philosophy of Art Credits: 3
- PHI 351 - Topics in Philosophy and Literature Credits: 3
- PHI 431 - Advanced Topics in the Philosophy of Art Credits: 3
- POS 355 - Music and Politics in the American Context Credits: 3
- POS 357 - Film and Politics Credits: 3
- SPA 420 - Spanish Film Credits: 3
- THE 111 - Introduction to Theatre Credits: 3
- THE 117 - Fundamentals of Acting Credits: 3
- THE 118 - Stage Makeup Credits: 3
- THE 200 - Design for Performance Credits: 3
- THE 216 - Play Production Credits: 3
- THE 340 - Playwriting, Directing and Performing Laboratory Credits: 3
- THE 415 - Capstone Experience in Theatre Credits: 1
- WGS 250 - Women and Music Credits: 3
- WGS 360 - Feminism and Cinema 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.

- ANT 462 - Numerical Methods in Anthropology Credits: 3
- CMJ 402 - Communication Research Credits: 3
- COS 120 - Introduction to Programming I Credits: 3
- COS 125 - Introduction to Problem Solving Using Computer Programming Credits: 3
- COS 215 - Introduction to Computing Using FORTRAN Credits: 3
- COS 220 - Introduction to C++ Programming Credits: 3
- COS 225 - Object-Oriented Design, Programming and Data Structures Credits: 4
- COS 226 - Introduction to Data Structures Credits: 3
- ECO 480 - Introduction to Mathematical Economics Credits: 3
- ECO 485 - Introduction to Economic Statistics and Econometrics Credits: 3 - 4
- ERS 191 - Energy in the Earth System Credits: 3
- ERS 323 - Extreme Weather Credits: 3
- IEN 130 - Intergrated Engineering II Credits: 9
- IEN 230 - Integrated Engineering IV Credits: 5
- INV 392 - Commercialize: Innovation Engineering III Credits: 3
- KPE 372 - Statistical Methods and Assessments in Physical Education Credits: 3
- MAT 101 - The Nature and Language of Mathematics Credits: 3
- MAT 103 - Elementary Algebraic Models in Our World Credits: 3
- MAT 107 - Elementary Descriptive Geometry Credits: 3
- MAT 108 - Elementary Numerical Mathematics From A Modern Perspective Credits: 3
- MAT 111 - Algebra for College Mathematics Credits: 3
- MAT 115 - Applied Mathematics for Business and Economics Credits: 3
- MAT 122 - Pre-Calculus Credits: 4
- MAT 126 - Calculus I Credits: 4
- MAT 127 - Calculus II Credits: 4
- * NUR 200 - Care of Adults I Credits: 3
- * NUR 201 - Care of Adults I Clinical Credits: 1
- NUR 301 - Care of Adults II Credits: 3
- * NUR 302 - Application of Theory to Nursing Practice II Credits: 1
- PHI 250 - Formal Logic Credits: 3
- PSY 241 - Statistics in Psychology Credits: 4
- SFR 205 - Forest Measurements and Statistics Credits: 3
- SOC 219 - Statistical Reasoning in Sociology Credits: 3
- STS 215 - Introduction to Statistics for Business and Economics Credits: 3
- STS 232 - Principles of Statistical Inference Credits: 3
- TME 152 - Introductory Calculus for Engineering Technology 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.

- AED 372 - Foundations of Art Education Credits: 3
- ANT 400 - Basic Theory in Cultural Anthropology Credits: 3
- ANT 421 - Inca Society and Peasants of the Andes Credits: 3
- ANT 448 - Ethnography Through Film Credits: 3
- ANT 454 - Cultures and Societies of the Middle East Credits: 3
- ANT 464 - Ecological Anthropology Credits: 3
- ANT 470 - Religion and Politics Credits: 3
- ANT 476 - The Ancient Maya Credits: 3
- ARH 361 - 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 466 - Twentieth Century Art and Architecture Seminar 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 - Senior Paper in Animal Science I Credits: 2
- * AVS 402 - Senior Paper in Animal Science II Credits: 2
- BEN 361 - Bioengineering Laboratory I Credits: 4
- BEN 363 - Bioengineering Laboratory II Credits: 1-16
- * BIO 388 - Research Capstone in Biology Credits: 1-3
- BIO 391 - Undergraduate Independent Study in Biology Credits: 1-6
- * 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
- BIO 422 - Clinical Hematology Credits: 7
- BIO 423 - Clinical Microbiology Credits: 7
- BIO 424 - Clinical Immunohematology Credits: 7
- BIO 425 - Clinical Chemistry Credits: 7
- BIO 426 - Clinical Microscopy and Special Topics Credits: 4
- BIO 438 - Morphogenesis in Development and Disease Credits: 3
- BIO 447 - Experimental Ecology Credits: 4

- BIO 450 - Histology Credits: 4
- BIO 463 - River Ecology Credits: 4
- BEN 492 - Design Project Credits: Ar
- BMB 460 - Advanced Biochemistry Credits: 3
- BMB 464 - Analytical and Preparative Biochemical Laboratory Methods Credits: 4
- BMB 490 - Microbial Genetics Credits: 5
- BUA 468 - Electronic Business Credits: 3
- BUA 302 - Intermediate Accounting II Credits: 3
- BUA 310 - Auditing Credits: 3
- BUA 330 - Human Resource Management Credits: 3
- BUA 351 - Valuation and Corporate Investment Decisions Credits: 3
- BUA 378 - Marketing Research Credits: 3
- BUA 480 - Managerial Marketing Credits: 3
- CET 356 - Construction Project Administration Credits: 3
- CET 451 - Construction Law Credits: 3
- CHE 361 - Chemical Engineering Laboratory I Credits: 3
- CHE 363 - Chemical Engineering Laboratory II Credits: 3
- CHF 321 - Curriculum and Methods for Teaching Young Children Science 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
- CHF 424 - Professional Seminar for Early Childhood Specialists Credits: 3
- CHF 433 - Adolescence Credits: 3
- CHY 393 - Undergraduate Seminar in Chemistry Credits: 3
- * CIE 225 - Transportation Engineering Credits: 3
- CIE 331 - Fundamentals of Environmental Engineering Credits: 3
- CIE 366 - Soil Mechanics Laboratory Credits: 1
- * CIE 413 - Project Management Credits: 2
- CLA 101 - Greek Literature in English Translation Credits: 3
- CLA 102 - Latin Literature in English Translation Credits: 3
- CMJ 236 - Journalism Writing and Editing Credits: 3
- CMJ 237 - Journalism Across Platforms Credits: 4
- CMJ 332 - Public Affairs Reporting and Research Credits: 3
- CMJ 347 - Argument and Critical Thinking Credits: 3
- CMJ 355 - Advertising Copy and Graphics Credits: 3
- CMJ 401 - Speech, Space, Event: Critical Applications Credits: 3
- CMJ 402 - Communication Research Credits: 3
- CMJ 466 - Narrative and Communication Credits: 3
- CMJ 470 - Communication in Organizations Credits: 3
- CMJ 483 - Capstone Seminar in Mass Communication Credits: 3
- COS 301 - Programming Languages Credits: 3
- * COS 397 - Computer Science Capstone 1 Credits: 3
- COS 490 - Computers, Ethics and Society Credits: 3
- * COS 497 - Computer Science Capstone 2 Credits: 3
- CSD 490 - Senior Capstone: The Research Process Credits: 3
- * ECE 214 - Electrical Circuits Laboratory Credits: 2
- * ECE 342 - Electronics I Credits: 4
- ECE 401 - Electrical Engineering Design Project Credits: 1

- ECE 403 - Electrical and Computer Engineering Design Project Credits: 2
- * ECO 470 - Topics in Economics Credits: 1-3
- ECO 475 - Industrial Organization Credits: 3
- ECO 485 - Introduction to Economic Statistics and Econometrics Credits: 3 - 4
- ECO 489 - Senior Seminar Credits: 3
- ECP 101 - Technical Writing for Mechanical Engineers I Credits: 1
- * ECP 214 - Technical Writing Workshop for Electrical Networks I Credits: 1
- * ECP 225 - Civil Engineering Technical Writing I Credits: 1
- ECP 341 - Technical Writing for Mechanical Engineers I Credits: 1
- * ECP 342 - Technical Writing Workshop for Electrical Networks II Credits: 1
- ECP 403 - Technical Writing Workshop for Electrical and Computer Engineering Design Project Credits: 1
- ECP 411 - Civil Engineering Technical Writing III Credits: 1
- * ECP 413 - Civil Engineering Technical Writing II Credits: 1
- ECP 487 - Technical Writing for Mechanical Engineers II Credits: 1
- ECP 488 - Technical Writing for Mechanical Engineers III Credits: 1
- EES 490 - Senior Seminar Credits: 3
- EET 100 - Introduction to Electrical Engineering Technology Credits: 3
- EET 452 - Senior Design Project III Credits: 2
- EHD 101 - The Art and Science of Teaching Credits: 3
- EHD 202 - Education in a Multicultural Society Credits: 3
- ENG 129 - Topics in English Credits: 3
- ENG 170 - Foundations of Literary Analysis Credits: 3
- ENG 205 - An Introduction to Creative Writing Credits: 3
- ENG 206 - Descriptive and Narrative Writing Credits: 3
- ENG 212 - Persuasive and Analytical Writing Credits: 3
- ENG 222 - Reading Poems Credits: 3
- ENG 271 - The Act of Interpretation Credits: 3
- ENG 301 - Seminar in Writing Studies 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 336 - Canadian Literature Credits: 3
- ENG 395 - English 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 - Technical Editing & Document Design Credits: 3
- ENG 418 - Topics in Professional Writing Credits: 3
- ENG 440 - American Seminar Credits: 3
- ENG 445 - The American Novel 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
- ESC 316 - Teaching Science in the Elementary School (K-8) Credits: 3
- ESC 452 - Teaching Science in the Secondary School Credits: 3
- FAS 270 - Immigration, Yesterday and Today Credits: 3
- FRE 305 - French Conversation and Composition I Credits: 3
- FRE 306 - French Conversation and Composition II 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
- FSN 436 - Food Law Credits: 3
- FSN 489 - Senior Project in Food Science and Human Nutrition Credits: Ar
- GER 305 - Practical German Credits: 3
- GER 307 - German for the Professions Credits: 3
- HON 211 - Civilizations: Past, Present and Future III Credits: 4
- HON 212 - Civilizations: Past, Present and Future IV Credits: 4
- HON 499 - Honors Thesis Credits: 3
- HTY 311 - Research Seminar Credits: 3
- HTY 405 - Early Modern Europe: Renaissance, Reformation and the Foundation of the Modern World-SystemCredits: 3
- HTY 461 - Colonial British America to 1763 Credits: 3
- HTY 494 - Women, History and American Society: Selected Topics Credits: 3
- HTY 498 - Senior Seminar in History Credits: 3
- INT 333 - (University Wide) Why Do We Believe the Things We Do? Credits: 3
- INV 282 - Communicate: Innovation Engineering II Credits: 3
- KPE 271 - History and Philosophy of Kinesiology and Physical Education Credits: 3
- KPE 383 - Organization and Administration in Athletic Training Credits: 3
- KPE 425 - Health Promotion and Disease Prevention Credits: 3
- LAS 497 - Independent Study: Capstone for Bachelor of University Studies Credits: 3
- LDR 200 - Leadership Ethics Credits: 3
- MAT 261 - Introduction to Abstract Mathematics 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
- MSL 401 - Mission Command and the Army Profession Credits: 4
- MUH 201 - History of Western Music I Credits: 2
- MUL 200 - Music Literature Laboratory Credits: 1
- NMD 498 - Practicum in New Media I Credits: 3
- NUR 200 - Care of Adults I Credits: 3
- NUR 301 - Care of Adults II Credits: 3
- NUR 304 - Concepts in Nursing for the Practitioner Credits: 3
- NUR 411 - RN Senior Seminar Credits: 4
- PAX 250 - Peace and Pop Culture Credits: 3
- PAX 260 - Realistic Pacifism Credits: 3

- PHI 344 - Theories of Justice Credits: 3
- PHI 346 - The Philosophy of Mahatma Gandhi Credits: 3
- PHI 364 - Views of Self: East and West Credits: 3
- PHI 382 - Theories of Myth Credits: 3
- PHI 432 - Environmental Philosophy and Policy Credits: 3
- PHI 475 - Junior/Senior Philosophy Seminar Credits: 3
- PHY 441 - Physical Electronics Laboratory Credits: 2
- PHY 442 - Modern Experimental Physics Credits: 2
- POS 301 - Classical Political Thought Credits: 3
- POS 302 - Medieval 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 401 - Seminar in Political Theory Credits: 3
- POS 453 - Political Behavior and Participation Credits: 3
- POS 467 - African Politics Credits: 3
- POS 486 - Religious Thought, the American Identity, and U.S. Public Policy Credits: 3
- POS 487 - SL: Practicum in Engaged Policy Studies I Credits: 3
- POS 488 - SL: Practicum in Engaged Policy Studies II Credits: 3
- POS 499 - Senior Seminar in Political Science Credits: 3
- PSE 101 - Cropping Systems Credits: 4
- PSE 410 - Plant Propagation Credits: 4
- PSE 425 - Landscape Management Credits: 3
- PSE 430 - Environmental Horticulture Credits: 3
- PSY 423 - The Psychology of Parenting Credits: 3
- PSY 491 - Senior Seminar in Psychology Credits: 3
- * PSY 494 - Senior Research Project Credits: 1-3
- SFR 101 - Introduction to Forest Resources Credits: 1
- SFR 225 - Readings in Outdoor Recreation Credits: 3
- SFR 476 - Forest Management I Credits: 3
- 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 203 - Introduction to Integrative Marine Science Credits: 1
- SMS 373 - Marine and Freshwater Algae Credits: 4
- * SMS 400 - Capstone Research Experience in Marine Science Credits: 1-4
- * SMS 404 - Capstone Seminar in Marine Science Credits: 1
- SOC 390 - Research Methods in Sociology Credits: 3
- SPA 305 - Applied Spanish Credits: 3
- SPA 306 - Workshop in Speaking and Writing Spanish Credits: 3
- SPA 307 - Readings in Peninsular Literature Credits: 3
- SPA 309 - Spanish for the Professions Credits: 3
- SPA 444 - Theory and Techniques of Translation Credits: 3
- SVT 221 - Boundary Law Credits: 3

- SVT 475 - Small Business Management Credits: 3
- SWK 440 - Social Welfare Policy and Issues Credits: 3
- THE 300 - Introduction to Performance Studies Credits: 3
- THE 340 - Playwriting, Directing and Performing Laboratory Credits: 3
- THE 460 - Theatre History Credits: 3
- UST 300 - Core Course in University Studies Credits: 3
- WGS 480 - Senior Seminar in Women's, Gender, and Sexuality Studies Credits: 3
- WLE 201 - Ecology Laboratory Credits: 3
- WLE 410 - Wildlife Population Dynamics and Conservation Credits: 3
- WLE 450 - Wildlife-Habitat Relationships Credits: 3
- WLE 455 - Wildlife-Habitat Evaluation Credits: 2

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 General Education Requirement. View the full course descriptions to learn specifically how these courses award this General Education Requirement.

- ANT 102 - Introduction to Anthropology: Diversity of Cultures Credits: 3
- ANT 245 - Sex and Gender in Cross-Cultural Perspective Credits: 3
- ANT 249 - Religion and Violence Credits: 3
- ANT 425 - Recorded Interviewing Techniques and Methods Credits: 3
- ANT 448 - Ethnography Through Film Credits: 3
- * AVS 145 - Animal Science Credits: 4
- AVS 150 - History of the Human-Animal Relationship Credits: 3
- * AVS 249 - Laboratory and Companion Animal Science Credits: 2
- * AVS 346 - Dairy Cattle Technology Credits: 3
- * AVS 349 - Livestock Management Credits: 3
- * BEN 111 - Introduction to Bioengineering I Credits: 2
- * BEN 477 - Elements of Bioengineering Design Credits: 3
- * BEN 479 - Bioengineering Design Projects Credits: 4
- * BEN 493 - Bioengineering Seminar Credits: 0-1
- * BUA 220 - The Legal Environment of Business Credits: 3
- * BUA 449 - Strategic Management Credits: 3
- * CHE 111 - Introduction to Chemical Engineering I Credits: 2
- * CHE 477 - Elements of Chemical Engineering Design Credits: 3
- * CHE 479 - Chemical Engineering Design Projects Credits: 4
- * 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 410 - Engineering Ethics Credits: 1
- CMJ 489 - Seminar in Media Ethics and Issues Credits: 3
- COS 490 - Computers, Ethics and Society Credits: 3

- DIS 400 - Disability as Diversity I Credits: 3
- DIS 450 - Disability: Population-Environment Diversity Credits: 3
- ECO 333 - Labor Markets and Human Resource Development Credits: 3
- ECO 381 - Sustainable Development Principles and Policy Credits: 3
- ENG 235 - Literature and the Modern World Credits: 3
- ENG 236 - Intro to Canadian Literature Credits: 3
- ENG 238 - Nature and Literature Credits: 3
- ENG 243 - Topics in Multicultural Literature Credits: 3
- ENG 244 - Writers of Maine Credits: 3
- ENG 245 - American Short Fiction Credits: 3
- ENG 246 - American Women's Literature Credits: 3
- ENG 249 - American Sports Literature and Film Credits: 3
- ENG 253 - Shakespeare: Selected Plays Credits: 3
- ENG 336 - Canadian Literature Credits: 3
- ENG 440 - American Seminar Credits: 3
- ENG 459 - British Seminar Credits: 3
- ENG 460 - Major Authors Credits: 3
- FAS 270 - Immigration, Yesterday and Today Credits: 3
- FSN 436 - Food Law Credits: 3
- GEE 250 - Sustainable Solutions in the Developing World Credits: 3
- GEE 298 - Introduction to Nanoscale Science and Engineering Credits: 3
- HON 308 - Visiting Scholar in Ethics Tutorial Credits: 3
- HTY 460 - Modern Canada Credits: 3
- HTY 479 - U.S. Environmental History Credits: 3
- INT 302 - Foundations of Universal Design: The Ecology of Human Environments Credits: 3
- INT 400 - (University Wide) Pop!Tech: The Impact of Technology on Society Credits: 3
- INT 491 - (University Wide) A Midwife's Tale and the Social Web Credits: 3
- LDR 200 - Leadership Ethics Credits: 3
- MSL 302 - Applied Team Leadership Credits: 3
- MSL 401 - Mission Command and the Army Profession Credits: 4
- MUE 210 - Introduction to Music Education Credits: 3
- NAV 304 - Leadership and Ethics Credits: 3
- NUR 304 - Concepts in Nursing for the Practitioner Credits: 3
- NUR 455 - Senior Clinical Practicum Credits: 4
- 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 - History of Ancient Philosophy Credits: 3
- PHI 223 - Modern Jewish Thought Credits: 3
- PHI 230 - Ethics Credits: 3
- PHI 231 - Topics in Applied Ethics Credits: 3
- PHI 232 - Environmental Ethics Credits: 3
- PHI 233 - Business Ethics Credits: 3
- PHI 235 - Biomedical Ethics Credits: 3

- PHI 236 - Feminist Ethical, Social and Political Theory Credits: 3
- PHI 240 - Social and Political Philosophy Credits: 3
- PHI 244 - Philosophy of Law Credits: 3
- PHI 286 - Religions and Philosophies of the East: Hinduism Credits: 3
- PHI 287 - Religions and Philosophies of the East: Buddhism Credits: 3
- PHI 312 - History of Modern Philosophy Credits: 3
- PHI 317 - Existentialism and Phenomenology Credits: 3
- PHI 342 - Marxist Philosophy I: The Philosophy of Karl Marx Credits: 3
- PHI 344 - Theories of Justice Credits: 3
- PHI 345 - Global Justice Credits: 3
- PHI 346 - The Philosophy of Mahatma Gandhi Credits: 3
- PHI 432 - Environmental Philosophy and Policy Credits: 3
- POS 201 - Introduction to Political Theory Credits: 3
- POS 301 - Classical Political Thought Credits: 3
- POS 303 - Early Modern Political Thought Credits: 3
- POS 305 - Late Modern Political Thought Credits: 3
- POS 307 - Democratic Theory Credits: 3
- POS 353 - The U.S. Congress Credits: 3
- POS 370 - International Terrorism: The Challenges for America Credits: 3
- POS 384 - American Civil Liberties Credits: 3
- POS 401 - Seminar in Political Theory Credits: 3
- POS 484 - The American Constitution and Criminal Due Process Credits: 3
- PSE 121 - Human Societies, Soil and Water: The Unbreakable Link Credits: 3
- PSE 430 - Environmental Horticulture Credits: 3
- SFR 446 - Forest Resources Policy Credits: 3
- SOC 208 - Problems of Violence and Terrorism Credits: 3
- SOC 337 - Sociology of Mental Illness Credits: 3
- SVT 325 - Surveying/Engineering Ethics Credits: 1
- WGS 101 - Women's, Gender and Sexuality Studies Credits: 3
- WGS 230 - Women, Health, and the Environment Credits: 3
- WGS 410 - Feminist, Gender and Queer Theory Credits: 3

Capstone Experience

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.

Procedures for Transfer of Academic Credit

Transfer Students

- **Official Transcripts:** Applicants must arrange for official college transcripts to be forwarded from previously attended colleges and universities to Application Processing, University of Maine System, P.O. Box 412, Bangor, ME 04402-0412. Veterans must submit a Joint Services transcript or Form DD295.
- **Credits and Grades:** Academic work must be completed with grades of "C-" or better at regionally accredited institutions of higher education to be accepted towards meeting the requirements of a University of Maine baccalaureate degree. Some courses may not transfer because a particular course is not applicable to any UMaine program of study (with the exception of courses within the University of Maine System) or is not normally associated with a bachelor's degree. Grades and grade point averages do not transfer. Credit will not be awarded for other institutionally based exams. The Office of Student Records maintains a transfer equivalency database of courses that are offered at some institutions that are transferable to the UMaine.
- **Pass/Fail Courses:** Courses taken as a pass/fail must be proven to be equivalent to a C- or higher. Pass/fail courses can only be used as a general elective.
- **Residency Requirement:** Refer to the Degree/Graduation Requirements section of the catalog.
- **Time Limitations of Course Work:** Some subject areas have changes dramatically over time. Courses over ten years old will be subject to additional review to determine if they are in fields where there have been significant changes making the material outdated. Those courses that are determined to be missing important new material will be excluded from transfer.
- **General Education Courses:** All students are also required to pass English 101 or an approved equivalent with a grade of C or better, and to complete the University of Maine's general education requirements. Note: Students who have previously earned a bachelor's degree are exempt from the general education requirements. Transferred courses that have direct UMaine equivalents fulfill the same general education categories as their UMaine counterparts, except for "writing intensive" courses. Students who wish to may request approval of transferred courses for meeting the writing intensive requirement by contacting the English Department. Transferred courses that do not have exact UMaine equivalents, but are accepted for elective credit, may meet general education requirements. The determination will be made by the Office of Student Records. If the course title and description are insufficient to make the determination, the Office of Student Records will request further materials from the student.
- **Substitutions/Waivers:** Exceptions to equivalencies (different equivalents, waivers of curricular requirements based on transfer credit, or assessment of student learning outcomes, or limitations on transfer credit applied to degree requirements) may be allowed and recorded at the college or department level, but will not appear on the official evaluation or University of Maine transcript.
- **Credit from International Institutions:** The University of Maine accepts credit from international institutions, both for international students and for domestic students participating in study abroad programs. UMaine awards credit to students who have earned the International Baccalaureate diploma and scored 5, 6, or 7 on the higher level examinations. Official transcripts and official translations by credential evaluation services of non-English originals are required. Contact the Office of International Programs in 240 Estabrooke Hall (207) 581-2905 for information or check the website <http://umaine.edu/international/international-admissions/international-transfer-credit-evaluation/>

- Prior Learning Credit/Internal Credit by Examination:** Matriculated students may be awarded credit for prior learning for subjects comparable or equivalent to University of Maine courses. Departments conduct reviews of prior learning at their discretion. Students seeking a review should contact their dean's office. Prior learning is evaluated and credit is awarded through a portfolio review or an exam. The department will assess a \$50 review fee that will be charged to the student's account through the Bursar's Office. No more than fifteen (15) credit hours may be earned through portfolio review.

Select departments, including the Dept. of Modern Languages & Classics and the Dept. of English, evaluate prior learning through exams. Interested students should contact the appropriate department for information about available exams and any applicable fees.
- External Credit by Examination:** CLEP (see College Level Examination Program Table chart) and AP exams (see Advanced Placement Credit Table chart) are accepted for credit as national examinations (for University policy regarding these exams, see the Admission section of this catalog). CLEP exams are administered through College Success Programs (East Annex Building). In addition to a fee paid directly to CLEP, College Success Programs assesses a \$30 fee that will be charged to the student's account through the Bursar's Office. No more than fifteen (15) credit hours may be earned through CLEP/DSST exams.

For students seeking English credit: The Dept. of English assesses a \$50 review fee for its evaluation of CLEP essays.

Students who have already taken an exam must request an official score report to be sent directly from The College Board to the Office of Student Records. External credit exams may not be substituted for certain courses in the academic major. The number of credits students may earn through these exams varies.

- Military Credit:** Credits allowed will be based on recommendations of the American Council on Education (ACE) and National College Credit Recommendation Services (National CCRS, formerly National PONSI) and will correspond to subject areas offered at the University of Maine. Only courses recommended at the upper or lower baccalaureate level will be considered for transfer credit. A maximum of 15 credits will be allowed as military transfer credit (not including prior experiential learning and credit for standardized tests) and the courses will count as elective credit only unless an exception is made. The process for an exception is as follows: the student should contact his or her college or school Associate Dean who will forward the material to the appropriate department chair, unit director, or faculty member who will make the appropriate decision.

Credit for military experience: credit for learning due to duties or a position in the military is considered prior learning and will be considered in the same way as other prior experiential learning. See subsection "Prior Learning Credit" in this section.

- Physical Education and Emergency Medical Technician Courses and First Year Seminars:** Physical Education skills classes will be limited to a total of eight credit hours. Participation in varsity athletics will not transfer. Emergency Medical Technician courses will be limited to nine total transfer credit hours. First year seminar type courses will be limited to three credit hours. Although credit hours transfer to the university, it is up to the discretion of your Academic Unit to determine how many course hours are utilized in your degree program.
- Evaluation:** An official evaluation of transfer credit will be completed after admission to the University and will be available in the Student Center. This evaluation will show course equivalencies, free electives and if a course meets a general education requirement. How this information fits into the student's degree program is up to the discretion of the department that houses the major. Students that do not agree with an evaluation of their courses may submit a syllabus used for the course to the Office of Student Records. The syllabus should be attached to a statement in writing defining which course or courses they feel were evaluated inaccurately. The Office of Student Records will review the appeal with a representative from the appropriate college.

Current Students

- **Official Transcripts:** Current University of Maine students should send transcripts of courses completed elsewhere to the Office of Student Records, 5781 Wingate Hall, Orono, ME 04469.
- **Repeated Courses:** Courses taken at another institution may transfer to meet a requirement but will not replace the low grade of a course taken at the University of Maine. To replace a grade for such a course, the course must be repeated at UMaine.
- **Courses within the University of Maine System:**
 - Students who take courses from any other University of Maine System institution will have any credit earned with a grade of C- or better automatically applied as transfer credit to their academic record at the institution where they are matriculated. [One exception is ENG 101-College Composition which requires an equivalent with a minimum grade of C.]
 - For financial aid purposes, students who do not earn a grade of C- or better will still have their transfer credit processed and recorded in the system, but the credit will not display on the transcript of the institution where they are matriculated.
 - Students should complete a Domestic Study Away form to insure that the transfer credit will apply toward completion of their degree. Students who are applying for financial aid must complete a Domestic Study Away form available on the Office of Student Records website: <http://studentrecords.umaine.edu/forms/>
 - Courses taken at other UMS institutions will be identified 35 days after the last day of finals. It will be the responsibility of the student to notify the Office of Student Records if subsequent grade changes require the original credit to be reevaluated.
 - Students who are not receiving federal financial aid or VA benefits may opt out of this automated transfer credit processing by completing the Internal Transfer Credit Opt Out form and filing it with the Office of Student Records before the last day of classes.

Non-Degree Students

- Transfer credit evaluations are not performed for non-degree students.

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 are comprised of your entire 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, 20202-4605

Directory Information

The University of Maine has designated certain information contained in the education records of its students as directory information for purposes of FERPA. Such directory information may be publicly shared by the University unless the student has taken formal action to restrict its release. Directory information includes; name, address, e-mail address, phone number, major and degree, participation in officially recognized activities and sports, weight and height of student athletes, most recent previous college or university attended, dates of attendance, degrees and awards received, enrollment status (full-time or part-time), grade level and date of birth. Students can indicate that their directory information not be released at any time while they are an enrolled student at the University.

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The University of Maine System Board of Trustees

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For a complete list of principal affiliations, go to: www.maine.edu/about-the-system/board-of-trustees/board-membership/

Named Professorships and Chairs

Named Professorships and Chairs

Mark and Marcia Bailey Professorship of Speech and Theatre, Dr. Nathan E. Stormer

Bath Iron Works Professorship in Structural Engineering, Dr. Habib-J. Dagher

Adelaide C. Bird and Alan L. Bird Professor in History, Dr. Nathan Godfried, Dr. Elizabeth McKillen, and Dr. Stephen Miller

John C. Bridge Engineering Professorship, Dr. William G. Davids

Henry R. and Grace V. Butler Professorship of Electrical & Computer Engineering, Dr. Bruce E. Segee

Louis Calder Professor of Pulp and Paper Technology, Dr. Joseph M. Genco

Roger C. and Virginia A. Castle Professorship in Electrical Engineering, Dr. Mauricio Pereira da Cunha

Correll Presidential Chair in Energy, Dr. Krish Thiagarajan

Agatha B. Darling Professorship of Oceanography, Dr. Lawrence M. Mayer

George H. Denton Professorship of Earth Sciences, Dr. Aaron E. Putnam

Lloyd H. Elliott Professorship in English, visiting scholars

Farm Credit Assistant Professorship of Production Economics and Agriculture Finance, Dr. Xuan Chen

Edwin L. Giddings Professor of Forest Policy, Dr. Robert J. Lilieholm

Edward Sturgis Grew Professorship in Petrology and Minerology, Dr. Alicia Cruz-Uribe

Richard C. Hill Professorship in Mechanical Engineering, Dr. S. David Dvorak

Curtis Hutchins Professor of Forest Ecosystem Management, Dr. Robert S. Seymour

Irving Chair for Forest Ecosystem Management, Dr. Aaron Weiskittel

Dr. Waldo "Mac" Libbey '44 Professorship in Electrical and Computer Engineering, Dr. Yifeng Zhu

Libra Professorship in Conservation Biology, Dr. Malcolm L. Hunter, Jr.

Libra Professorship of Geological Sciences, Dr. George H. Denton

Libra Professorship of Mechanical Engineering, Dr. Andrew J. Goupee

Libra Professorship in the College of Liberal Arts and Sciences, History, Dr. Scott W. See

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University of Maine Libra Professorship, Dr. Paul Glen Holman

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Col. James C. McBride Distinguished Professorship in History, Dr. Richard C. Judd

C. Ann Merrifield Professorship in Life Science Education, Dr. Michelle Smith

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University of Maine Trustee Professorship, Dr. Michael L. Peterson, Jr.

Visiting Libra Professorship in Diversity, Dr. Carolina Alvarado

Barbara Wheatland Professorship of Geospatial Innovation, Dr. Daniel Hayes

Arthur O. Willey Professor of Mechanical Engineering, Dr. Senthil S. Vel

Award Recipients

Award Recipients

Alumni Association Distinguished Maine Professor Award Recipients

2016	1989 Fred B. Knight
2015 William Davids	1988 Dana W. Birnbaum
2014 Mary Jane Perry	1987 Brian Green
2013 Robert Lad	1986 Anne P. Sherblom-Clark
2012 Joseph M. Genco	1985 John A. Alexander
2011 Alfred A. Bushway	1984 John W. Toole
2010 Paul A. Mayewski	1983 Martin R. Stokes
2009 James M. Acheson	1982 Eugene A. Mawhinney
2008 Janice V. Kristo & John F. Vetelino	1981 Mary S. Tyler
2007 Ivan J. Fernandez	1980 Malda Brandt-Newman
2006 David W. Townsend	1979 Michael H. Lewis
2005 Robert A. Strong	1978 Charles W. Smith
2004 Eric N. Landis	1977 Melvin Gershman
2003 Kevin J. Boyle	1976 Donald A. Grant
2002 James W. Warhola	1975 Erling R. Skorpen
2001 Keith W. Hutchison	1974 William G. Valleau
2000 Douglas M. Allen	1973 John H. Dearborn
1999 Brenda M. Power	1972 Constance H. Carlson
1998 Fred H. Irons	1971 Douglas A. Gelinas
1997 Irving L. Kornfield	1970 Joseph Scimecca
1996 Malcolm L. Hunter, Jr.	1969 Robert B. Thomson
1995 Habib J. Dagher	1968 Jonathan Biscoe
1994 Dana N. Humphrey	1967 David W. Trafford
1993 George H. Denton	1966 Richard G. Emerick
1992 Raymie E. McKerrow	1965 Vincent A. Hartgen
1991 Stephen A. Norton	1964 Benjamin R. Speicher
1990 Alan J. Kimball	1963 Walter S. Schoenberger

Presidential Outstanding Teaching Award Recipients

2016 Howard M. "Mac" Gray	2003 Robert D. Franzosa
2015 Kirsten E. Jacobsen	2002 Eric N. Landis
2014 J. Malcolm Shick	2001 Constance M. Perry
2013 Richard Borgman	2000 Owen F. Smith
2012 Mary E. Rumpho	1999 Keith W. Hutchison
2011 Douglas W. Nangle	1998 Sandra L. Caron
2010 Judith R. Pearse	1997 Fred H. Irons
2009 Leonard J. Kass	1996 Paul B. Roscoe
2008 Gail B. Werrbach	1995 Barbara J. W. Cole
2007 Irving L. Kornfield	1994 William E. Glanz
2006 Mary S. Tyler	1993 Sandra L. Gardner
2005 Patricia A. Burnes	1992 Christina L. Baker
2004 Kim K. McKeage	1991 Kristin M. Langellier

Presidential Public Service Achievement Award Recipients

2016 Amy Fried	1996 Alfred A. Bushway
2015 Laura A. Lindenfeld	1995 James H. Breece
2014 Bruce E. Segee	1994 Ray B. Owen
2013 George Markowsky	1993 Edward D. "Sandy" Ives
2012 Karen J. Horton	1992 Lucille A. Zeph
2011 Kathleen March	1991 William H. Whitaker
2010 Thomas E. Christensen	1990 Herbert Hidu
2009 Kathryn J. Olmstead	1989 David F. Wihry
2008 Alan B. Cobo-Lewis	1988 Robert C. Bayer
2007 Herbert L. Crosby	1987 James A. Wilson
2006 Carol B. Gilmore	1986 Vaughn H. Holyoke
2005 David H. Lambert	1985 Barbara A. Barton
2004 Todd M. Gabe	1984 Richard J. Campana
2003 Harlan J. Onsrud	1983 Patricia M. Pierson
2002 Sandra L. Caron	1982 Richard C. Hill
2001 Ann K. Schonberger	
2000 Walter G. McIntire	
1999 George L. Jacobson, Jr.	
1998 Dana N. Humphrey	
1997 Sheila J. Pechinski	

Presidential Research and Creative Achievement Award Recipients

2016 Neal R. Pettigrew	1992 J. Malcolm Shick
2015 Richard W. Judd	1991 Merrill F. Elias
2014 M. Kate Beard-Tisdale	1990 Stephen A. Norton
2013 Francis Drummond	1989 William J. Baker
2012 Hemant P. Pendse	1988 Michael D. Bentley
2011 John F. Mahon	1987 John H. Dearborn
2010 Paul B. Roscoe	1986 Colin E. Martindale
2009 Owen F. Smith	1985 Richard D. Blake
2008 Mary Ellen Camire	1984 Harold W. Borns, David C. Smith
2007 Elizabeth DePoy	1983 No Award
2006 Kyriacos C. Markides	1982 Bruce L. Nicholson
2005 James M. Acheson	1981 Carroll F. Terrell
2004 Robert J. Lad	1980 John F. Vetelino
2003 Habib J. Dagher	1979 James D. McCleave
2002 Max J. Egenhofer	1978 Peter Csavinszky
2001 Kevin Boyle	1977 William Pease, Jane Pease
2000 Janice V. Kristo,	1976 Robert J. Jensen
Rosemary A. Bamford	1975 George H. Denton
1999 Charles T. Hess	1974 Geddes W. Simpson
1998 Douglas M. Allen	
1997 Gary M. King	
1996 Burton N. Hatlen	
1995 Erdogan Kiran	
1994 C. Stewart Doty	
1993 William N. Unertl	

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Bradley, David M. (1998). BM University of Waterloo, Waterloo 1990; Ph.D. University of Illinois, Urbana-Champaign 1995; Associate Professor of Mathematics and Graduate Coordinator

Brady, Damian C. (2010) BS Roger Williams University, Bristol 2000; Ph.D. University of Delaware, Lewes 2008; Research Assistant Professor

Brakey, Mary R. (1984). RN Saint Francis School of Nursing, Jersey City 1974; BS Pace University, Pleasantville 1978; MSN Seton Hall University, South Orange 1984; DNS, Widener University, Chester 1999; Associate Professor of Nursing

Brawley, Susan H. (1991). BA Wellesley College, Wellesley 1973; Ph.D. University of California, Berkeley 1978; Professor of Plant Biology; Cooperating Professor of Biological Sciences; Coordinator of the Marine Biology Program

Breece, James H. (1983). Ph.D. Boston College, 1982; BA University of Vermont, 1977; Associate Professor of Economics

Brewer, Mark D. (2003). BA Syracuse University, Syracuse 1993; MA Syracuse University, Syracuse 1997; Ph.D. Syracuse University 2001; Professor of Political Science

Brichacek, Matthew P. (2014). BS University of Minnesota, Duluth 2005; Ph.D. Cornell University, Ithaca 2010; Assistant Professor of Chemistry

Bricknell, Ian R. (2007). BS University of Reading, Reading 1986; Ph.D. University of Lancaster, Lancaster 1990; Professor of Aquaculture; Cooperating Professor of Animal and Veterinary Sciences; Program Coordinator for Aquaculture

Brinkley, Robert A. (1983). BA Yale University, New Haven 1969; MA University of Massachusetts, Amherst 1973; Ph.D. University of Massachusetts, Amherst 1979; Professor of English

Broderick, Martha (2004). BA University of Maine, Orono 1980; JD Western New England School of Law, Springfield 1983; Lecturer in Business Law

Brown, Carlton A. (2005). BS Carnegie Mellon University, Pittsburgh 1972; MS Salem State College. Salem 1999; Associate Professor of Surveying Engineering Technology

Bruce, Alice E. (1987). BS Antioch College, Yellow Springs 1978; MA Columbia University, New York 1981; Ph.D. Columbia University, New York 1985; Associate Professor of Chemistry

Bruce, Mitchell R. M. (1987). BS Antioch College, Yellow Springs 1979; MA Columbia University, New York 1981; Ph.D. Columbia University, New York 1985; Associate Professor of Chemistry

Brucher, Richard T. (1974). BA State University of New York, New Paltz 1969; MA Rutgers University, New Brunswick 1973; Ph.D. Rutgers University, New Brunswick 1978; Chair and Associate Professor of English

Brzozowski, Richard J. (1987). BS University of Missouri, Columbia 1980; MS University of Missouri, Columbia 1981; Ph.D. University of Missouri, Columbia 1988; University of Maine Cooperative Extension Small Ruminant and Poultry Specialist; Program Administrator

Burgess, Susan D. (2001). MA University of Maine, Orono 1998; Lecturer III B; Staff Speech-Language Pathologist

Burke, Connor O. (2016). Assistant Baseball Coach/Lecturer in Physical Education

Burnes, Patricia A. (1972). BA Webster College, Saint Louis 1964; Ph.D. Saint Louis University, Saint Louis 1977; Associate Professor of English; Coordinator of First Year Writing Program and Coordinator of College Composition

Burnett, Stephanie Elaine. (2006). BS Auburn University, Auburn 1997; MS Auburn University, Auburn 2000; Ph.D. University of Georgia, Athens 2004; Associate Professor of Horticulture

Burt, Jack W. (2004). BM Baldwin-Wallace College Conservatory of Music, Berea 1980; MM University of South Carolina, Chapel Hill 1983; DM University of Texas at Austin, Austin 1995; Associate Professor of Music

Butler, Sandra S. (1991). BA Carleton College, Northfield 1979; MSW Washington University, Saint Louis 1985; Ph.D. University of Washington, Seattle 1991; Interim Director School of Social Work; Professor of Social Work; MSW Coordinator

Butterfield, Stephen (1984). BS Springfield College, Springfield 1971; M.Ed. Keene State College, Keene 1980; Ph.D. Ohio State University, Columbus 1984; Chair, Department of Exercise, Sports Science and STEM Education; Professor of Education and Special Education

Caccese, Vincent (1986). BS Drexel University, Philadelphia 1979; MS Drexel University, Philadelphia 1982; Ph.D. Drexel University, Philadelphia 1985; Professor of Mechanical Engineering

Calder, Beth Louise (2004). AS University of Maine Farmington, Farmington 1990; BS University of Maine, Orono 1997; Ph. D. University of Maine, Orono 2003; Extension Food Science Specialist; Associate Extension Professor and Associate Professor of Food Science

Calhoun, Aram J. K. (1997). AB Brown University, Providence 1981; MA Rhode Island College, Providence 1985; MS University of Rhode Island, Kingston 1989; Ph.D. University of Maine, Orono 1996; Director of Ecology and Environmental Sciences; Professor of Wetland Ecology; Cooperating Professor of Plant, Soil and Environmental Sciences

Callaway, Murray T. (1982). AA North Florida Junior College, Madison 1973; BA University of Florida, Gainesville 1975; MA University of Maine, Orono 1982; Lecturer in English

Cameron, Ian H. (2016). Lecturer of Human Development and Family Studies

Camire, Mary E. (1989). BA Harvard College, Cambridge 1979; MS University of Massachusetts, Amherst 1982; Ph.D. Texas Women's University, Denton 1989; Professor of Food Science and Human Nutrition; Cooperating Research Professor in the Lobster Institute

Caron, Sandra L. (1988). BS University of Maine, Orono 1979; MS University of Maine, Orono 1982; Ph.D. Syracuse University, Syracuse 1986; Professor of Family Relations; Program Coordinator of Human Development

Cashon, Robert E. (2012). BS Midwestern University, Wichita 1974; Ph.D. John Hopkins University, Baltimore 1981; Lecturer in Molecular and Biomedical Sciences

Casey, Robert C. (1998). BS University of Minnesota 1985; DVM University of Minnesota 1989; Ph.D. Louisiana State University 1995; Associate Professor of Animal and Veterinary Sciences; Cooperating Associate Professor of Resource Economics and Policy

Chai, Fei (1996). BS Shandong College 1984; MS Shandong College 1987; MA Princeton University, Princeton 1991; Ph.D. Duke University, Durham 1995; Director, School of Marine Sciences; Professor of Oceanography; Cooperating Professor of the Climate Change Institute

Charlton, Nicholas S. (2016). Assistant Football Coach

Chawathe, Sudarshan S. (2006). BS Indian Institute of Technology, Kanpur; MS Stanford University, Stanford 1994; Ph.D. Stanford University, Stanford 1999; Associate Professor of Computer Science, Cooperating Associate Professor of the Climate Change Institute

Chen, Xuan (2013). Ph.D. North Carolina State University at Raleigh, 2013; MA North Carolina State University, 2009; BS Peking University, 2005; BA Peking University, 2005; Assistant Professor of Production Economics/Agricultural Finance

Chen, Yong (2000). BA Ocean University of Qingdao, Qingdao 1983; MSC University of Toronto, Toronto 1991; Ph.D. University of Toronto, Toronto 1995; Professor for Fisheries Population Dynamics; Cooperating Research Professor in the Lobster Institute; Program Coordinator for Marine Policy

Christensen, Sean M. (2014). BS North Carolina State University, Raleigh; Marine Officer Instructor and Assistant Professor of Naval Science

Clark, David E. (1987). BA Boston University, Boston 1974; MS University of Maine, Orono 1979; Ph.D. University of Maine, Orono 1986; Lecturer in Physics and Assistant to the Chairperson

Clark, Eric S. (2016). Bachelor of Arts History, Bachelor of Arts Modern Languages, French - The Citadel 2010; Master of Science Management, Manpower Systems Analysis - Naval Postgraduate School 2016; Naval Science Instructor

Co, Albert (1978). BS University of the Philippines, Quezon 1972; Ph.D. University of Wisconsin, Madison 1979; Associate Professor of Chemical Engineering

Cobo-Lewis, Alan B. (1998). BA University of Miami, Coral Gables, 1988; MS University of Wisconsin, Madison 1990; Ph.D. University of Wisconsin, Madison 1992; Director of the Center for Community Inclusion and Disability Studies; Associate Professor of Psychology; Cooperating Associate Professor of Graduate School of Biomedical Sciences; Cooperating Associate Professor of Education

Coen, Liam. (2016) BS University of Massachusetts, 2009; Assistant Football Coach, Offensive Coordinator, Quarterbacks, Lecturer in Physical Education

Coffin, Donna Rae (1980). BS University of Maine, Orono 1974; MS University of Maine, Orono 1976; Extension Educator and Extension Professor; Cooperating Professor in Animal and Veterinary Sciences

Coghlan, Stephen (2006). AS Cayuga Community College, Auburn 1996; BS SUNY College, Albany 1998; Ph.D. SUNY College, Albany 2004; Associate Professor of Freshwater Fisheries

Coladarci, Theodore T. (1983). BA California State University, Chico 1975; MA Stanford University, Stanford 1978; Ph.D. Stanford University, Stanford 1980; Director of Institutional Research; Professor of Educational Psychology

Colburn, Steven C. (1992). BS University of Maine, Orono 1975; MBA University of Maine, Orono 1979; Ph.D. University of Georgia, Athens 1989; Associate Professor of Accounting

Cole, Barbara J. W. (1986). BS Colorado State University, Fort Collins 1981; MS University of Washington, Seattle 1983; Ph.D. University of Washington, Seattle 1986; Chair and Professor of Chemistry; Cooperating Professor of Forest Resources and of Chemical Engineering

Cole, Timothy M. (1989). BA Colorado State University, Fort Collins 1981; MA University of Washington, Seattle 1983; Ph.D. University of Washington, Seattle 1987; Associate Dean for Academic and Student Services; Associate Professor of Political Science; Coordinator of Judaic Studies

Collins, Scott. (2002). Ph.D. Brigham Young University, Provo 1980; Co-Director in the Institute for Molecular Biophysics; Professor of Chemistry and the Graduate School for Biological Science; Cooperating Professor of the Graduate School of Biomedical Sciences and Engineering;

Comins, Neil F. (1978). BS Cornell University, Ithaca 1972; MS University of Maryland, College Park 1974; Ph.D. University College, Cardiff 1978; Professor of Physics

Connell, Laurie B. (2001). BA Ithaca College, Ithaca 1975; Ph.D. University of North Carolina, Chapel Hill 1988; Research Professor; Cooperating Research Professor in Molecular and Biomedical Sciences

Coons, Wendy R. (2007). BA University of Vermont, Burlington 1977; Lecturer in Accounting

Cooper, Timothy M. (2015). Bachelor of Science Marine Transportation - Massachusetts Maritime Academy 1992; Master of Arts National Security and Strategic Studies - Naval War College 2006; Professor of Naval Science

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Coutts, Michael M. (2012). MA University of Maine, 1990; BS University of Maine, 1982; Head Softball Coach/Lecturer in Physical Education

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Crandall, Mindy S. (2014). Ph.D. Oregon State University, Corvallis; MS Oregon State University; BS Oregon State University; Assistant Professor of Forest Landscape Management

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Cravens, Nilda T. (2003). BS SUNY, Cortland 1979; MS Pace University, New York 1984; Lecturer in Nursing

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Croall, Dorothy E. (1990). AB Gettysburg College, Gettysburg 1973; Ph.D. University of Rochester, Rochester 1979; Professor of Biochemistry; Cooperating Professor in the Graduate School of Biomedical Sciences

Cronan, Christopher S. (1980). BA University of Pennsylvania, Philadelphia 1973; Ph.D. Dartmouth College, Hanover 1978; Professor, Botany and Ecology; Cooperating Professor of Forest Resources

Crouse, Joanna B. (2015). BA Brown University, Providence; MA University of Maine, Orono 2001; MA University of Maine, Orono 2008; Lecturer in Composition

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Curry, Edniesha N. (2015). BS University of Oregon, Eugene 2002; MBA American InterContinental University, Buckhead 2005; 2nd Assistant Women's Basketball Coach; Lecturer in Physical Education

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Daigle, John Joseph (1998). BS University of Maine, Orono 1986; MS Colorado State University, Fort Collins 1990; Ph.D. University of Massachusetts, Amherst 1997; Associate Professor of Forest Recreation Management; Program Leader, Parks, Recreation and Tourism

Daley, Angela L. (2015). Assistant Professor of Health Economics and Policy

Daniel Jr., Harold Z. (1997). BS Appalachian State University, Boone 1976; MS Appalachian State University, Boone 1978; Ph.D. University of Connecticut, Storrs, 1997; Associate Professor of Marketing

Dastoor, Farahad (1999). BS McGill University, Montreal 1988; MS University of British Columbia, Vancouver 1991; Ph.D. University of British Columbia, Vancouver 1999; Lecturer in Biological Sciences

Davids, William G. (1998). BS University of Maine, Orono 1989; MS University of Maine, Orono 1991; Ph.D. University of Washington, Seattle 1998; Chair of Civil and Environmental Engineering; Professor of Civil and Environmental Engineering; John C. Bridge Engineering Professor; Member of Advanced Structures and Composites Center Management Team

Day, Michael E. (2009). BS University of Maine, Orono 1994; Ph.D. University of Maine, Orono, 2000; Associate Research Professor of Forest Resources; Graduate Program Coordinator

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De Urioste-Stone, Sandra M. (2012). BA University of Del Valle De Guatemala, Guatemala City 1996; MS University of Idaho, Moscow 2003; Ph.D. University of Idaho, Moscow 2008; Assistant Professor in Nature-Based Tourism

Del Vecchio, Eugene F. (1984). AB University of California, Berkeley 1972; MA University of Washington, Seattle 1977; Ph.D. University of Washington, Seattle 1979; Professor of Spanish

Dellamattera, Julie N. (2006). BS University of Maine, Orono 1990; M.Ed. University of Maine, Orono 2000; Ph.D. University of Maine, Orono 2006; Chair for the Department of Educational Leadership, Higher Education, and Human Development; Associate Professor of Early Childhood Development and Education

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Depoy, Elizabeth (1989). BS State University of New York, Buffalo 1972; MSW University of Pennsylvania, Philadelphia 1977; Ph.D. University of Pennsylvania, Philadelphia 1988; Professor of Social Work; Coordinator of Interdisciplinary Education, Center For Community Inclusion; Cooperating Professor of the School of Policy and International Affairs; Cooperating Professor of Mechanical Engineering

Derba, Nicholas (2013). BS Manhattan College; Assistant Baseball Coach (part-time)/Lecturer

Desisto, William (2000). BS University of Rhode Island, Kingston 1986; Ph.D. Brown University, Providence, 1989; Professor of Chemical Engineering and the Laboratory for Surface Science and Technology

Diaz, Charlsye J. S. (2006). BA Austin College, Sherman 1991; MA University of Massachusetts, Amherst 1997; Ph.D. Texas Technical University, Lubbock 2004; Associate Professor of English and Coordinator of Professional Writing

Dickens, Phillip M. (2004). BA St. Andrews Presbyterian College, Laurinburg 1977; MS University of Virginia, Charlottesville 1986; Ph.D. University of Virginia, Charlottesville 1993; Associate Professor of Computer Science

Dieffenbacher-Krall, Ann (2000). ABA Colgate University, Hamilton 1985; AAS Southern Maine Technical College, South Portland 1991; BS University of Maine, Orono 1992; MS University of Maine, Orono 1994; Ph.D. University of Maine, Orono 1998; Assistant Director in the School of Biology and Ecology; Assistant Research Professor in Climate Change Institute; Cooperating Assistant Research Professor of Biology

Dill, James F. (1981). BS University of Maine, Orono 1972; MS University of Maine, Orono 1974; Ph.D. Purdue University, West Lafayette 1979; Pest Management Specialist; Cooperating Professor of Biological Sciences

Dimmel, Justin K. (2015). BA Hartwick College, Oneonta 2002; MS University of Michigan, Ann Arbor 2013; Assistant Professor of Mathematics Education and Instructional Technology

Dippre, Ryan J. (2015). BA Wilkes University, Wilkes-Barre 2006; MS Wilkes University, Wilkes-Barre 2010; MA University of California, Santa Barbara 2013; Assistant Professor of English

Douglas, Marcia J. (1999). BA Colorado State University, Fort Collins 1969; MA University of Washington, Seattle 1971; MFA Southern Methodist University, Dallas 1979; Associate Professor of Theatre

Drewniany, Paula F. (2001). AB Smith College, Northampton 1979; MALS Dartmouth College, Hanover 1988; Lecturer of Mathematics

Drummond, Francis A. (1988). BS University of Rhode Island, Kingston 1976; MS Michigan State University, East Lansing 1982; Ph.D. University of Rhode Island, Kingston 1986; Professor of Insect Ecology/Entomology; Integrated Pest Management Coordinator

Dryer, Dylan B. (2008). BA Rhodes College, Memphis 1994; MA Saint Louis University, Saint Louis 1999; Ph.D. University of Wisconsin, Milwaukee 2007; Associate Professor of English

Dudish, Frank. (2008). BS Rensselaer Polytechnic Institute, Troy 1987; MS State University of New York, Stony Brook 1991; Lecturer in Physics

Dunn, Philip A. (2004). BS University of Maine, Orono 1981; ME University of Maine, Orono 1984; MSB Husson College, Bangor 1992; MPA University of Maine, Orono 1995; Associate Professor of Construction Management Technology; Coordinator of Construction Management Technology

Dunning, Scott C. (1991). BSEE University of Maine, Orono 1988; MSEE University of Maine, Orono 1999; Ph.D. University of Maine, Orono 1999; Director of the School of Engineering Technology; Professor of Electrical Engineering Technology

Dvorak, S. David (1988). BS University of Illinois, Urbana 1981; MS University of Illinois, Urbana 1982; Ph.D. University of Maine, Orono 1998; Professor of Mechanical Engineering Technology; Coordinator of Mechanical Engineering Technology

Dwyer, James D. (1981). BA Ricker College, Houlton 1977; MS State University of New York, Oneonta 1980; Crops Specialist; Extension Professor

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Eckelbarger, Kevin J. (1991). BS California State University, Long Beach 1967; MS California State University, Long Beach 1969; Ph.D. Northeastern University, Boston 1974; Professor of Marine Sciences

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Egenhofer, Max J. (1989). DI. Stuttgart University, Germany 1985; Ph.D. University of Maine, Orono 1989; Director, School of Computing and Information Sciences; Professor of Spatial Information Science and Engineering; Cooperating Professor of Computer Sciences and in the Graduate School of Biomedical Sciences

Elias, Merrill F. (1977). BA Allegheny College, Meadville 1960; MS Purdue University, Lafayette 1961; Ph.D. Purdue University, West Lafayette 1963; M.Ph. Boston University, Boston 1996; Professor of Psychology; Cooperating Professor of Epidemiology in Interdisciplinary Studies; Cooperating Professor in the Graduate School of Biomedical Sciences

Ell, Shawn W. (2007). BA Miami University, Miami 1997; Ph.D. University of California, Santa Barbara 2003; Associate Professor of Psychology

Ellis, Brett D. (2015). BS University of Houston, Houston 1997; MS North Carolina State University, Raleigh 2009; Ph.D. Georgia Institute of Technology, Atlanta 2013; Assistant Professor of Mechanical Engineering Technology

Ellis, William G. (2004). BA Bowdoin College, Brunswick 1986; Ph.D. University of Rhode Island, Kingston 1992; Associate Director, School of Marine Sciences; Associate Professor of Oceanography

Emajoe, Liis. (2016). Assistant Women's Soccer Coach, Lecturer

Emanetoglu, Nuri M. (2007). BS Istanbul Technical University, Istanbul 1995; MS Rutgers University, Piscataway 1998; Ph.D. Rutgers University, Piscataway 2003; Associate Professor of Electrical and Computer Engineering

Enderlin, Ellyn M. (2014). BS Lehigh University, Bethlehem 2008; MS Ohio State University, Columbus 2010; Ph.D. Ohio State University, Columbus 2013; Research Assistant Professor in the Climate Change Institute and in the School of Earth and Climate Sciences

Eremita, Deborah (2002). BSN University of Maine, Orono 1986; Lecturer in Nursing

Erhardt, Niclas L. (2008). BS Cornell University, Ithaca 1999; MS Iowa State University, Ames 2001; MS Rutgers University, Piscataway 2005; Ph.D. Rutgers University, Piscataway 2008; Associate Professor of Human Resources

Erich, Mary Susan (1990). BS Bethany College, Bethany 1976; MS Cornell University, Ithaca 1980; Ph.D. Cornell University, Ithaca 1984; Director, School of Food and Agriculture; Professor of Plant, Soil, and Environmental Sciences; Coordinator of the Potato Ecosystem Special Project

Evans, Keith S. (2014). BA California State University; Ph.D. Iowa State University; Assistant Professor of Marine Resource Economics

Evans, Steven R. (1999). BA University of California, San Diego 1988; MA Brown University, Providence 1992; Ph.D. Brown University, Providence 2000; Associate Professor of English and Graduate Coordinator

Fairman, Janet C. (2002). BA University of Chicago, Chicago 1986; MA Rutgers University, New Brunswick 1992; Ph.D. Rutgers University, New Brunswick 1999; Associate Research Professor; Cooperating Associate Professor of Exercise Science and STEM Education

Farlow, Stanley J. (1968). BS Iowa State University, Ames 1959; MS Iowa State University, Ames 1962; Ph.D. Oregon State University, Corvallis 1967; Professor of Mathematics

Fastook, James L. (1977). BS Rensselaer Polytechnic Institute, Troy 1971; MS University of Maine, Orono 1974; Ph.D. University of Maine, Orono 1977; Professor of Computer Science; Cooperating Professor in the Climate Change Institute

Favia, Andrej P. (2015). BA University of Southern Maine, Portland 2007; Ph.D. University of Maine, Orono 2014; Assistant Professor of Physics

Felice, Gene A. (2014). BFA Ohio State University, Columbus 2002; Assistant Professor of New Media and Intermedia

Ferland, Jacques (1985). BA Université du Québec à Montréal, Montréal 1979; MA McGill University, Montréal 1982; Ph.D. McGill University, Montréal 1986; Associate Professor of History; Graduate Coordinator of History

Fernandez, Ivan J. (1983). BA Hartwick College, Oneonta 1975; MS University of Maine, Orono 1978; Ph.D. University of Maine, Orono 1981; Professor of Soil Science and Forest Resources; Cooperating Professor of the Climate Change Institute

Fishwick, Nancy J. (1993). BSN Boston University, Boston 1974; MSN Vanderbilt University, Nashville 1980; Ph.D. Case West University, Cleveland 1993; Director and Associate Professor of Nursing

Fitzgerald, Caragh B. (2007). BA Bowdoin College, Brunswick 1990; MS Bowdoin College, Brunswick 1998; Associate Extension Professor; Associate Extension Educator in Agriculture

Flynn, Christopher W. (2015). BS Westfield State College, Westfield 2007; MS Springfield College 2015; Assistant Track and Field Coach/Lecturer

Forstadt, Leslie A. (2007). BA Smith College, Northampton 1997; Ph.D. University of Iowa, Iowa City 2006; Child and Family Development Specialist; Associate Extension Professor, Extension Educator

Franzosa, Robert D. (1983). BS Massachusetts Institute of Technology, Cambridge 1977; MA University of Wisconsin, Madison 1980; Ph.D. University of Wisconsin, Madison 1984; Professor of Mathematics; Cooperating Professor, School of Computing and Information Science

Fraver, Shawn R. (2013). Assistant Professor of Forest Ecosystem Science (Carbon and Climate Dynamics)

Frederick, Brian G. (1998). BS Juniata College, Huntingdon 1984; MS Cornell University, Ithaca 1987; Ph.D. Cornell University, Ithaca 1991; Associate Professor of Chemistry and the Laboratory for Surface Science and Technology;

Fremouw, Thane Edrik (2004). BA Carlton College, Northfield 1990; Ph.D. University of Utah, Salt Lake City 1999; Associate Professor of Psychology; Cooperating Associate Professor of Graduate School of Biomedical Sciences

Fried, Amy (1997). BA San Francisco State, San Francisco 1984; Ph.D. University of Minnesota, Minneapolis 1991; Chair and Professor of Political Science

Friedlander, Benjamin (1999). BA University of California, Berkeley 1986; MA University of California, Berkeley 1990; Ph.D. State University of New York, Buffalo 1999; Professor of English

Friess, Wilhelm A. (2012). BS Rochester Polytechnic Institute, Troy 1992; MS Rochester Polytechnic Institute, Troy 1994; Ph.D. Rochester Polytechnic Institute, Troy 1997; Director of Brunswick Engineering Program; Associate Professor of Mechanical Engineering

Gabe, Todd M. (1999). BA Furman University, Greenville 1992; MS University of Minnesota, Minneapolis 1994; Ph.D. Ohio State University, Columbus 1999; Professor of Resource Economics and Policy; Undergraduate Coordinator

Gallandt, Eric R. (2000). BS Michigan State University, East Lansing 1986; MS Montana State University, Bozeman 1988; Ph.D. University of Wisconsin, Madison 1994; Professor of Weed Ecology and Management

Gardella, Cynthia Erdley (1992). BA Gettysburg College, Gettysburg 1986; MA University of Illinois, Urbana 1988; Ph.D. University of Illinois, Urbana 1992; Chair of Institutional Review Board; Professor of Psychology; Chair of the Institutional Review Board for the Protection of Human Subjects

Gårder, Per Erik (1992). M.Sc.E. Lund Institute of Technology, Sweden 1975; Ph.D. Lund Institute of Technology, Sweden 1982; Professor of Civil Engineering; Cooperating Professor, School of Policy and International Affairs

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Gardner, Douglas J. (1998). BS University of Maine, Orono 1980; CERT, University of Maine, Orono 1981; Ph.D. Mississippi State University, Starkville 1985; Professor of Forest Operations, Bioproducts and Bioenergy; Cooperating Research Professor in the Lobster Institute, Member of the Advanced Structures and Composites Management Team; Program Leader, Forest Operations, Bioproducts, and Bioenergy

Gardner, Susan K. (2010). BA Hamline University, St. Paul 1996; Ed.M. University of Wisconsin, La Crosse 2001; Ph.D. Washington State University, Pullman 2005; Professor of Higher Education

Gauthier, Keith (2013). Assistant Professor of Military Science

Gendron, Dennis. (2013). MA University of Maine, 1993; Head Men's Ice Hockey Coach/Lecturer in Physical Education

Gerbi, Christopher C. (2007). BA Amherst College, Amherst 1996; MS University of California, Oakland 1999; Ph.D. University of Maine, Orono 2005; Associate Professor of Earth Science

Gill, Jacquelyn L. (2013) Ph.D. University of Wisconsin, 2012; MS University of Wisconsin, 2008; BA College of the Atlantic, 2005; Assistant Professor of Terrestrial Paleoecology and Plant Ecology

Gillon, Kathleen E. (2016) Lecturer of Higher Education

Gilson, Stephen F. (2000). BA California State University, Long Beach 1973; MSW University of Denver, Denver 1980; Ph.D. University of Nebraska, Omaha 1991; Professor in Social Work; Coordinator and Professor of Interdisciplinary Disability Studies

Giudice, Nicholas A. (2008). BA Providence College, Providence 1997; Ph.D. University of Minnesota, Twin Cities 2004; Associate Professor in Spatial Information Science and Engineering/NCGIA; Cooperating Assistant Professor of Psychology

Glover, Robert (2011). BA University of Massachusetts, Dartmouth 2003; MA University of Connecticut Storrs 2006; Ph.D. University of Connecticut, Storrs 2010 Assistant Professor of Political Science and Honors

Godfried, Nathan (1996). BA University of Wisconsin, Madison 1973; MA University of Wisconsin, Madison 1975; Ph.D. University of Wisconsin, Madison 1980; Professor of History; Adelaide C. and Alan L. Bird Professor in History

Golet, Walter J. (2015). Research Scientist; Assistant Research Professor in the School of Marine Sciences

Gosse, Julie A. (2008). BS University of Massachusetts, Amherst 1999; MS Cornell University, Ithaca 2002; Ph.D. Cornell University, Ithaca 2005; Associate Professor of Biochemistry

Goupee, Andrew Joseph (2010). BS University of Maine, Orono 2003; MS University of Maine, Orono 2006; Assistant Professor of Mechanical Engineering

Graham, Christian M. (2008). BS Husson College, Bangor 2001; MS Southern New Hampshire University, Manchester 2004; Assistant Professor of Management Information Systems

Gramlich, William M. (2013). Ph.D. University of Minnesota, 2012; BS University of Maine, 2006; Assistant Professor of Chemistry; Cooperating Assistant Professor in the Advanced Structures and Composites Center

Gray, Antone (2015). BA Rhode Island College, Providence 2014; Assistant Men's Basketball Coach/Lecturer

Gray Jr., Howard M. (1981). BS University of Maine, Orono 1973; MS University of Maine, Orono 1975; Professor of Civil Engineering Technology; Cooperating Associate Professor of Civil Engineering

Greig, Hamish (2013). Ph.D. University of Canterbury, 2008; BS University of Canterbury, 2003; Assistant Professor of Stream Ecology

Grew, Edward S. (1999). BA Dartmouth College, Hanover 1965; Ph.D. Harvard University, Cambridge 1971; Research Professor of Geological Sciences

Grillo, Michael H. (1992). BFA University of Massachusetts, Amherst 1975; MFA Pratt Institute, Brooklyn 1977; MA Cornell University, Ithaca 1982; Ph.D. Cornell University, Ithaca 1991; Chair of Art Department, Associate Professor of History of Art

Grindrod, Christopher M. (2015). BA University of Western Ontario, London 1996; MA McGill University, Montreal 1999; Ph.D. McGill University, Montreal 2004; Assistant Professor of Speech-Language Pathology

Groce, Susan H. (1979). BFA University of Arizona, Tucson 1976; MFA University of Michigan, Ann Arbor 1979; Professor of Art

Groden, Eleanor (1988). BS University of Massachusetts, Amherst 1975; MS Michigan State University, East Lansing 1983; Ph.D. Michigan State University, East Lansing 1988; Associate Director, School of Biology and Ecology; Professor of Entomology

Grosswiler, Paul R. (1991). BA Antioch College, Yellow Springs 1974; MA University of Missouri, Columbia 1976; Ph.D. University of Missouri, Columbia 1990; Professor of Communication and Journalism

Gruselle, Marie-Cecile (2015). AD University of Quebec 2001; Ph.D. Albert-Ludwigs University, Freiburg, Germany 2009; Assistant Research Professor

Guite, Benjamin P. (2013). MBA University of Maine, Orono, 2009; BA University of Maine, Orono, 2000; Assistant Head Men's Ice Hockey Coach and Lecturer in Physical Education

Gundersen, Robert E. (1992). BS University of Lowell, Lowell 1979; Ph.D. University of Texas, Austin 1983; Chair of Molecular and Biomedical Sciences; Associate Professor of Biochemistry, Microbiology and Molecular Biology; Cooperating Associate Professor of Graduate School of Biomedical Sciences

Gupta, Pushpa L. (1976). BA Panjab University, Chandigarh 1959; MA Panjab University, Chandigarh 1962; MS University of Illinois, Urbana 1966; Ph.D. Wayne State University, Detroit 1970; Professor of Mathematics

Gupta, Ramesh C. (1972). BA Panjab University, Chandigarh 1955; MA University of Delhi, Delhi 1958; MS University of Illinois, Urbana 1966; Ph.D. Wayne State University, Detroit 1970; Professor of Mathematics

Haggerty, Mark E. (2007). BA Rutgers College, New Brunswick 1979; MA Leigh University, Bethlehem 1982; Ph.D. Washington State University, Pullman 1988; Associate Professor of Honors; Rezendes Preceptor for Civic Engagement

Hahmann, Torsten (2013). Ph.D. University of Toronto, 2013; MS University of Toronto, 2008; BS University of Potsdam, 2008; Assistant Professor of Computing and Information Science/NCGIA

Haight, Emily A. P. (2013). Ph.D. Kent State University, 2009; MA Kent State University, 2006; BA McGill University, 2001; Assistant Professor of Psychology

Hakkola, Leah N. (2015). BA St. Olaf College, Northfield 2005; MA University of Minnesota, Minneapolis 2009; Lecturer in Higher Education

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