CATALOG
2013-2014
General Information

<table>
<thead>
<tr>
<th>Service</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main number connecting all departments</td>
<td>978-837-5000</td>
</tr>
<tr>
<td>Admission</td>
<td>978-837-5100</td>
</tr>
<tr>
<td>Bookstore</td>
<td>978-837-5431</td>
</tr>
<tr>
<td>Academic Enrichment Services</td>
<td>978-837-5278</td>
</tr>
<tr>
<td>Continuing Studies Office</td>
<td>978-837-5101</td>
</tr>
<tr>
<td>Financial Aid</td>
<td>978-837-5186</td>
</tr>
<tr>
<td>McQuade Library</td>
<td>978-837-5215</td>
</tr>
</tbody>
</table>

Web site address: www.merrimack.edu

Office Hours. Most administrative offices are open Monday through Friday, from 8:30 a.m. to 4:30 p.m. During the summer, administrative offices are closed on Fridays.

Campus Visits. Prospective students are encouraged to visit Merrimack College at their convenience, preferably while school is in session, in order to get a realistic impression of the campus. Student-guided tours are available, and should be scheduled by calling the Office of Admission at (978) 837-5100.

Non-Discrimination. Merrimack College is firmly committed to the practice of equal opportunity. Every student is entitled to an environment free of discrimination, which erodes dignity and morale. The College prohibits discrimination of any kind. Discrimination constitutes a serious infraction of College policy as well as a violation of state and federal law. Any member of the Merrimack College community who discriminates against, excludes, degrades or otherwise devalues another on the basis of race, color, religion, national origin, ancestry, sex, sexual orientation, age, mental or physical disability, or other lawfully protected categories will be disciplined accordingly, up to and including dismissal.

It is the policy of Merrimack College to administer all decisions without regard to race, color, religion, national origin, ancestry, gender, sexual orientation, age, mental or physical disability, or other lawfully protected categories.

Provisions of this catalog are not to be regarded as an irrevocable contract between the student and the college. The college reserves the right to change any provision or requirement at any time within the student’s term of residence.

Educational Records. In accordance with the Family Educational Privacy Act (FERPA) of 1974, Merrimack College has adopted detailed policies concerning release of information in academic records. Students will be permitted to inspect their records upon written request to the Registrar. All students may also examine the college policies on the inspection and release of student records by contacting the Registrar.

In general, the college will not release information from students’ records to agencies outside the college without the prior written consent or request of the student. However, the college may release the following directory information, without the prior consent of the student:
- name, address, telephone number, email address, film, video and electronic images
- date and place of birth
- fields of study, academic level and enrollment status
- participation in officially recognized activities and sports, weight and height
of members of athletic teams
  • dates of attendance
  • degrees, honors and awards received
  • the most recent previous educational agency or institution attended by the student
  • other similar information

Those students who do not desire the release of directory information should notify the Registrar in writing. For more information on FERPA, please contact the Office of the Registrar.

Within the Merrimack College community, access to student educational records without prior consent of the student is limited to those faculty, administrators and staff who, individually or collectively, are acting in the student’s educational interest, within the limitations of their need to know, as stipulated in the policy. Student authorization is required to permit any further access to records.

Student Status. Merrimack College will consider all students to be dependents of their parents unless both the Office of the Registrar and the Office of Student Life are notified to the contrary within 30 days after registration. This notification should include evidence that the student is in fact financially independent. A certified copy of the parents’ most recent income tax return, other public records, accounting records, etc., are acceptable for this purpose.
## CONTENTS

The College and its Mission........................................ 6
Academic Calendar.................................................. 11

### Academic Requirements and Policies
Requirements for the Bachelors Degree................. 13
Academic Programs.................................................. 14
General Education Requirements......................... 17
Optional Academic Programs and Activities.......... 21
Course Policies.................................................... 23
Grade Policies...................................................... 27
Academic Status and Progress.............................. 28
Leave of Absence/Withdrawal from the College........ 29
Academic Honors and Graduation......................... 33

### The Schools of Merrimack College
The School of Liberal Arts................................. 35
The School of Science & Engineering.................. 37
The Francis E. Girard School of Business & International Commerce 38
The School of Education........................................ 39
The Office of Graduate and Professional Studies..... 40

Academic Programs.................................................. 42
Overview of Majors, Minors, and Concentrations...... 42
Merrimack College Honors Program....................... 46
Accounting......................................................... 47
Biology............................................................... 49
Business Administration..................................... 56
Chemistry and Biochemistry............................... 60
Civil and Mechanical Engineering..................... 66
Communication Arts & Sciences......................... 77
Computer Science................................................ 88
  Computer Science............................................. 90
  Information Technology.................................. 90
Criminology....................................................... 95
Economics......................................................... 99
Education.......................................................... 103
Electrical Engineering........................................ 112
English............................................................. 120
  Creative Writing............................................. 121
    Literary Studies......................................... 121
Environmental Studies & Sustainability............... 130
Finance 133
Health Sciences 136
   Athletic Training 138
   Health Science 143
   Sports Medicine 146
History 154
Human Development 160
Humanities 163
International Business 163
Law, Ethics and Society 168
Management 170
Marketing 173
Mathematics 177
Philosophy 182
Physics 190
Political Science 194
Psychology 204
Religious & Theological Studies 210
Self-Designed Major 221
Self-Designed Minor 222
Sociology 224
Sport Management 230
STEM (Science, Technology, Engineering and Mathematics) 231
Education 231
Visual and Performing Arts 233
   Art & Art History 235
   Digital Design 235
   Theater Arts 235
   Visual Storytelling 247
Women's and Gender Studies 248
World Languages and Cultures 256
   French 258
   Italian and Italian Studies 259
   Romance Languages 259
   Spanish 259

Resources and Services 268
Academic Enrichment 269
Division of Mission and Student Affairs 271
Community Support 278

Admissions and Financial Aid 281

Fees and Expenses 293
Directories

   The Faculty 297
   Professors Emeriti 303

Index 305
The College and its Mission

Academic Calendar

Academic Requirements and Policies
Requirements for the Bachelors Degree
Academic Programs
General Education Requirements
Optional Academic Programs and Activities
Course Policies
Grade Policies
Academic Status and Progress
Leave of Absence/Withdrawal from the College
Academic Honors and Graduation

The Schools of Merrimack College
The School of Liberal Arts
The School of Science & Engineering
The Francis E. Girard School of Business & International Commerce
The School of Education
The Office of Graduate and Professional Studies

Academic Programs
Overview of Majors, Minors, and Concentrations
Merrimack College Honors Program
Accounting
Biology
Business Administration
Chemistry and Biochemistry
Civil and Mechanical Engineering
Communication Arts & Sciences
Computer Science
  Computer Science
  Information Technology
Criminology
Economics
Education
Electrical Engineering
English
  Creative Writing
  Literary Studies
Environmental Studies & Sustainability
Finance
Health Sciences
  Athletic Training
  Health Science
  Sports Medicine
History
Human Development
Humanities
International Business
Law, Ethics and Society
Management
Marketing
Mathematics
Philosophy
Physics
Political Science
Psychology
Religious & Theological Studies
Self-Designed Major
Self-Designed Minor
Sociology
Sport Management
STEM (Science, Technology, Engineering and Mathematics) Education
Visual and Performing Arts
Art & Art History
Digital Design
Visual Storytelling
Women's and Gender Studies
World Languages and Cultures
French
Italian and Italian Studies
Romance Languages
Spanish

Resources and Services
Academic Enrichment
Division of Mission and Student Affairs
Community Support

Admissions and Financial Aid

Fees and Expenses

Directories
The Faculty
Professors Emeriti

Index
The College and Its Mission

History

Located in the Massachusetts towns of Andover and North Andover, 25 miles north of Boston and a mile south of the city of Lawrence, Merrimack College enjoys the advantages of the Merrimack River Valley's extraordinary cultural heritage. The area possesses a rich literary past, including such figures as the 17th century poetess Anne Bradstreet, who lived and wrote in what is now North Andover Center, and Robert Frost, who studied at Lawrence High School and celebrated the birches and stone walls that characterize this corner of Massachusetts. Established by the Order of St. Augustine in 1947 and since then an integral part of greater Boston's unparalleled complex of institutions of higher education, Merrimack College serves the Merrimack Valley as a major educational and cultural center, providing the regional community with a wealth of formal academic programs as well as myriad performing arts programs.

Located on a hill rising above the Merrimack River Valley, the 220-acre campus is the site of the Collegiate Church of Christ the Teacher; St. Ambrose Friary; Austin Hall, the central administration building; and academic, support service, and residential buildings. Prominent among the academic buildings is the Gregor Johann Mendel, O.S.A. Center for Science, Engineering, and Technology, which provides state-of-the-art teaching and research laboratories, seminar rooms, classrooms, an observatory and a greenhouse. The other academic buildings are Sullivan and Cushing Halls, dedicated primarily to the humanities and social sciences, and O'Reilly Hall, home of the Francis E. Girard School of Business and International Commerce. Buildings which house various support services include the McQuade Library, the Gladys Sakowich Campus Center, the S. Peter Volpe Athletic Center, and the Louis H. Hamel Infirmary. The residential buildings include Deegan Hall, Ash Center, O'Brien Hall, and Monican Center, 14 town houses, and two apartment complexes.

Students come to the college from across the United States and around the world, though the majority are from New England, New York, New Jersey, and Pennsylvania. They are intellectually curious, open and responsive as persons, and have high academic, career, and personal aspirations.

Mission and Vision

(Approved by the Board of Trustees, December 5, 2008)

Our mission is to enlighten minds, engage hearts, and empower lives.

Inspired by the Catholic faith and the Augustinian tradition of seeking truth through inquiry and dialogue, our vision is to

• Prepare students to adapt creatively to tomorrow’s realities through excellence in the liberal arts, sciences, and the professions;
• Build a community of scholars welcoming and respecting a diversity of backgrounds, experiences, beliefs, and perspectives;
• Cultivate the intellectual, moral, spiritual, physical, and personal awareness needed to make wise choices for life, career, and service;
• Encourage and support scholarly work that contributes to the wisdom on which society bases its decisions;
• Engage other educational institutions, industry, and agencies of social change in collaborative efforts fostering a just, peaceful, and sustainable world.

Merrimack College: Catholic and Augustinian

Foundation of Merrimack College

Merrimack College was founded by Archbishop Richard Cushing of Boston to respond to the expanded educational needs of the Catholic Community in the northern part of the Archdiocese of Boston following the Second World War. The establishment and development of the College was entrusted by the Archbishop to The Augustinian Friars of the Province of St. Thomas of Villanova.

Hallmarks of Catholic Higher Education

As a Catholic Institution of Higher Education, Merrimack College is part of a centuries old tradition of learning distinguished by its free search for the whole truth about nature, humanity, and God. Catholic Higher Education is dedicated to a search for knowledge that is illuminated by faith so that, in turn, the discovery of knowledge will clarify and deepen faith. Consequently, an institution of higher learning in the Catholic tradition is a place for a dynamic dialogue between knowledge that we receive through revelation and knowledge discovered by scientific inquiry.

While respecting the freedom of each academic discipline to pursue knowledge according to their own methods, the Catholic Tradition consistently brings the following principles into the dialogic search for truth:

• A profound respect for life and the dignity of all human persons as the image and likeness of God;
• An awareness of the sacredness of all of creation;
• An understanding that human freedom in its fullness is the capacity to make choices for the sake of love;
• An understanding that the ultimate end of all human striving, including intellectual inquiry and discovery, is a sense of awe and the desire to worship transcendent mystery;
• A belief in the primacy of the common good;
• An awareness that the establishment of justice begins and ends with the well-being of the weakest and most vulnerable of society.

Augustine, the Augustinians, and the Augustinian Tradition

The life and work of St. Augustine of Hippo (354 – 430 CE) is the primary inspiration for the mission of Merrimack College. In his youth, Augustine found the Christian faith of his mother, Monica, to be childish and unworthy of his superior intelligence. Through a series of unsatisfying but transformative experiences, Augustine discovered that his own happiness could be found only in allowing himself to be embraced by the love and grace of God. Augustine then
abandoned his personal ambitions for social prominence and sought instead a life of philosophical asceticism in which he could engage in the quest for truth in community and conversation with others equally committed to this quest. However, his hopes for a life of intellectual contemplation were ended when he was called to be ordained a priest and then a Bishop of the Church of Hippo. In addition to a demanding pastoral life, Augustine engaged in prodigious intellectual activity involving debates over theological controversies, writing to answer specific questions of believers, preaching, and several works of theology. His writings form a significant portion of the foundations of Western Christianity. However, Augustine is most famous for his autobiographical work, *The Confessions*, in which he shares the story of his restlessness and his intellectual, moral, and spiritual conversion.

The Order of St. Augustine, or the Augustinians, is a religious community founded during the 13th century to respond to the changing pastoral needs of Europe as cities and commerce emerged out of the agrarian society of the middle ages. Formed from individual groups of hermits following the Rule of Life written by St. Augustine for convents and monasteries, the Augustinians, along with the Franciscans, Dominicans, and Carmelites, were called to respond to the changing needs of European society as it emerged from the dark ages and moved toward the Renaissance. Members of these orders were instrumental in the formation of the great universities of Europe.

One Augustinian Friar, Giles of Rome, a student and later a professor at University of Paris, articulated the distinctiveness of the Augustinian intellectual tradition that learning is neither ultimately speculative nor practical, but affective, and therefore directed by and toward love. Following Augustine, Giles understood that wisdom is knowledge or intellect transformed by love and directed to the final good by good choices. Augustinian Higher Education, therefore, engages the heart, that is human desire, human longing, and human emotion, along with the mind, in the search for truth. The end of this search for truth through an enlightened mind and engaged heart are lives empowered for love and the work of justice.

**Augustinian Values at Merrimack College**

In 2002, Merrimack College articulated the following values as the way in which it seeks to embody the Augustinian tradition and heritage:

- Before all else our college is a community of scholarship and service whose members support and challenge each other in a whole-hearted pursuit of knowledge, holding one another to the highest intellectual and ethical standards.
- Knowledge grows into wisdom when we recognize the limits of reason and of our individual perspectives, attend to the common good, and fashion the changes inspired by learning.
- The pursuit of excellence in teaching and learning requires diligent study, freedom of thought, dedication to dialogue, and collegial respect for each person’s experience.
- The contemplation and reflection encouraged by the intellectual life inspire an ethical sensibility as well as a prophetic critique of social structures in light of justice and peace.
- The great texts of human history, including sacred scriptures, call us to continuing dialogue as our varied religious and philosophical convictions enrich our Catholic mission.
- Our lifelong pursuit of truth and understanding can be for Christians an expression of the inner pilgrimage with Christ the Teacher, for adherents of all faiths part of the...
search for God, and for everyone a journey of hope amidst the ever-expanding horizons of human experience.
Accreditations and Memberships

Merrimack College is accredited by the New England Association of Schools and Colleges, Inc., through its Commission on Institutions of Higher Education. Inquiries regarding the accreditation status by the New England Association should be directed to the administrative staff of the institution. Individuals may also contact:

Commission on Institutions of Higher Education
New England Association of Schools and Colleges
209 Burlington Road, Suite 201, Bedford, MA 01730-1433
(781) 271-0022  E-mail: cihe@neasc.org

The Athletic Training Program is accredited by the Commission on Accreditation of Athletic Training Education.

The Chemistry Department offers a degree certified by the American Chemical Society.

Merrimack’s Civil and the Electrical Engineering programs are accredited by the Engineering Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: (410) 347-7700.

The teacher licensure programs are approved by the Massachusetts Department of Elementary and Secondary Education (DESE) pursuant to the Interstate Agreement of the National Association of State Directors of Teacher Education and Certification.

MEMBERSHIPS

The various offices, programs, and departments of Merrimack College, as well as individual faculty, staff, and administrators of the College belong to a wide variety of professional organizations. In addition, the College is a member of the following national and regional organizations.

Association of Catholic Colleges and Universities
National Association of Independent Colleges and Universities
Association of Independent Colleges and Universities in Massachusetts
Northeast Consortium of Colleges and Universities in Massachusetts

National Collegiate Athletic Association
Eastern Collegiate Athletic Conference
Northeast-10 Conference
Hockey East
# MERRIMACK COLLEGE
## 2013-2014 ACADEMIC/ADMINISTRATIVE CALENDAR

### FALL 2013

#### August
- 30-31 (Fri-Sat) **NEW STUDENT ORIENTATION**
- 1-2 (Sun-Mon) **NEW STUDENT ORIENTATION** continues
- 2 (Monday) Upperclass move-in – meal plan begins at lunch
- 3 (Tuesday) **CLASSES BEGIN**
  - New Student Orientation opens
  - Opening of the Academic Year
  - All undergraduate classes will be cancelled from 2:30 PM to 6:00 PM
  - All other classes will be held
- 9 (Monday) Last day for adding and dropping courses
- 10 (Tuesday) Last day for meal plan change
- 12 (Thursday) Spring 2014 master class schedules, with any revisions, due from departments to deans
- 13 (Friday) Last day for conversion of summer “N” grades

#### September
- 9 (Monday) Last day for adding and dropping courses
- 10 (Tuesday) Last day for meal plan change
- 12 (Thursday) Spring 2014 master class schedules, with any revisions, due from departments to deans
- 13 (Friday) Last day for conversion of summer “N” grades

#### October
- 10 (Thursday) Spring 2014 master class schedule due back in deans offices for accuracy check
- 14 (Monday) **COLUMBUS DAY (college closed, no classes)**
- 15 (Tuesday) **Classes meet on a Monday schedule**
- 18 (Friday) Mid-term grades are due by 5 pm
- 22 (Tuesday) Mid-term grades are due by 5 pm
- 25 (Friday) Final Spring 2014 master class schedule due back to deans for final review
- 28 (Monday) Final Spring 2014 master class schedule due back from deans to registrar by 9:00 AM for printing

#### November
- 30-31 (Wed-Thurs) Senior advisement for registration for Spring 2014 semester
- 4-5 (Mon-Tues) Senior registration for Spring 2014 semester
- 6-8 (Wed-Fri) Junior advisement for registration for Spring 2014 semester
- 8 (Friday) Last day to withdraw with a “W”
- 11-12 (Mon-Tues) Junior registration for Spring 2014 semester
- 13-15 (Wed-Fri) Sophomore advisement for registration for Spring 2014 semester
- 18-19 (Mon-Tues) Sophomore registration for Spring 2014 semester
- 20-22 (Wed-Fri) Freshman advisement for registration for Spring 2014 semester
- 25-26 (Mon-Tues) Freshman registration for Spring 2014 semester
- 26 (Tuesday) Residence halls close at 7 pm

#### December
- 1 (Sunday) Residence halls open at 10 am – meal plan begins at dinner
- 2 (Monday) College reopens; classes resume
- 6 (Friday) Last day of classes
- 7-8 (Sat-Sun) Reading days
- 9 (Monday) Final examinations begin
- 13 (Friday) Final examinations end
- 14 (Saturday) Reserved final examination day (in case of inclement weather emergencies)
- 17 (Tuesday) Final grades are due by 5 pm
- 21-Jan 5 **CHRISTMAS RECESS (college closed)**
MERRIMACK COLLEGE
2013-2014 ACADEMIC/ADMINISTRATIVE CALENDAR

SPRING 2014

January
6 (Monday) College reopens
20 (Monday) MARTIN LUTHER KING DAY (college closed, no day school classes, winter session classes will meet)
   Residence halls open at 10 am – meal plan begins at lunch
   Registration and Orientation for new students
21 (Tuesday) CLASSES BEGIN
24 (Friday) Last day for conversion of "N" grades for Fall 2013 semester
27 (Monday) Last day for adding and dropping courses
28 (Tuesday) Last day for meal plan change

February
6 (Thursday) Fall 2014 master class schedules, with any revisions, due from departments to deans
10 (Monday) Catalog entries dispersed by registrar for updating 2014-2015 catalog
17 (Monday) PRESIDENTS' DAY (college closed, no classes)
18 (Tuesday) Classes will meet on a Monday schedule
20 (Thursday) Fall 2014 master class schedule, with any revisions, due from deans to registrar for data entry and room assignment

March
6 (Thursday) Fall 2014 master class schedule due back in deans' offices for accuracy check
7 (Friday) Mid-term
11 (Tuesday) Mid-term grades are due
12 (Wednesday) Classes will meet on a Monday schedule
14 (Friday) SPRING RECESS begins at 5 pm (17th-21st, no classes)
   Residence halls close at 7 pm
21 (Friday) Final Fall 2014 master class schedule due back to deans for final review
23 (Sunday) Residence halls open at 10 am – Meal plan begins at dinner
24 (Monday) Final Fall 2014 master class schedule to back from deans to registrar by 9:00 A.M. for printing
   Classes resume
26-28 (Wed-Fri) Junior advisement for Fall 2014 semester
31 (Monday) Junior registration for Fall 2014 semester

April
1 (Tuesday) Junior registration for Fall 2014 semester
4 (Friday) Last day to withdraw with a "W"
   Last day to convert to Pass/Fail
   Updates entries for 2014-2015 catalog due to registrar
2-4 (Wed-Fri) Sophomore advisement for registration for Fall 2014 semester
7-8 (Mon-Tues) Sophomore registration for Fall 2014 semester
9-11 (Wed-Fri) Freshman advisement for registration for Fall 2014 semester
14-15 (Mon-Tues) Freshman registration for Fall 2014 semester
16 (Wednesday) Residence halls close at 7 pm
17-20 (Thurs-Sun) EASTER RECESS (College closed, no classes)
21 (Monday) College closed, no classes
   Residence halls open at 10 am – Meal plan begins at dinner
22 (Tuesday) Classes resume

May
2 (Friday) Last day of classes
3-4 (Sat-Sun) Reading days
5 (Monday) Final examinations begin
9 (Friday) Final examinations end

12 (Monday) All senior grades due by noon
15 (Thursday) All other grades due by noon
18 (Sunday) COMMENCEMENT
Merrimack College prepares students to thrive as productive, responsible citizens in the increasingly complex, competitive, and diverse world of the 21st century. Across the four schools of the College – Liberal Arts, Science and Engineering, Education, and the Girard School of Business and International Commerce – the curriculum provides the knowledge and skills that a well-educated person requires to succeed personally and professionally in an ever-changing and challenging global environment. Merrimack College graduates are prepared both for productive careers and for global citizenship. Students learn to take responsibility for themselves, for others, and for the world. Whether they major in Business or History, Chemistry or Psychology, Engineering or English, all students gain a common educational foundation by completing a general education program in which they explore essential knowledge about the world through the varied lenses of the Humanities, the Sciences, and the Social Sciences: Science students read literature; Business students learn about gender and culture; and English and History majors study the scientific method.

As they progress through their College-wide general education program, students take courses designed to develop their ability to communicate effectively, think critically, understand and respect cultural differences, exercise ethical responsibility, reflect on their experiences, and take charge of their own intellectual, creative, personal, and spiritual growth. Individual development and learning are enhanced by small classes, close interaction with faculty, and active learning both inside and outside the classroom.

Requirements for the Bachelor’s Degree

All candidates for the bachelor’s degree must satisfy numerical and residence requirements, general education requirements, and the requirements of a major program. Each of these is described below. The courses remaining in a student’s program after completion of their general education and major requirements may be used to complete an additional major or majors, a minor or minors, or for free or open electives.

The College implemented a new general education program, the Core Curriculum in Liberal Studies, starting in the Fall semester 2012, for all students who matriculate at Merrimack in Fall 2012 or after. The former curriculum, based on a set of Institutional and Distribution requirements, remains in effect for all students who were matriculated at the College prior to Fall 2012. Both curricula are described below.

Student Responsibility for Degree Requirements. Undergraduate students at Merrimack College must complete all requirements for the bachelor’s degree as set forth by the College, their School, and academic departments or programs. While students are supported by their academic advisors, students are personally responsible for knowing all academic policies, regulations, and requirements affecting their programs of study and for abiding by all such policies, regulations, and requirements during their period of enrollment at the College. Continued enrollment is subject to compliance with the policies, regulations, and requirements as described herein and as otherwise published by the College. Failure to understand the
policies, regulations, and requirements does not relieve a student of his or her responsibility for adhering to the policies and regulations and completing the requirements.

**Numerical and Residence Requirements**

Along with curricular requirements, all students must satisfy the following numerical and residence requirements.

**Numerical Requirements.** Beginning with the class of 2012, students in all bachelor’s degree programs must complete a minimum of 124 credits, with a final overall grade point average (GPA) of 2.00 or better. (See the definitions and explanations of letter grades, grade points, and grade point averages provided in the section on Course Policies below.) Students must also achieve a final grade point average of 2.00 or better in their major as defined by their major discipline (see individual program listings). No approximation or rounding in the calculation of the grade point average is permitted.

**Residence Requirements.** To receive the bachelor’s degree from Merrimack College a student must fulfill the following residence requirements:

A. At least forty-eight credits must be taken at Merrimack College;
B. At least half of the major credit requirements must be taken at Merrimack College;
C. At least twenty-four of the last thirty-two credits must be taken at Merrimack College; and
D. All credits in the final semester must be taken at Merrimack College.

**Academic Programs**

Through the School of Liberal Arts, the School of Science and Engineering, the Francis E. Girard School of Business and International Commerce, the School of Education, and through interdisciplinary programs that involve multiple schools, Merrimack College offers degree programs leading to the Bachelor of Arts and Bachelor of Science, the Bachelor of Science in Business Administration, the Master of Education and the Master of Science in Engineering and in Management. For a complete listing of degree programs, see below in the section describing each academic program.

In the School of Science and Engineering and the Girard School of Business, students may pursue degrees in the traditional four-year curriculum, or in a five-year Cooperative Education program. In addition, students in all of the Schools may be in the College’s Honors Program. All students may pursue majors and minors in more than one School. It is also possible for students to design their own major programs. The details for designing a major can be found in the listing for Self-Designed Major in the section describing the individual academic programs.

While completing major programs and general education requirements, many students can complete additional academic programs tailored to their individual interests, including minor programs, an additional or double major, or a second degree.

**Major.** A major, or primary specialization, is required of all candidates for the bachelor’s degree. A major is a specialized program of study, constituted by a focused set of courses, most of which typically are drawn from one discipline, the major discipline, but some of which may be drawn from closely related, or cognate, disciplines; for example, a major in Physics requires not only Physics courses but also cognate courses from Mathematics and Chemistry. The number of major and cognate courses required varies from major to major. (See the descriptions of the program requirements of the different majors.)
Double Major. Double majors can be obtained in any two majors with the following exceptions: any combination of Athletic Training-Health Science-Biology-Sports Medicine; Biology-Biochemistry; Chemistry-Biochemistry; Computer Science-Information Technology; Romance Languages-Spanish; Romance Languages-French; majors with substantial overlap in requirements. To obtain a double major, a student must satisfy all of the requirements of both majors; earn a GPA of at least 2.00 in both majors; and satisfy all other College graduation requirements. Students must indicate one of the majors as a primary major. Students will receive a single diploma designating the degree associated with the primary major and be listed under the primary major at Commencement. However, both majors will be listed on the transcript. Undergraduate students in the School of Education with a major in Education must select a second major in another discipline as a double major.

Students who wish to have two degrees at Commencement need to meet the requirements for a double degree rather than a double major (see below). Students adding a second major must declare their intention to pursue either a double major program or a double degree program on the form described below in the section on Declaring or Changing Majors or Minors.

Co-Major. A special case of the double major, a co-major must be taken in conjunction with another, primary major. A co-major is not, by itself, sufficient to fulfill the College requirement that degree candidates successfully complete a major to graduate. STEM Education is a co-major; students must also have a major in Education, the primary major. To complete a co-major program, students must satisfy all the requirements of both the co-major and the primary major; earn a GPA of at least a 2.00 in both majors; and satisfy all other College graduation requirements. Students will receive a single diploma designating the degree associated with the primary major and be listed under the primary major at Commencement. However, both the co-major and the primary major will be listed on the transcript.

Second or Double Degree. Students wishing to be granted separate degrees in two fields of study can do so in any two majors with the same exceptions as for a double major. To obtain a double degree, students must complete the equivalent of an additional year of full-time study, that is, no fewer than 155 credits for those graduating in Spring 2013 or after (124 + 31). Additionally, they must satisfy all the requirements of both majors; earn a GPA of at least 2.00 in both majors; and satisfy all other College graduation requirements. Successful students will receive two diplomas, are eligible to obtain honors in both majors, and will be listed under both majors at Commencement. Students adding a second major must declare their intention to pursue either a double major program or a double degree program on the form described below in the section on Declaring or Changing Majors or Minors.

While five years will normally be required for the completion of a double degree program, students who have completed a single degree are eligible to obtain a second degree by satisfying all of the requirements within seven years of graduation.

Minor. A minor is an optional, academically approved and officially recognized secondary specialization. Giving students an opportunity to explore a discipline other than their major in some depth, a minor requires the completion of a focused set of at least 18 credits drawn from that discipline. At least one-half of the credits required for a minor must be upper-level courses, i.e., courses not considered by the offering department to be introductory in nature. (See the descriptions of the program requirements of the different minors.)

Open Electives. Courses remaining in a student’s program after completion of general education, major, cognate, and, in the case of Business Administration majors, core and
concentration requirements, are free or open electives. Such courses are generally required to complete the numerical requirements for graduation.

**Declaring or Changing Majors and Minors.** A form for declaring or changing a major or minor can be obtained at the office of the academic department offering the intended major or minor program. The form is also available at the Office of the Registrar and on the College's intranet portal, MyMack. The form allows students to add or drop major and/or minor programs simultaneously. Students changing majors or minors should go to the department offering the new major or minor. Students who only wish to drop a program and not add a new one should go to the Office of the Registrar. Students adding a second major are required to declare their intention to pursue either a double major or a double degree program of study.

To have accurate and pertinent registration and advising material, students are advised to make major or minor changes or declarations by October 15 in the fall semester, March 15 in the spring semester, and July 15 in the summer.

**Determination of the Degree Requirements in Effect**
All bachelor’s degree programs require a minimum of 124 credits. Students who follow approved academic programs will normally graduate after four academic years (8 semesters) of full-time study. To achieve that goal, those students who enter the College as freshmen in Fall 2008 or later will generally need to complete typical course loads of at least 16 credits per semester, fulfilling all major requirements and degree requirements as described above.

Students who do complete 16 credits each semester over 8 semesters will earn 128 credits. Accordingly, degree programs that require 124 credits allow a small degree of latitude in credits earned per semester. A few programs require more than 128 credits, and students in those programs will need either occasional semesters of more than 16 credits or summer coursework to complete all graduation requirements. The specific requirements of each program are described in their respective sections of this catalog. In addition, Cooperative Education students will normally need five years for the completion of their eight semesters of full-time study. Students pursuing a double degree program will also normally need five years of study.

The specific degree requirements in effect for any particular student depend on his or her “prospective graduation class.” The prospective graduation class is that with which students would graduate if they were to enter the College as freshmen, follow approved programs, and successfully complete the required credits as described above. For example, the prospective graduation class for students entering in Fall 2013 is the class of 2017. This definition of prospective graduation class also applies to students whose programs require more time (Cooperative Education) or more than 128 credits. Cooperative Education students, because they require more time, will normally not graduate with their prospective graduation class, but are expected to satisfy the degree requirements in effect for that class.

Students who do not graduate with their prospective graduation class because of a leave of absence, withdrawal from college, or failure to successfully complete all degree requirements will be reassigned to another, appropriate graduation class. If they are reassigned to the next graduation class (e.g., members of the class of 2017 assigned to the class of 2018) they will normally be expected to satisfy the degree requirements in effect for their original graduation class.
If, however, a break in attendance of more than one year occurs, students (including Cooperative Education students) may be expected to satisfy the degree requirements of the graduation class to which they have been reassigned.

General Education Requirements

As part of all undergraduate programs, all students must complete a set of general education requirements, either the new Core Curriculum in Liberal Studies (for students matriculating in Fall 2012 and after) or the Institutional and Distribution Requirements (for students who were matriculated at the College prior to Fall 2012).

The Core Curriculum in Liberal Studies

All students matriculating at the College in Fall 2012 or after must complete the requirements for the Core Curriculum in Liberal Studies. This new curriculum provides all students, regardless of major, with a solid grounding in the liberal arts. The Liberal Studies Core curriculum establishes foundational knowledge and skills as students transition into college life, encourages exploration into various dimensions of society and culture, and enables students to make connections in their overall understanding of our complicated world. The Liberal Studies Core prepares graduates to live as informed, productive, and responsible citizens in an increasingly complex and diverse environment. While a student’s major provides in-depth knowledge of a specific field of study, the Liberal Studies Core provides all students with the range of knowledge, skills, and perspectives required to succeed professionally and personally in challenging global situations. In keeping with Merrimack’s commitment to its rich Catholic and Augustinian intellectual heritage, the Liberal Studies Core also encourages students to value and practice critical inquiry, social responsibility, and ethical judgment in the academic, social, and personal dimensions of their lives, and to develop the capacity for lifelong learning.

Course Requirements and Area Requirements. The Liberal Studies Core has two types of requirements, Course Requirements that are fulfilled by taking courses specifically for meeting that requirement, and Area Requirements that can be fulfilled by taking courses or by engaging in other approved activities. There are eleven (11) Course Requirements, normally adding up to 44 credits, and five (5) Area Requirements that do not add to the credits required (see below on the effect of transfer courses on the credit requirements). Three of the five Area Requirements are fulfilled by taking courses designated for that Area Requirement; one of the Area Requirements can be fulfilled either by such a course or by completing an appropriate activity; and one is based on participation in Academic Convocation at the beginning of the Fall semester.

The Faculty Senate’s General Education Committee distributes a list of all courses approved for fulfilling each of the requirements of the Liberal Studies Core. The departmental course descriptions in this catalog and the Master Schedule published by the Registrar also indicate which courses fulfill the various requirements. In the list of requirements below, a code letter or letters appears in parentheses. That code is used in the course descriptions later in the catalog and on the Master Schedule.

Meeting Multiple Requirements in a Single Course. Because scholarly disciplines are often inherently interdisciplinary, many of the College’s courses are identified as fulfilling multiple requirements. However, each of the eleven Course Requirements must be fulfilled by a separate course. That is, a single course that is identified as fulfilling two Course Requirements...
can be used by a student to fulfill only one of those two requirements. Courses taken to meet the Course Requirements can be used to meet major or minor requirements.

In contrast, any course that fulfills an Area Requirement can simultaneously be used to meet any other academic requirement, or can be an open elective. That is, Area Requirements can be fulfilled by a course that meets major or minor requirements, open electives, or any of the Liberal Studies Course Requirements. A course designated as fulfilling multiple Area Requirements fulfills them simultaneously. For example, if a student takes a single course designated as fulfilling the Experiential Learning and Writing Intensive requirements (see below), then the student has fulfilled both of those requirements with that course.

**Structure of the Liberal Studies Core Requirements.** The Course and Area Requirements are organized into three categories: Foundations, Explorations, and Connections. Each of these is described in turn.

**Foundations Requirements.** Foundational requirements in critical thinking and ethics, effective writing, and quantitative reasoning teach skills and habits of mind that are essential for academic success. Foundations requirements should normally be completed by the end of the sophomore year.

The Foundations requirements consist of three Course Requirements:
A. FYW1050 Introduction to College Writing (FYW)
B. PHL 1000 Introduction to Philosophy (PHL)
C. Ethics (E)

The Foundations requirements also include one Area Requirement:
D. Quantitative Reasoning (Q)

**Explorations Requirements.** The Explorations Requirements form the core of Merrimack’s commitment to providing a strong education in the liberal arts. Required coursework in this element of the Liberal Studies Core develops students’ breadth of knowledge in multiple disciplines and affords them the opportunity to explore different areas of study as they decide on a major or confirm their commitment to a chosen field of specialization. Explorations requirements can be taken at any time in the student’s program, however, it is strongly recommended that RTS 1100 should be completed by the end of the sophomore year.

The Explorations requirements consist of eight Course Requirements:
A. RTS 1100 Christianity in Context (RTS)
B. Arts and Literature (AL)
C. Foreign Language (FL)
D. Historical Studies (H)
E. Two courses in Social Science disciplines (SOSC)
F. Two courses in Science, Technology, Engineering and Mathematics (STEM)

The Explorations requirements also include one Area Requirement:
G. Cultural Diversity (D)

The eight Course Requirements in Explorations are modified for students majoring in Athletic Training, Civil Engineering, Electrical Engineering, Mechanical Engineering or Sports Medicine. They are:
A. RTS 1100 Christianity in Context (RTS)
B. Two courses in Social Science disciplines (SOSC)
C. Two courses in Science, Technology, Engineering and Mathematics (STEM)
D. Three courses from the following four categories: Arts and Literature (AL); Foreign Language (FL); Historical Studies (H); a Mathematics course.

The Area Requirement in Explorations (Cultural Diversity) remains the same for these students; the Foundations and Connections requirements (see below) are also unchanged.

For all students, regardless of major, the two courses in Social Science are designed for disciplinary breadth, and must be taken from two different social science disciplines (that is, two different academic departments). The two courses in STEM can be used either for breadth, or for depth in a STEM field, and therefore can be from a single discipline or from two different disciplines.

**Connections Requirements.** The Connections Requirements are designed to foster connections: among different components within individual courses; among two or more individual courses; between classroom instruction and learning experiences outside the classroom; between theory and practice; or between the academic community and the world outside the College.

The Connections requirements consist of three Area Requirements:
A. Students must attend Academic Convocation in the Fall of their first year at Merrimack, and complete a related assignment (AC);
B. Students must take a Writing Intensive course (W);
C. Students must complete an Experiential Learning (X) course or approved experiential learning activity.

**Transfer Students and Transferred Courses.** Normally, the Liberal Studies Core Curriculum will require a minimum of 44 credits (eleven 4-credit courses). However, some students may transfer in some of the courses from other institutions and earn fewer than 44 credits after meeting all the requirements. All students who transfer in courses must earn a minimum of 40 credits in courses that meet Liberal Studies Core requirements. Students who complete the eleven Course Requirements and the five Area Requirements in fewer than 40 credits must take an additional course (or courses) until they achieve 40 or more credits. The course(s) used for this purpose can be from any of the Course or Area Requirements.

**The Institutional and Distribution Curriculum**
All students matriculated at the College prior to Fall 2012 must complete the general education curriculum that consists of two types of required coursework: Institutional Requirements and Distribution Requirements. The Faculty Senate’s General Education Committee distributes a list of all courses approved for satisfying the Institutional and Distribution requirements. The departmental course descriptions in this catalog and the Master Schedule published by the Registrar also indicate which courses satisfy Institutional and Distribution requirements.

**Institutional Requirements.** All students subject to this curriculum must meet the College’s Institutional requirements by successfully completing the following courses:
A. RTS1100 Christianity in Context
B. One additional RTS course at the 2000 level or above
C. PHL 1000 Introduction to Philosophy
D. FYW 1050 or ENG 1050 or WRT 1050 Introduction to College Writing, usually taken during the first year at the College
E. One Writing Intensive course

Students will usually earn 20 credits in meeting the above requirements. However, some students may transfer in some or all of these courses from other institutions (see the section on transfer credit policy below, and the section on Transfer Admissions at the end of the Catalog). Students who earn fewer than 18 credits for the courses listed above must complete an additional approved course in Philosophy.

Distribution Requirements. All students must meet the College’s Distribution requirements by successfully completing a minimum of 24 credits distributed among approved courses in Humanities, Social Sciences, and Mathematics and Science. Students who earn fewer than 20 credits in Institutional requirements (see above) are required to earn sufficient credits in Distribution courses to earn a total of at least 44 credits in Institutional and Distribution courses combined (students who earn more than 20 credits in Institutional courses nevertheless must earn 24 credits in Distribution courses). Students must take a minimum of two courses in each area (a minimum of 6 credits). However, to meet the total credit requirements, some students may need to take a third course in one or more of the Distribution areas. No more than three courses can be counted in any area of Distribution. In addition, in each area, students must take courses from at least two different departments.

The three areas of Distribution are defined as follows:

A. Approved Humanities courses are from the Departments of Communication Arts & Sciences, English, History, Visual and Performing Arts, World Languages and Cultures, and Women’s & Gender Studies. The interdepartmental Humanities courses are also approved for the Humanities requirement. One approved Philosophy course numbered above PHL 1000 may count toward the Humanities requirement (however, a Philosophy course cannot be used to meet a Distribution and Institutional requirement simultaneously). An exception to the two-department rule is made for students who complete the Humanities requirement by taking two courses at the 2000 level or higher in the Department of World Languages and Cultures.
B. Approved Social Science courses are from the Departments of Communication Arts & Sciences, Criminology, Economics, Political Science, Psychology, Sociology, and Women’s & Gender Studies.
C. Approved Mathematics and Science courses are from the Departments of Biology, Chemistry and Biochemistry, Civil and Mechanical Engineering, Computer Science, Electrical Engineering, Health Sciences, Mathematics, and Physics. Several other sciences are included on the list as well, including Astronomy, interdisciplinary science, and Environmental Studies and Sustainability.

The following courses cannot be used for meeting Distribution requirements:
A. Any courses offered by the Departments of Religious and Theological Studies, Education, and Business Administration, unless they are also cross-listed in another department as courses that satisfy distribution requirements.
B. FYW 1050/ENG 1050/WRT 1050 Introduction to College Writing.
C. PHL 1000 Introduction to Philosophy.
D. Any courses offered by the Department of World Languages and Cultures at the elementary (1000) level.
E. The course chosen by the student to fulfill the Writing Intensive requirement. Students who take additional Writing Intensive courses may use those additional courses for meeting Distribution requirements.

Optional Academic Programs and Activities

Merrimack College offers students multiple educational opportunities in optional programs and activities involving study off campus, or through various programs that accelerate academic progress.

Transfer Credits

Students matriculated at Merrimack College may, with the approval of their major department chair and the Registrar’s Office, take courses for transfer credit at other accredited institutions of higher learning. Courses must also be approved by the corresponding Merrimack College department. For example, an English course must be approved by the English Department. If it is determined that there is no equivalent Merrimack course, open credit toward numerical graduation requirements may be granted. Courses taken at another institution will be accepted as transfer credit if and only if a grade of 2.0 on a 4.0 scale (C or better) is earned. Grades in courses for which transfer credit has been granted do not enter into the computation of the student’s grade point average.

The Registrar’s Office determines the credit to be granted for courses transferred from approved programs in international institutions (e.g., through Study Abroad as described below), based on the translation of grades and credit from the academic system of the host institution or country to the American semester system. In doing so, the Registrar follows the recommendation of the foreign institution’s Registrar (or its equivalent office) as found on transcripts or other official documentation from the foreign institution. As with other transferred courses, the equivalent Merrimack course, if any, is determined by the corresponding Merrimack College academic department.

The number of credits granted for courses transferred from domestic institutions is determined by the institution that offered the course. Thus, a course worth 3 credits at another institution that is on a semester system is granted 3 credits at Merrimack College. However, courses from institutions on other credit systems (e.g., quarter, semester, hours) are translated into semester credits. Many institutions, both domestic and foreign, are not on the same 4-credit curriculum as Merrimack College, and therefore transferred courses may have an impact on meeting various academic requirements including majors, minors, and general education requirements. Students should check relevant sections of this catalog for credit requirements, and consult with their academic advisor or the Registrar as appropriate with regard to the effect of transferred courses.

Information for students who transfer from other institutions to complete their degree at Merrimack College can be found at the end of the Catalog in the section on Admission and Financial Aid.

Off-Campus Studies

The College grants credit for a number of academic programs offered away from the campus, including Study Abroad, the Northeast Consortium of Colleges and Universities in
Massachusetts (NECCUM), American University Washington Semester, and Air Force Reserve Officer Training (ROTC).

Study Abroad. Study abroad is recommended for students in all majors in order to expand their understanding of themselves, the world, and critical global issues. Merrimack College offers a variety of semester, full-year, and short-term study abroad programs, some of which include an optional internship and/or service-learning component. Students interested in a semester or full-year program should begin planning at least one year prior to departure.

Non-Merrimack courses taken abroad in an approved program are recognized as transfer courses and subject to the determination of transfer credit as described above. Additional information and a current list of approved study abroad programs can be found at www.merrimack.edu/studyabroad.

NECCUM Cross Registration. Merrimack College is a member of the Northeast Consortium of Colleges and Universities in Massachusetts (NECCUM). During a session in which they are registering for a full-time course load, Merrimack students may cross register for up to 8 undergraduate credits on a space-available basis at other institutions in the consortium: Endicott College, Gordon College, Marian Court College of Business, Middlesex Community College, Montserrat College of Art, North Shore Community College, Northern Essex Community College, Salem State University, and the University of Massachusetts-Lowell. Courses taken through NECCUM are accepted for transfer credit only if the student earns a grade of C or better. Courses taken through the NECCUM cross registration do not enter into the computation of the grade point average. To cross register, students must be full-time “day” students and be registering for a full-time course load of which the NECCUM course may be a part of the full-time load, have completed 16 credits, and have a cumulative grade point average of at least 2.00. Forms are available in the Office of the Registrar.

American University Washington Semester. Merrimack College is associated with the American University program for study in Washington, D.C. Several programs in a variety of fields are offered to college juniors from member institutions. These programs are centered on internships and associated seminars. Qualified students may, with the permission of their department, substitute a semester in one of the programs for equivalent coursework at Merrimack subject to the Merrimack rules concerning transfer credits described above. Interested students should contact the chair of the Political Science Department.

Air Force Reserve Officer Training Corps (ROTC). Merrimack College students may enroll in Air Force ROTC courses at the University of Massachusetts-Lowell. The Air Force ROTC program qualifies men and women for a commission as a Second Lieutenant in the United States Air Force. Two-year, three-year, and four-year programs, as well as scholarships, are available. Details can be obtained by contacting Air Force ROTC Detachment 345, UMass Lowell, via www.uml.edu/afrotc or www.afrotc.com. Registration for ROTC courses is done via NECCUM cross-registration (see above).

Accelerated Academic Progress

Students may accelerate their academic progress by taking additional courses during the fall and spring semesters (subject to certain limits described below in the section on Academic Status and Progress) or in Merrimack College’s summer programs. They may also accelerate their academic progress through a number of programs administered by other organizations, as described here. Further details on some of these programs are found in the section of the Catalog on Admission and Financial Aid.
Advanced Placement (AP). College credit may be assigned for sufficient performance on AP tests offered by the Educational Testing Service (ETS). For more details, see the section on Admission and Financial Aid at the end of the catalog. Individual academic departments determine the credits earned and the minimum score necessary to earn credit.

International Baccalaureate (IB). College credit for International Baccalaureate examinations are subject to review. An official IB examination report is required for consideration. High Level examinations with a score of 5 or better will be reviewed for credit.

College Level Examination Program (CLEP). Course credit may be granted through the CLEP program, in which students can take an equivalency examination in an academic area instead of a course offered by the College in that area. The examinations are offered by the College Entrance Examination Board and are available in most academic disciplines. CLEP examinations are usually offered to replace courses at the introductory level. CLEP examinations should be taken prior to the start of the student’s junior year, but no later than the start of the student’s senior year. Information about the program may be obtained from the department chair of the appropriate discipline or from the Transfer Coordinator in the Registrar’s Office.

Foreign Language Achievement Testing Service (FLATS). Brigham Young University Foreign Language Achievement Tests are available to matriculated Merrimack College students who have acquired skills in foreign languages that are not offered for credit at the College. Students may earn up to 12 credits, to be determined by the Registrar and the Department of World Languages and Cultures based on test scores. Further information about the program may be obtained from the Academic Counselor for International and Intercultural Students in the Center for Academic Enrichment.

Credit for Military Training (ACE). Merrimack College awards academic credit for military training based on the American Council on Education (ACE) recommendations.

Credit by Departmental Examination. In some instances, at the discretion of individual academic departments, students may earn credit for a course by passing an examination administered by the department offering the course. Information can be obtained from the chair of the appropriate department.

Course Policies

There are a number of policies and procedures that must be followed in association with registering for courses; while taking courses; and in changing the status of a course. Additionally, the College’s grading policies and practices are described.

Registering for Courses

Entering first-year students are enrolled into a schedule of courses for their first semester at orientation. Subsequently, students determine their schedule of courses with the approval of their academic advisor. In doing so, a number of policies and requirements, and options should be considered.

Pre-Requisites and Co-Requisites. Some courses require knowledge or skills acquired in other courses, and those courses therefore have pre-requisites or co-requisites. Pre-requisites
are courses that have to be completed with a passing grade before taking the course that lists it as a pre-requisite. Co-requisites are courses that must be taken at the same time as the course that lists it as a co-requisite. Some co-requisite courses may also be taken prior to the course requiring them; some pre-requisite courses may also be taken at the same time as the course that requires them. In those cases, permission of the academic department or instructor of the course is required.

**Continuing Course.** Some two-semester courses are such that the same grade is given for both semesters of the course based on work done across the two semesters. The grade to be received for the first semester is therefore not known until the work for the second semester is completed and graded. In these cases the work done in the first semester is assigned the grade of Y (or Continuing) until a grade can be given for the work done in both semesters. Once the second semester's grade is assigned, the first semester's work is then assigned a grade identical to the one assigned that of the second semester, replacing the Y grade.

**Auditing a Course.** Sophomores, juniors, and seniors with cumulative grade point averages of 2.50 or better may register for one, but only one, additional course as auditors. They must obtain authorization from the professor teaching the course, and the chair of the department offering the course. Auditors are subject to any attendance regulations that may be in effect, but are not required to complete assignments or take examinations. Auditors do not earn academic credit for the course, but will have a record of having audited it on their transcript. Students taking a course as an audit must indicate their intention when they register for the course. No change to or from auditing will be permitted after the drop/add period (see below under Changing the Status of a Course).

**Taking a Course Pass/Fail.** In order to encourage students to explore new areas of knowledge without undue risk to their cumulative grade point averages, the College permits the taking of open elective courses on a pass/fail basis (see the definition of open electives above in the section on Requirements for the Bachelor’s Degree). Students wishing to take a course pass/fail may do so as long as that course is not required to satisfy general education requirements, major or major cognate requirements, Business core or concentration requirements, or minor requirements; only open electives may be taken on a pass/fail basis. No more than eight credits taken on a pass/fail basis may be taken from any one department, no more than four credits may be taken in a single semester, and no more than twelve credits may be counted towards the Bachelor’s degree. The Undergraduate Curriculum Committee of the Faculty Senate may exclude specific courses from pass/fail registration upon review of a department’s request. Details on grading, and on the impact on GPA of taking a course pass/fail can be found in the section on Grade Policies, below.

The standard for a passing grade is determined by the instructor. Students should find out exactly what will be considered a passing grade before choosing to take a course on a pass/fail basis.

Students taking a course on a pass/fail basis should indicate their intention when they register for the course, but students may also make such a declaration on or before the 10th class week. No change to the pass/fail registration will be permitted after the conclusion of the 10th class week. Courses offered in a nontraditional term will have a pass/fail deadline equivalent to two-thirds of the course.

**Registering for an Overload / Maximum Credit Limit.** As described below in the section on Academic Status and Progress, the normal course load in a semester is 16 credits. While not
recommended for most students, any full-time student may take up to 19 credits in any semester. Students who meet the criteria below may take a maximum of 20 credits; those who do so are subject to a credit overload fee.

Sophomores, juniors, and seniors whose preceding semester grade point average is at least 3.00 may take 20 credits in a given semester. Any second semester senior who needs to take additional credits in order to complete graduation requirements or commencement participation requirements may do so (subject to the credit overload fee). But in no case shall any student be permitted to take more than twenty credits in any one semester.

Qualified students with the requisite grade point average wishing to take additional credits should consult with their major department chair and the Registrar's Office. At such consultations, the department chair or the Registrar's Office will acquaint the student with the disadvantages as well as the advantages of carrying additional credits. The final decision remains the right and the option of the qualified student.

**Repeating a Course.** Students have the option of repeating a course, whether or not they failed the course originally. Courses may be repeated more than once. This option allows students to improve their cumulative grade point average as well as increase their knowledge. For example, if a student repeats a course in which a “D+” had previously been earned and earns a “B,” the points for the “D+” will be replaced by the points for the “B” in the computation of the grade point average. On the other hand, students who repeat any course other than one which they have failed risk lowering their cumulative grade point average should they earn a lower grade when repeating the course. The transcript will include a record of every course taken and the letter grades received. Courses must be repeated at Merrimack if the new grade is to be calculated in the grade point average. Grades earned at another institution do not compute in the grade point average.

**Policies and Practices During a Course**
Several policies affect students while taking courses. These include attendance policies, mid-term and final grades, academic integrity, and final examination policies.

**Attendance Policies.** Attendance is essential to a good educational experience; therefore, students are expected to attend classes regularly. It is the responsibility of the professor(s) to notify students in writing of their specific attendance policies in their course syllabus, and to place such statements on file with the Office of the Dean. In those rare instances when it is necessary to be absent, students should inform the professor in advance and are responsible for work missed. Permission to make up quizzes, examinations, and other work may be granted at the discretion of the professor. If the absence is due to a conflict with a Merrimack activity or event, the responsible Merrimack faculty member, staff member, or administrator will provide advance written notice to the professor. When in the judgment of a professor a student’s progress is being seriously impeded by excessive absence from class or by other difficulties he or she may be experiencing, the professor is encouraged to refer the matter to the Office of the Dean.

**Mid-Term and Final Grades.** Students are assigned grades for courses at mid-term and at the end of the semester. Students can check their grades on MyMack, the College intranet portal. Mid-term grades are for information on progress; only final grades appear on the transcript.

**Academic Integrity Code.** In the fall of 2011, the Faculty adopted a new Academic Integrity Code and Review Procedures. The document describing the code and procedures for reviewing
cases of academic integrity infractions – cases of academic dishonesty – can be seen in the Faculty Handbook and in the Student Handbook. The kinds of infractions include (but are not limited to) cheating, fabrication of information, complicity with others engaging in infractions of academic integrity, plagiarism, appropriation of others’ work, unsanctioned multiple submissions of work, and unsanctioned collaboration on academic work. Penalties are at the discretion of the instructor of the course; if the penalty for the course is a grade of F, there is the additional possibility of a College Penalty including suspension or expulsion from the College. Students have the right of appeal, both of the allegation of an infraction and of the penalty imposed. Details of the processes for reporting, appealing, and investigating allegations can be found in the document described above.

**Final Examinations.** Final examinations are given at the end of each semester, at the time designated on the official examination schedule. A student who, because of illness or other legitimate extenuating circumstances, is unable to take a regularly scheduled final examination, must communicate as soon as possible with the appropriate professor who will, if judging that the circumstances so warrant, establish an appropriate time and place for the administration of a “make-up” final examination replacing the one missed.

**Changing the Status of a Course**

Once students have begun an academic session, they have several options to consider, including changing the set of courses in which they are enrolled by dropping and adding courses; changing the grading basis from a letter grade to pass/fail; withdrawing from a course; or requesting an incomplete. Details on each appear below.

**Dropping and Adding Courses.** Students may drop or add courses without penalty and without the student’s record showing that a course was dropped up until the fifth day of classes at the start of each semester. Dropping or adding courses during the drop/add period is subject to the conditions described below in the section on Academic Status and Progress regarding full-time and part-time status, and above in the section on maximum credit limits under Registering for Courses. The Academic Administrative Calendar, available in all academic offices, posted outside the Registrar’s Office and on the Registrars’ Office Website, lists the precise date for the end of the drop/add period. Courses offered in a non-traditional term will have a drop/add deadline appropriate to the term. The date will be posted in the appropriate calendar.

**Changing to Pass/Fail Grading.** As described above in the section on Registering for Courses, under certain circumstances students may elect to convert a course to a Pass/Fail grading basis. As noted above, students may do so on or before the 10th class week. No change to the Pass/Fail registration will be permitted after the conclusion of the 10th class week. Courses offered in a nontraditional term will have a Pass/Fail deadline equivalent to two-thirds of the course. Please review the discussion above for further information on Pass/Fail grading.

**Withdrawing.** Students wishing to withdraw from a course after the end of the drop/add period may do so and receive a grade of “W” (or Withdrawn) at any point up to and including the end of the tenth week of class. Students may not withdraw after that deadline. To withdraw from a course, students should consult their professor, advisor, or department chairperson and must obtain an authorized signature on a withdrawal approval form in their academic department. Students should consider the fact that if withdrawing from a course will drop their course load to below 12 credits, athletic eligibility, health insurance, financial aid, and housing may be jeopardized.
The section on Academic Status and Progress, below, includes further information on withdrawing from the College, and leave of absence policies.

**Incomplete.** Occasionally, extenuating circumstances lead to an inability to complete a course successfully during the regularly scheduled time in which it is offered. At the discretion of the instructor for the course, students may be able to take an incomplete, and complete the course after the semester has ended. An incomplete is not used to extend the time for completion of general course requirements, but is restricted to the completion of a limited requirement, such as a final examination or paper.

**Grade Policies**
A variety of grades appear on transcripts; the list of possible grades and their definitions appear below, followed by the definition of grade point average (GPA) and cumulative GPA.

**Letter Grade Definitions.** The grades students earn in their courses, corresponding to their level of academic achievement, are expressed by one of the following letters:

- A Superior
- B Good
- C Fair
- D Minimal Passing Quality
- F Failure
- H Auditor
- N Incomplete
- P Pass on a pass/fail option
- W Official withdrawal from a course within the first 10 weeks of the semester. Also used to indicate withdrawal from the College.
- WF Withdrawn failing
- Y Continuing course. Same value as the grade for the succeeding semester.

**Failure.** The letter grade “F” is used to indicate work that must be repeated or replaced. (See the section on Repeated Courses, below.)

**Auditor.** A letter grade of “H” will appear on the student’s transcript to signify that a course has been audited.

**Incomplete.** The grade “N” (or Incomplete) denotes work not completed due to some extenuating circumstance (see above in the section on Changing the Status of a Course for details). A student receiving an “N” will be allowed four weeks from the end of the semester for the work to be completed and the grade to be converted. At the end of that time, if the instructor has not informed the Registrar of a new grade, an “N” will convert to an “F.”

**Pass/Fail.** Details on the policies regarding taking a course on a pass/fail basis appear above in the section on Registering for Courses under Course Policies. Students taking courses on a pass/fail basis receive either a grade of “passing” or a “failing” grade. The grade of “passing,” signified by a “P,” is given without any discrimination being made between a superior, good, fair, or minimal passing level of achievement. While a grade of “P” is not computed in the grade point average, a grade of “F” is computed in the grade point average. The standard for a passing grade is determined by the instructor.

**Withdrawal.** The grade “W” indicates that a student has withdrawn from the course after the end of the drop/add period (see above in the section on Changing the Status of a Course), and
no later than the end of the tenth week of class. It also is used to indicate that a student has withdrawn from the College (see below in the section on Academic Status and Progress).

**Withdrawn Failing.** The grade “WF” indicates that a student was assigned a grade of “F” in the course before withdrawing.

**Continuing Course.** The grade “Y” is used to indicate that the course is the first part of a two-semester sequence in which the grade for each semester will be the same and depends on the work done in the second semester. After the second semester is completed, the grade assigned at the end of the second semester will replace the grade of “Y” for the first semester and both semesters will appear on the transcript with the same letter grade.

**Repeated Courses.** When a student has repeated a course (see above in the section on Repeated Courses under Registering for Courses) the grade earned the last time the student took the course will be used in the computation of the cumulative grade point average (whether the last grade is higher or lower than the earlier grade). The transcript will include a record of every course taken and the letter grades received. Courses must be repeated at Merrimack if the new grade is to be calculated in the grade point average. Grades earned at another institution do not compute in the grade point average.

**Grade Points.** In the calculation of the academic averages for all scholastic purposes, points for each credit hour are assigned according to grades earned as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.0</td>
</tr>
<tr>
<td>A-</td>
<td>3.7</td>
</tr>
<tr>
<td>B+</td>
<td>3.3</td>
</tr>
<tr>
<td>B</td>
<td>3.0</td>
</tr>
<tr>
<td>B-</td>
<td>2.7</td>
</tr>
<tr>
<td>C+</td>
<td>2.3</td>
</tr>
<tr>
<td>C</td>
<td>2.0</td>
</tr>
<tr>
<td>C-</td>
<td>1.7</td>
</tr>
<tr>
<td>D+</td>
<td>1.3</td>
</tr>
<tr>
<td>D</td>
<td>1.0</td>
</tr>
<tr>
<td>D-</td>
<td>0.7</td>
</tr>
<tr>
<td>F</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Course grade points are determined by multiplying the grade points earned by the number of course credits. For example, a grade of B in a four-credit course will yield twelve grade points (3.0 grade points multiplied by four credits is twelve points), while a grade of D in a two-credit course will yield two (1.0 multiplied by two is two).

**Cumulative Grade Point Average.** With the exception of the grades earned in courses that are subsequently repeated, all grades of “A,” “B,” “C,” “D,” or “F,” with or without “pluses” or “minuses,” earned in courses taken at Merrimack College for credit and recorded on a student’s transcript are included in the calculation of the cumulative grade point average; only the last grades awarded for courses repeated at the College are included. The cumulative grade point average is then calculated by dividing the total number of points assigned for included grades by the total number of credit hours represented by the courses for which those grades were earned.

In the determination of whether a student has met a minimum grade point average to meet a College requirement (such as a graduation requirement, or satisfactory academic standing), or to qualify for an academic honor, the grade point average (GPA) is never approximated or rounded.

**Academic Status and Progress**

**Academic Status**

Depending on the number of credits students take, they are classified as either full-time or part-time. Adding or dropping courses may change that classification; progress from freshman year
to graduation depends on successfully completing credits and remaining in good academic standing.

**Classification.** Classification is based on the total number of credits that a student has earned. Freshman classification is 0 – 27 credits; sophomore classification is 28 -59; junior classification is 60 - 91; senior classification is 92 or more credits.

**Full-time Status.** The bachelor’s degree requires a minimum of 124 credits, normally taken over eight semesters. A normal course load is 16 credits per semester. Students with a semester course load of 12 credits or more are considered full-time and must pay full tuition and corresponding fees and expenses.

Students participating in the Cooperative Education program are treated and reported as full-time students at Merrimack College provided that the student works at least 25 hours per week. Study Abroad students are also considered to maintain full-time status while abroad.

**Part-time Status.** Students enrolled in 11 credits or less per semester are considered part-time. Students considering part-time enrollment should be aware that part-time students may be ineligible for campus housing and financial aid, risk any scholarships they may have, and may not participate on varsity athletic teams. Students considering part-time status should be aware that many health plans will cover dependent children over age 19 only if they are full-time students. Therefore dropping or withdrawing from courses (see above, under Course Policies) should be done only in consultation with the student’s advisor.

**Leave of Absence / Withdrawal from the College**
Occasionally, students may want to take time away from the College or withdraw entirely.

**Withdrawal from the College.** Students may discontinue their education by notifying the Registrar’s Office in writing of their intention to withdraw. Oral notice is not sufficient. Withdrawal based on an honorable dismissal entitles the student to a refund of tuition and room and board charges according to the schedule given in the Fees and Expenses section of this catalog.

**Leave of Absence.** Leaves of absence are granted to students in good academic and disciplinary standing who have completed at least two semesters as full-time students at the College and who determine that circumstances necessitate a temporary interruption of their college careers. Authorization for leaves of absence is granted by the Registrar’s Office upon receipt of the student’s written notification of intent. The request must be signed and dated or must be sent from the student’s Merrimack College email account. It must be done in advance unless there is an unforeseen circumstance. It must include a reason for the leave. Carrying with it an intention of returning to the College, a leave of absence guarantees readmission to the College upon receipt by the Registrar of a notification of the intent to return.

Only one leave of absence will normally be granted each student and they are granted for not more than one year, unless the student receives an extension of the leave from the Registrar’s Office. Students on leaves of absence of more than one year’s duration may be held to any changes in the College curriculum or their programs of study occurring during their leaves. (See the section on the determination of degree requirements, above.)

The guaranteed readmission may be revoked if the student’s conduct while on leave is such that it would have resulted in disciplinary discontinuance had he or she remained at the College.
The student retains the right of appeal in such cases. Acceptance for return as a resident student is always contingent upon space in the residence halls. Any student who wishes to live on campus upon his or her return must place his or her name on the waiting list maintained by the Office of Resident Life.

Medical Leave. Students seeking a medical leave of absence are subject to the same policies and procedures as above, with the following exceptions. They are not required to have completed a minimum of two semesters as full-time students, and they need to provide written documentation from a physician or other qualified licensed professional. The documentation must be submitted to the Hamel Health Center. The Hamel Health Center will review the documentation and is responsible for approving medical leaves. The student must contact the Hamel Health Center when ready to return to the College and the Hamel Health Center will review and approve the student's return to the College.

Academic Progress and Standing
For academic advancement from semester to semester, it is not sufficient that students merely pass all courses. They must, in addition, maintain sufficiently high cumulative grade point averages. If they do not, they may be placed on academic probation for the following semester or find themselves subject to suspension or dismissal. A student on academic probation is not in good academic standing. As noted above, for all categories, the determination of whether a student has met a required GPA is not subject to rounding or approximation.

Satisfactory Academic Progress for Financial Aid. To maintain eligibility for financial aid, students must make satisfactory academic progress over time. The criteria for satisfactory academic progress include number of credits earned and attempted, and minimum grade point averages over time. Details can be found in the section on Admission and Financial Aid at the back of the catalog.

Academic Probation. Students who fail to achieve the following cumulative grade point averages will be placed on probation for the succeeding semester:
- 1.70 with the attempt of at least 12 credit hours
- 1.80 with the attempt of at least 24 credit hours
- 1.90 with the attempt of at least 36 credit hours
- 2.00 with the attempt of at least 48 credit hours

Regardless of their cumulative average, students are automatically placed on probation for the following semester if their semester grade point average is 1.70 or lower or if they incur two or more failures in any one semester. All students on probation will be required to be part of the Academic Monitoring Program and fulfill the requirements of the contract for that program.

Academic Suspension. Students placed on probation will be suspended if they do not achieve in the probationary semester a semester average that gives a reasonable expectation that they will be able to achieve the cumulative average required for graduation within a reasonable period of time.

Whether or not they have been on probation, students are subject to suspension when they fail to achieve the following cumulative grade point averages:
- 1.50 with the attempt of at least 12 credit hours
- 1.60 with the attempt of at least 24 credit hours
- 1.70 with the attempt of at least 36 credit hours
- 1.80 with the attempt of at least 48 credit hours
All students except freshmen are subject to suspension if their grade point average falls below 1.70 for two consecutive semesters. Any student whose semester grade point average is 1.50 or lower may be subject to immediate suspension.

All students who are subject to suspension will be suspended if they do not make a written appeal to the Academic Board through the Director of the Center for Academic Enrichment. For those students who appeal a suspension, the written appeal must identify the extenuating circumstances of their situation and the means they will take to remedy the problems involved. Final decisions regarding suspension will be made following the systematic evaluation of each appeal by the Academic Board. Appeals will only be granted to those whose situation demonstrates strong hope for successful remedy of the problems leading to suspension. All students subject to suspension whose appeals are denied are automatically suspended. All students whose appeal of suspension is granted will be required to be part of the Academic Monitoring Program and fulfill the requirements of the contract for that program.

Normally, students who have received an academic suspension may not attend or take any courses at the college, including day, evening, or summer courses, for the next two semesters (including the summer as one semester). They may then reapply for admission through the Office of the Registrar. However, to be readmitted they must demonstrate their ability to handle the academic load at Merrimack. This will normally be done by demonstrating the ability to carry a full course load with a B or better average at another college.

**Academic Dismissal.** Students who have received a second academic suspension are subject to academic dismissal. All students who are subject to academic dismissal will be dismissed if they do not make a written appeal to the Academic Board through the Director of the Center for Academic Enrichment. For those students who appeal academic dismissal, the written appeal must identify the extenuating circumstances of their situation and the means they will take to remedy the problems involved beyond those means already taken. Final decisions regarding academic dismissal will be made following the systematic evaluation of each appeal by the Academic Board. Appeals will only be granted to those whose situation demonstrates strong hope for successful remedy of the problems leading to dismissal. All students subject to dismissal whose appeals are denied are automatically dismissed. All students whose appeal of dismissal is granted will be required to be part of the Academic Monitoring Program and fulfill the requirements of the contract for that program. Details on the program may be obtained from the Director of the Center for Academic Enrichment.

**Application for Readmission After Suspension or Dismissal.** Students who have had appeals denied or who have chosen not to appeal an academic suspension or dismissal are not eligible to take any courses at Merrimack College for a minimum of two consecutive semesters (in such cases the summer counts as a single semester). To resume studies at Merrimack College after the two (or more) semesters, students must complete and submit an application for readmission to the Office of the Registrar. Students must demonstrate that the time away was spent in a constructive manner, either through coursework at another institution (with a GPA of 2.7 or higher), gainful employment, or by addressing issues that contributed to the suspension or dismissal in the first place. An interview with the Director of the Center for Academic Enrichment is also required. Once this process is complete, the Academic Board will make a decision and inform the applicant as soon as possible.
Academic Board. The Academic Board serves the College and its students by working to clarify, consider, and resolve discrepancies between academic policies and the day-to-day decisions and actions of students. Always seeking to maintain a balance between the best interests of students and the integrity and existence of academic policies and procedures, the Board reviews and takes action on petitions from students requesting an exception to a policy or procedure in light of extenuating circumstances. The Academic Board convenes as needed during the academic year for petitions involving academic policies and procedures, and in January and June to consider appeals of academic suspensions and academic dismissals. Members of the Board include the Provost, the Director of the Center for Academic Enrichment (who serves as the Secretary to the Board), the Deans of the Schools of the College, the Registrar, and the Assistant Dean of Campus Life (for purposes of relevant student conduct information). Students should contact the Director of the Center for Academic Enrichment for information about Board processes and for submission of appeals.

Academic Forgiveness Policy. A student seeking readmission to the college after an absence of 3 or more years may apply for Academic Forgiveness which, if approved, would grant grade amnesty. An application for academic forgiveness can be found in the Office of the Registrar.

Official transcripts for all academic work attempted during the interim of last attendance and reaplication must be included with the application. If official transcripts for all previously attempted coursework are not provided to Merrimack College before readmission, transfer credit will not be considered. Transfer credit for courses taken at other colleges during the interim period will be awarded according to the policy described above in the section on Optional Academic Programs and Activities.

If reinstatement with academic forgiveness is approved, all of the student’s previous Merrimack College courses and grades will continue to appear on the transcript but will be treated as transfer courses counting only for credit, thereby eliminating the previous cumulative grade point average. Consistent with transfer policy, credit will be eliminated for all Merrimack College courses with grades of C- or below. Thus, at the time of reentry under the Academic Forgiveness Policy, there is no cumulative average working to the student’s disadvantage. The Forgiveness Policy includes all previous Merrimack work and does not allow the students to pick and choose individual courses for grade amnesty. The student’s Merrimack College grade point average is computed solely on work attempted after reinstatement.

Students electing the academic forgiveness option will be required to meet degree requirements of the catalog in effect on the date of the student’s reentry following academic forgiveness approval. All other current policies and practices apply to students granted academic forgiveness. A minimum of 48 credits must be completed at Merrimack College after academic forgiveness is granted. Academic forgiveness can only be granted once in a student’s association with the College. Students who are granted academic forgiveness are eligible for graduation honors. At the time of application for academic forgiveness, the student must acknowledge in writing that, once academic forgiveness has been granted, it will not be rescinded.

Students should contact the Office of Financial Aid for information on how this policy may affect financial aid.
Academic Honors and Graduation

Merrimack College recognizes academic excellence by naming students of high academic achievement to the Dean’s List, by designating them as Presidential Scholars, by conferring departmental honors, or by granting bachelor’s degrees *cum laude*, *magna cum laude*, or *summa cum laude*. In determining eligibility for an honor, the calculation of GPA is not subject to rounding.

**Dean's List**

Students who complete at least 12 credits hours in a given semester, not on a pass/fail basis and with an overall grade point average of 3.25 or better for the semester, shall have their names placed on the Dean’s List in recognition of their meritorious achievement.

**Presidential Scholars**

The Presidential Scholar designation is given to those students who have senior status, have completed a minimum of 104 credits at the beginning of the spring semester of their senior year, are included on the Registrar’s list of anticipated May graduates, and have a minimum cumulative grade point average of 3.50.

**Departmental Honors**

Merrimack College Seniors who have exhibited extraordinary academic accomplishment within a specific discipline may be conferred Departmental Honors upon graduation. The distinction of Departmental Honors is intended to recognize and reward those students who demonstrate academic initiative, originality and achievement above and beyond that which is required by the major curriculum. Senior students will be eligible for this distinction upon graduation if they have achieved a cumulative and departmental grade point average of 3.00 and have completed a substantial, original and independent project in their field of study. Honors projects must result in some tangible end product such as a written thesis, and/or oral presentation, creative artistic performance, or show in the student’s field of study, and may be part of an existing departmental Senior Thesis Research or Seminar course. The determination as to whether the distinction of Departmental Honors will be conferred by a given department, as well as the specific criteria for doing so, will be made by faculty members within each department. Students may be awarded the distinction of Departmental Honors separate from and in addition to institutional honors.

**Graduation Honors**

Students who graduate with cumulative grade point averages of at least 3.25, both in their majors and for their academic program as a whole, are graduated *cum laude*. Those who graduate with cumulative grade point averages of at least 3.55, both for their majors and for their academic program as a whole, are graduated *magna cum laude*. Those who graduate with cumulative grade point averages of at least 3.75, both for their majors and for their academic program as a whole, are graduated *summa cum laude*.

**Commencement Participation Policy**

Students who have completed all degree requirements may participate in the College's annual Commencement exercises. Students who have not satisfactorily completed all academic requirements for graduation at the time of Commencement may also participate if they meet or exceed the criteria described below. They will receive a blank diploma. They may also opt out, and choose to participate at a subsequent Commencement. Students may only participate in
Commencement once. Requirements for participation in Commencement are not subject to appeal.

The determination of eligibility occurs at the end of the drop/add period in the spring semester or other final academic term preceding Commencement. At that time, the Registrar will calculate each student’s expected credit total, which is the number of credits earned plus the number for which a student is registered. Students may participate in Commencement if their expected total is no more than 8 credits less than the minimum credit requirement for their degree program. For students in all bachelor’s degree programs starting with the class of 2012, the minimum number of credits is 124, so bachelor’s degree candidates whose expected total is at least 116 credits may participate.

In all cases, the credit count will be based on the official record in the Registrar’s Office. Students with pending transfer credits are responsible for ensuring that those credits have been recorded by the Registrar’s Office by 5:00 pm on the Friday nearest February 15.

No diploma will be awarded until the student has been certified by their major department(s) as having completed all academic requirements and certified by the Bursar as having met all financial obligations to the College.
The Schools of Merrimack College

The academic programs of Merrimack College are administered through academic departments organized into four Schools: The School of Liberal Arts, the School of Science and Engineering, the Girard School of Business and International Commerce, and the School of Education. With the exception of courses offered by the Office of Graduate and Professional Studies, Merrimack College students take courses and may be enrolled in major and minor programs across any of the Schools. Each of the Schools is described below, followed by complete descriptions of all the academic programs in the College.

The School of Liberal Arts

Dean of the School of Liberal Arts
Kathleen A. Tiemann, Ph.D.
Associate Dean
Kerry Johnson, Ph.D.

The School of Liberal Arts at Merrimack encompasses the humanities and the social sciences, each of which includes a range of disciplines distinguished by their focus of inquiry and by their perspectives and methodologies. Overall, liberal arts disciplines investigate the human condition for the purpose of understanding issues of self and society, with particular attention to meaning and values. Liberal arts disciplines also recognize that issues, ideas, and methods of inquiry are influenced by context—situated in time, place, culture—and take this into account in framing issues, interpreting evidence, debating significance, and forming conclusions. Consequently, curiosity, creativity, and innovation are valued, and a strong emphasis is placed on critical thinking, active reading, and writing. Attention to the history of ideas and to intellectual traditions enriches current research and debate in the liberal arts.

At Merrimack, with its Augustinian tradition, liberal arts disciplines engage students and faculty in mutual intellectual inquiry, both with one another and with the larger intellectual community. They integrate the study of theory and practice by investigating the relationships and tensions between the two. Liberal arts disciplines are inherently interdisciplinary, valuing and drawing upon the insights and approaches of a wide variety of other disciplines. The liberal arts encourage self-awareness and critical reflection as well as the ability to approach issues from multiple perspectives.

The School of Liberal Arts embodies the Catholic and Augustinian identity of Merrimack College through its dedication to the pursuit of knowledge as a community activity informed by dialogue between faith and reason. Our efforts are inspired by St. Augustine’s personal journey through knowledge to wisdom, ultimately in quest of God as perfect or divine Wisdom. We are further inspired by the Augustinian Order’s embodiment of his example, over time, in their many communities of individuals united in mind and heart in the search for Wisdom as well as in the Order’s commitment to social justice and its more than seven hundred year history of engagement in education. Impelled by humanity’s restless search for ultimate meaning, the Liberal Arts are engaged in advancing the integration of knowledge and distinguished by firm commitment to ethical values and concern for the common good.
Mission

Our mission is to cultivate an intellectual community, enriched by evolving scholarship in the humanities and the social sciences, that explores compelling ideas, issues, and values in order to educate students to become well-informed critical and reflective thinkers empowered to lead productive and meaningful lives in a changing world.

Vision

Our vision is to provide a distinctive and nationally recognized liberal education for all Merrimack College students and to be recognized as a community in which all are scholars, teachers, and learners who . . .

- engage actively in the discovery and making of knowledge;
- cultivate superior analytic, interpretive, expressive, explanatory, and deliberative abilities;
- infuse academic life at Merrimack with intellectual vitality; and
- contribute, as engaged citizens, to the betterment of their communities and society.

Study of the liberal arts is at the heart of Merrimack's curriculum. Whatever your major, you will be challenged to grow through the kind of discussion and inquiry about the human experience which the liberal arts cultivate.

Liberal Arts Degree Requirements: Liberal arts students may elect a major, a major with a minor, a double major, a joint major, or, in special cases, a self-designed interdepartmental major. Co-op opportunities are available for students in liberal arts, as well as departmental internships and service learning projects. All students enrolled in a liberal arts program must complete the following requirements to earn a Bachelor of Arts degree:

A. All liberal arts students must successfully complete the college’s general education requirements.
B. All liberal arts students must successfully complete the requirements in place for their majors as described below in the sections devoted to the various departments.

Academic Programs. The School of Liberal Arts offers programs in the Humanities and the Social Sciences leading to the Bachelor of Arts degree. Students may choose from a wide variety of major and minor programs available through the departments of Communication Arts and Sciences, Criminology, Economics, English, History, Philosophy, Political Science, Psychology, Sociology, Religious and Theological Studies, World Languages and Cultures, Visual and Performing Arts, and Women's and Gender Studies. An interdisciplinary Liberal Arts major, interdisciplinary Environmental Studies and Sustainability major, self-designed minor, and several interdisciplinary minors are also available. For interdisciplinary minors, students take course-work drawn from at least two related disciplines. The interdisciplinary minors available are Environmental Studies and Sustainability, Italian Studies, Law Ethics and Society, Pre-Law, Political Communication, Public and Professional Writing, Jewish-Christian-Muslim Relations, Visual Storytelling, and Women's and Gender Studies.

Minor programs offered through the School of Liberal Arts are open to students in other schools. Students pursuing majors in other schools may also elect a second major in the School of Liberal Arts.
The School of Science and Engineering

Interim Dean of the School of Science and Engineering
Mary G. Noonan, M.S.

Associate Dean
Gary S. Spring, Ph.D.

Mission
To inspire, educate and engage students in science, technology, engineering and mathematics, preparing them to make positive contributions to the global community.

Vision
To be a nationally recognized center of excellence for science, technology, engineering and mathematics education.

Core Values
Respect
Integrity
Intellectual Curiosity
Service to the Community

Our society is becoming increasingly more complex and technological. Now more than ever before, an understanding of science, technology, engineering and mathematics (STEM) is essential to achieving success in school, career and life. Twenty-first century learning requires more than just an acquisition of content knowledge in STEM; it requires also the development of a core set of skills such as problem solving, creative and critical thinking and analysis, quantitative reasoning, and written and oral communication. These are the foundations of the high quality STEM education that we offer students in the School of Science and Engineering at Merrimack College. Upon leaving the academy, these are the foundations also that will allow our graduates to adapt to inevitable future changes in their careers and personal lives, and to be active and engaged citizens of the global community who make good, well-reasoned decisions about important issues related to public policy, quality of life, health and wellness, and the environment.

The faculty, staff and students of Science and Engineering are a pool of talented, creative, and dedicated individuals who are committed to the School's mission, vision and core values. Each of the eight academic departments that comprise the School of Science and Engineering offers high quality academic programs that provide a strong theoretical basis combined with practical experience in the laboratory, clinic or in the field. Merrimack College's students learn by thinking and by doing, and our goal is to provide a variety of curricular and co-curricular opportunities that encourage our students to do both.

The School of Science and Engineering offers degree programs through the departments of Biology, Chemistry and Biochemistry, Civil and Mechanical Engineering, Computer Science, Electrical Engineering, Health Sciences, Mathematics, and Physics. Students majoring in Athletic Training, Biology, Biochemistry, Chemistry, Civil Engineering, Computer Science, Electrical Engineering, Health Sciences, Information Technology, Mechanical Engineering and Sports Medicine earn the Bachelor of Science degree. Students majoring in Physics earn either
the Bachelor of Science or Bachelor of Arts degree, depending upon the specific curriculum followed. Students majoring in Mathematics earn the Bachelor of Arts degree. A STEM (Science, Technology, Engineering, and Mathematics) Education co-major which leads to licensure in Elementary Education, Early Childhood and Moderate Disabilities offered in the School of Education. For all departments, Bachelor’s degrees may be earned either through a standard four-year undergraduate curriculum or through a five-year cooperative education program. Minor programs open to all Merrimack students are offered through the departments of Biology, Chemistry and Biochemistry, Computer Science, Health Sciences, Mathematics, and Physics.

Degree Requirements: All students enrolled in science and engineering programs must complete the following requirements:

A. All students must meet the College’s general education requirements.
B. All students must complete the requirements for their majors as described in the following sections specific for each of the science and engineering departments.

The Francis E. Girard School of Business and International Commerce

Dean of the Girard School of Business
Mark Cordano, Ph.D.
Associate Dean
Julie Fitzmaurice, Ph.D.

Mission
The Girard School of Business develops professionals who think critically, communicate effectively, and excel in productive roles in the community and the globally competitive marketplace. Our faculty are committed to providing students with a strong foundation of business knowledge and skills in an environment having a high degree of student-faculty interaction.

Vision
The Girard School of Business will be recognized as a school of choice for those who seek excellence in business education. We will achieve distinction through scholarship and experiential learning opportunities.

Program Requirements
The Girard School of Business offers a Bachelor of Science in Business Administration. Girard School students will take courses that are distributed among the following categories:

- Merrimack College general education curriculum
- Girard School of Business core curriculum
- Concentration requirements
- Remaining courses are “open” electives
Students are required to select their concentration at the end of their sophomore year. Although students may change concentrations after their sophomore year, such changes could result in a program of study that extends beyond four years. Girard School students must select one concentration and meet those requirements to graduate. Dual concentrations are permitted. However, having two concentrations may result in a program of study that extends beyond four years and may involve taking additional credits beyond what is required to graduate with a single concentration. All Girard School students are required to have a laptop that meets the minimum laptop requirements.

**Concentrations**
The Girard School of Business offers six concentrations:

- Accounting
- Finance
- International Business
- Management
- Marketing
- Sport Management

**The School of Education**

**Dean of the School of Education**
Dan Butin, Ph.D.

**Education Chair**
Deborah Margolis, Ph.D.

**Criminology Chair**
Karen Hayden, Ph.D.

The complexities of our current society call for a new vision and a new practice in the preparation of individuals committed to the education, empowerment and transformation of our public commons. Merrimack College’s School of Education provides the opportunity to learn about, collaborate with, and impact PreK-12 schools, colleges, and communities through dynamic and focused programs that link theory to practice, excellence to impact, and classrooms with communities. Ultimately, we believe that education, broadly conceived and authentically enacted, is a transformative practice that changes ourselves and the world around us. The programs within the School of Education prepare and support our students to be thoughtful and passionate leaders and engaged citizens committed to the service of a greater social good.

At the baccalaureate level, the School of Education offers majors and minors that prepare students to be future teachers as well as a variety of majors and minors that offer an expanded view of the role and place of schools in society as well as lifespan development. Additionally, the School of Education now houses the Department of Criminology, helping to prepare students to think critically about engage thoughtfully with the legal system and issues of crime, social policies, and systems of punishment and social control. The criminology program recognizes the complex relationship between society and its members and thus focuses on how broader socio-cultural, political-economic, and historical forces influence the lives of individuals, families, and communities. Students can pursue any of these academic programs towards jobs and graduate work in fields as diverse as social work, social services, guidance, school counseling, child care, health education, human services, community education, educational
policy, child development, family studies, law enforcement agencies, law firms, juvenile courts and correction agencies, and community organizing and advocacy groups.

Specifically, the School of Education offers majors in Teacher Education, Human Development (in partnership with the psychology department), Child, Family and Community Studies, Criminology, and STEM (Science, Technology, Engineering, and Mathematics) Education. Within the teacher licensure programs, students can gain licensure in a wide array of areas: Early Childhood Education, Elementary Education, Moderate Disabilities, and middle and secondary education licenses in Biology, Chemistry, English, French, History, Mathematics, Spanish, and Physics. At the graduate level, the School of Education offers a Master’s in Education (M.Ed.) that leads to licensure in a wide array of areas: Early Childhood Education, Elementary Education, Moderate Disabilities, English as a Second Language, Reading Specialist, and middle and a wide variety of secondary education licenses. All licensure programs in the School of Education have been approved by the Massachusetts Department of Elementary and Secondary Education (DESE) and allow formal reciprocity with (and thus the ability to teach in) 45 other states.

The graduate education program also offers a post-masters Certificate of Advanced Graduate Studies (CAGS) in Teacher Leadership as well as two masters programs: an M.Ed. in Higher Education and an M.Ed. in Community Engagement. These M.Ed. programs prepare students to be educational and administrative leaders and professionals in postsecondary institutions, community-based organizations, and PreK-12 schools that work in collaboration with communities and colleges and universities.

The School of Education also houses three Centers. The Graduate Institute for Education offers innovative professional development programs for teachers and administrators in PreK-12 schools. The Center for Engaged Democracy is a central hub for developing, coordinating, and supporting academic programs around the country focused on civic and community engagement. The Center for Youth and Families offers advocacy, service, resources, research, and educational programming to support local schools, community centers, and families.

Please visit www.merrimack.edu/schoolofeducation for the most up-to-date information about the School of Education.

The Office of Graduate and Professional Studies

Associate Vice President
Mark A. Gould

Director
Lyndsey Tarsia

The Office of Graduate and Professional Studies is building strong new programs which will respond to the changing professional academic and personal needs of our diverse student population.

Our professional studies programs are designed for any student who is ready to complete a degree, advance a career, or engage in lifelong learning. We welcome people at any point in their education or profession to take advantage of our strengthened programs and combined resources. We offer outstanding faculty, a varied curriculum, small class sizes, and highly
personalized academic advising to help you find your path. Our location makes us easy to reach—and our tight-knit campus community fosters friendship and engagement.

Students may study part-time or full-time, and they may work toward a degree or take courses for personal growth or professional enrichment. Evening degree programs include those leading to the Bachelor of Arts in Liberal Arts with concentrations such as Communication Studies, Philosophy, Psychology, Public and Professional Writing, Religious and Theological Studies, Sociology or a minor in Business; a Bachelor of Science in Business with concentrations in Management and Accounting; a Bachelor of Science in Information Technology; and Bachelor of Science in Electrical Engineering.

If you are a student who has earned your Associate’s Degree and wishes to complete a 4-year degree, our office also offers 24 month cohort programs such as the Bachelor of Science in Child, Family and Community Studies with tracks including PreK-6 teacher licensure tracks, as well as Family and Community Engagement and Early Childhood Administration non-licensure tracks. Additional 24 month cohort programs include Liberal Arts and Business Administration with concentrations in Accounting or Management.

The office of Graduate and Professional Studies also offers World Language Program PDP earning seminars and workshops for current teachers in languages such as Spanish, French and Italian.
Academic Programs

Overview of Majors, Minors, and Concentrations
Merrimack College offers 37 major programs, with 33 specialized concentrations within those majors, and 55 minor programs. As noted above, a major is a specialized program of study, constituted by a focused set of courses, most of which typically are drawn from one discipline, the major discipline, but some of which may be drawn from closely related, or cognate, disciplines; for example, a major in Psychology requires not only Psychology courses but also a cognate course from Health Sciences. Some of the majors provide opportunities for students to specialize on a focused area within the major discipline and cognate courses. For example, students majoring in Biology choose from among three concentrations, in Integrative Biology, Ecology and Environmental Biology, and Molecular and Cellular Biology and Biotechnology. The Business major has six concentrations, in Accounting, Finance, International Business, Management, Marketing, and Sport Management.

Minors are secondary specializations consisting of fewer courses, that allow a student to focus on a part of a larger discipline. Many students choose a combination of one or more majors and/or minors to create an individualized curriculum of study based on their own interests and goals.

The following list includes all the possible majors with their concentrations, followed by a list of all the minors. The list indicates the School that houses that major/minor, or if a major involves multiple disciplines in an integrated fashion as an interdisciplinary program. Details on each program are provided after the list.

The first such detailed description, however, is of the Merrimack College Honors Program, which is not a major program of study, but a program offered to select students across all majors.
<table>
<thead>
<tr>
<th>Majors/Concentrations</th>
<th>School</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art &amp; Art History</td>
<td>Liberal Arts</td>
<td>Visual and Performing Arts</td>
</tr>
<tr>
<td>Athletic Training</td>
<td>Science &amp; Engineering</td>
<td>Health Sciences</td>
</tr>
<tr>
<td>Biochemistry</td>
<td>Science &amp; Engineering</td>
<td>Chemistry &amp; Biochemistry</td>
</tr>
<tr>
<td>Biology</td>
<td>Science &amp; Engineering</td>
<td>Biology</td>
</tr>
<tr>
<td>Molecular and Cellular Biology and Biotechnology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ecology and Environmental Biology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrative Biology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Administration</td>
<td>Business School</td>
<td></td>
</tr>
<tr>
<td>Accounting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>International Business</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marketing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sport Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemistry</td>
<td>Science &amp; Engineering</td>
<td>Chemistry &amp; Biochemistry</td>
</tr>
<tr>
<td>Civil Engineering</td>
<td>Science &amp; Engineering</td>
<td>Civil Engineering</td>
</tr>
<tr>
<td>Communication Studies</td>
<td>Liberal Arts</td>
<td>Communication Arts &amp; Sciences</td>
</tr>
<tr>
<td>Interpersonal Communication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organizational Communication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mass Communication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer Science</td>
<td>Science &amp; Engineering</td>
<td>Computer Science</td>
</tr>
<tr>
<td>Criminology</td>
<td>Education</td>
<td>Criminology</td>
</tr>
<tr>
<td>Digital Design</td>
<td>Liberal Arts</td>
<td>Visual and Performing Arts</td>
</tr>
<tr>
<td>Economics</td>
<td>Liberal Arts</td>
<td>Economics</td>
</tr>
<tr>
<td>Education</td>
<td>Education</td>
<td>Education</td>
</tr>
<tr>
<td>Early Childhood Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary Education with Moderate Disabilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle School Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical Engineering</td>
<td>Science &amp; Engineering</td>
<td>Electrical Engineering</td>
</tr>
<tr>
<td>Computer Engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical Engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>Liberal Arts</td>
<td>English</td>
</tr>
<tr>
<td>Creative Writing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Literary Studies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Studies &amp; Sustainability</td>
<td>Interdisciplinary Program</td>
<td>World Languages &amp; Cultures</td>
</tr>
<tr>
<td>French</td>
<td>Liberal Arts</td>
<td></td>
</tr>
<tr>
<td>Health Science</td>
<td>Science &amp; Engineering</td>
<td>Health Sciences</td>
</tr>
<tr>
<td>Nutrition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Health</td>
<td></td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>Liberal Arts</td>
<td>History</td>
</tr>
<tr>
<td>Early Childhood Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary Education with Moderate Disabilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School &amp; Society</td>
<td>Interdisciplinary Program</td>
<td></td>
</tr>
<tr>
<td>Major</td>
<td>School</td>
<td>Department</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>-------------------------------</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td>Information Technology</td>
<td>Science &amp; Engineering</td>
<td>Computer Science</td>
</tr>
<tr>
<td>International Studies</td>
<td>Liberal Arts</td>
<td>Political Science</td>
</tr>
<tr>
<td>Italian Studies</td>
<td>Liberal Arts</td>
<td>World Languages &amp; Cultures</td>
</tr>
<tr>
<td>Mathematics</td>
<td>Science &amp; Engineering</td>
<td>Mathematics</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>Science &amp; Engineering</td>
<td>Civil Engineering</td>
</tr>
<tr>
<td>Philosophy</td>
<td>Liberal Arts</td>
<td>Philosophy</td>
</tr>
<tr>
<td>Physics</td>
<td>Science &amp; Engineering</td>
<td>Physics</td>
</tr>
<tr>
<td>Embedded Controller</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Political Science</td>
<td>Liberal Arts</td>
<td>Political Science</td>
</tr>
<tr>
<td>Psychology</td>
<td>Liberal Arts</td>
<td>Psychology</td>
</tr>
<tr>
<td>Religious &amp; Theological Studies</td>
<td>Liberal Arts</td>
<td>Religious &amp; Theological Studies</td>
</tr>
<tr>
<td>Romance Languages</td>
<td>Liberal Arts</td>
<td>World Languages &amp; Cultures</td>
</tr>
<tr>
<td>Self-Designed Major</td>
<td>Interdisciplinary Program</td>
<td></td>
</tr>
<tr>
<td>Sociology</td>
<td>Liberal Arts</td>
<td>Sociology</td>
</tr>
<tr>
<td>Spanish</td>
<td>Liberal Arts</td>
<td>World Languages &amp; Cultures</td>
</tr>
<tr>
<td>Sport Medicine</td>
<td>Science &amp; Engineering</td>
<td>Health Sciences</td>
</tr>
<tr>
<td>Human Performance and Wellness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Physical Therapy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEM Education</td>
<td>Education</td>
<td>Education</td>
</tr>
<tr>
<td>Theater Arts</td>
<td>Liberal Arts</td>
<td>Visual and Performing Arts</td>
</tr>
<tr>
<td>Minor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounting</td>
<td>Business</td>
<td></td>
</tr>
<tr>
<td>Animation</td>
<td>Liberal Arts</td>
<td>Visual and Performing Arts</td>
</tr>
<tr>
<td>Art History</td>
<td>Liberal Arts</td>
<td>Biology</td>
</tr>
<tr>
<td>Biology</td>
<td>Science &amp; Engineering</td>
<td></td>
</tr>
<tr>
<td>Business Administration</td>
<td>Business</td>
<td>Chemistry &amp; Biochemistry</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Science &amp; Engineering</td>
<td>Psychology</td>
</tr>
<tr>
<td>Clinical/Counseling Psychology</td>
<td>Liberal Arts</td>
<td>Communication Arts &amp; Sciences</td>
</tr>
<tr>
<td>Communication Studies</td>
<td>Liberal Arts</td>
<td>Computer Science</td>
</tr>
<tr>
<td>Computer Science</td>
<td>Science &amp; Engineering</td>
<td>Criminology</td>
</tr>
<tr>
<td>Criminology</td>
<td>Education</td>
<td>Visual and Performing Arts</td>
</tr>
<tr>
<td>Digital Design</td>
<td>Liberal Arts</td>
<td>Economics</td>
</tr>
<tr>
<td>Economics</td>
<td>Liberal Arts</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>Education</td>
<td>Education</td>
</tr>
<tr>
<td>Educational Studies</td>
<td>Liberal Arts</td>
<td>English</td>
</tr>
<tr>
<td>English</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Studies &amp; Sustainability</td>
<td>Interdisciplinary Program</td>
<td></td>
</tr>
<tr>
<td>European History</td>
<td>Liberal Arts</td>
<td>History</td>
</tr>
<tr>
<td>Experimental Psychology</td>
<td>Liberal Arts</td>
<td>Psychology</td>
</tr>
<tr>
<td>Finance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>French</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Psychology</td>
<td>Liberal Arts</td>
<td>World Languages &amp; Cultures</td>
</tr>
<tr>
<td>Health Science</td>
<td>Science &amp; Engineering</td>
<td>Psychology</td>
</tr>
<tr>
<td>Human Development</td>
<td>Liberal Arts</td>
<td>Health Sciences</td>
</tr>
<tr>
<td>Human Resource Management</td>
<td>Business</td>
<td>Psychology</td>
</tr>
<tr>
<td>Information Technology</td>
<td>Science &amp; Engineering</td>
<td>Computer Science</td>
</tr>
<tr>
<td>International Relations</td>
<td>Liberal Arts</td>
<td>Political Science</td>
</tr>
<tr>
<td>Italian</td>
<td>Liberal Arts</td>
<td>World Languages &amp; Cultures</td>
</tr>
<tr>
<td>Major</td>
<td>College</td>
<td>Major</td>
</tr>
<tr>
<td>------------------------------</td>
<td>-----------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td>Italian Studies</td>
<td>Liberal Arts</td>
<td>World Languages &amp; Cultures</td>
</tr>
<tr>
<td>Jewish/Christian/Muslim Relations</td>
<td>Business</td>
<td>Science &amp; Engineering</td>
</tr>
<tr>
<td>Management</td>
<td>Liberal Arts</td>
<td>Philosophy</td>
</tr>
<tr>
<td>Marketing</td>
<td>Business</td>
<td>Liberal Arts</td>
</tr>
<tr>
<td>Mathematics</td>
<td>Science &amp; Engineering</td>
<td>Liberal Arts</td>
</tr>
<tr>
<td>Moral Philosophy</td>
<td>Liberal Arts</td>
<td>Science &amp; Engineering</td>
</tr>
<tr>
<td>Music</td>
<td>Business</td>
<td>Liberal Arts</td>
</tr>
<tr>
<td>Operations Management</td>
<td>Liberal Arts</td>
<td>Science &amp; Engineering</td>
</tr>
<tr>
<td>Philosophy</td>
<td>Science &amp; Engineering</td>
<td>Liberal Arts</td>
</tr>
<tr>
<td>Philosophy of Science</td>
<td>Liberal Arts</td>
<td>Science &amp; Engineering</td>
</tr>
<tr>
<td>Physics</td>
<td>Science &amp; Engineering</td>
<td>Liberal Arts</td>
</tr>
<tr>
<td>Political Communication</td>
<td>Liberal Arts</td>
<td>Science &amp; Engineering</td>
</tr>
<tr>
<td>Political Philosophy</td>
<td>Liberal Arts</td>
<td>Science &amp; Engineering</td>
</tr>
<tr>
<td>Pre-Law</td>
<td>Science &amp; Engineering</td>
<td>Liberal Arts</td>
</tr>
<tr>
<td>Public Health</td>
<td>Liberal Arts</td>
<td>Science &amp; Engineering</td>
</tr>
<tr>
<td>Public and Professional Writing</td>
<td>Science &amp; Engineering</td>
<td>Liberal Arts</td>
</tr>
<tr>
<td>Religious &amp; Theological Studies</td>
<td>Liberal Arts</td>
<td>Science &amp; Engineering</td>
</tr>
<tr>
<td>Science and Religion</td>
<td>Liberal Arts</td>
<td>Liberal Arts</td>
</tr>
<tr>
<td>Self-Designed</td>
<td>Liberal Arts</td>
<td>Liberal Arts</td>
</tr>
<tr>
<td>Social/Organizational Psychology</td>
<td>Liberal Arts</td>
<td>Liberal Arts</td>
</tr>
<tr>
<td>Sociology</td>
<td>Liberal Arts</td>
<td>Liberal Arts</td>
</tr>
<tr>
<td>Spanish</td>
<td>Liberal Arts</td>
<td>Liberal Arts</td>
</tr>
<tr>
<td>Sports Medicine</td>
<td>Liberal Arts</td>
<td>Liberal Arts</td>
</tr>
<tr>
<td>Studio Art</td>
<td>Liberal Arts</td>
<td>Liberal Arts</td>
</tr>
<tr>
<td>Theatre</td>
<td>Liberal Arts</td>
<td>Liberal Arts</td>
</tr>
<tr>
<td>United States History</td>
<td>Liberal Arts</td>
<td>Liberal Arts</td>
</tr>
<tr>
<td>United States Politics</td>
<td>Liberal Arts</td>
<td>Liberal Arts</td>
</tr>
<tr>
<td>Women’s and Gender Studies</td>
<td>Liberal Arts</td>
<td>Liberal Arts</td>
</tr>
</tbody>
</table>
The Merrimack College Honors Program

**Director:** William Wians, Ph.D., Professor of Philosophy

The Merrimack College Honors Program offers students with strong academic credentials, class standing, and leadership qualities the opportunity to study with other exceptional students in smaller and more challenging classes. Inspired by Augustine’s philosophy of teaching and learning, the Program is dedicated to active learning in community with others leading to transformative experiences. The Program is not a separate major, but an innovative and exciting approach to fulfilling the College’s general education requirements and to earn honors credit in advanced courses. The Program also includes a variety of social and co-curricular activities.

Students in the Honors Program must take at least eight honors courses (usually one per semester). Each semester, the Program offers special honors sections designed to satisfy the College’s general education requirements (for example, Honors First Year Writing). Other honors courses are electives based on student interests, or allow students to earn honors credit in advanced courses. Honors sections are capped at 15 students. A final capstone course is taken in the student’s senior year.

Students in the Honors Program must satisfy the same institutional and divisional requirements as any other Merrimack student, and must have the same number of credits to graduate. Honors students must also satisfy a two-semester service and experiential learning requirement, normally satisfied beginning in their sophomore year. Students must maintain a 3.40 GPA their freshman year and a 3.50 thereafter. Cumulative GPAs are reviewed at the end of each semester for freshmen and at year’s end for upper classmen. A student whose GPA falls below the required threshold will be asked to meet with the director of the Program to discuss a plan for raising the student’s GPA. No student is automatically dropped from the Program. Students receive no extra credit or enhanced GPA points for taking an honors course. An ‘A’ in an honors course earns the same qualitative points as an ‘A’ in any other course. Honors courses will be listed as such on a student’s transcript, regardless of whether a student remains in the Program through graduation.
Department of Accounting

Girard School of Business

Faculty:
Professor Richard DelGaudio
Associate Professors Hanson, Puretz and Nelson
Assistant Professor Nogler

Accounting is a professional program that prepares students for careers in industry, public accounting, government (local, state and federal) and not-for-profit institutions (hospitals, schools, etc.). As industry and the economy grow more complex, the demand for accountants continues to grow and the role that the accountant fulfills in the reporting and analysis of financial data becomes increasingly more important and critical. In addition to satisfying the college’s general education requirements and the cognate and core requirements for the major in business administration, students concentrating in accounting must complete the following courses:

ACC 3303 Intermediate Accounting I
ACC 3304 Intermediate Accounting II
ACC 3308 Cost Accounting
ACC 4406 Advanced Accounting
ACC 4407 Taxes
ACC 4408 Auditing

ACC 3303 Intermediate Accounting I 4 cr.
The Intermediate Accounting course sequence constitutes the “keystone” of the accounting curriculum for accounting concentrations. The central theme of the Intermediate Accounting course sequence is financial accounting and the generally accepted accounting principles (GAAP) by which it is governed. The objective of the course sequence is to allow the students to develop a sophisticated comprehension of GAAP, the related theory underlying these GAAP and the corresponding practices, procedures and techniques employed in their application. Intermediate Accounting I concentrates on their application to economic resources (assets). Prerequisite: BUS 2203. Four hours a week.

ACC 3304 Intermediate Accounting II 4 cr.
The second course in the Intermediate Accounting sequence. The central theme of the course is financial accounting and the generally accepted accounting principles (GAAP) by which it is governed. The objective of the course is to allow students to develop a sophisticated comprehension of GAAP, its underlying theories, and corresponding practices, procedures, and techniques employed in their application. Intermediate Accounting II concentrates on student application to sources of economic resources (liabilities and equity). Prerequisite: ACC 3303. Four hours a week.

ACC 3308 Cost Accounting 4 cr.
An examination of the manufacturing function from the view of the cost accountant. Managerial control of the elements of product costs will be studied with an emphasis on cost accumulation systems, both historical and
estimated. Topics covered will include standard (estimated) costs, variance analysis, profit planning, cost-volume-profit analysis, and relevant cost analysis for problem solving. Prerequisite: BUS 2203. Four hours a week.

ACC 4406
Advanced Accounting 4 cr.
This course examines and analyzes complex accounting topics not previously covered in Intermediate Accounting. Topics covered include: organization, structure, aims and process used by the FASB; basics of consolidated financial statements; current value accounting; accounting for not-for-profit organizations; governmental accounting; and other topics current in the field of accounting. Prerequisite: ACC 3303. Four hours a week.

ACC 4407
Taxes 4 cr.
This course covers federal income taxation concepts and principles primarily for individuals and corporations. Income recognition, deductions, tax calculations, capital gains and losses and tax accounting methods are discussed for various tax reporting entities. Tax differences between corporations, individuals and flow-through entities are covered. Prerequisite: BUS 2203 or permission of instructor. Four hours a week.

ACC 4408
Auditing 4 cr.
This course provides a strong conceptual and practical approach to auditing. Emphasis is placed on auditing theory, supplemented with practice work papers and discussions with selected representatives of the accounting profession. Prerequisite: BUS 2203. Fulfills X in LS Core. Four hours a week.

ACC 4411
Advanced Taxation 4 cr.
An elective designed for students who have taken ACC 4407 and who wish to expand their knowledge of taxation in advanced areas of taxation of individuals, partnerships, corporations, trusts and estates. Prerequisite: ACC 4407 or permission of instructor. Four hours a week.

ACC 4412
Accounting Information Systems 4 cr.
This course develops the concept of accounting as a system designed to provide information to support business processes and decisions about the effectiveness of these processes and to control risk. Both manual and automated systems applications of accounting will be considered. Prerequisite: ACC 3303 or permission of instructor.

ACC 4800
Directed Study Maximum 4 cr.
An independent study course for superior senior students under the direction of a faculty member. Approval must be obtained from the chair and the faculty member involved.

ACC 4900
Special Topics in Accounting 4 cr.
This course is designed to explore contemporary issues in Accounting. The specific topic varies each time the course is taught. Descriptions are available in the Business Dean's office. Prerequisite: ACC 3303. Four hours a week.

Art & Art History
See Visual & Performing Arts

Athletic Training
See Health Sciences

Biochemistry
See Chemistry
Department of Biology
School of Science & Engineering

Faculty:
Chair (2013-2014): Associate Professor Jon Lyon
Professors Birnbaum and Modica-Napolitano
Associate Professors LeBlanc-Straceski, and MacLaren
Assistant Professor Berkes

Biology is the core life science program offered in colleges of arts and sciences. The Department of Biology provides a comprehensive, interdisciplinary education offering breadth and depth of study in the biological sciences, including cellular and molecular biology, biotechnology, genetics, organismal biology, ecology, and environmental biology. The curriculum emphasizes the process of science through inquiry-based learning and accomplishment in laboratory and field courses, thesis research, and a host of co-curricular opportunities. The Biology degree program provides students with new challenges, opportunity, versatility and purpose, while preparing students for employment in biomedicine, biotechnology, and environmental science, for graduate study in the diverse areas of life sciences, and for professional study in medical, dental, and veterinary schools.

The Biology Major: The Biology major offers program concentrations for students who wish to pursue careers and/or further study in biotechnology and biomedical sciences (Area A), in the health professions (including pre-med, pre-veterinary, and pre-dental programs) (Area B), or in ecology and environmental biology (Area C). Each student is individually advised and counseled according to his/her aptitude and career interests and courses are recommended to assist students in reaching their full potential.

Requirements for the Bachelor of Science Degree in Biology:

1. All students majoring in biology are required to take the following core courses:
   BIO 1027 Principles of Biology I*
   BIO 1028 Principles of Biology II*
   BIO 2010 Ecology
   BIO 2018 Genetics

   *Starting in fall 2013, BIO 1028 will be offered in the fall and BIO 1027 will be offered in the spring; thus students will take BIO 1028 prior to BIO 1027

2. Upon successful completion of these core requirements, students must choose one of the following three curriculum options for completing a Bachelor of Science Degree in Biology:

   Area A) Concentration in Molecular and Cellular Biology and Biotechnology
   BIO 3037 Cellular Biochemistry
   BIO 3038 Molecular Biology and Biotechnology
   BIO 3040 Cell Biology
   BIO Elective
   BIO Elective

   Area B) Concentration in Integrative Biology (Pre-Med, Pre-Vet, Pre-Dental)
3. Biology Electives: Students are encouraged to choose from the following selections based on their interests and career direction.

- **BIO 3012** Immunology
- **BIO 3031** Embryonic Development
- **BIO 3051** Comparative Anatomy and Physiology II
- **BIO 3062** Limnology
- **BIO 3064** Marine Biology
- **BIO 3071** Conservation and Restoration Biology
- **BIO 3075** Aquatic and Coastal Zone Ecology
- **BIO 3085** Bioinformatics
- **BIO 3090** Global Field Studies Program
- **BIO 4081** Special Topics Seminar in Biology
- **BIO 4092** Directed Study/Research
- **BIO 4095** Biology Internship
- **BIO 4096** Senior Thesis Research and Seminar

4. Cognate Requirements:

- **CHM 1110, 1120** General Chemistry I, II
- **CHM 2210, 2220** Organic Chemistry I, II
- **PHY 2201, 2202** or **2211, 2212** Physics I, II
- **MTH 1217** Calculus I and 1 additional math course
- [**MTH 1016 Pre-calculus, MTH 1218 Calculus II, or MTH 1111 Statistics**]

A total of 124 credits is required for the bachelor's degree.

Students may choose to combine the biology major with an additional major or minor in another field, such as business, education, psychology, computer science, and mathematics.

**The Center for Biotechnology and Biomedical Sciences:** The Center for Biotechnology and Biomedical Sciences (CBBS) was officially opened in May 2009 and was conceived of and brought to fruition by the Department of Biology. Under the authority of the Department of Biology, the mission of the CBBS is to ensure an excellent educational experience by promoting innovative and interdisciplinary initiatives in the Departmental and related curriculum, student/faculty research, graduate programs, community outreach programs and corporate partnerships. Biology majors at Merrimack have many opportunities to work with faculty and
the Director of the CBBS, Dr. LeBlanc-Straceski, on biotechnology and biomedical research projects. Students, faculty and corporate partners have many opportunities to work together with the Director of the CBBS on biotechnology and biomedical research projects.

**Pre-Medical, Pre-Veterinary and Pre-Dental Advising:** Dr. Charlotte Berkes, the Health Professions Advisor, will meet with students having an interest in the medical professions area early in their freshman year. Students will be advised about course selection and extracurricular activities throughout their careers at Merrimack College that will strengthen their application to professional schools.

**Graduate School Advising:** The Department is committed to advising those students interested in pursuing careers in graduate school. The Department's Graduate School Advisor, Dr. R. David MacLaren, is available to students to help them in preparation for, applying and attending graduate school.

**Experiential Learning:** All Biology majors are strongly encouraged to participate in at least one semester of experiential learning while at Merrimack College either through research under the direction of a Biology faculty member (BIO 4082 and BIO 4096) or a Biology Internship (BIO 4095). The internship is an off-site work-study experience co-supervised by Dr. Mark Birnbaum, the departmental Internship Coordinator and a mentor in the work place.

**Quarrybrook Field Station:** The Quarrybrook Outdoor Learning Center is a 280-acre field site located in Windham, NH. In a partnership with the El-Hefni Foundation, Merrimack College students have controlled access to this field station for experiential, inquiry-based field investigations, research and environmental education activities. The site has an array of ecological systems ranging from various-aged pine and mixed hardwood forests, forested wetlands, herbaceous wetlands, streams, vernal pools, artificial ponds, rock outcrops and open areas. The site also has an extensive trail system.

**Global Field Studies Program:** The Program provides students with intensive learning experiences in applied ecology, conservation biology and human ecology in environmentally significant locations across the globe. This program invites students to witness and compare the biological complexity of natural ecosystems, to appreciate their natural beauty, rich history, and to understand the effects of human activities on these systems. Recent courses have included field studies in Belize, Tanzania, the Amazon River Basin in Brazil, Australia and the Galapagos Islands.

**Minor in Biology:** Requirements for the minor program in biology include BIO 1027, 1028, 2010, 2018, and 1 upper level Biology elective.

**BIO 1027**

**Principles of Biology I**

4 cr.  
The Unity and Diversity of Life: Molecules, Cells, and Organisms. An introduction to biological principles at the cellular and molecular level. Central topics include cell structure and function, energy transduction, the flow of genetic information, cellular reproduction, and intracellular and intercellular communication. Laboratory investigations supplement the lecture material and introduce students to the theory and practice of the scientific method and the application of basic techniques in cell and molecular biology. Satisfies a Mathematics/Science distribution requirement. Fulfills a STEM requirement in LS Core. Three hours lecture and one laboratory period a week.

**BIO 1028**

**Principles of Biology II**

4 cr.  
The Unity and Diversity of Life: Organisms, Ecology and Evolution. An introduction to biological principles centered on organisms, adaptation and evolution. The course will focus on the process of evolution and the diversity of higher
organisms. The course will explore how and why all living organisms must deal with the transmission of information, with the capture and expenditure of energy, with transport of materials, and with self-regulation. Animal behavior will also be considered. The course will have an integrated lecture and laboratory and will stress the relationships between organismal adaptation, form, function, ecological relationships and evolution. Prerequisites BIO 1027 or consent of instructor. Satisfies a Mathematics/Science distribution requirement. Fulfills a STEM requirement in LS Core. Three hours lecture and one laboratory period a week.

BIO 2010(W) Ecology 4 cr.
An introduction to ecological concepts and their applications including interrelated scientific principles, both abiotic and biological. In addition to a core grounding in ecological concepts, the class will look at major environmental perturbations and the complexity of interrelations inherent in dealing with human use and alteration of ecosystems. Students will focus on the quantitative comparison of different ecological communities and ecosystems and learn quantitative sampling and analysis. The laboratory will consist of field excursions and exercises related to the field experience and ecological techniques. Prerequisites: BIO 1027, BIO 1028. Satisfies a Mathematics/Science distribution requirement. Three hours lecture and one laboratory/field period a week.

BIO 2018 Genetics 4 cr.
The concepts of genetics permeate all sub-disciplines within biology, from medicine to ecology. Increasingly, a solid understanding of the principles of genetics have become necessary in the formation of public policy and legal affairs, as well as in the biotechnology, forensic, agricultural, healthcare and fitness industries. This course stresses a thorough understanding of the structure and function of the genetic material, how genotype dictates phenotype via the regulation of gene expression, how proteins are made, how mutations occur and are repaired, the basics of recombinant DNA technology, how genes get fixed in populations and the genetic basis of evolution. The laboratory will introduce the basic skills and stress the theoretical basis of modern molecular genetic techniques utilized in recombinant DNA technology, ecological and population biology, informatics and forensics. Prerequisites: BIO 1027 or consent of the instructor. Three hours of lecture and one laboratory a week.

BIO 2100 HHMI SEA PHAGES Project 2 cr.
The Merrimack College Center for Biotechnology and Biomedical Sciences and the Department of Biology are associates of the Howard Hughes Medical Institute Science Education Alliance (SEA). The Phage Hunters Advancing Genomics and Evolutionary Science (PHAGES) project is a research-based laboratory course. Students isolate bacteriophages from local soil samples, purify and characterize their phages, and select one phage per class for sequencing. During the spring, students will gather for a couple of meetings to annotate and analyze the genome. The project culminates with participation in the SEA-PHAGES Symposium in June, a scientific meeting at which student representatives from each of the Alliance schools present the results of their research. Prerequisite: consent of the instructor. Open to freshmen and sophomores only. One laboratory session plus another meeting during the week.

BIO 3009 Environment, Ecology and Society 4 cr.
The course engages students to inquire the linkages between ecological systems, human systems and human perturbations of natural ecological systems. Emphasis is placed on applied environmental issues that currently confront the planet. Students will also discuss the process of biological/ecological inquiry and the nature of science. This course will acquaint students with some of the social, economic, political, and ethical aspects of environmental problems following an introduction to the basic principles of ecology - the study of the interactions among organisms and their physical environment. The future of our society depends on whether Homo sapiens can learn to live in harmony with the global ecosystem so that it can support civilization. Knowing how the world ecosystem works permits more than knowledgeable participation in the great decisions of our day. Consideration will be given to alternative ways of organizing our society in accordance with sound ecological principles. Students will read several topical papers and conduct a semester-long investigation on an approved topic. Satisfies a Mathematics/Science distribution requirement. This course does not count as an upper course elective for Biology Majors. Three hours a week with some field/laboratory work.

BIO 3012 Immunology 4 cr.
An overview of the fundamental principles of immunology. These include a study of the cellular and genetic characteristics of the immune system; the structure, function, and physical properties of antigens, antibodies, and complement; the humoral and cell mediated immune responses; and the etiology, diagnosis, treatment and prevention of immunological diseases that impact individual and community health. Laboratory investigations
supplement the lecture material and provide an introduction to current methods and techniques in clinical immunology. Prerequisites: BIO 1028, BIO 2018. Three hours of lecture and one laboratory period a week.

**BIO 3031 Embryonic Development**  
4 cr.  
Countless remarkable transformations and events occur in the transition from egg, to embryo, to adult. Examples from human and model systems will be used to illustrate the cellular and genetic principles that govern embryonic development. Discussion topics will include stem cell and human embryo research, prenatal testing, infertility and assisted reproduction, therapeutic and reproductive cloning, and "when does human life begin?". In the laboratory students will be introduced to a variety of model organisms to illustrate key events and principles of embryonic development. Prerequisites: BIO 1027, BIO 1028, BIO 2018 or consent of the instructor. Satisfies a Mathematics/Science distribution requirement. Three hours of lecture and one laboratory period a week.

**BIO 3037 Cellular Biochemistry**  
4 cr.  
A study of the properties, structures, and function of three major classes of biomolecules: proteins, carbohydrates and lipids; a comprehensive survey of carbohydrate metabolism, with emphasis on the integration and control of metabolic pathways. Laboratory investigations supplement the lecture material and provide an introduction to current methods and techniques in cellular biochemistry. Prerequisites: BIO 1027, BIO1028 or CHM 1110 and 1120; co-requisite CHM 2210. Three hours of lecture and one laboratory period a week.

**BIO 3038 Molecular Biology and Biotechnology**  
4 cr.  
DNA makes RNA makes protein. This course will cover the processes that revolutionized the study of biology and medicine. The scientific discoveries that shaped the biotechnology industry will be covered as we learn the cutting edge techniques currently used in academic laboratories, industry and medicine. Topics covered will include RNAi therapeutics, immunodetection and analysis of polymorphisms in forensic applications. The laboratory will be project based. Prerequisites: BIO 1027, BIO 2018. Three hours of lecture and one laboratory period a week.

**BIO 3040 Cell Biology**  
4 cr.  
The goal of this course is to gain a working knowledge of the molecular mechanisms responsible for cell growth, death, differentiation, motility, communication, and homeostasis. Specific topics include macromolecular synthesis, cytoskeleton and motor proteins, the regulation of gene expression, signal transduction, membrane transport, protein secretion, membrane sorting, the cell cycle and cancer. Active learning is stressed in both the lecture and the laboratory. The lecture includes classroom discussions of textbook materials, along with student led presentations/discussions of original research articles on topics of their own choosing related to course subject matter. Emphasis is placed upon the understanding of concepts, methodologies, and interpretation of data. In the laboratory, the students work in small groups to (1) culture both osteoclast cell lines and primary cells, and then treat these cells with hormones to bring about their differentiation in vitro; (2) use high density DNA microarray chip data and bioinformatics to analyze osteoclast gene expression; (3) transfect osteoclasts with siRNA; (4) assess osteoclast differentiation; and (5) individually write a research paper about their results. Prerequisites: BIO 1027, BIO 1028 or BIO 2018. Three hours of lecture and one laboratory period a week.

**BIO 3050 Comparative Anatomy and Physiology I**  
4 cr.  
A study of the evolution and mechanisms of animal body functions from genes to organ systems to the whole organism interacting with its environment. Course goals include fostering greater appreciation for the universal functions and principles shared by all animals while also considering the diversity of form & function (i.e., understanding the key differences across animal phyla, classes, orders, etc., with particular emphasis on vertebrates). Focus is placed largely on animal nervous and endocrine systems as mechanisms of regulating physiologic function relative to environmental needs, and compared to that of human beings. Laboratory will consist of comparative anatomical dissections, physiological experimentation, and critical reviews (writing and discussion) of scientific literature relevant to the discipline. Prerequisites: BIO 1027, BIO 1028 or BIO 2018. Three hours of lecture and one laboratory period a week.

**BIO 3051 Comparative Anatomy and Physiology II**  
4 cr.  
Students develop a working knowledge of the comparative structure and function of the animal body. In class, students compare how different animal groups carry out muscle function, circulation, respiration, digestion, excretion, reproduction, and fluid, energy and thermal balance. In laboratory, students utilize a combination of classroom discussions, anatomical models, palpation (surface anatomy), nerve/muscle associations, dissections of preserved
material, computer software, musculoskeletal analysis of movements, and limited human cadaver examination to become proficient in structure/function relationships including medical perspectives. Prerequisites: BIO1027, BIO 1028, BIO 2010, BIO 2018. Three hours of lecture and one laboratory period a week.

BIO 3062
Linmology 4 cr.
Linmology is the study of inland waters: lakes, rivers and wetlands. This course will investigate the geologic, physical, chemical and biological processes associated with inland waters. Students will be introduced to lake communities and the physical and chemical properties of their environment. Rivers and wetlands will also be covered. Topics covered in the class will include the watershed and its hydrology; fluxes of nutrients and materials to and within lakes; the littoral and pelagic zones and their dynamics; sediments and the structure and dynamics of major plant and animal communities. Students will also be introduced to estuaries and marine systems. Invasive species, eutrophication and other forms of human alteration also will be discussed. Prerequisites: BIO 1027, BIO 1028, BIO 2010, CHM 1110, CHM 1120. Three hours of lecture and one laboratory/field period a week.

BIO 3063
Animal Behavior 4 cr.
A study of the development, physiology, genetics, ecology and evolution of animal behavior, with particular emphasis on evolution. The course first introduces the mechanisms responsible for the expression of behavior in animals: the genes, hormones, neurons and muscles that create behavior in an animal. We then examine the evolutionary basis of behavior addressing such topics as foraging strategies, predator-prey interactions, mating systems, sexual selection, aggression, kinship, habitat selection, communication, and human behavior, among others. Laboratory will involve both field and lab work introducing students to (1) observation and description of animal behavior; (2) construction of hypotheses in behavioral ecology and derivation of testable predictions; (3) collection of behavioral data; (4) quantitative & statistical analysis of those data; and (5) interpretation and presentation of findings in written and oral forms. Lab will also include critical reviews (writing and discussion) of scientific literature relevant to the discipline. Prerequisites: BIO 1027, BIO 1028, BIO 2010, BIO 2018. Three hours of lecture and one laboratory/field period a week.

BIO 3064
Marine Biology 4 cr.
A study of life and processes in the marine environment. The course stresses an ecological approach to the study of marine organisms, their adaptations, habitats, physiology and behavior, with emphasis on the importance of marine ecosystems to terrestrial ecosystems and to humankind. Special emphasis will be placed on biodiversity and conservation of ocean ecosystems as well as human impacts on the sea (fisheries, pollution, eutrophication, global climate change, environmental impacts of industrial activities and human populations, among other topics). Laboratories will include comparative anatomy and physiology of marine animals, site visits and field work. Prerequisites: BIO 1027, BIO 1028, BIO 2010, CHM 1110, CHM 1120. Three hours and one laboratory/field period a week.

BIO 3071
Conservation and Restoration Biology 4 cr.
This course will address the impacts of humans on Earth's biodiversity and ecosystems, and strategies taken to conserve, protect and restore global natural resources. This course will center on issues that are paramount to conservation and restoration of species and ecological systems. Topics covered will include global patterns of biodiversity, habitat exploitation and restoration, genetics of small populations, landscape ecology, design of nature reserves, problems associated with invasive species and Geographic Information Systems (GIS). Laboratory periods include a combination of laboratory work, GIS, site visits and later in the semester, field work. Local and regional policies affecting the conservation and restoration of biodiversity will also be included in the course. Prerequisites are BIO 1027, BIO 1028, BIO 2010, and BIO 2018. Three hours of lecture and one laboratory/field period a week.

BIO 3072
Evolution 4 cr.
This course stresses the relevance of evolution to all of biology and to real world problems. We discuss evolution not as a collection of facts, but as an ongoing research effort with the goal of understanding evolution as an observable process, especially as it relates to modern medicine and the treatment of disease. Emphasis is placed on the theoretical underpinnings of modern evolutionary biology (mutation, selection, migration, & drift) that produce evolutionary change. Additionally, students are introduced to a variety of analytical and technical skills used for studying evolution. Topics covered include population genetics, the theory of evolution by natural selection, concepts of fitness and adaptation, genetic and developmental bases of evolutionary change, modes of speciation, molecular evolution, principles of systematic biology, paleontology and macroevolutionary trends in evolution, the origins of life, and extinction, among others. We hope that exposure to the tremendous diversity within this discipline will illustrate
why evolution is viewed as the central theme unifying all of biology. Laboratory will consist of critical reviews (writing and discussion) of scientific literature as relevant to the discipline. Prerequisites: BIO 1027, BIO 1028, BIO 2010 and BIO 2018. Three hours of lecture and one laboratory period a week.

**BIO 3075**

Aquatic and Coastal Zone Ecology  
4 cr.

This course focuses on understanding the physical, chemical, and biological properties of freshwater lakes, streams, and wetlands as well as estuarine systems and salt marshes. Students will learn how concepts, ecological theory and methods can be integrated to address applied problems in aquatic and coastal zone ecology. This course assumes a basic background in biology, chemistry, math and physics. The approach will include a mix of theory (including a variety of mathematical, verbal, and graphical models of important ecological processes), and field and lab techniques. Students will also learn about how the science is done by looking at examples of research in course readings, examples in lecture, guest lecturers and by reading published research. The course investigates the relationships between habitats, applied ecology, climate, hydrology, watersheds and all types of human activities that affect aquatic ecosystems (e.g. urban development, coastal development, tourism, fisheries, protected areas, aquaculture and agriculture). Prerequisites: BIO1028, BIO 2010 or consent of instructor. Three hours of lecture and one laboratory/field period a week.

**BIO 3085**

Bioinformatics  
4 cr.

Bioinformatics can be defined as the field of study that extracts biological information from large data sets such as DNA, RNA, and protein sequences. In this course, students learn about the use of this information in the study and diagnosis of disease, in the identification of new genes of biological importance, and in drawing phylogenetic and evolutionary relationships. Topics include the collection and storage of sequence data, identification of open reading frames, sequence alignments, predictions of RNA and protein structure, and the analysis of gene product expression, function, subcellular localization, and post-translational modification. In the computer-based laboratory, students explore available on-line databases to carry out these analyses. Prerequisites: BIO 1027, BIO 2018 and junior/senior standing. Three hours of lecture and one laboratory period a week.

**BIO 3090 – 3099**

Global Field Studies Program Courses  
4 cr.

Each course offered in the Global Field Studies Program is an intensive experiential learning opportunity involving a lecture/classroom component and field work in environmentally significant locations around the world. Different ecosystems are studied and compared, and every course focuses on the natural history of the particular location both from an integrated biological perspective [zoology, botany, ecology, biogeography, microbiology and evolution], as well as consideration of the human and cultural aspects of the region. Students develop an awareness and appreciation for both biological and cultural diversity and complexity. There is an additional fee for travel. Open to majors and non-majors. (Students may enroll in more than one field studies course, using a different course number for each.) Prerequisite: Permission of instructor. One Field Studies course is generally offered every other year and students can expect that the particular region selected for ecological study will vary. Satisfies a Mathematics/Science distribution requirement. Fulfills X in LS Core.

**BIO 4081**

Special Topics Seminar in Biology  
4 cr.

An investigation of a selected topic of interest in biology, with an emphasis on reading and discussion of the primary scientific literature. Students will learn to critically read the current literature in biology, to analyze and interpret data and to present their analyses of these works to the seminar group. Library reference work and practice in the preparation of written reports will be included. Prerequisite: junior/senior standing. Four hours a week.

**BIO 4083**

Advanced Environmental Topics  
4 cr.

In this seminar course, students will critically review, evaluate and discuss current topics in environmental biology and environmental science. Students will review the current research literature, present their findings, and engage in discussions on these topics. The course will include lectures, readings, seminar discussions, individual presentations and some field trips. Topics will be chosen by students in consultation with the instructor and be based on both their current relevance and student-based interests. Students will explore interactions across several biological levels, including molecular, cellular, genetic, physiological, population and/or ecological. Please note that this is an upper level course for biology majors. Prerequisites: junior/senior standing. Fulfills X in LS Core. Four hours a week.
BIO 4092
Directed Study/Research 4 cr.
Intensive laboratory or field research experience in a selected area of biology, which includes reading and analysis of the primary literature, the development of a written report, and presentation of research results. Prerequisites: junior/senior standing and permission of instructor. Fulfills X in LS Core (pending approval).

BIO 4095
Biology Internship 4 cr.
An intensive work-study experience co-supervised by the Biology Department Internship Coordinator and a mentor in the work-place. Students are placed according to interest in a variety of public and private sector work settings, including: biomedical, pharmaceutical, and biotechnology laboratories; medical, veterinary, and dental clinics; environmental management and engineering firms. Prerequisites: senior biology major and consent of department. Fulfills X in LS Core.

BIO 4096
Senior Thesis Research and Seminar 4 cr.
Intensive laboratory or field research experience in a selected area of biology, which includes reading and analysis of the primary literature, the development of a written research proposal and thesis, and presentation of research results. Prerequisites: Senior standing and permission of instructor. Fulfills X in LS Core.

Business Administration

Girard School of Business

All Business Administration majors must satisfy the following requirements:

A. The College’s general education requirements
B. The Business Administration major requirements

1. Girard School Requirements taken in other divisions of Merrimack College:
   - Economics - ECO 1201
   - Mathematics - MTH 1003 or MTH 1115 (must take one)

2. Business Core Requirements:
   - Essentials of Business Analysis & Decision Making - BUS 1100
   - Accounting for Business - BUS 2203
   - Principles of Marketing - BUS 2205
   - Management Information Systems - BUS 2210
   - Business Statistics - BUS 2213
   - Managerial Finance - BUS 2215
   - Operations Management - BUS 2220
   - Advanced Business Analysis & Decision Making - BUS 3302
   - Strategic Analysis & Decision Making - BUS 4402
   Total: 9 courses (36 cr.)

3. Business Concentration Requirements (5 to 6 courses beyond core as listed under each concentration)

4. Electives selected to individualize a student’s program and meet graduation requirements consistent with each student’s career and educational plans.

ECO 1201 will fulfill a SOSC requirement in LS Core.

Pass/Fail Policy for Girard School of Business. As stated in the front of this catalog, “In order to encourage students to explore new areas of knowledge without undue risk to their cumulative
quality point averages, the college permits the taking of elective courses on a pass/fail basis. These courses cannot be among the courses taken to satisfy the College’s general education requirements, major, major cognate, or minor requirements; only free electives may be taken on a pass/fail basis. No more than eight credits taken on a pass/fail basis may be taken from any one department, no more than four credits may be taken in a single semester, and no more than twelve credits may be counted towards the Baccalaureate degree. Business Administration students can only take free/open electives pass/fail outside of their core requirements and concentration.

**Major GPA.** The computation of the GPA in the Business Administration Major will include all courses taken in the Girard School of Business.

**Business Minor Options:**
Students who major in Education, Liberal Arts, or Science and Engineering have the opportunity to minor in a variety of business areas. The goal of the minor is to give the student a demonstrable competency in the fundamental knowledge, skills and competencies of business.

**Accounting Minor:**
- BUS 1100 Essentials of Business Analysis
- BUS 2203 Accounting for Business
- ACC 3303 Intermediate Accounting I

- 2 additional Accounting courses (8 credits) or more from the list below:
  - ACC 3304 Intermediate Accounting II
  - ACC 3308 Cost Accounting
  - ACC 4406 Advanced Accounting
  - ACC 4407 Taxes
  - ACC 4408 Auditing
  - ACC 4411 Advanced Taxation
  - ACC 4412 Accounting Information Systems

**Business Minor:**
- BUS 1100 Essentials of Business Analysis
- BUS 2203 Accounting for Business

and a minimum of 12 additional credits offered in the Business School. A Business Internship (BUS 4850) and a Directed Study in Business (listed under each concentration with numbers 4800) do not count towards these 12 additional credits.

**Finance Minor:**
- BUS 1100 Essentials of Business Analysis
- BUS 2203 Accounting for Business
- BUS 2215 Managerial Finance
- FIN 3315 Financial Analysis

- 1 additional Finance course (4 credits) or more from the list below:
  - FIN 3325 Investments
  - FIN 3335 Corporate Finance
  - FIN 4406 International Financial Management
  - FIN 4410 Financial Planning and Services
### Human Resource Management Minor:
- BUS 1100 Essentials of Business Analysis
- BUS 2203 Accounting for Business
- MGT 3310 Organizational Behavior
- MGT 3351 Human Resource Management

1 additional Management course (4 credits) or more from the list below:
- MGT 3320 Employment Law and Labor Relations
- MGT 3330 Legal Environment of Business
- MGT 3355 Diversity in the Workplace

### Management Minor:
- BUS 1100 Essentials of Business Analysis
- BUS 2203 Accounting for Business
- MGT 3310 Organizational Behavior

2 additional Management courses (8 credits) or more from the list below:
- BUS 2213 Business Statistics
- BUS 2210 Management Information Systems
- BUS 2220 Operations Management
- MGT 3325 Ethics and Social Responsibility
- MGT 3330 Legal Environment of Business
- MGT 3351 Human Resource Management
- MGT 3357 International Management
- MGT 4417 Special Topics in Organization Studies
- MGT 3355 Diversity in the Workplace
- MGT 4414 Organizational Dynamics

### Marketing Minor:
- BUS 1100 Essentials of Business Analysis
- BUS 2203 Accounting for Business
- BUS 2205 Principles of Marketing

2 additional Marketing courses (8 credits) or more from the list below:
- MKT 3300 Marketing Strategy
- MKT 3303 Advertising and Promotion
- MKT 3306 Current Issues in Marketing
- MKT 3316 Marketing of Services
- MKT 3318 Retail Management
- MKT 3320 Global Marketing
- MKT 3322 E-Marketing
- MKT 3328 Methods of Direct Marketing
- MKT 3380 Brand and Product Management
- MKT 3309 Sales Management and Business Marketing
- MKT 3315 Entrepreneurship
- MKT 3355 Consumer Behavior
- MKT 3500 Sports Marketing

### Operations Management Minor:
- BUS 1100 Essentials of Business Analysis
- BUS 2203 Accounting for Business
BUS 2213 Business Statistics
BUS 2220 Operations Management
1 additional Management course (4 credits) or more from the list below:
MGT 3308 Quality Management
MGT 3309 Introduction to Management Science
MGT 3310 Organizational Behavior
MGT 4430 Special Topics in Operations Management

BUS 1100 Essentials of Business Analysis & Decision Making 4 cr.
Primarily for freshmen, the course provides students with an integrative approach to learning the functional areas of business while emphasizing oral and written communication and effective group interaction. Students will learn various technical, organizational and operational aspects of business through active learning opportunities, case discussions, technological applications and outside activities. Four hours a week.

BUS 2203 Accounting for Business 4 cr.
A computer and project based course designed to develop the students' ability to read and interpret internal and external financial reports, understand their underlying concepts, use their information in making informed decisions, and understand the effects of management decisions on these reports and the financial performance of the business. Topics include the basic concepts of the accounting process, preparation of the financial statements, analysis and application of the generally accepted accounting principles used to account for the various elements of the balance sheet and income statement, accounting for manufacturing operations, cost-volume-profit analysis, relevant costing, budgeting, and financial statement analysis. Prerequisites: BUS 1100. Four hours a week.

BUS 2205 Principles of Marketing 4 cr.
The marketing course introduces marketing as a functional area of a business enterprise. You will study numerous marketing concepts and functions, including the marketing concept, the marketing mix, buyer behavior, market segmentation, product position, and marketing research, all within a global context. Prerequisites: BUS 1100. Four hours a week.

BUS 2210 Management Information Systems 4 cr.
Management Information Systems presents a core of IS principles with which every business student should be familiar. Information technology has become a key component in accomplishing strategic and operational goals in organizations today. It is necessary to understand how a company utilizes information technology to gain its competitive advantage in business. This course is designed to familiarize the student with the fundamental concepts and principles of information systems. Therefore, it focuses on breadth of coverage rather than the depth of any specific IS area. Topics include: the role of IT in organizations, computers and information processing, hardware and software, managing data resources, telecommunications and networks, electronic commerce, security, IS ethics and leading information technologies and applications. Prerequisites: BUS 1100. Four hours a week.

BUS 2213 Business Statistics 4 cr.
Provides an introduction to fundamental statistical principles and procedures. Topics include descriptive statistics, discrete and continuous probability distributions and sampling distributions, statistical inference and estimation, linear regression and correlation. Prerequisites: BUS 1100, MTH 1003 or MTH 1115 (must take either course). MTH 1111 cannot be taken to satisfy this requirement. Fulfills Q in LS Core. Four hours a week.

BUS 2215 Managerial Finance 4 cr.
This course introduces the basics of a standard finance course. The goal is to provide a comfortable level of understanding of financial markets and securities for all business majors. The course will develop the financial skills and knowledge that will help them interact with the other functions of the firm to make good managerial decisions. The main topics included in the course are outlined under five main areas: (1) financial markets and institutions in a global environment; (2) financial ratios, budgeting, a firm’s pro forma financial statements, and cash flows determining firm value; (3) time value of money tools and concepts (compounding, discounting, annuities, and perpetuities); (4) relationship between risk and return; and (5) the basics of bond & stock valuation. Prerequisites: BUS 1100 and BUS 2203. Four hours a week.
BUS 2220  
Operations Management 4 cr.
The course is designed to provide students majoring in business administration with an overview of the concepts, methodologies, and applications of operations management (OM). The focus of operations in the process of converting or transforming resources into products and services. The principal responsibiliti
es of operations managers lie in making sound, cost-effective decisions that increase the productivity and competitiveness of both manufacturing and service organizations. The process of planning, implementing and monitoring the production allows operations managers to continuously improve in providing high quality goods and services at low cost thereby adding more value for the customer. Prerequisites: BUS 1100, BUS 2203 & BUS 2213. Fulfills X in LS Core. Four hours a week.

BUS 3302  
Advanced Business Analysis & Decision Making 4 cr.
The primary focus of the course is to provide students with the proper tools to excel at analyzing business issues in a creative and innovative fashion. It requires a broad based knowledge of the various functional areas of business and how they are inter-related. Students are expected to develop improved decision-making skills based upon operational analysis and will work in teams to develop a business plan for a new or existing business. The course serves as a foundation for the senior capstone course in Strategic Analysis and Decision Making. Prerequisites: BUS 2205, BUS 2210, BUS 2215, BUS 2220. Fulfills X in LS Core. Four hours a week.

BUS 4402  
Strategic Analysis and Decision Making 4 cr.
BUS 4402 is a capstone course that exposes students to issues that concern the firm as a whole. Through the use of “real-world” case studies and sophisticated practitioner journal articles, students will be called upon to grapple with such strategic issues as sizing up an organization’s standing in the marketplace, differentiating between winning and mediocre strategies, and spotting ways to improve a company’s strategy execution. In this course student teams will meet with the teaching team one hour per week to discuss their analysis of the assigned readings and cases. Prerequisite: BUS 3302. Fulfills X in LS Core. Four hours a week.

BUS 4850  
Business Internship 4 cr.
Paid and unpaid internships are an opportunity for students to gain experience in actual work settings where they can apply their classroom and other prior learning. Students work with their work setting supervisor and their professor to gain insights into the daily routines and the overall process, activities, and content of a particular setting or industry. Internships may be in for-profit, not-for-profit or public sector organizations depending on the interests of the student. While there is no specific GPA requirement for the course, it is generally recommended that you have a minimum GPA of 2.70. Permission must be obtained from the internship Professor prior to registration. Fulfills X in LS Core.

Department of Chemistry and Biochemistry
School of Science & Engineering

Faculty:
Chair (2013-2014): Associate Professor Angeliki Diane Rigos
Professors McGowan and Swallow
Associate Professors Fernandez and Theberge
Assistant Professor Franco
Laboratory Instructor

The Department of Chemistry and Biochemistry offers Bachelor of Science Degrees in Chemistry and Biochemistry. The chemistry curriculum provides a thorough understanding of chemical principles, both theoretical and practical. A strong emphasis is placed on laboratory work and excellent chemical instrumentation facilities are available for student use. Graduates are prepared either to enter directly into the many areas of the chemical industry, or to pursue advanced studies in chemistry, chemical engineering, medicine, dentistry or veterinary science. All students have the option of conducting independent research and/or summer research, and participating in internships and co-op opportunities. The American Chemical Society (ACS) Committee on Professional Training has approved the programs offered by the Department of
Chemistry and Biochemistry at Merrimack College. Students, upon completion of a specific course of study, may also have their degree certified by the ACS.

In addition to satisfying the College’s general education requirements, students have two curriculum options for completing a Bachelor of Science degree in Chemistry and one curriculum option for completing a Bachelor of Science degree in Biochemistry.

• **BS Chemistry Degree: Core Program plus**
  CHM 3580 Physical Chemistry II
  MTH 2219 Calculus III
  And 8 semester credit hours of advanced chemistry course work.

• **BS Chemistry Degree with ACS Certification: Core Program plus**
  CHM 3580 Physical Chemistry
  CHM 4910 Directed Research I
  CHM 4920 Directed Research II
  MTH 2219 Calculus III
  And 8 semester credit hours of advanced chemistry course work.

• **BS Biochemistry Degree: Core Program plus**
  BIO 1027 Principle of Biology I
  BIO 2018 Genetics
  BIO 3038 Molecular Biology & Biotechnology
  or
  BIO 3040 Cell Biology
  And 4 semester credit hours of approved advanced course work in Biology or Chemistry.

Core Requirements:

**A. Chemistry**
- CHM 1110 General Chemistry I
- CHM 1120 General Chemistry II
- CHM 2210 Organic Chemistry I
- CHM 2240 Organic Chemistry II for majors
- CHM 2320 Inorganic Chemistry
- CHM 2500 Integrated Lab I
- CHM 3410 Analytical Chemistry
- CHM 3570 Biophysical Chemistry
- CHM 4010 Chemistry Seminar I
- CHM 4020 Chemistry Seminar II

**B. Mathematics**
- MTH 1217 Calculus I
- MTH 1218 Calculus II

**C. Physics**
- PHY 2211 General Physics I
- PHY 2212 General Physics II

**D. Biology**
- BIO 3037 Cellular Biochemistry
The advanced course work in chemistry can be any 4000-level chemistry course(s). Other courses may be acceptable at the discretion of the Chemistry and Biochemistry Department. Chemistry and Biochemistry majors may want to consider a minor in biology, mathematics, or the teacher preparation programs for both middle and secondary school.

Students interested in Pre-Medical/Pre-Dental/Pre-Veterinarian programs can fulfill the standard prerequisites for medical schools by majoring in Biochemistry or Chemistry. Some medical and dental schools recommend that students take additional courses. Dr. Charlotte Berkes is the Health Professions Advisor for the college and will help you plan your additional coursework.

**Major GPA.** The major GPA for all majors within the department is based on all CHM courses.

**Minor in Chemistry**
The Department of Chemistry offers a minor in Chemistry. The required courses include:

- **CHM 1110** General Chemistry I
- **CHM 1120** General Chemistry II
- **CHM 2210** Organic Chemistry I
- **CHM 2220** Organic Chemistry II
- or **CHM 2240** Organic Chemistry II for majors*

Plus one of the following:

5. **CHM 2320** Inorganic Chemistry CHM2500 with Integrated Lab I*
6. **CHM 3410** Analytical Chemistry
7. **CHM 3570** Biophysical Chemistry I

* This option requires CHM 2240, CHM 2320 and CHM 2500 to be taken simultaneously.

**CHM 1000**
**Adventures in Chemistry**
This chemistry course is for non-science majors. Topics include the scientific method, radioactivity, atomic structure, basic principles of chemistry as they apply to air and water pollution, and the political ramifications of worldwide chemical use. No prerequisite. Offered every semester. Not open to science and engineering majors or any student that has completed any other chemistry course. Satisfies a Mathematics/Science distribution requirement. Fulfills a STEM requirement in LS Core. Two two-hour sessions a week.

**CHM 1110**
**General Chemistry I**
4 cr.
Science and engineering students will take this course. Topics include the composition of matter, the mole, stoichiometry, atomic structure, molecular bonding and structure, and the solid and liquid states. Emphasis is placed on problem-solving techniques. The laboratory offers experiments to supplement the lecture material. Prerequisite: one year of High School Chemistry and MTH 1000 or placing out of MTH 1000 on the math placement test. Satisfies a STEM requirement in LS Core. Offered every fall semester. Three hours of lecture and one three-hour laboratory a week.

**CHM 1120**
**General Chemistry II**
4 cr.
Science and engineering students will take this course. A continuation of CHM 1110. Topics include aqueous solutions, acids and bases, equilibrium calculations, kinetics, thermodynamics, and electrochemistry. The laboratory offers experiments to supplement the lecture material. Prerequisite: CHM 1110. Satisfies a Mathematics/Science distribution requirement. Fulfills a STEM requirement in LS Core. Offered every spring semester. Three hours of lecture and one three-hour laboratory a week.

**CHM1180**
**Chemistry for Engineers**
4 cr.
This course provides a thorough introduction to the science of chemistry. It will cover the nature and composition of matter, solutions, chemical reactions, equilibria, kinetics, thermodynamics and electrochemistry with applications to various fields of engineering. The laboratory offers experiments to supplement the lecture material. CE and EE
majors only. Fulfills a STEM requirement in LS Core. Offered every spring semester. Three hours of lecture and one three-hour laboratory a week.

**CHM1210**
Chemistry for the Health Professions I
4 cr.
In this course, fundamental chemical principles will be covered and their relationship to health-related professions will be discussed. Topics to be covered include: measurements and units; classification of matter; atoms and elements; ionic and molecular structure; chemical reactions and their stoichiometry, energetics, rates, and equilibria; the properties of matter as gases, liquids, solids, and solutions; acids and bases; and nuclear chemistry. This course is the first of a two-course sequence intended for Athletic Training and Sports Medicine majors. Offered every fall semester. Three hours of lecture and one three-hour laboratory a week.

**CHM1220**
Chemistry for the Health Professions II
4 cr.
In this course, fundamental principles of organic chemistry will be covered and their relationship to health-related professions will be discussed. This course will cover the structure, nomenclature, properties, and reactions of the compounds of carbon. Topics at the interface between organic chemistry and biological chemistry, such as including amino acids, proteins, carbohydrates, and lipids will also be covered. This course is the second of a two-course sequence intended for Athletic Training and Sports Medicine majors. Prerequisite: CHM 1210. Offered every spring semester. Three hours of lecture and one three-hour laboratory a week.

**CHM 2210**
Organic Chemistry I
4 cr.
This course is an introduction to the chemistry of carbon. The concepts of bonding, structure, and classification of compounds by functional groups, as well as reactions of aliphatic hydrocarbons, alkyl halides, alcohols, and ethers are presented from a mechanistic viewpoint. Stereochemical principles are emphasized. Infrared spectroscopy and mass spectrometry are introduced. The laboratory offers experiments to supplement the lecture material. Prerequisite: CHM 1120. Fulfills a STEM requirement in LS Core. Offered every semester. Three hours of lecture and one three-hour laboratory a week.

**CHM 2220**
Organic Chemistry II
A continuation of CHM 2210. The chemistry of aromatic compounds is introduced, and strong emphasis is given to the chemistry of organic compounds containing the carbonyl and amine functional groups. The application of organic reactions in multistep synthesis and the biological applications are emphasized. Nuclear Magnetic Resonance Spectroscopy is introduced. The laboratory offers experiments to supplement the lecture material. Prerequisite: CHM 2210. Offered every semester. Three hours of lecture and one three-hour laboratory a week.

**CHM 2220**
Organic Chemistry II for Majors
4 cr.
A continuation of CHM 2210. The chemistry of aromatic compounds is introduced, and strong emphasis is given to the chemistry of organic compounds containing the carbonyl and amine functional groups. The application of organic reactions in multistep synthesis and the biological applications are emphasized. Nuclear Magnetic Resonance Spectroscopy is introduced. The laboratory offers experiments to supplement the lecture material. Prerequisite: CHM 2210. Corequisites: CHM 2320 and CHM 2500. Offered every spring semester. Three hours of lecture a week.

**CHM 2320**
Inorganic Chemistry
4 cr.
This course introduces the chemistry of transition metals and main group elements. Topics include theories of bonding, kinetics and mechanisms of reactions of transition metal complexes, oxidation-reduction reactions, hard-soft acid-base theory, and solid-state chemistry. Applications of inorganic chemistry to other areas (organic, analytical, and physical chemistry, as well as biology and biochemistry) are highlighted throughout the course. Inorganic spectroscopy is introduced in conjunction with CHM 2500. Prerequisites: CHM 2210. Co-requisites: CHM 2220 and CHM 2500, Integrated Laboratory I. Offered every spring semester. Three hours of lecture a week.

**CHM 2500**
Integrated Lab I
2 cr.
In this integrated laboratory course students will learn advanced laboratory techniques in Organic and Inorganic Chemistry. Students will be trained in the synthetic techniques used by chemists in these areas. Emphasis will also be placed upon the theory and application of modern spectroscopic techniques (UV-Visible, Infrared, and Nuclear Magnetic Resonance spectroscopies, and Mass Spectrometry). Prerequisite: CHM 2210. Co-requisites: CHM 2240 and CHM 2320. Offered every spring semester. Two four-hour laboratory periods a week.
CHM 3410(W)  Analytical Chemistry  4 cr.
This course is a study of the theoretical principles, practical applications, and limitations of chemical analysis. Topics include complexation reactions, electrochemistry, potentiometry, quantitative molecular spectroscopy, and gas and liquid chromatography. The laboratory provides experience in the hands-on use of chemical instrumentation and interpretation of the data. This course is writing intensive and stresses the importance of clearly written laboratory reports. Prerequisite: CHM 2220 or CHM 2240. Offered every fall semester. Fulfills W in LS Core. Three hours of lecture and one three-hour laboratory a week.

CHM 3570(W)  Biophysical Chemistry  4 cr.
This course presents the foundations and biological applications of thermodynamics and kinetics appropriate for a chemistry or biochemistry major. The topics covered include the first and second laws of thermodynamics, phase equilibria, chemical equilibrium, ion and electron transport, rates of reactions, accounting for rate laws and complex biochemical processes such as transport across membranes, enzyme kinetics and electron transfer in biological systems. Laboratory experiments supplement the lecture material. Prerequisites: CHM 2220 or CHM 2240, PHY 2212, and MTH 1218. Offered every fall semester. Fulfills W in LS Core. Three hours of lecture and one three-hour laboratory a week.

CHM 3580  Physical Chemistry II  4 cr.
(A continuation of CHM 3570) Topics include quantum chemistry, molecular structure and spectroscopy, and statistical mechanics. Integrated Laboratory II is a required co-requisite. Prerequisites: CHM 3570 and MTH 2219. Offered every spring semester. Three hours of lecture and one three-hour laboratory a week.

CHM 3600  Introduction to Research Methods  2 cr.
This research laboratory course will introduce students to the process of and techniques employed in conducting independent research in chemistry and biochemistry. Topics will include literature search, experimental design, time management and dissemination of experimental results through oral presentations, written reports and/or journal submissions. Students will undertake a series of multifaceted projects of increasing complexity culminating in a self-designed project. Prerequisites: CHM2220, CHM 2320, CHM 2500, CHM 3410. Offered every spring semester. One four-hour laboratory period a week.

CHM 4010  Chemistry Seminar I  0 cr.
Chemistry seminar is a weekly one-hour presentation by outside speakers on a variety of topics of scientific interest. This seminar is required of senior chemistry majors. Senior chemistry majors are required to give one 15-minute presentation about their research, directed study or a topic of interest at the end of the semester. Offered every fall semester. One seminar a week.

CHM 4020  Chemistry Seminar II  0 cr.
This course is a weekly one-hour presentation by outside speakers on a variety of topics of scientific interest. This seminar is required of senior chemistry majors. Senior Chemistry majors are required to give a 30-minute presentation about their research or directed study at the end of the semester. Offered every spring semester. One seminar a week.

CHM 4100  Special Topics in Chemistry  2 cr.
Special Topics in Chemistry provides focused study of a specific and significant topic that is interdisciplinary or does not fall neatly into any of the five areas of chemistry covered by the other advanced courses. The topic can vary each time the course is taught. Specific topics might include materials chemistry, sustainable energy, and computational chemistry. The reading of journal articles will be required in addition to the textbook for the course. Descriptions will be available by the department at the time the course is taught. Prerequisites: consent of the instructor. Three hours a week for 7 weeks.

CHM 4210  Theoretical Organic Chemistry  2 cr.
This special topics course varies each time it is taught. It will include an in-depth study of a theory important to the discipline, with emphasis on reading and discussion of the primary scientific literature. Emphasis is placed on
synthetic methods, including the mechanism, scope and limitations of the important reactions in organic chemistry. Distribution of the 4 hrs/wk will be at the discretion of the instructor. Prerequisites: CHM 2220 or CHM 2240. Four hours a week for 7 weeks.

CHM 4220
Applied Organic Chemistry 2 cr.
This special topics course varies each time it is taught. It will include an in-depth study of an application or a technique important to the discipline, with emphasis on experimental procedures current in the primary literature, for example, multinuclear 2D and 3D NMR for structure determination. Distribution of the 4 hrs/wk will be at the discretion of the instructor. Prerequisites: CHM 2220 or CHM 2240. Four hours a week for 7 weeks.

CHM 4310
Theoretical Inorganic Chemistry 2 cr.
This special topics course varies each time it is taught. It will include an in-depth study of a theory important to the discipline, with emphasis on reading and discussion of the primary scientific literature, for example, topics such as crystal field theory, ligand field theory and molecular orbital theory, the chemistry, structure and bonding of transition metal complexes and organometallics. Distribution of the 4 hrs/wk will be at the discretion of the instructor. Prerequisite: CHM 2320. Four hours a week for 7 weeks.

CHM 4320
Applied Inorganic Chemistry 2 cr.
This special topics course varies each time it is taught. It will include an in-depth study of an application or a technique important to the discipline, with emphasis on experimental procedures current in the primary literature, for example, organometallic compounds, their chemistry, bonding, structures, and uses as reagents and catalysts in laboratory and industry. Distribution of the 4 hrs/wk will be at the discretion of the instructor. Prerequisite: CHM 2320. Four hours a week for 7 weeks.

CHM 4410
Theoretical Analytical Chemistry 2 cr.
This special topics course varies each time it is taught. It will include an in-depth study of a theory important to the discipline, with emphasis on reading and discussion of the primary scientific literature. Distribution of the 4 hrs/wk will be at the discretion of the instructor. Prerequisite: CHM 3410. Four hours a week for 7 weeks.

CHM 4420
Applied Analytical Chemistry 2 cr.
This special topics course varies each time it is taught. It will include an in-depth study of an application or a technique important to the discipline, with emphasis on experimental procedures current in the primary literature. Distribution of the 4 hrs/wk will be at the discretion of the instructor. Prerequisite: CHM 3410. Four hours a week for 7 weeks.

CHM 4510
Theoretical Physical Chemistry 2 cr.
This special topics course varies each time it is taught. It will include an in-depth study of a theory important to the discipline, with emphasis on reading and discussion of the primary scientific literature. Distribution of the 4 hrs/wk will be at the discretion of the instructor. Prerequisite: CHM 3580. Four hours a week for 7 weeks.

CHM 4520
Applied Physical Chemistry 2 cr.
This special topics course varies each time it is taught. It will include an in-depth study of an application or a technique important to the discipline, with emphasis on experimental procedures current in the primary literature. Distribution of the 4 hrs/wk will be at the discretion of the instructor. Prerequisite: CHM 3580. Four hours a week for 7 weeks.

CHM 4610
Theoretical Biochemistry 2 cr.
This special topics course varies each time it is taught. It will include an in-depth study of a theory important to the discipline, with emphasis on reading and discussion of the primary scientific literature. Distribution of the 4 hrs/wk will be at the discretion of the instructor. Prerequisite: CHM 3037 or BIO 3037 and CHM 2220 or CHM 2240. Four hours a week for 7 weeks.
CHM 4620
Applied Biochemistry  
2 cr.
This special topics course varies each time it is taught. It will include an in-depth study of a theory important to the discipline, with emphasis on reading and discussion of the primary scientific literature. Distribution of the 4 hrs/wk will be at the discretion of the instructor. Prerequisite: CHM3037 or BIO3037 and CHM2220 or CHM2240. Four hours a week for 7 weeks.

CHM 4800
Directed Study  
2 or 4 cr.
In lieu of a formal course, qualified upper class students may substitute an intensive program of study under the direction of a member of the department and with departmental approval, which must be obtained prior to registration. Prerequisites: CHM 1120 and consent of the instructor.

CHM 4910
Directed Research I  
4 cr.
Chemistry and Biochemistry majors will take this literature and laboratory research course directed by a faculty member. Course requirements include literature reviews, group discussions, laboratory experimentation, and presentation of seminars to the department. Prerequisite: Permission of the department. Course credit will be granted when CHM 4920 is completed. Fulfills X in LS core. Offered every fall semester. Scheduled by arrangement with research advisor.

CHM 4920
Directed Research II  
4 cr.
A continuation of CHM 4910. A senior thesis completes the two-semester project. Prerequisite: CHM 4910. Fulfills X in LS core. Offered every spring semester. Scheduled by arrangement with research advisor.

Department of Civil and Mechanical Engineering

School of Science & Engineering

Faculty:
Chair and Associate Dean (2013-2014): Professor Gary S. Spring
Associate Professors Capaldi and Westerling
Assistant Professors Veletzos and Kaklamanos

The Civil and Mechanical Engineering Department offers two programs:

Bachelor of Science in Civil Engineering
Bachelor of Science in Mechanical Engineering

Both programs prepare students to take a responsible leadership role in shaping the future of our highly technical society. The curricula are designed to provide students with a broad range of courses in mathematics, the basic sciences, the engineering sciences, the humanities and social sciences, as well as the civil and mechanical engineering disciplines. The Civil Engineering curriculum is accredited by the Accreditation Board for Engineering and Technology (ABET).

MISSION STATEMENT
Our mission is to prepare exceptional engineers.

PROGRAM EDUCATION OBJECTIVES
To accomplish this mission, our students will:

1. be able to apply their scientific and technical knowledge base as they progress along their career in civil engineering;
2. be able to identify, formulate, develop, and execute practical, innovative, high quality, and cost efficient solutions for civil engineering problems;
3. be professionals whose growth through continuing education, professional development, and professional licensure has positioned them to have a positive impact on regional, national, and global professional communities;
4. will have developed individual and team skills to maximize the benefits of their engineering education by applying it in actual situations;
5. be ethical professionals who are able to function as part of a professional enterprise while protecting human health and welfare and the environment in a global society.

The civil and mechanical engineering curricula prepare students to solve diverse and challenging problems without imposing on the employer the need to teach engineering fundamentals. In addition, they provide those students desiring to enter research or graduate school with a sound preparation in mathematics, science and engineering sciences, on which a greater professional competence in the field of engineering selected can be built. The programs aim to provide students with the opportunity to obtain a fundamental engineering education on which to build continuously after graduation.

CIVIL ENGINEERING PROGRAM REQUIREMENTS

Program Education Outcomes

Consistent with the above objectives, students will have the following skills:

1. Knowledge of contemporary issues, through broad education, which allows them to appreciate the impact of engineering solutions on humankind;
2. A recognition of the need for, and an ability to engage in, life-long learning;
3. Knowledge of mathematics, science, and engineering, an ability to apply it with proficiency in at least four civil engineering areas;
4. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice;
5. Ability to conduct laboratory experiments and to critically analyze and interpret data in more than one recognized civil engineering area;
6. An ability to design a system, component or process to meet desired needs;
7. Ability to provide leadership and effectively function as members of multi-disciplinary teams;
8. Ability to define and state engineering problems in technical and non-technical language and to apply basic engineering methods and scientific principles to solve problems;
9. Understanding of the ethical and professional responsibilities of practicing civil engineers;
10. Ability to communicate effectively using oral, written and graphic forms.
11. Knowledge of the interactions of technology and society and their possible impacts on the practice of Civil Engineering;
12. Ability to use their background in science, engineering and the humanities along with the techniques, and analytical and design skills, in an ever-changing engineering practice;
13. Sense of responsibility for the continuing development of their alma mater and their profession;
In addition to having satisfied the college's general education requirements, students who seek a Bachelor of Science in Civil Engineering degree must satisfy the following requirement or their equivalents:

A. Five courses in mathematics
   MTH 1217  Calculus I
   MTH 1218  Calculus II
   MTH 1505*  Applied Statistics
   MTH 2219  Calculus III
   MTH 2220  Differential Equations
   *MTH 2527 may be substituted for this course

B. Four courses in the basic sciences (from those listed below)
   PHY 2211  Physics I
   PHY 2212  Physics II
   CHM 1180  Engineering Chemistry
   Science Elective (from outside of physics or chemistry)

C. One course in engineering communications
   GEN 1001(W)  Introduction to Engineering

D. Four courses in engineering science
   GEN 2010  Mechanics I
   GEN 2012  Mechanics II
   GEN 3040  Fluid Mechanics
   MEN 3030*  Thermodynamics I
   *also offered as PHY 4803 Thermodynamics

E. Seven courses in the civil engineering core
   CEN 2001  Site Engineering
   CEN 3010  Structural Analysis
   CEN 3020  Geotechnical Engineering
   CEN 3030  Transportation Engineering
   CEN 3050  Environmental Engineering
   CEN 3090  Professionalism and Ethics
   CEN 4901  Design Project

F. Depth Electives. A minimum of 14 credit hours of depth electives as shown below. At least one course must be selected from each of the four lists shown.

<table>
<thead>
<tr>
<th>Environmental Engineering</th>
<th>Structural Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEN 5030  Environmental Design*</td>
<td>CEN 5012  Steel Analysis and Design*</td>
</tr>
<tr>
<td>CEN 5032  Applied Hydrology</td>
<td>CEN 5016  Concrete Analysis and Design</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Geotechnical Engineering</th>
<th>Transportation Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEN 5020  Geotechnical Design</td>
<td>CEN 5042  Traffic Engineering</td>
</tr>
<tr>
<td></td>
<td>CEN 5040  Geometric Design</td>
</tr>
<tr>
<td></td>
<td>CEN 5044  Transportation Planning</td>
</tr>
<tr>
<td></td>
<td>&amp; System Analysis</td>
</tr>
</tbody>
</table>
G. **Technical Elective.** A minimum of four credit hours, at the advanced level, in a technical area that supports and/or expands the student's interest in engineering. The choice of course must be approved by the student’s advisor:

*Examples of Technical Electives*
- CEN 5050 Construction Planning and Management
- MTH 4623 Applied Analysis (leads to Math Minor)

H. **CEN 4900 Senior Seminar**

I. Students must register for and take the Fundamentals of Engineering examination, administered by the National Council of Engineering Examiners, in order to graduate. Limited course substitutions for those listed above are permitted for students who have sound educational plans that, in the judgment of the department, justify the substitutions.

**MAJOR GPA.** Please consult the department to determine what courses are included in the calculation of the GPA for this major.

**MINOR.** No minor is offered in civil engineering.

**BACHELOR OF SCIENCE IN CIVIL ENGINEERING**

<table>
<thead>
<tr>
<th>FRESHMAN YEAR</th>
<th></th>
<th>SOPHOMORE YEAR</th>
<th></th>
<th>JUNIOR YEAR</th>
<th></th>
<th>SENIOR YEAR</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH 1217</td>
<td>Calculus</td>
<td>MTH 1218</td>
<td>Calculus II</td>
<td>PHY 2212</td>
<td>Physics II</td>
<td>GEN 3040</td>
<td>Fluid Mech.</td>
</tr>
<tr>
<td>PHL 1000</td>
<td>Intro to Philosophy</td>
<td>PHY 2211</td>
<td>Physics I</td>
<td>MTH 2219</td>
<td>Calculus III</td>
<td>GEN 3050</td>
<td>Des. &amp; Res. Seminar</td>
</tr>
<tr>
<td>FYW 1050</td>
<td>First Year Writing</td>
<td>Arts &amp; Lit (AL)</td>
<td>AL Core course</td>
<td>CEN 2001</td>
<td>GE Site Design</td>
<td>CHM 1180</td>
<td>Engineering Chemistry</td>
</tr>
</tbody>
</table>

|                      |                      |                |                      | Hist. St. (H) | Hist. Studies Core course | Science Elective | Elective |                           | SOSC 1100    | Soc. Sci. (SOSC) |

*also offered as PHY 4803 Thermodynamics*

<table>
<thead>
<tr>
<th>CEN 4901(X)</th>
<th>Design Project</th>
<th>CEN 4900</th>
<th>Senior Seminar</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEN 4900</td>
<td>Design Project</td>
<td>CEN 4900</td>
<td>Senior Seminar</td>
</tr>
<tr>
<td>CEN 4900</td>
<td>Design Project</td>
<td>CEN 4900</td>
<td>Senior Seminar</td>
</tr>
<tr>
<td>CEN 4900</td>
<td>Design Project</td>
<td>CEN 4900</td>
<td>Senior Seminar</td>
</tr>
<tr>
<td>CEN 4900</td>
<td>Design Project</td>
<td>CEN 4900</td>
<td>Senior Seminar</td>
</tr>
</tbody>
</table>
NOTES:
1. Students must register for and take the Fundamentals of Engineering examination, administered by the National Council of Engineering Examiners, in order to graduate.
2. To be taken from a science program other than physics or chemistry

COOPERATIVE EDUCATION PROGRAM IN CIVIL ENGINEERING

The problems facing our society in the first decade of the new century, demand engineering graduates who have an educational background based on sound scientific and economic principles, as well as having an appreciation of, and acquaintance with, engineering practice in their field. This interlocking of theory and practice is provided in Merrimack College's cooperative education program in civil engineering by the blending of academic studies and practical professional experience. The co-op calendar for the student majoring in civil engineering is designed as a five-year program. An alternation between academic semesters and work periods lasting one or two semesters begins after the sophomore year and continues until the end of the program.

Since the firms employing cooperative education students offer a wide variety of practical training and many lines of specialization, students are afforded the opportunity to secure work in the field in which they are most interested. Although the cooperative plan does not guarantee work or advantage set level of compensation, every effort is made to place students to their best educational and financial advantage. Co-op students receive a salary directly from the employers at the prevailing rate in the industry, office or shop in which they are employed. By the time they graduate, students have received valuable training in several departments of one or more companies.

The cooperative education staff monitors the program closely, making frequent visits to the students' workplaces to insure that the work experience benefits both students and the employing companies. Through interviews with company officials, coordination of the work experience with school curricula is maintained and adjustments in types of work assignments, salaries, and other relevant matters are made.

MECHANICAL ENGINEERING PROGRAM REQUIREMENTS

Program Educational Outcomes

Consistent with the Departmental objectives, students will have:

1. An ability to apply knowledge of mathematics, science, and engineering;
2. An ability to design and conduct experiments, as well as to analyze and interpret data;
3. An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability;
4. An ability to function on multidisciplinary teams;
5. An ability to identify, formulate, and solve engineering problems;
6. An understanding of professional and ethical responsibility;
7. An ability to communicate effectively;
8. The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context;
9. A recognition of the need for, and an ability to engage in life-long learning;
10. A knowledge of contemporary issues;
11. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

In addition to having satisfied the College-wide institutional and distribution requirements, students who seek a Bachelor of Science in Mechanical Engineering degree must satisfy the following requirements or their equivalents:

A. Five courses in mathematics
   MTH 1217  Calculus I
   MTH 1218  Calculus II
   MTH 1505*  Engineering Statistics
   MTH 2219  Calculus III
   MTH 2220  Differential Equations
   *MTH 2527 may be substituted for this course

B. Four courses in the basic sciences
   PHY 2211  Physics I
   PHY 2212  Physics II
   CHM 1180  Engineering Chemistry
   Science elective

C. One course in engineering communications
   GEN 1001(W)  Introduction to Engineering

D. Five courses in engineering science
   GEN 2010  Mechanics I
   GEN 2012  Mechanics II
   GEN 3040  Fluid Mechanics
   MEN 3030  Thermodynamics I
   MEN 3032  Thermodynamics II

E. Six courses in the mechanical engineering core
   MEN 3010  Machine Design
   MEN 3012  Dynamics/Vibrations
   MEN 3020  Materials Science
   MEN 3034  Heat and Mass Transfer
   MEN 3090  Professionalism and Ethics
   MEN 4901  Design Project

F. Depth Electives: A minimum of 14 credit hours of depth electives as shown below. At least one course must be selected from each of the two lists:

<table>
<thead>
<tr>
<th>Mechanical Systems</th>
<th>Thermal Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEN 5010 Advanced Mechanics/FEM</td>
<td>MEN 5030 Energy Systems</td>
</tr>
<tr>
<td>MEN 5012 Instrumentation/Robotics</td>
<td>MEN 5032 Solar &amp; Direct Energy Conversion</td>
</tr>
<tr>
<td>CEN 5012 Steel Analysis and Design</td>
<td>MEN 5034 Windpower Systems</td>
</tr>
<tr>
<td>MEN 5020 Mechanical behavior of polymers</td>
<td>MEN 5040 Advanced Fluid Mechanics</td>
</tr>
</tbody>
</table>

G. Technical Elective: A minimum of four credit hours, at the advanced level, in a technical area that supports and/or expands the student’s interest in engineering. The choice of course must be approved by the student’s advisor.
H. MEN 4900 Senior Seminar

I. Students must register for and take the Fundamentals of Engineering examination, administered by the National Council of Engineering Examiners, in order to graduate. Limited course substitutions for those listed above are permitted for students who have sound educational plans that, in the judgment of the department, justify the substitutions.

MAJOR GPA. Please consult the department to determine what courses are included in the calculation of the GPA for this major.

MINOR. No minor is offered in mechanical engineering.

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

FRESHMAN YEAR

| GEN 1001(W) | Intro. to Eng. | MTH 1505 | Applied Statistics |
| GEN 1217 | Calculus I | MTH 1218 | Calculus II |
| PHL 1000 | Intro to Philosophy | PHY 2211 | Physics I |
| FYW 1050 | First Year Writing | Arts & Lit (AL) | AL Core course |

SOPHOMORE YEAR

| GEN 2010 | Mechanics I | GEN 2012 | Mechanics II |
| PHY 2212 | Physics II | MTH 2220 | Diff. Equations |
| MTH 2219 | Calculus III | GEN 3040 | Fluid Mech. |
| CSC 1610 | Computer Science I | CHM 1180 | Engineering Chemistry |

JUNIOR YEAR

| MEN 3020 | Materials Science | MEN 3010 | Machine Design |
| MEN 3034 | Heat and Mass Transfer | MEN 3014 | Dynamics/Vibrations |
| MEN 3030 | Thermodynamics I | MEN 3032 | Thermodynamics II |
| RTS 1110 | Christianity in Context | Ethics (E) | Ethics Core course |
| Hist. St. (H) | Hist. Studies Core course | MEN 3090 | Professionalism & Ethics |

SENIOR YEAR

| MEN | Depth Elective | CEN 4901 | Des. Project |
| MEN | Depth Elective | MEN | Depth Elective |
| Technical | Elective | MEN | Depth Elective |
| Soc.Sci.(SOSC) | SOSC Core course | MEN 4900 | Senior Seminar |
| Soc.Sci.(SOSC) | SOSC Core course |

CEN 2001

Site Engineering

This course provides students the necessary background to select and develop sites for civil engineering structures as well as review the work of others. Proper site selection and engineering have a significant impact on the economics of a project and long-term utility of the constructed facility. Specifically, the course covers the skills of determining site layout and access, establishing site contour and drainage, installation of utilities, elementary surveying, creation of drawings using a computer aided drafting package, and performing alternatives assessments. Three lecture hours and three lab hours a week.

CEN 3010

Structural Analysis
This is an introductory course in structural analysis. Classical methods of analysis of determinate and indeterminate truss, beam, and frame systems are studied. Emphasis is given to a parallel development of hand calculations and computer analysis skills. Classical methods covered include: the principle of virtual work; moment distribution; influence lines; the force method; and the stiffness method. Prerequisite: GEN 2012. Four lecture hours a week.

**CEN 3020 Geotechnical Engineering** 4 cr.
An introduction to the fundamental principles of geotechnical engineering. Soil classification, compaction, seepage, consolidation, and shear strength. Intensive laboratory exercises familiarize the student with standard laboratory test methods for soil property determination and to reinforce data collection, data analysis, and report writing skills. Prerequisite: GEN 3040 and GEN 2012. Three lecture hours and three lab hours a week.

**CEN 3030 Transportation Engineering** 4 cr.
An introduction to the engineering of transportation systems in the context of one mode: highways. The major aspects of highway engineering are covered in a framework of the highway planning and design process in the US and include: history and description of the US system of highways, its administration and finance, the planning process, alternatives evaluation, traffic engineering, traffic operations and safety, geometric design, and structural pavement design. Laboratories involve a community design project in which field studies are conducted and used in developing alternative design strategies, provided in a final design submission. Prerequisite: CEN 2001; Corequisite: MTH 1505. Fulfills X in LS Core. Three lecture hours and three lab hours a week.

**CEN 3050 Environmental Engineering** 4 cr.
Introduction to the processes and systems utilized in the principal areas of environmental engineering—water, wastewater, air and solid waste management. Emphasis is placed on the engineering principles and practices involved in the collection, treatment and disposal of wastewater, the collection, treatment and distribution of water, the types, sources and disposal of solid wastes, and the types, sources, treatment and distribution of air pollutants. A brief introduction to water resources is also included. Prerequisites: CHM 1180, GEN 2012 and GEN 3040. Three lecture hours and three lab hours a week.

**CEN 3090 Professionalism and Ethics** 1 cr.
Students are exposed to the ethical and professional environment in which they will be practicing after graduation. This seminar, through a series of invited speakers, involves discussions about professionalism, engineering ethics and the practice of engineering. One lecture hour a week.

**CEN 4060 Geology** 4 cr.
An introduction to physical and historical geology including mineral and rock identification, earthquakes, plate tectonics and natural earth resources. Emphasis is placed on map interpretation of land forms, sedimentation, earthquake mechanisms, engineering geology and applied geology. Occasional laboratory sessions and field trips will be arranged. Satisfies a Mathematics/Science distribution requirement. Fulfills X in LS Core. Four lecture hours a week.

**CEN 4810 Special Topics** 4 cr.
Lectures, reading, study and research on topics of importance in civil engineering. This course is tailored to the interest of faculty and students and offered only on demand. Prerequisite: consent of the instructor. Hours to be arranged.

**CEN 4820 Directed Study** 4 cr.
Qualified students may propose a course of individual study and work to be conducted under the direction of a member of the department. Prerequisite: consent of the instructor. Hours to be arranged.

**CEN 4900 Senior Seminar** 1 cr.
The first step in becoming a registered Professional Engineer is to take and pass the Fundamentals of Engineering (FE) exam. This course provides a review of the exam for graduating seniors. Open to Civil Engineering seniors only. One lecture hour a week.
CEN 4901
Design Project 4 cr.
A capstone design course which draws together into a single project material learned during the first three and one-halfr years of study. The design team approach will be utilized in the course. A project suggested by the college or community group will be designed so that a team-client relationship exists. Prerequisite: CEN 3090 and instructor permission. Fulfills X in LS Core. Three lecture hours and three lab hours a week.

CEN 5012
Steel Analysis and Design 4 cr.
This is an introductory course in the design and analysis of steel structures based upon specifications published by the American Institute of Steel Construction (AISC). The objective of this course is to introduce students to the structural design process and to provide a detailed understanding of the design of steel structures. The course will emphasize the general theory and behavior of structural steel, as well as design practice. Prerequisites: CEN 3010, MTH 2220. Four lecture hours a week.

CEN 5016
Concrete Analysis and Design 4 cr.
This is an introductory course in the design and analysis of reinforced concrete structures. An introduction to the ACI-318 building code is given in the context of the course to familiarize students with the main design document in the country. The objective of this course is to introduce students to the structural design process and to provide a detailed understanding of the design of reinforced concrete structures. The course will emphasize the general theory and behavior of reinforced concrete, as well as design practice. Prerequisites: CEN 3010, MTH 2220. Four lecture hours a week.

CEN 5020
Geotechnical Design 4 cr.
An introduction to the geotechnical design aspects of foundations. Site investigation techniques and characterization of subsurface conditions. Analysis of lateral earth pressures. Geotechnical design of shallow and deep foundations with emphasis on capacity and movement under vertical and lateral loading. Prerequisites: CEN 3020, MTH 2220. Four lecture hours a week.

CEN 5030
Environmental Design 4 cr.
This course is structured to emphasize the design method. Design projects are taken from the areas of water and wastewater treatment, solid waste disposal, air pollution control, hydraulics and applied hydrology. Assignments are intended to bring together much of the material covered in previous courses. Oral and written reports, design specifications and preliminary drawings are required for all assignments. Prerequisites: CEN 3050, MTH 2220. Four lecture hours a week.

CEN 5032
Applied Hydrology 4 cr.
This course begins with an introduction to hydrologic principles followed by applications to rainfall-runoff analysis, floodplain hydraulics and groundwater hydrology. A strong emphasis is placed on computational methods and computer programs are used for problem solving. Prerequisites: CEN 3050, MTH 2220. Four lecture hours a week.

CEN 5040
Geometric Design of Highways 4 cr.
Development and applications of geometric design tools for rural and urban highways. Topics include: design controls and criteria; elements of design, including sight distance, horizontal and vertical alignment; cross-section elements; highway types; intersection design elements; types of interchanges and interchange design elements; grade separations and clearance; development of visual elements. Prerequisites: CEN 3030. Four lecture hours.

CEN 5042
Traffic Engineering 4 cr.
Development and applications of concepts of geometric design for rural and urban highways. Design controls and criteria; elements of design, including sight distance, horizontal and vertical alignment; cross-section elements; highway types; intersection design elements; types of interchanges and interchange design elements; grade separations and clearance; development of visual elements. Prerequisites: CEN 3030. Four lecture hours a week.
CEN 5044
Transportation Planning & Systems Analysis 4 cr.
Review and critique of techniques used to plan transportation facilities and services in urban areas; application of selected techniques to forecast demand and evaluate transportation alternatives. Prerequisite: CEN 3030. Four lecture hours a week.

CEN 5050
Construction Planning and Management 4 cr.
Construction management process and methods; estimating construction cost and bidding, construction activity planning and scheduling, project planning; project cost and control; construction organization costs control; computerized project scheduling. Prerequisite: Senior standing or permission by instructor. Four lecture hours a week.

GEN 1001 (W)
Introduction to Engineering 4 cr.
This course provides freshman engineering students with the communication skills needed in college and throughout their careers, and introduces them to the profession of engineering. Computer skills, report generation, public speaking, leadership and teamwork skills, and computer-aided drawing are covered. Design is emphasized throughout. Fulfills W in LS Core. Three lecture hours and three lab hours a week.

GEN 2010
Mechanics I 4 cr.

GEN 2012
Mechanics II 4 cr.
The concept of stress and strain at a point. Stress-temperature relationships. Force and deformation analyses of bodies under axial, shearing, flexural, torsional and combined loadings. Euler Columns. Prerequisites: GEN 2010, MTH 1218. Three lecture hours and three labs a week.

GEN 3040
Fluid Mechanics 4 cr.
Fluid statics, principles of one-dimensional incompressible flow, derivation and applications of the continuity, energy, momentum equations. Viscous flow, flow in pipe lines and open channels. Fluid measurements and dimensional analysis. Corequisites: GEN 2012 and MTH 2219. Three lecture hours and three lab hours a week.

MEN 3010
Machine Design 4 cr.
Students will learn the basic principles and practical calculation methods of heat and mass transfer. The course covers heat conduction, convection, and radiation as well as mass diffusion and convection. Prerequisites: MEN 3020. Four lecture hours a week.

MEN 3014
Dynamics and Vibrations 4 cr.
This course provides the fundamentals required to analyze moving rigid body objects. Topics include kinematics, kinetics, Coriolis acceleration, general methods of linear and angular momentum, central force motion, generalized coordinates. Lagrange’s equations, and vibrations of one degree of freedom systems. Prerequisites: GEN 2012, MTH 2220. Four lecture hours a week.

MEN 3020
Materials Science 4 cr.
Students will learn the basic principles and practical calculation methods of heat and mass transfer. The course covers heat conduction, convection, and radiation as well as mass diffusion and convection. Prerequisites: GEN 2012. Four lecture hours a week.

MEN 3030
Thermodynamics I 2 cr.
This is the first course of a two course sequence. This course covers the first and second law of thermodynamics, thermodynamics properties of gases, vapors, and gas-vapor mixtures. The fundamental thermodynamic laws and relations are covered while the applications to cycle analysis are covered in the second course in the sequence. Prerequisites: GEN 3040. Two lecture hours a week.
MEN 3032
Thermodynamics II
2 cr.
This course covers energy-systems including power cycles, refrigeration cycles and air-conditioning processes. Students are introduced to the differences between ideal cycles and actual cycles. Computer software is used to analyze complex multistage thermodynamic processes. Prerequisites: MEN 3030. Two lecture hours a week.

MEN 3034
Heat and Mass Transfer
4 cr.
Students will learn the basic principles and practical calculation methods of heat and mass transfer. The course covers heat conduction, convection, and radiation as well as mass diffusion and convection. Prerequisites: GEN 3040, MTH 2220. Four lecture hours a week.

MEN 3090
Professionalism and Ethics
1 cr.
Students are introduced to the ethical and professional environment in which they will be practicing after graduation. This seminar, through a series of invited speakers, involves discussions about professionalism, engineering ethics and the practice of engineering. One lecture hour a week.

MEN 4900
Senior Seminar
1 cr.
The first step in becoming a registered Professional Engineer is to take and pass the Fundamentals of Engineering (FE) exam. This course provides a review of the exam for graduating seniors. Open to mechanical engineering seniors only. One lecture hour a week.

MEN 4901
Design Project
4 cr.
Real-life design projects emphasize problem definition, conceptualization, modeling, approximation techniques and optimization. Teamwork, communication, leadership and group discussions are encouraged. Student group and professional expert presentations bring awareness to diverse design issues and methodology, and professional engineering practice. Prerequisite: instructor permission. Three lecture hours and three lab hours a week.

MEN 5010
Advanced Mechanics/FEM
4 cr.
This course on the mechanics of solids covers the mathematical basis for stress analysis, models of material behavior, the finite element method and its application, and boundary and initial value problems involving deformable solids. Prerequisites: MEN 3014, MEN 3020. Four lecture hours a week.

MEN 5012
Instrumentation/Robotics
4 cr.
This course provides an introduction to the kinematics, statics, dynamics, and control issues involved in the instrumentation and design of robotic systems. Intended as an interdisciplinary course, students will interact with computer science, electrical engineering, and mechanical engineering majors to create and analyze a robotic system. Prerequisites: MEN 3014. Four lecture hours a week.

MEN 5020
Mechanical Behavior of Polymers
4 cr.
The relation between structure and the mechanical behavior of polymeric materials, including the application of fracture mechanics concepts to failure mechanisms such as wear, fatigue, and environmental degradation. Prerequisites: MEN 3020. Four lecture hours a week.

MEN 5030
Energy Systems
4 cr.
This course provides an introduction to global energy concerns, fossil and nuclear fuels, energy consumption analysis, energy management and conservation techniques, renewable and alternative energy sources. In addition, the course covers traditional Rankin cycles from traditional power plants multi-stage absorption cycles and vapor compression cycles with pure and mixed working fluids. Prerequisites: MEN 3032. Four lecture hours a week.
MEN 5032
Solar and Direct Energy Conversion 4 cr.
Review of engineering principles of solar energy conversion including collection techniques, thermal and direct conversion, system performance prediction, and selected topics. Prerequisites: MEN 3034. Four lecture hours a week.

MEN 5034
Windpower Systems 4 cr.
Engineering aspects of windpower systems including aerodynamic analysis, mechanical design, support structure design, wind field analysis, system concepts and analysis, and economics. Prerequisites: MEN 3040. Four lecture hours a week.

MEN 5040
Advanced Fluid Mechanics 4 cr.
This course covers the compressible flow including shock waves, boundary layers, separation, drag, and lift. Course also covers inviscid, irrotational flow, and boundary layer theory. Analytical and numerical solutions for flow over plates are discussed. Prerequisites: GEN 3040. Four lecture hours a week.

Clinical/Counseling Psychology minor
See Psychology

Department of Communication Arts and Sciences
School of Liberal Arts

Faculty:
Chair (2013-2014): Associate Professor Deborah Burns
Professors Cain and Rossi
Assistant Professors Isbell, Tollison, and Turner

The Department of Communication Arts and Sciences offers two distinct programs: the Communication program and the Writing program. As described in more detail below, the Communication program offers a major and a minor in communication, with a choice of concentrations in interpersonal, organizational, and mass communication. The Writing program offers a minor in public and professional writing. Students interested in pursuing both programs may combine a communication major and writing minor or may propose a self-designed cross-program major.

The Communication Program

The study of communication at Merrimack provides students with an interdisciplinary approach to human interaction. The communication major examines verbal and nonverbal messages as they shape and are shaped by relationships, organizations, and media. Our program at Merrimack explores practices, processes, and contexts in which communication occurs. Communication courses provide students with opportunities to examine the theories and research used to develop the discipline as well as the skills and knowledge to meet the complex communication challenges of the 21st century.

According to a national survey of employers, communication is the most important skill sought when hiring and promoting. Our goal is to develop sophisticated producers and consumers of communication who understand how face-to-face and mediated messages influence and shape
每日生活和舆论。毕业的学生能够批判性地分析口头、书面和视觉交流。

**Major Requirements**

The Communication Arts and Sciences major requires the completion of a minimum of 38 credits and a minimum of ten (10) courses, as specified below:

To accomplish the learning outcomes and focus the student's curriculum, Communication Studies requires students to complete three introductory courses to provide a theoretical base of knowledge in Communication Studies. After completing these three introductory courses, students can choose one of three concentrations to focus their studies: Interpersonal Communication, Mass Communication, Organizational Communication (see descriptions below). To declare a concentration, students must have completed the three required introductory courses, or must be completing them in the semester when the concentration is formally declared. Students who begin the major as entering first-year students should formally declare their concentration in the advising period in the fall of their sophomore year.

A student may change his/her concentration up until fall of senior year, and can change the concentration only if s/he can reasonably complete all requirements for the concentration prior to graduation without making special accommodations.

Each of the concentrations will lead to a Bachelor of Arts in Communication Studies with a concentration in the chosen area. Dual concentrations are not permitted but students are allowed and encouraged to take classes across the major as necessary.

The following core courses are required of all Communication majors:

- COM 1020 Public Communication
- COM 2010 Communication Methods
- COM 2201 Introduction to Interpersonal Communication
- COM 2301 Introduction to Organizational Communication
- COM 2401 Introduction to Mass Communication
- COM 4900 Senior Seminar

**Additional Requirements**

Four (4) additional COM courses, as follows:

- At least two (2) 3000-level courses in your choice of concentration (interpersonal, organizational, or mass communication). One of these courses must be an advanced/theory course in the concentration.

*Interpersonal Communication* focuses on how verbal and nonverbal communication shapes and is shaped by human relationships, including friendships, romances, families, and work relationships. It concentrates on “people skills” required for success in any endeavor. Students gain the understanding and skills for listening, relating to and managing people, leading and influencing others, and presenting themselves effectively. In addition, students explore issues such as deception, attraction, identity, and gender.

*Organizational Communication* focuses on how members of organizations and society achieve their collective goals through the ongoing, mutual exchange of verbal and nonverbal messages. It explores issues of leadership, decision-making, conflict, collaboration, identity, and technology
in the public, private, and state sectors. Many upper level classes place students in work
settings to gain an understanding of the roles of communication in organizational processes and
to enable students to develop a practical set of skills.

*Mass Communication* focuses on the exchange of mediated messages that are filtered through
some form of technology. It includes various channels of mass communication (TV, radio, film,
newspapers, popular music, public relations, advertising, and the World Wide Web) and
machine-assisted interpersonal communication (social networking websites, blogs, wikis, text
messaging, and e-mail). Students explore theories, processes, and effects of mass
communication as well as applied production of mediated messages.

**Application to Major.** Enrollment in the Communication program at Merrimack is selective.
Students must obtain a 2.0 in all Communication courses. If a student does not achieve a 2.0 or
better grade in a COM course s/he must repeat the course until a 2.0 grade is achieved.
Students electing a Communication major will be assigned to a Communication Arts and
Sciences faculty advisor who will help determine the major and elective courses that would best
suit the student's interests and goals.

**Communication Minor**

All Communication minors, after completing the required Public Communication course, choose
a concentration in interpersonal, organizational, or mass communication by starting with the
introductory course relating to their chosen concentration. The minor in Communication
requires completing a minimum of 18 credits consisting of a minimum of five (5) courses, as
specified below:

- COM 1020 Public Communication
- One (1) introductory course for your chosen concentration (one of the following):
  - COM 2201 Introduction to Interpersonal Communication, or
  - COM 2301 Introduction to Organizational Communication, or
  - COM 2401 Introduction to Mass Communication
- Two (2) additional COM courses in your chosen concentration
- One (1) additional COM elective at the 3000-level or above

**The Writing Program**

The study of writing at Merrimack provides students with a strong background in current
composing processes and theories; experience with a range of genres and practices situated in
a variety of social, historical, and cultural contexts; an understanding of digital and multimodal
composing; and opportunities to pursue writing in areas of special interest or areas of special
relevance to a variety of major fields. Writing is closely associated with thinking and learning as
well as with human interactions. We write to discover, explore, gain perspective, reflect, and
ultimately to construct knowledge. As digital technology spurs the emergence of new media
and the creation of new genres, we often find ourselves writing and reading in nonlinear fashion,
and we are more often composing in non-print and multimodal media that may involve graphics,
sound, video, and visual components as well as text. In our increasingly digital culture, the
ability to shape language and written materials to a variety of purposes continues to gain rather
than diminish in importance.

Public awareness has also continued to grow regarding the need for sophisticated writing skills
in many genres and for an understanding of the relationship between writing and technology. As
the 2004 Report of the National Commission on Writing concluded following its survey of business leaders, writing is a “marker” attribute of high-skill, high-wage, professional work,” particularly “in sectors of the economy that are expanding, such as services, and the finance, insurance, and real estate sectors.” This conclusion has also been supported by many studies indicating that the higher individuals rise in organizations, the more time they are likely to spend communicating. In addition to baseline findings that new college graduates typically spending 20 percent of their time writing on the job (actually more than 50 percent when written and oral communication are combined), studies show that individuals in managerial positions frequently spend 70 percent or more of their time communicating, with that figure rising to 90 percent or more as they advance. A well-developed writing ability strongly supports advancement in a wide range of professions.

For those students interested in career options that involve substantial writing responsibilities, the minor in Public and Professional Writing offers a valuable opportunity for enhancing their major course of study. Such career options include public relations; corporate communications; law; administrative positions in government, industry, and nonprofits; publishing; freelance writing; etc. The writing minor enables students to pursue a strong interest in writing and/or to develop their writing abilities as part of a well-rounded liberal arts education.

**Minor in Public and Professional Writing**
The minor in Public and Professional Writing requires completing a minimum of 18 credits (with at least 9 credits at the 3000-level or above) consisting of a minimum of five (5) courses:

- WRT 2101(W) Introduction to Public and Professional Writing (required)
- WRT 3100(W) History and Theories of Writing (required)
- One (1) additional WRT course of your choice
- Two (2) additional courses chosen from those listed below and/or any other additional WRT courses. (Note that some courses below may have pre-requisites.) The courses below are listed by general area of application:

**Business and Technical Writing**
- WRT 3040(W) Technical Communication
- WRT 3050(W) Business and Administrative Communication

**Public Writing**
- WRT 2010(W) Writing Across Cultures
- WRT 2020(W) Writing for Social Change

**Professional Writing**
- WRT 2030 Column Writing

**Communication**
- COM/WRT 2100(W) Rhetoric
- COM/WRT 3452 Newspaper and New Media Production I
- COM/WRT 3453 Newspaper and New Media Production II

**Journalism**
- JRL 2020 Feature Writing
- JRL 2040 News Writing
JRL 2070  Sports Writing
Web Design and Electronic Publishing
CSC 1001  Web Programming
CSC 1510  Introduction to Information Technology
CSC 3500  Human Computer Interaction
FAA 2850  Digital Video
FAA 3860  Electronic Publishing and Illustration
FAA 3870  Design and Animation for the Web
MGT 3316  Web Development

WIC  One (1) Writing Intensive course of your choice

* For students who declared the minor prior to fall 2011, the requirement is WRT 2106 Introduction to Composition Studies, 2 additional WRT courses, and 2 additional courses from the list above.

Communication
COM 1020  Public Communication  4 cr.
This course focuses on the concepts and practices associated with effective public communication. A central aspect of this course entails the mastering of public speaking through the process of researching, preparing, and delivering presentations in a variety of formats (e.g., informative, persuasive, and impromptu). The classroom is a laboratory in which to develop the skills needed for effective public communication. In addition, students will also analyze public speaking events as a means of developing a critical understanding of the public communication process. No prerequisite. Three hours a week.

COM 2010  Communication Methods  4 cr.
This course is offered to help students examine both quantitative and qualitative methodologies utilized by researchers in Communication. Students will be introduced to the concepts of research design, sampling, measurement, data collection, behavioral observation, statistical analysis and ethics. The difference between implications of humanistic/interpretive research and positivistic/objective research will be emphasized. Prerequisite: COM 1020 and COM 2201 or COM 2301 or COM 2401, or consent of the instructor. Fulfills Q in LS Core. Four hours a week.

COM/WRT 2100(W)  Rhetoric  4 cr.
Examination of the history of rhetoric to determine its effects on modern speaking and writing and its importance to a functioning democracy. Emphasis on how ideas for speaking and writing are discovered, arranged, memorized, styled and delivered through submission of several papers and an oral presentation. Prerequisite: COM 1020 or consent of the instructor. Satisfies a Humanities distribution requirement or the Institutional Writing Intensive requirement. Fulfills W in LS Core. Three hours a week.

COM 2201  Introduction to Interpersonal Communication  4 cr.
This course is designed to foster a broader level of awareness in regard to interpersonal communication. It presents a comprehensive view of the theory and research in interpersonal communication and, at the same time, guides students to improve a wide range of interpersonal skills and to apply these to personal, social, and workplace relationships. In so doing, the course will center on issues such as self-concept, perception, self-disclosure, listening, power, and conflict. While it does not offer a formula for interpersonal success, the student will become aware of the communication processes that both disintegrate and nurture the dyadic human relationship. No prerequisite. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.
COM 2301
Introduction to Organizational Communication 4 cr.
This course focuses on how organizations serve as an entity for members of a society to achieve their collective goals—from making laws and building bridges to the local and international trade of goods and services. Organizational communication is the study of how persons accomplish these goals via the ongoing, mutual exchange of verbal and nonverbal messages. This course provides students with a firm grounding in organizational communication theory, while at the same time highlighting the very practical nature of this endeavor by (1) applying various theoretical perspectives to organizational settings and situations; (2) identifying communication problems in a variety of organizational contexts; and (3) utilizing current scholarly research and theory to further our understanding of organizational phenomena. No prerequisite. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

COM 2401
Introduction to Mass Communication 4 cr.
This course focuses on the basic principles of mass communication and its historical development. Issues explored include media access, media ethics, media effects, and current trends in the growth of digital and wireless mass communication technologies. Students examine the role of the media industry in reinforcing and challenging dominant values, attitudes, and beliefs central to American culture. An additional feature of the course studies how mass media-created ideals have been disseminated internationally, as well as how media businesses reflect, influence and sometimes defy societal norms. Students will also have the opportunity to develop their own independent mass media project. No prerequisite. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

COM 2420/FAA 2420
History of Photography 4 cr.
The various forms, uses, styles, and genres of photography will be examined within social, philosophical, and aesthetic dimensions that have evolved in the medium from its beginnings through the 1980s. Students will participate in darkroom laboratory exercises and demonstrations in photochemical production. No prerequisite. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

COM 2450/FAA 2450
Basic Digital Photography 4 cr.
Students will develop visual ability in a digital context to make, share, and publish photographs. Examples of photographic work from the history and philosophy of photography will provide for the development of a photographic vision. Composition, manipulation, restoration, and creating images for other uses, such as Power point, will be stressed. Students will also develop an on-line portfolio. A digital camera capable of 3 mega pixels or greater is required. No prerequisite. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

COM 3101
Leadership and Collaboration 4 cr.
This course focuses on the enactment of leadership through communication. Students explore the relationship between leadership and communication. Traditional and contemporary approaches to leadership within various social contexts are examined. Special emphasis is given to how communication theory can enhance our understanding of leadership. Students engage in course-curriculum activities, including personal interviews, aimed at uncovering leadership as a product of human communication, as well as refining individual leadership potential and skills. Prerequisite: COM 1020 and COM 2301, or consent of the instructor. Three hours a week.

COM 3140
Mass Media and American Politics 4 cr.
This course examines the role of the media in shaping political opinions and behavior. The role of the media in setting political agendas and reporting and interpreting political events will be examined. The nature and influence of public opinion in a democratic society will be studied. Prerequisite: POL 1100 or COM 2401, or consent of the instructor. Satisfies a Social Science distribution requirement. Three hours a week.

COM 3141
Political Communication 4 cr.
This course examines the role of political communication in the United States. The course will cover such topics as political advertising, campaign consulting and management and policymaking, polling, speech writing, negotiation, mediation and alternative dispute resolution. Students will write and present a political lobbying project on a contemporary political issue. Prerequisite: COM 3140 or POL 3140 or consent of the instructor. Three hours a week.
COM 3201  
**Gender and Communication**  
4 cr.  
This course explores how gender influences the form, style and content of our communication. In addition, this course considers how gender relates to larger issues in communication such as dominance, violence, the power of language and how that structures our world, influences our culture and our perceptions, and the promotion of dominant ideologies of gender. To accomplish these ends, we will examine popular culture both historically as well as contemporary. Students will be asked to look at the underlying assumptions about what it means to be and behave like one gender or another and what it means to live with intersexuality. Exploration of cultures that recognize three gender categories will be discussed. Prerequisite: COM 1020 and COM 2201, or consent of the instructor. Three hours a week.

COM 3221  
**Conflict and Negotiation**  
4 cr.  
This course is designed around the assumption that conflict in its various forms is an integral and unavoidable component in human affairs. The course approaches the study of conflict from a communication-centered perspective. As such, students explore how communication theory and research can add to our understanding of conflict. A wide range of conflict contexts are examined (e.g., interpersonal; intercultural; small group; organizational) along with contemporary models and theories of effective conflict management. Prerequisite: COM 1020 or consent of the instructor.

COM 3231  
**Intercultural Communication**  
4 cr.  
This course examines scholarly research and current events with concerted attention towards the improved practice of communication in intercultural, international, and interfaith settings. The primary questions investigated in the course will address the dynamics of culture, ethnicity, religion, and identity in terms of issues of representation, inequality, and empowerment against the backdrop of global transition in the 21st Century. The course will pay particular attention to the ways religion and ethnic identity influence each other at the individual, community, national, and international levels and will closely interrogate communication practices between people of Jewish, Christian, and Muslim faiths. The course will call upon research from critical and functional perspectives that utilize qualitative and quantitative methods of inquiry. Satisfies a Social Science distribution requirement. Fulfills a SOSC and D requirement in LS Core. Three hours a week.

COM 3241  
**Lying and Deception**  
4 cr.  
This course explores deceptive communication, its causes and consequences in a wide range of contexts (family and romantic relationships, art, media, politics, etc.), and the strategies used to detect their occurrence (behavioral cues, polygraphs, etc.). We will examine the processes by which people attempt to deceive others and/or themselves. We will consider communicative processes involved in specific deception phenomena such as doublespeak, equivocation, false advertising, forgery, political spin, and white lies, among others. Prerequisite: COM 1020 and COM 2201, or consent of the instructor. Three hours a week.

COM 3290  
**Advanced Interpersonal Theory**  
4 cr.  
This course helps students understand the nature and practical application of a variety of interpersonal communication theories, their role in shaping scholarship within the discipline and the results of research that follow from such theories. Students will be expected to be critical consumers of theory and use theory to examine actual communication events in real-world situations in order to improve outcomes. Methods of investigation unique to the study of interpersonal interaction will be addressed and the difference between implications of humanistic/interpretive research and positivistic/objective research will be emphasized. Prerequisite: COM 1020, COM 2201 and COM 2010, or consent of the instructor. Three hours a week.

COM 3301  
**Group Communication**  
4 cr.  
This course examines the theory and techniques which contribute to an understanding of group communication processes. Leadership and group skills are developed through practical applications (group work) aimed at accomplishing shared tasks and facilitating positive interaction. This course examines: (1) verbal and nonverbal communication in groups; (2) how groups form and group climates develop; (3) the roles of the individual in group situations; (4) group problem solving and decision making; and (5) conflict management. Students will also have the opportunity to evaluate group members’ interactions in a constructive and educated manner. Prerequisite: COM 1020 and COM 2201, or consent of the instructor. Fulfills X in LS Core. Three hours a week.
COM 3310  
**Persuasion and Social Influence**  
This course is designed to examine the study of persuasive communication as it evolved from disciplines of psychology and sociology. Special emphasis is placed on types of social influence and how people try to influence one another attitudinally or behaviorally in a wide variety of real-life communication contexts, situations, and settings. Some topics discussed will include consistency, credibility, and compliance-gaining. The course will also investigate structuring and ordering persuasive messages, the relationship between choice and coercion, as well as tactics for resisting another’s attempt to persuade. Ethics, deception, motivational appeals, propaganda, social responsibility, and conformity are other areas critically assessed. Prerequisite: COM 1020 or consent of the instructor. *Three hours a week.*

COM 3321  
**Health Communication**  
This course explores the way in which communication as symbolic activity affects the form and practice of contemporary health care. Because the provision of quality health care is a human activity central to the maintenance of society, health communication plays a crucial role not only by promoting the effective exchange of medical information, but by helping to shape the very conditions and perceptions of how health is practiced. This course addresses what communication has to do with health, and how taking action through communication can contribute productively to the increased humanization of health care institutions and routines. Prerequisite: COM 1020 or consent of the instructor. *Three hours a week.*

COM 3331  
**Communication and Nonprofit Organizing**  
This course provides an examination of communication problems encountered by nonprofit organizations. The students will explore the nonprofit sector, understand the similarity and differences that are set this type of organization apart for government and for-profit organizations. Among the topics that are explored: Superior subordinate relationships in volunteer-based organizations, interactions with special stakeholders (e.g., volunteer boards, funding agencies, community groups, under-served client populations), inter-organizational coordination efforts within communities of nonprofit, image and representation of nonprofit organizations, formal and informal structure within non-profits, and planned change implementation in the context of multiple stakeholder relationships. Prerequisite: COM 1020 and COM 2301 or consent of the instructor. *Fulfills X in LS Core. Three hours a week.*

COM 3390  
**Advanced Organizational Theory**  
This class gives students an in-depth discussion of organizational communication topics. Students build upon the theoretical base developed in the introductory course as they apply organizational communication topics and theories to real world examples. Students will examine topics such as decision-making, technology, conflict, socialization, organizational change and innovation, culture, and ethics. The class involves analysis of theory through case studies and practical learning models. Students will dissect and assess organizations while discussing the benefits and problems that stem from certain theoretical perspectives. Prerequisite: COM 1020 and COM 2301 and COM 2010, or consent of the instructor. *Three hours a week.*

COM 3401  
**Principles of Public Relations**  
This course presents an overview of basic public relations principles, concepts, and relation of theory and practice. Students will explore the field of professional public relations covering the role, origin and trends affecting the future of the practice. Special emphasis will be placed on problem solving and the tools and techniques of the trade as applied to real-life situations. The scope of the course will also examine the foundations of public relations as a communications discipline as understood historically in the role of society, public opinion, effective strategy and tactics, process, identification of public, publicity techniques, and effective use of media. Moreover, the course will address ethical and legal implications of the profession. *Three hours a week.*

COM 3421  
**Visual Communication**  
This course explores the history, theory and criticism of visual communication and examines basic assumptions about visual imagery and its impact when combined with words. This course also considers how visual discourse is shaped and transformed by social history and mechanical inventions such as the camera and computer. Discussions will consider images before and after the development of reproducible print, the shift from pre-industrial to industrial image production, major art movements, architectural styles, photographic reality, graphic design, and digital imaging. Students will learn how to effectively produce persuasive and aesthetically pleasing visually communicated messages. Prerequisite: COM 1020 and COM 2401, or consent of the instructor. *Three hours a week.*
COM 3422
Introduction to Television Production 4 cr.
This introductory course is intended to provide students with an understanding and appreciation of the art and skill involved in creating television programming. Students will examine historical milestones and develop the skill to analyze the craft. Pre-production, production, and post-production techniques will be introduced. Students will work in teams to gain experience both in front of and behind the camera and develop storytelling strategies, writing copy for television, camera shots and angles, lighting and composition, all of which will prepare them to produce original Merrimack College campus programming. No prerequisite. Fulfills X in LS Core. Four hours a week.

COM 3451
The Future of Media: Integrated Marketing Communication 4 cr.
This course is designed for students planning to pursue careers as communication professionals in the fields of advertising, public relations, marketing, and media. This kind of employment requires skills in integrated communication and demands a more complete understanding of the strategies and tactics used in traditional advertising, public relations, and marketing. In this course students will explore the emergence of integrated communication, analyze new dimensions of mass communication, and develop practical skills to transform the way memorable ideas are delivered. Prerequisite: COM 1020 and COM 2401, or consent of the instructor. Fulfills X in LS Core. Three hours a week.

COM 3452
Newspaper and New Media Production 4 cr.
This course focuses on the application of media theory, journalism ethics, and production techniques to the school newspaper and the expansion of the current news operation into new media formats. Students will produce issues of the Beacon; learn story construction, selection and framing; write stories for the regular publication of the paper; and explore and produce different methods of new media production. Fulfills X in LS Core. Four hours a week.

COM 3453
Newspaper and New Media Productions II 4 cr.
This course focuses on the advanced application of media theory, journalism ethics, and production techniques to the school newspaper and the expansion of the current news operation into new media formats. Students will produce issues of the Beacon; learn advanced story construction, advanced selection and framing; write stories for the regular publication of the paper; and explore and produce different methods of new media production. Prerequisite: COM 3452. Fulfills X in LS Core. Four hours a week.

COM 3490
Advanced Mass Communication Theory 4 cr.
This course focuses on in-depth examination of the central mass communication theories as discussed in scholarly research and the popular press. The course asks students to not only understand the basic principles of important mass communication theories but also to apply those theories by putting them into practice and/or by conducting research to test those theories. The course examines theories developed within the social sciences and the critical/cultural approach to communication research. By the end of the course students will better understand the various ways humans use mass communication technologies as well as the effects these media might have on the individual and society. Additionally, students will have the opportunity to apply communication theories to the production of mass media messages. Prerequisite: COM 1020, COM 2401 or COM 1030, and COM 2010 or consent of the instructor. Three hours a week.

COM 4011
Special Topics in Communication 4 cr.
This course provides focused study of a specific and significant topic from a communication orientation. The topic varies each time the course is taught. Descriptions will be available in the Communication Arts and Sciences office. This course includes student preparation of seminar papers and critiques. Prerequisite: COM 1020 and Junior standing or consent of the instructor. Three hours a week.

COM 4801
Directed Study 1-4 cr.
In lieu of a formal course, qualified upper-class students may, with the approval of the Chair of the Department, substitute an intensive program of reading and/or writing under the direction of a member of the department. A student wishing to elect this course will be required to submit a proposal to the program, receive approval prior to registration, and have the consent of the member of the department under whose supervision the Directed Study will be conducted.
COM 4850(W)
Communication Internship
8 cr.
This course is a work-study experience co-supervised by the Communication Arts and Sciences Department and a mentor in the workplace. Students are placed according to interest and career path in a clinical, academic, communication or industrial setting for the purpose of gaining hands-on experience in the communication discipline. Students must work at least an average of 20 hours per week in the field. In addition, students will work individually and in groups with the Internship Director to produce a 20-25 page research paper on a topic related to the internship experience. Prerequisite: COM 2010 and permission of instructor. Satisfies the Institutional Writing Intensive requirement. Fulfills W and X in LS Core.

COM 4851
Summer Communication Internship
4 cr.
This course is a work-study experience co-supervised by the Communication Arts and Sciences Department and a mentor in the workplace. Students are placed according to interest and career path in a clinical, academic, communication or industrial setting for the purpose of gaining hands-on experience in the communication discipline. Students must work in the field at least an average of 15 hours per week for eight weeks, totaling 120 hours. In addition, students will work individually through email with the Internship Director to produce a 10-15 page reflective research paper on a topic related to the internship experience. Prerequisite: COM 2010 and permission of instructor. Fulfills X in LS Core.

COM 4900
Senior Seminar
4 cr.
This is the capstone course for the Communication major. Students will engage in self-assessment of their academic and social development, skills, values, ethics, and knowledge gained during the course of study as a communication major at Merrimack College. Focus is also placed on preparing students to enter the professional workforce or graduate school. Through contact with a variety of professionals in the field students will discover opportunities available, strategies for entry into their chosen areas and the realities of life beyond college. Students should learn how scholarly development and competence in skills such as critical thinking, leadership, creativity and resourcefulness will lead to the accomplishment of their goals. Required for Communication majors. Prerequisite: Senior standing or consent of the instructor. Three hours a week.

Writing
FYW1000 Grammar and Composition for Multilingual Students
4 cr.
This course will strengthen the fundamental English linguistic competence of multilingual students, preparing them for the challenges of FYW1050 Introduction to College Writing. Primary emphasis will be on vocabulary, grammatical structures, rhetorical principles, and reading strategies necessary for academic writing. Secondary emphasis will be on oral communication skills and cultural attunement. This course does not fulfill any Liberal Studies core requirements.

FYW 1050 (Formerly ENG 1050 and WRT 1050)
Introduction to College Writing
4 cr.
This course examines the rhetorical practices of college-level writing. Emphasizes the interaction of writer, audience, language, purpose, and situation. Fosters an understanding of the ways in which writing, thinking, and learning are related. Sections limited to 15 students each. Intensive concentration during the semester on the student’s own writing examined in class and in conference with the instructor. Either WRT 1050 or ENG 1050 or FYW 1050 satisfy the Institutional requirement in first year writing and fulfills FYW in LS Core. Cannot be taken in addition to ENG 1050 or WRT 1050. Does not count toward English major or minor. Three hours a week.

WRT 2010(W)
Writing Across Cultures
4 cr.
This course focuses on the study of identity, diversity, and multiculturalism as represented through the examination of cross/inter cultural intersections, past and present. Through the examination of theory and textual representations, films, and videos, and listening to the stories of individuals, students will engage in reflective inquiry, develop discourse strategies, and scholarly research. Satisfies a Humanities distribution requirement or the Institutional Writing Intensive requirement. Fulfills D and W in LS Core. Three hours a week.
WRT 2020(W)  
**Writing for Social Change**  
4 cr.  
This course examines the impact of writing on social change through analyzing existing texts and composing original texts. Students will analyze articles, books, pamphlets, web sites, advertising campaigns, court decisions, and other documents, focusing on how writers have contributed to social movements such as abolition, women’s suffrage, temperance, civil rights, and pro-choice/pro-life. Students will also compose a variety of texts advocating change on an issue of their choice. Satisfies a Humanities distribution requirement or the Institutional Writing Intensive requirement. Fulfills D and W in LS Core. Three hours a week.

WRT/COM 2100(W)  
**Rhetoric**  
4 cr.  
This course examines the history of rhetoric to determine its effects on modern speaking and writing and its importance to a functioning democracy. Emphasis on how ideas for speaking and writing are discovered, arranged, memorized, styled and delivered through submission of several papers and an oral presentation. Prerequisite: COM 1020 or consent of the instructor. Satisfies a Humanities distribution requirement or the Institutional Writing Intensive requirement. Fulfills W in LS Core. Three hours a week.

WRT 2101(W)  
**Introduction to Public and Professional Writing**  
4 cr.  
This course examines written communication for public and professional audiences in the 21st century. Focus on theories of composition, as well as genres (e.g., reports, reviews, proposals), vehicles (e.g., traditional written forms, multimedia presentations), and venues (e.g., magazines, internal organizational publication, electronic dissemination). Satisfies the Institutional Writing Intensive requirement. Fulfills W in LS Core.

WRT 2160(W)  
**Introduction to Composition Studies**  
4 cr.  
This course examines different theoretical approaches that inform the field of Composition Studies. Focus on current concepts and practices of composing with attention to their historical development. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement or the Institutional Writing Intensive requirement. Fulfills W in LS Core. Three hours a week.

WRT 2790(W)  
**Public and Private Writing from the Civil War Era**  
4 cr.  
This course examines selected Civil War era works from a rhetorical perspective (i.e., analysis of the use of language to convey attitudes, beliefs, and positions). Focus on letters, diaries, speeches, public documents, fiction, and poetry. Extensive formal and informal writing assignments. Satisfies a Humanities distribution requirement or the Institutional Writing Intensive requirement. Fulfills W in LS Core. Three hours a week.

WRT 3040(W)  
**Technical Writing**  
4 cr.  
This course examines the principles of effective technical communication. Introduction to common forms of technical writing, with attention to issues of purpose, subject matter, approach, and design. Emphasis on communicating specialized information to non-expert audiences, ranging from decision makers to the general public. Practice in writing and editing. Prerequisite: WRT 1050. Satisfies a Humanities distribution requirement or the Institutional Writing Intensive Requirement. Fulfills W in LS Core. Three hours a week.

WRT 3050(W)  
**Business and Administrative Communication**  
4 cr.  
This course introduces the principles of effective communication in modern organizations, with particular attention to written communication. Emphasis on analyzing audience, achieving appropriate tone, and developing effective rhetorical strategies to relay information, shape ideas, advise, instruct, persuade, and establish rapport. Prerequisite: WRT 1050. Satisfies a Humanities distribution requirement or the Institutional Writing Intensive Requirement. Fulfills W in LS Core. Three hours a week.

WRT 3060(W)  
**Writing the Personal Memoir**  
4 cr.  
This course examines the personal memoir as a genre and as personal/cultural artifact. Focus on theory of autobiography/memoir, cultural context of memoirs, gender and memoir, truth and memoir. Requirements include reading in the theory and application of the genre, writing analyses of published memoirs, and composing individual memoirs. Prerequisite: WRT 1050. Satisfies a Humanities distribution requirement or the Institutional Writing Intensive Requirement. Fulfills AL and W in LS Core. Three hours a week.
WRT 3100(W)
History and Theories of Writing 4 cr.
This course surveys the history of American and European writing instruction from its beginnings in Ancient Greece and Rome, through late antiquity, the middle ages, the Renaissance, the Scottish Rhetoricians, and culminating in the 20th and 21st centuries. The second half of the course focuses on modern composition theories including current traditional, expressive, social epistemic, and post-modern theories. Satisfies a Humanities distribution requirement or the Institutional Writing Intensive requirement. Fulfills W in LS Core. Three hours a week.

WRT 3700(W)
Special Topics in Writing and Rhetoric 4 cr.
These courses focus on the study of writing in particular professional, academic, or cultural contexts. Sample courses include Writing About Families, Death, and Violence; Travel Writing: Issues in Second Language Writing; Feminist Rhetoric; Visual Rhetoric; Social and Political Rhetoric; and Religious Rhetoric. Satisfies a Humanities distribution requirement or the Institutional Writing Intensive Requirement. Fulfills W in LS Core. Three hours a week.

WRT 3701
Writing Through War to Peace: Images and Narratives of the Troubles and Beyond in Northern Ireland 4cr.
This course is a short-term study abroad experience focusing on how the people of Northern Ireland coped with war and fostered peace through narratives and images. Prior to a 10-day visit to Dublin, Belfast, and Derry, students will read and write about fiction, memoirs, diaries, and historical accounts; view and write about films; and listen to guest speakers. On site, students will visit murals and other sites relevant to The Troubles, meet with private citizens and public figures who have written about the period, and write/present their own responses to what they have experienced. Satisfied a Humanities distribution requirement. Fulfills D and X in LS core.

WRT 4800(W)
Directed Study 4 cr.
In lieu of a formal course, qualified upper-class students may, with the approval of the Chair of the Department, substitute an intensive program of writing and research and/or reading under the direction of a member of the department. A student wishing to elect this course will be required to submit a proposal to the program, receive approval prior to registration, and have the consent of the member of the department under whose supervision the Directed Study will be conducted. Satisfies the Institutional Writing Intensive Requirement. Fulfills W in LS Core.

WRT 4850(W)
Writing Center Theory and Practice 4 cr.
This course is a practicum in tutoring and developing/articulating Writing Center programs accompanied by readings in Writing Center theory and written reflection on current issues in the field. Directed research aimed at producing Writing Center materials, tutoring guides, conference presentations, and/or published articles. Prerequisite: WRT 1050 and permission of Writing Center Director. May be taken only once for credit. Satisfies the Institutional Writing Intensive Requirement. Fulfills W and X in LS Core. Three hours a week.

Computer Engineering concentration

See Electrical Engineering

Department of Computer Science
School of Science & Engineering

Faculty:
Chair (2013-2014): Associate Professor Vance Poteat
Associate Professor Noonan
Assistant Professors Michaud, Stuetzle, and Kissel

The Department of Computer Science offers two majors:

Bachelor of Science in Computer Science
Bachelor of Science in Information Technology
The Computer Science major focuses on software development, theory and algorithms. The Information Technology major is the study of a broad range in computing technologies.

Our mission is to prepare students to be outstanding technologists who successfully contribute and adapt to our rapidly changing field, both as academics and professionals. Our programs provide strong coverage of current knowledge in the field and the foundation necessary for lifelong learning and development. Our majors are based on the recommendations of the Association for Computing Machinery (ACM) and they expose students to the four processes that computing professionals employ: design, abstraction, theory and implementation. A mastery of these processes is emphasized through a broad-based coverage of the discipline in the core curriculum. The majors conclude with senior capstone group projects.

Our curriculum strives to provide students the necessary skills to evolve as the discipline changes. It prepares students for graduate study, and professional positions in a variety of areas including software engineering, network systems, data communications, and database programming.

An optional cooperative education experience is available and encouraged. A complementary minor is also recommended.

Mission Statement
To prepare students to become outstanding computer scientists who successfully contribute and adapt to the rapidly changing field, both as academics and professionals, by providing strong coverage of current knowledge in the field and the foundation necessary for lifelong learning and development.

Program Educational Objectives
In our view, exceptional computer scientists and technologists are highly competent problem solvers who thirst for knowledge, collaborate effectively, and seek to make the world a better place. Our students will:

1. have a strong and comprehensive knowledge of computer science / information technology and science fundamentals;
2. apply their knowledge with competence;
3. continue to learn and develop professionally and personally; and
4. be excellent communicators.

Program Student Outcomes
In addition, and consistent with the above, the Merrimack Computer Science graduate, upon graduation will have the following skills:

1. An ability to apply knowledge of computing and mathematics appropriate to the discipline;
2. An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution;
3. An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs;
4. An ability to function effectively on teams to accomplish a common goal;
5. An understanding of professional, ethical, legal, security and social issues and responsibilities;
6. An ability to communicate effectively with a range of audiences;
7. An ability to analyze the local and global impact of computing on individuals, organizations and society;
8. Recognition of the need for and an ability to engage in continuing professional development; and
9. An ability to use current techniques, skills, and tools necessary for computing practice.

In addition to the College’s general education requirements, the major requirements are:

**Computer Science Major**

Satisfying the requirements for the major in Computer Science includes completing a minimum of 58 credits in the major and cognate courses.

**Core Requirements**

- CSC 1610  Computer Science I
- CSC 2620  Object Oriented Programming
- CSC 3710  Analysis of Algorithms
- CSC 2820  Data Structures
- CSC 3120  Programming Language Principles
- CSC 3320  Operating Systems
- CSC 3555  Theory of Computation
- CSC 3720  Computer Architecture
- CSC 4910  Software Engineering
- MTH 1314  Discrete Mathematics
- MTH 1217  Calculus I
- MTH 1218  Calculus II

Three major electives from the following list:
- CSC 3335, CSC 3500, CSC 3725, CSC 3810, CSC 3925, CSC4055, CSC 3935, CSC 4055

**Information Technology Major**

Satisfying the requirements for the major in Information Technology includes completing a minimum of 62 credits in the major and cognate courses.

**Core Requirements**

- CSC 1510  Introduction to Information Technology
- CSC 1610  Computer Science I
- CSC 2001-2004  Information Technology Internship
- CSC 2620  Object Oriented Programming
- CSC 3500  Human Computer Interaction
- CSC 3720  Computer Architecture
- CSC 3810  Database Principles
- CSC 3875  Linux Administration, Privacy, Ethics, & Technology
- CSC 3925  Data Communications
- CSC 3935  Data Networking
- CSC 3950  Web Technologies
- CSC 4055  Computer and Network Security
CSC 4920  Information Technology Systems
MTH 1111  Basic Statistics
MTH 1314  Discrete Mathematics
One elective from the following list:
   BUS 1100, CSC 2820, CSC 3320, CSC 4205, [CSC 3875], EEN 4265

The Minor in Computer Science
Satisfying the requirements for the minor in Computer Science includes completing a minimum of 22 credits.
   MTH 1314  Discrete Math
   CSC 1610  Computer Science I
   CSC 2620  Object Oriented Programming
   CSC 2820  Data Structures
   Two other classes numbered higher than CSC 2004

The Minor in Information Technology
Satisfying the requirements for the minor in Information Technology includes completing a minimum of 22 credits from the following list:
   CSC 1510  Introduction to Information Technology
   CSC 1610  Computer Science I
   CSC 2620  Object Oriented Programming

Three of the following:
   CSC 3500  Human Computer Interaction
   CSC 3810  Database Principles
   CSC 3920  Data Communications
   CSC 3950  Data Networking
   CSC 3950  Web Technologies
   CSC 4055  Computer and Network Security
   CSC 3875  System Administration, Privacy, Ethics & Technology

Computer Science Cooperative Education Program. The cooperative education calendar for the student majoring in computer science is designed as a five-year program. An alternation between academic semesters and work periods lasting one or two semesters begins after the sophomore year and continues until the end of the program. At the end of the five years, the student has had an opportunity to apply classroom knowledge to real world situations, and may have worked in a variety of environments from large high tech firms to small business organizations. A staff member of the cooperative education office makes frequent visits to employing companies. Through interviews with company officials, coordination of work experience with school curriculum is maintained and adjustments in types of work assignments, salaries, and other relevant matters are made. A close relationship between the student and the cooperative education office is maintained through pre-job and post-job interviews.

CSC 1510  Introduction to Information Technology  4 cr.
This course introduces students to how Information Technology can be leveraged for storing, managing, and exploring data in the Information Age. Topics include: how computers work, information management, networks, operating systems, the Web, and a short introduction to computer programming. For Information Technology majors, a minimum grade of a C is required to continue. Satisfies a Mathematics/Science distribution requirement. Fulfills a STEM requirement in LS Core. Four hours a week.
CSC 1610
Computer Science I
4 cr.
An introduction to computer science techniques with an emphasis on algorithm development and structured programming. Topics include program development, modularity, streams, control structures, functions, recursion and arrays. For Computer Science and Information Technology majors, a minimum grade of C is required to continue. Satisfies a Mathematics/Science distribution requirement. Fulfills a STEM requirement in LS Core. Four hours a week.

CSC 2001 – 2004
Information Technology Internship
1 cr. ea.
Student interns are placed in the Merrimack College Information Technology Center and are expected to work 4 hours per week for 15 weeks under the supervision of the manager of User Services.

CSC 2620
Object Oriented Programming
4 cr.
A study of object oriented design and its key concepts: data abstraction, inheritance, information hiding, polymorphism, and encapsulation. Object oriented design and analysis concepts will be introduced and implemented using UML. Programs illustrating key concepts will be written in Java. For Computer Science and Information Technology majors, a minimum grade of C is required to continue. Prerequisite: CSC 1610 with a minimum passing grade of C or consent of the instructor. Four hours a week.

CSC 2710 (Previously CSC 3710)
Analysis of Algorithms
4 cr.
Introduction to the basic principles and techniques for analyzing algorithms. A discussion of the asymptotic complexity of algorithms using standard measures in the best, average and worst cases. Applications of the basic principles and techniques and study of upper and lower bounds of standard computer science problems including: searching, sorting, graph, string matching, polynomial, and matrix algorithms. Basic strategies for developing algorithmic solutions to problems using divide and conquer, dynamic programming, and greedy techniques will be covered. Introduction to NP-completeness problem will also be discussed. Prerequisites: MTH 1314 and CSC 2820 or consent of instructor. Four hours a week

CSC 2820
Data Structures
4 cr.
Basic concepts in the representation and manipulation of data. Topics include: data abstraction and classes, dynamic memory, linked lists, stacks, queues, trees, sorting techniques and graphs. For Computer Science majors, a minimum grade of C is required to continue. Prerequisite: CSC 1610 with a minimum passing grade of C or consent of the instructor. Corequisite: MTH 1314. Satisfies a Mathematics/Science distribution requirement. Fulfills a STEM requirement in LS Core. Four hours a week.

CSC 3120
Programming Language Principles
4 cr.
This course explores the underlying nature of computer programming languages and how they are processed. Topics include language syntax and semantics, parsing, variable binding and scope, functions and parameter passing, control flow, recursion, and data types. Alternative paradigms of programming, including functional languages and scripting languages, will be explored in case studies, labs, and regular programming assignments. Prerequisite: CSC 2820. Four hours a week.

CSC 3320
Operating Systems
4 cr.
This course will provide a clear description of the concepts that underlie any operating system. Topics discussed will include process management, input/output, memory management, the file system, protection and security, concurrency, and distributed systems. Examples drawn from UNIX and Microsoft Windows will be used. Programming projects will introduce students to system level programming. Prerequisite: CSC 2820. Four hours a week.

CSC 3335
Artificial Intelligence
4 cr.
This course explores the concept of the thinking machine, capable of its own reasoning and extending itself beyond the limits of its programming. Core topics focus on extending a machine’s ability to search for its own solutions through the exploration of problem spaces and the use of reasoning through propositional and first-order logic. Advanced topics may include game theory, expert systems, machine learning, artificial life, and natural language...
understanding. Course time is also spent on discussing the impact of the idea of the thinking machine on philosophy, ethics, and society. Prerequisites: CSC 2820 and MTH 1314. Four hours a week.

CSC 3500
Human Computer Interaction 4 cr.
This course introduces the students to user-centered design. Topics include: cognitive principles (perception, memory, problem solving), understanding the users of a system, designing and developing effective interfaces, ergonomics, usability testing, and usability standards. Prerequisites: CSC 1001, CSC 1510, CSC 1610 or permission of the instructor. Four hours a week.

CSC 3555 (Previously CSC 2555)
Theory of Computation 4 cr.
A study of the theoretical foundations of computer science and computability. Students will explore formal languages (regular and context free languages), their acceptability by finite state automata, and their description by regular expressions and context free grammars. Turing machines will be studied and the Church-Turing Thesis. The limitations of algorithmic computation will be examined. Prerequisites: CSC 2820 and MTH 1314. Four hours a week.

CSC 3720
Computer Architecture 4 cr.
The course covers the analysis and design of the major elements of a digital computer. Basic Logic Gates such as AND, OR, NAND, NOR, and XOR along with the D-Latch will be taught and then used to design the computer's Central Processing Unit. Control, address and data buses of the register-transfer sequence and pipelining will also be covered using the MIPS assembly language. Prerequisite: CSC 1610 with a minimum passing grade of C and Junior Standing. Four hours a week.

CSC 3725 / MTH 3725
Numerical Analysis 4 cr.
Theory and application of selected topics from Numerical Analysis. Topics include: solutions of equations and systems of equations, interpolation, numerical differentiation and integration, and numerical solution of differential equations. Error bounds are treated. Emphasis given to methods that can be implemented on a computer. If time allows, other topics may be added such as Least Squares and Eigen Values. Prerequisites: MTH 1218 and CSC 1610 or consent of the instructor. Four hours a week.

CSC 3810
Database Principles 4 cr.
The study of the concepts and structures necessary to design and implement a Database Management System (DBMS) focusing on modern relational database models. Data design and models will be examined. Topics include relational database models, database modeling concepts, schemas, normalization, DDL and DML (primarily SQL), file organizations, concurrency control, security controls, and object-oriented databases. Prerequisite CSC 2620. Four hours a week.

CSC 3875
System Administration, Privacy, Ethics, and Technology 4 cr.
This course puts the student in ethical situations through hands on laboratory exercises and research. It also addresses specific privacy and ethical concerns that the average user may not be aware of in their day to day activities. In addition, this course also is an introduction to the Linux operating system which will include the internals of how Linux boots, runs and operates; system administration tasks; monitoring system resources; kernel loadable modules; configuration settings, and understanding the desktop GUI. Prerequisite: CSC 4055 or CSC 3925 or CSC3935. Three hours lecture and three hours lab a week.

CSC 3925
Data Communications 4 cr.
An introduction to the fundamentals of data communications for the computer scientists. Topics include asynchronous and synchronous transmission, analog and digital transmission of data, modulation and demodulation, multiplexing, transmission median, common carriers, communication devices, error control and recovery, message switching, packet switching, LANS, polling techniques, protocols, distributed data processing, High Speed LANS, Network Security, Spread Spectrum, and Cellular Wireless Networks. Prerequisites: CSC 1610 and Junior standing. Four hours a week.
CSC 3935
Data Networking 4 cr.
The Internet is the mainstream pathway for data communications today. The major components studied include both the hardware elements: hubs, switches, bridges, and routers and the major software elements: Five layer TCP/IP stack. The student will learn about all of these in detail during class and laboratory assignments. **Prerequisite:** CSC 1610 and Junior standing. Three hours a week of lecture and three hours a week of lab.

CSC 3950
Web Technologies 4 cr.
An introduction to the programming tools and skills required to build and maintain web applications. Topics include: the World Wide Web, the HTTP protocol, Web standards, HTML and XHTML, CSS, client-side programming using JavaScript, server-side programming, an introduction to ASP.NET and database access through the Web. **Prerequisite:** CSC 2620. Four hours a week.

CSC 4055
PC and Network Security 4 cr.
This course is a survey on network and computer security technology. All of the basic building blocks of network security, including access control, intrusion prevention, malicious software, shared-key and public-key cryptography, authentication, digital signatures, and many of the techniques used to protect computers will be covered. This is a required course for all IT Majors, an elective for all others. **Prerequisites:** CSC 1610 and Junior Standing. Four hours a week.

CSC 4805
Directed Study 2 cr.

CSC 4810
Directed Study 3 cr.

CSC 4815
Directed Study, Special Projects 4 cr.
Qualified students may propose a course of individual study and work to be conducted under the direction of a faculty member. May be taken more than once. **Prerequisite:** consent of the instructor with approval of department. **CSC4815 Fulfills X in LS Core.**

CSC 4805
Computer Science Seminar 4 cr.
Special topics class.

CSC 4910 (W)
Software Engineering 4 cr.
An in-depth study of the methodologies involved in designing, developing, and maintaining software systems, particularly large systems with multiple developers who must cooperate effectively to produce a quality product. Core topics include requirements analysis, specification, user interface design, software design, testing, implementation and maintenance. The major focus of the course is a semester-long project where the students work in software development teams to produce a small software system using object-oriented analysis and design methods. This course serves as a capstone experience calling on a variety of knowledge and skills and involving significant practice in professional writing in both collaborative and individual environments for different audiences: the team, the manager, the client, and the user. **Prerequisites:** CSC 2620 and JR or SR standing. **Fulfills W and X in LS Core.** Four hours a week.

CSC 4920 (W)
Information Technology Systems 4 cr.
A capstone course for Information Technology majors that focuses on a semester-long experience exploring the process by which information technology systems are selected, researched, implemented, and maintained. Students will work in teams to create and support a complete system that addresses a concrete problem. Threaded throughout this experience is an emphasis on professional conduct, skills, and both written and oral communication - with a client, with a team, with superiors, and with end-users. **Prerequisites:** CSC 2620 and JR or SR standing. **Fulfills W and X in LS Core.** Four hours per week.
Department of Criminology
School of Education

Faculty:
Chair (2013-2015): Associate Professor Karen Hayden
Assistant Professors Aiello and McQueeney

Statement of Philosophy and Purpose

The field of criminology studies crime as a social phenomenon; specifically, criminology is the systematic study of the causation, patterns, and control of crime and criminal behavior in individuals, groups, organizations, cultures and societies. Criminology fosters theoretical debates and ideas about lawmaking, lawbreaking, and the social consequences of both. Criminologists work toward reducing crime and improving criminal justice policies.

The criminology program at Merrimack College provides students with an understanding of crime that recognizes the complex relationship between society and its members. Courses in criminology at Merrimack College focus on the degree to which people’s lives are influenced by broader socio-cultural, political-economic, and historical forces. The study of criminology cultivates critical thinking and informed analysis about the legal system, crime, and systems of punishment and social control. The criminology program at Merrimack College examines how inequalities of race, class, gender, age, and sexuality are intertwined with systems of control and punishment.

Students learn the theoretical perspectives and research methods criminologists use to systematically study the multifaceted aspects of crime. Through our required internship program, students work in various criminal justice and legal agencies where they apply criminological reasoning to their supervised fieldwork experiences. The internship allows students to experience possible career options; to learn from professionals working in the field; to consider post-graduate education; and to establish valuable contacts for future full-time employment.

With a degree in criminology students are prepared to enter a number of areas of work. The criminology program provides students with the necessary preparation and background to pursue a career in criminology or a related professional field such as law, criminal justice, conflict resolution, or social work.

Requirements for a Major in Criminology

Before entering the Criminology program, students are required to take Introduction to Criminology (CRM 1000). This prerequisite course gives students baseline knowledge for all courses taught in the Criminology Department.

Satisfying the requirements for the major in Criminology includes completing a minimum of 40 credits in the major and a minimum of 10 courses as specified below. For a major, students must achieve at least a 2.0 grade point average in their major courses.

The following five courses are required of all Criminology majors:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRM 1000</td>
<td>Introduction to Criminology (formerly SOC3200 Criminology and Penology)</td>
</tr>
<tr>
<td>CRM 3000</td>
<td>Society and Law (formerly SOC 3120 Sociology of Law)</td>
</tr>
<tr>
<td>CRM 4000</td>
<td>Research Methods in Criminology (offered in Fall)</td>
</tr>
<tr>
<td>CRM 4500</td>
<td>Statistics in Criminology (offered in Spring)</td>
</tr>
</tbody>
</table>
CRM 4800  Criminology Internship (formerly SOC4861) OR
CRM 4850  Criminology Internship (formerly SOC4866) OR
CRM 4855  Criminology Summer Internship

Criminology majors select five electives from the following courses:

CRM 2000  Youth, Deviance, and Crime (formerly SOC3040 Juvenile Delinquency)
CRM 2200  Corporate and White Collar Crime (formerly SOC3060)
CRM 2300  Hate Crimes (formerly SOC3700)
CRM 3050(W) Female Deviance, Crime and Social Control (formerly SOC3050W)
CRM 3380(W) Race, Class and Crime (formerly SOC3380W)
CRM 3430  Criminal Justice and Mental Health (formerly SOC3430)
CRM 3500  Domestic Violence (formerly SOC3500)
CRM 3900  Incarceration (formerly SOC3900)
CRM 4900  Directed Study
CRM 4910  Directed Study

OR THREE Criminology electives can be chosen from the following list of cognate courses. Cognates are courses related to the field of Criminology, but offered outside of the Department of Criminology.

SOC1001  Ways of Seeing I: The Sociological Imagination
SOC 2050  Social Work
PHL 2500  Theories of Justice
PHL 3020  Philosophy of Law
PHL 3030  Global Justice
POL 3150  Criminal Law
POL 3151  American Constitutional Law
PSY 3340  Developmental Psychopathology
PSY 3410  Adult Psychopathology

Requirements for a Minor in Criminology

Students who wish to declare a minor in Criminology must take CRM1000 before they will be admitted to the minor. Satisfying the requirements for the minor in Criminology includes completing a minimum of 18 credits in the minor. For a minor; students must achieve at least a 2.0 grade point average in the minor courses.

Earning a minor in Criminology requires:

CRM 1000  Introduction to Criminology (formerly SOC3200 Criminology and Penology)

Plus four elective courses from the following:

CRM 2000  Youth, Deviance, and Crime (formerly SOC3040 Juvenile Delinquency)
CRM 2200  Corporate and White Collar Crime (formerly SOC3060)
CRM 2300  Hate Crimes (formerly SOC3700)
CRM 3000  Society and Law (formerly SOC 3120 Sociology of Law)
CRM 3050(W) Female Deviance, Crime and Social Control (formerly SOC3050W)
CRM 3380(W) Race, Class and Crime (formerly SOC3380W)
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRM 3430</td>
<td>Criminal Justice and Mental Health (formerly SOC3430)</td>
</tr>
<tr>
<td>CRM 3500</td>
<td>Domestic Violence (formerly SOC3500)</td>
</tr>
<tr>
<td>CRM 3900</td>
<td>Incarceration (formerly SOC3900)</td>
</tr>
<tr>
<td>CRM 4000</td>
<td>Research Methods in Criminology</td>
</tr>
<tr>
<td>CRM 4500</td>
<td>Statistics in Criminology</td>
</tr>
<tr>
<td>CRM 4800</td>
<td>Criminology Internship (formerly SOC4861)</td>
</tr>
<tr>
<td>CRM 4850</td>
<td>Criminology Internship (formerly SOC4866)</td>
</tr>
<tr>
<td>CRM 4855</td>
<td>Criminology Summer Internship</td>
</tr>
<tr>
<td>CRM 4900</td>
<td>Directed Study</td>
</tr>
<tr>
<td>CRM 4910</td>
<td>Directed Study</td>
</tr>
<tr>
<td>CRM 1000</td>
<td>Introduction to Criminology</td>
</tr>
<tr>
<td>CRM 2000</td>
<td>Youth, Deviance, and Crime (formerly Juvenile Delinquency)</td>
</tr>
<tr>
<td>CRM 2200</td>
<td>Corporate and White Collar Crime (formerly White Collar Crime)</td>
</tr>
<tr>
<td>CRM 2300</td>
<td>Hate Crimes</td>
</tr>
<tr>
<td>CRM 3000</td>
<td>Society and Law (formerly Sociology of Law)</td>
</tr>
</tbody>
</table>

**CRM 1000 (formerly SOC 3200 Criminology and Penology)**

*Introduction to Criminology*  
4 cr.  
This course explores crime, justice, and punishment. In this course, the causes of crime and the solutions and policies in place to deter or solve crime will be critically examined. We will also examine the social processes whereby crime is defined and detected, and offenders are apprehended and punished. The overall objective of the course is to examine crime and punishment within the context of the society and culture which surrounds it. These topics are connected to inequalities of race, class, and gender, which will be key concerns throughout this course. Coverage of crime and punishment in the popular media is also a central focus of this course. Required for majors. Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

**CRM 2000 (formerly SOC 3040)**

*Youth, Deviance, and Crime (formerly Juvenile Delinquency)*  
4 cr.  
This course focuses on the social problem of youth and crime and the ways that this problem is defined and addressed through formal and informal means in society. What are the sources of juvenile delinquency? How are other social institutions (family, schools, economy) related to the decisions of youths to engage in deviant and/or unlawful behavior? How are the issues or race/ethnicity, social class, age and gender, and sexuality implicated in who is defined as delinquent and how they are treated by the larger society? Particular attention will be given to the history of the juvenile justice system and how it currently functions (police, courts, corrections). Non-punitive approaches to addressing this problem will also be covered (e.g. community-based corrections, restorative justice). Prerequisite: CRM 1000 or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement and D in LS Core. Three hours a week.

**CRM 2200 (formerly SOC 3060)**

*Corporate and White Collar Crime (formerly White Collar Crime)*  
4 cr.  
The purpose of this course is to examine various topics and issues related to criminal, deviant and other harmful behaviors committed for economic advantage by both individuals and organizations in the business sector. How do we define corporate and white collar crime? How prevalent is white collar crime? What are the sources and motivations of corporate and white collar criminal behavior? What are the social and economic costs to local and national communities? How effective are the sanctions utilized to deter and control individual and corporate crimes? Prerequisite: CRM 1000 or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

**CRM 2300 (formerly SOC 3700)**

*Hate Crimes*  
4 cr.  
This course examines prejudice, bigotry and hate and how they are manifested in criminal behavior. The criminology theory for hate crime is reviewed, as well as historical perspectives of this crime category. Various groups who have been labeled as supporting or engaging in hate crimes and domestic terrorism are studied. Focus is placed on federal and state laws and the dynamics of the criminal justice system's response to hate crimes. Prerequisite: CRM 1000 or consent of the instructor. Three hours a week.

**CRM 3000 (formerly SOC 3120)**

*Society and Law (formerly Sociology of Law)*  
4 cr.  
This course addresses the social context of law, the legal structure, and the relationship between law and society. Law is at base a social phenomenon; we create laws to address social problems, settle disputes, and exert power over others. Just as society and culture are always changing, so does the law. In turn, as law evolves, it also affects culture. There are hundreds, even thousands, of laws constructed each year in this country. In the U.S., with fifty state legislatures and the federal government enacting new laws, and with the enactment of thousands of municipal
and county ordinances, the sheer magnitude of law is overwhelming. Additionally, there are court decisions at the state and federal levels which often create new laws or modify existing laws. In this course, we will only examine a fraction of these. The larger goal of this course is to gain an understanding of the significant relationship which law plays in our everyday lives and its role in society. Throughout the course, we will address several questions: How, when, and why do laws arise? How do legal systems reflect the values of the society? What is the relationship between law and inequality in our political economy? How can laws promote (or inhibit) social change? Prerequisite: CRM 1000 or consent of the instructor. Required for majors. Satisfies a Social Science distribution requirement. 

**CRM 3050(W) (formerly SOC 3050)**
**Female Deviance, Crime, and Social Control**

This course explores literature from social history, sociology, criminology, and law to address issues concerning female deviance, crime, and both informal and formal methods of social control. Women’s experiences with deviance and social control can be understood only within the context of cultural definitions of femininity. Our societal images of girls and women shape our beliefs of how they should behave and how they should be treated when they deviate. Deviance and criminality are defined as differing from the norm, but our norms are often expressed in stereotypes and strict gender roles. In this class, we will discuss girls and women who misbehave -- who break norms and laws. We will also explore the societal reactions to these transgressions. We will consider feminist literature within criminology and the sociology of law to ask how are societal notions of female offenders changing and how should the criminal justice system address female criminality. Prerequisite: CRM 1000 or consent of the instructor. Satisfies a Social Science distribution requirement.  Fulfills a SOSC requirement, D, and W in LS Core. Three hours a week.

**CRM 3380(W) (formerly SOC 3380)**
**Race, Class and Crime**

This course examines issues of inequality with regards to crime and punishment in America. This course will review the many ways that race and class interact with the criminal justice system. Drawing on historical and contemporary issues, this course will raise many questions about law, crime, and justice. Topics include: the history and development of the prison system, the construction of laws and punishment, ideas about criminals and victims, mass incarceration, and the death penalty. Prerequisite: CRM 1000.  Fulfills D and W in LS Core. Three hours a week.

**CRM 3430 (formerly SOC 3430)**
**Criminal Justice and Mental Health**

This course provides an overview of mentally ill individuals’ involvement in the criminal justice system and a historical perspective on how we have arrived to this point. Topics include development of mental health practice and policies, commitment status, profile of mentally ill individuals who get incarcerated, violence and mental illness, diversion, and unique challenges of special populations including women, juveniles and sex offenders. Prerequisite: CRM 1000 or consent of the instructor. Fulfills a SOSC requirement in LS Core. Three hours a week.

**CRM 3500 (formerly SOC 3500)**
**Domestic Violence**

This course explores the social character and the causes of domestic violence. Various forms of abuse and violence are addressed on both a micro and a macro level. Each form of abuse and violence is discussed using sociological theories of causality. The objectives of this course are to enhance students’ abilities to: (1) gain knowledge and refute myths about domestic violence; (2) to understand the impact of social and cultural factors on violence; (3) to become familiar with the literature on domestic violence; (4) to become familiar with current controversies in the area of domestic violence; and, (5) to develop skills in discussing and dealing with controversial and sensitive topics. Prerequisite: CRM 1000 or consent of the instructor. Satisfies a Social Science distribution requirement.  Fulfills a SOSC requirement in LS Core. Three hours a week.

**CRM 3900 (formerly SOC 3900)**
**Incarceration**

This course looks at prisons, jails, and alternative-to-incarceration programs in terms of daily life, operations, social hierarchies, and social institutions. We will examine what it is like to live, work, and conduct family life inside a total institution. Field trips are required. Prerequisite: CRM 1000 or consent of the instructor. Three hours a week.

**CRM 4800/CRM 4850 (formerly SOC 4861/4866)**
**Criminology Internship**

The Criminology Internship course offers students who major or minor in Criminology experiential learning opportunities. The course provides students with a unique opportunity to experience possible career interests, to learn from those already working in the field, and to establish valuable contacts that may be helpful in acquiring
fulltime employment. Students volunteer at the placement agency 10-15 hours a week, meet periodically with the internship coordinator, and complete written work related with the internship. Students should meet with the internship coordinator in the semester prior to the internship to determine an appropriate placement. A memorandum of understanding concerning the responsibilities of the student will be signed by the student, agency and the internship coordinator. Prerequisites: CRM 1000 and consent of the instructor. Required for majors. Fulfills X in LS Core.

**Digital Design**
*See Visual & Performing Arts*

**Early Childhood Education concentration**
*See Education or Human Development*

**Ecology & Environmental Biology concentration**
*See Biology*

**Department of Economics**
*School of Liberal Arts*

**Faculty:**
Chair (2013-2014): Professor Evangelos Charos
Professors Amariglio and Laramie (Sabbatical Fall 2013)
Associate Professors Tontar and Donovan

Economics is the study of how people, working through institutions such as markets and governmental agencies, organize to meet the material requirements of life. As such, it concerns the wealth of nations, its origins in production and exchange, its allocation among competing uses, its distribution among individuals, and its accumulation or decline. Economists not only attempt to understand the mechanisms through which this occurs, they also make policy recommendations intended to improve the well-being of society.

The study of economics has been variously pursued using analytical approaches, historical approaches, and/or institutional and sociological approaches. At Merrimack, economics majors have the opportunity to explore all of these approaches with an overall emphasis upon developing the problem solving skills of our students.

Economics, at Merrimack, is regarded and taught as part of a Liberal Arts education. As such, it is not intended as preparation for a specific vocation. Students who major in economics prepare themselves for a variety of careers. Some move on to graduate study in economics and become professional economists; the majority, however, pursue careers in law, public policy, government, and many aspects of business, including banking and financial analysis, management, and marketing.

**Introduction to Economics**

Students who intend to either major or minor in economics should first take ECO 1201, An Introduction to Economics. This is our gateway course and is designed for all students.
Economics majors are encouraged to take additional courses from the following fields which are closely allied to economics and/or prepare one for further study in economics:

- Accounting, finance, management, marketing, or statistics for those interested in careers in business administration.
- Political science, history, or sociology, for those interested in contemporary social problems.
- Mathematics and computer science, for those interested in graduate study in economics.

In addition to having satisfied all the College’s general education requirements, Economics majors must complete the following major courses or their equivalents:

- ECO 1201 An Introduction to Economics
- ECO 1202 Topics in Introductory Economics
- ECO 2201 Intermediate Microeconomics
- ECO 2202 Intermediate Macroeconomics

Five additional economics courses elected from the following:

- ECO 1225 Economics of Gender
- ECO 3303 Economic Development
- ECO 3304 Economics of Education
- ECO 3305 Environmental Economics
- ECO 3306 International Economics
- ECO 3307 Labor Economics
- ECO 3308 Managerial Economics
- ECO 3309 Marxian Economics
- ECO 3310 Money and Finance
- ECO 3311 Public Finance
- ECO 3312 The History of Economic Thought
- ECO 3313 Econometrics
- ECO 3314 U.S. Economics History
- ECO 3315 Urban and Regional Economics

**Major GPA.** The GPA for the Economics major will be calculated by taking the average of courses designated ECO.

**Minor in Economics**
A student may also elect to minor in economics. A minor requires five courses consisting of ECO 1201 (An Introduction to Economics) and ECO 1202 (Topics in Introductory Economics) as well as any three courses selected from the course listings under the economics major designation (these include the two intermediate theory courses, ECO 2201 and ECO 2202).

**ECO 1201 An Introduction to Economics**
4 cr.
This course is an introduction to how people in society confront the economic problem; i.e., how societies provision themselves. Stress is given to how markets work. Topics include supply and demand analysis, consumer choice theory, cost functions, market structures and aggregate economic relationships. Prerequisite: MTH 1000 or placing out of MTH 1000 on Math placement test. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.
ECO 1202
Topics in Introductory Economics 4 cr.
The second introductory economics course is designed for students who have already completed ECO 1201 or who will take ECO 1201. Topics include the normative criteria for judging markets, economic growth, business cycles, unemployment, inflation, financial markets and institutions, as well as monetary and fiscal policy. Prerequisite: MTH 1000 or placing out of MTH 1000 on Math placement test. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

ECO 1225
Economics of Gender 4 cr.
Examines various theories regarding the manner in which gender plays a role in determining economic outcomes. Topics may include, but are not limited to: wage differences, discrimination, job segregation and the interactions among gender, race and economic systems. Particular emphasis will be given to how public policy affects women in the United States. In addition, comparisons will be made between women’s economic status in the U.S. and other developed countries. Prerequisite: ECO 1201 or permission of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement and D in LS Core. Three hours a week.

ECO 2201
Intermediate Micro-Economics 4 cr.
This course focuses on how the price system allocates resources and goods in a manner that maximizes the well-being of society. The optimizing behavior of both producers and consumers is explained and analyzed. Their behavior under the conditions of a perfect market is shown to result in the greatest benefit to society. The breakdown of those conditions such as monopoly, power and/or externalities, is shown to bring less beneficial results. The analytic concepts used to do this are the fundamental tools of the economist. Prerequisites: ECO 1201 and ECO 1202. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

ECO 2202
Intermediate Macro-Economics 4 cr.
Utilizes various macroeconomic models to analyze the forces that determine inflation, unemployment, growth and business cycles for the economy as a whole, with special attention given to current macroeconomic conditions and issues and international economic relations. Prerequisites: ECO 1201 and ECO 1202. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

ECO 3303
Economic Development 4 cr.
Examines the economies of the developing world. Topics include a survey of economic development theories; the widening gap between rich and poor nations and peoples; measurements of economic and social development and underdevelopment; policies to eliminate world poverty; the spread of multinational corporations; and the nature of capitalist globalization. Prerequisite: ECO 1201. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

ECO 3304
Economics of Education 4 cr.
This course examines a variety of questions about the role of education in the economy and about the economic aspects of the U.S. educational system. We will study the historical development of public education in the U.S. and discuss difference theories that purport to explain that development. We will investigate the relationship between educational attainment and wages in the labor market. A considerable portion of the course will be devoted to an analysis of public policy and its impact on educational outcomes, for example the impact of school choice and voucher programs. Comparisons will be made between public policy in the U.S. and other developed and developing countries, with particular emphasis on the financing of schools, and the outcomes of that financing. Prerequisite: ECO 1201. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

ECO 3305
Ecological Economics 4 cr.
This course uses microeconomics to analyze environmental and natural resource management issues. It considers institutions and programs affecting resource use and the impact on environmental quality; market-based regulations; valuing the environment; air pollution; global warming; biodiversity conservation; fisheries; energy; tradeoffs between environmental quality and economic growth; the determination of who bears the costs and who reaps the benefits of pollution abatement; and what institutional changes may be necessary to protect the environment. Prerequisite: ECO
ECO 3306  
International Economics  
4 cr.  
This course focuses on the economic interaction between countries. Topics include: the gains from trade, the goods traded, protectionism, trade blocs, balance of payments and exchange rates. Prerequisite: ECO 1201. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

ECO 3307  
Labor Economics  
4 cr.  
Labor Economics is the one area of economic theory that has resisted the hegemony of the neo-classical model of economics with its focus on abstract, deductive reasoning. This course will present an Institutionalist analysis of labor processes with a focus on the historical development of such processes throughout the twentieth century. Prerequisite: ECO 1201. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

ECO 3308  
Managerial Economics  
4 cr.  
This course covers microeconomic concepts relevant to managerial decision making. Topics include: demand and supply analysis; consumer demand theory; demand estimation and forecasting techniques; production theory; cost estimation; breakeven analysis; perfect competition; monopoly; oligopoly; monopolistic competition; long-term investment and risk analysis; government intervention. Prerequisite: ECO 1201. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

ECO 3309  
Marxian Economics  
4 cr.  
Examines Marx’s theory of market capitalism through a close reading of Marx’s key texts, including Capital. Investigates Marx’s economic thought in light of his sources in economics, philosophy and social theory. Compares Marx’s economics and the work of more recent Marxian economists with other contemporary schools of economic thought. Prerequisite: ECO 1201. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

ECO 3310  
Money and Finance  
4 cr.  
Examines the economic problems of the public sector in a market economy, the proper scope of government intervention, rules for decision-making in the public sector, an evaluation of public expenditure and tax systems, cost-benefit analysis and problems of state and local government. Prerequisite: ECO 1201. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

ECO 3311  
The History of Economic Thought  
4 cr.  
This course will examine that evolution from its roots in the Old and New Testament through its first systematic statement by Adam Smith to modern economic discourse. Special attention will be given to the question as to whether or not economists conclude that markets are institutions that assure social harmony. Prerequisite: ECO 1201. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

ECO 3312  
Econometrics  
4 cr.  
Application and theory of statistical and econometric methods to problems in economics. Topics include: basic statistical theory, sampling distributions, simple and multiple regression, hypothesis testing, violations of the basic assumptions, generalized least squares, introduction to simultaneous equation models, chi-square tests and analysis.
of variances. Prerequisites: ECO 1201 and an elementary mathematics course. Satisfies a Social Science
distribution requirement. Fulfills a SOSC requirement and Q in LS Core. Three hours a week.

ECO 3314
U.S. Economic History 4 cr.
Covers selected topics from the pre-colonial period to the end of the 19th century. Includes the transformation of pre-
colonialism, “native” economies, the economics of European colonialism, pre-Revolutionary self-subsistence and
feudal agriculture, slavery and the slave trade, the transition to capitalism, industrialization (with special attention to
the Merrimack Valley), the creation of a national market, and the rise of the labor movement. Prerequisite: ECO
1201. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement or H in LS Core. Three hours
a week.

ECO 3315
Urban and Regional Economics 4 cr.
Urban areas have been engines of economic growth and innovation since the dawn of civilization. They have also
been beset by myriad problems such as poverty, racism, high crime, congestion and pollution. This course examines
the spatial aspect of the distribution of firms and households over a geographic terrain as a means of understanding
why both of these are the case. Prerequisite: ECO 1201. Satisfies a Social Science distribution requirement. Fulfills
a SOSC requirement in LS Core. Three hours a week.

ECO 4001
Economics Seminar 4 cr.
Students do research in a particular facet of an area in economics. Emphasizes in-depth research, its methods, and
presentation of the results. Prerequisites: ECO 1201, ECO 1202, ECO 2201 and ECO 2202. Fulfills X in LS Core.

ECO 4800
Directed Study 4 cr.
In lieu of a formal course, qualified upper class students, with the approval of the chair, substitute an intensive
program of reading under the direction of a member of the department. Prerequisite: Consent of the Chair and the
member of the department under whose supervision the Directed Study will be conducted.

ECO 4850
Economic Research Internship 8 cr.
Student interns are placed in either public or private entities where they assist in applied economic research. They
are expected to spend 20 hours per week on site and also are expected to write a research paper under the direction
of one of the Economic Department’s faculty members. Available to Seniors with Departmental approval. Majors
electing ECO 4850 must take seven additional Economics courses. Fulfills X in LS Core.

Department of Education
School of Education

Faculty:
Chair (2013-2014): Associate Professor Deborah Margolis
Associate Professor Roselli
Assistant Professors Falk, Frasier, Gatling, Gurry, Hsu, Marine, Robertson and Ward

Overview
Merrimack College’s Department of Education offers dynamic, responsive, and focused programs
that prepare and support individuals to be thoughtful, passionate, and competent teachers and
educational leaders. We do so because we believe in (1) deep learning, whereby our classrooms,
our courses, and our passion are all grounded in the knowledge that learning matters; (2) bringing
theory to life, whereby knowledge and practice must inform each other such that we connect books
with classrooms and ideas with actions, and; (3) making a difference, whereby education can
change our classrooms, our schools, and our communities. We prepare teachers who understand
that schools play a key role in a diverse and democratic society and that education is
transformation. Education transforms oneself and others. All of our actions, thoughts, and beliefs
are thus grounded in four key attributes: Excellence & Equity; Collaboration; Augustinian Heritage; Engagement for Democracy. The Department of Education offers academic programs supporting future teachers as well programs that provide students an opportunity to make an impact for the public good in a wide variety of career fields. This includes partnerships with other departments and Schools at Merrimack to offer a major in Human Development and STEM Education. Please see the course catalog as well refer to the School of Education website (www.merrimack.edu/schoolofeducation) for the most current and accurate information about all departmental options and requirements.

Major in Education
We believe that classroom teachers must have deep content knowledge in order to be successful and effective teachers, irrespective of whether they ultimately teach in elementary, middle, or high school settings. As such, education students cannot simply graduate from Merrimack College with an education major; they need to have both a content specialization as well as a deep and broad focus in pedagogical knowledge and pedagogical content knowledge gained within the education department. Thus all students in the department of education major in a particular college major (such as History or Biology) as well as a major in education. A major in education consists of 40 credits within the education department as well as a set of additional courses across the arts & sciences as designated by the Department of Elementary and Secondary Education (DESE). Please refer to each specific program chart to determine the exact set of required courses. Please note that some majors are more applicable to particular license levels: students interested in early childhood, elementary, and/or a moderate disabilities license may consider the Human Development major developed in partnership with the psychology department; students interested in middle- and high school licenses should major in the particular content area in which they will be teaching.

Application, Admission, and Graduation Requirements
We encourage students to declare their education major by the end of their first year at Merrimack College. All education majors will be given an education advisor above and beyond your college major advisor; your education advisor will work closely with you to best determine your educational interests and focus and help you craft the most appropriate course of study that meets your needs and institutional and DESE requirements. While it is not required at the time of admittance, all students pursuing a teacher license must ultimately meet the following requirements: at least a 3.00 gpa in their college major and within their education major; passage of all applicable MTEL tests (see below); and successful completion of the student-teaching semester (see below).

Licensure Options
Upon acceptance into the education department, all students should choose the particular grade level and licensure area in which they ultimately want to teach. The education department offers multiple licensure programs that have been approved by the Massachusetts Department of Elementary and Secondary Education (DESE) pursuant to the Interstate Agreement of the National Association of State Directors of Teacher Education. (Students are thus able to receive reciprocal teaching licenses in over 45 states; please refer to the DESE’s website [http://www.doe.mass.edu] as well as each particular state’s requirements for exact terms of reciprocity.) Students can choose from the following licensure options:
• Early Childhood Education (PreK-2)
• Elementary Education (1-6)
• Elementary and Moderate Disabilities (PreK-8)
• Middle School (5-8) or Secondary School (8-12)
  • Math
Biology  
Chemistry  
English  
History  
Physics (8-12 only)  
• Foreign Language (5-12)  
• Spanish  
• French

Licensure Program Options, Distribution Requirements and Education Focus
The following matrix offers a cross-program overview of the required education courses within each education license.

<table>
<thead>
<tr>
<th>UNDERGRADUATE DEPT. of EDUCATION</th>
<th>credits</th>
<th>ECE</th>
<th>ELEM</th>
<th>MOD DIS</th>
<th>MID</th>
<th>SEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDU 2110 Foundations &amp; Principles of Education</td>
<td>4</td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>EDU 2210 Child &amp; Adolescent Development</td>
<td>4</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>EDU 2230 Applied Adolescent Psychology</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>EDU 2240 Adult Development</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDU 2310 Intro to Early Childhood</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDU 2230 Applied Adolescent Psychology</td>
<td>4</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>EDU 3210 Psychology of Learning &amp; Assessment</td>
<td>4</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>EDU 3310 Teaching Reading &amp; Language Arts</td>
<td>4</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>EDU 3340 Teaching Mathematics &amp; Technology</td>
<td>4</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>EDU 3360 Teaching Science, Health &amp; Physical Ed</td>
<td>4</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>EDU 3380 Org &amp; Curriculum of the Middle School</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDU 3420 Instructional Method &amp; Tech for Middle &amp; Sec Ed</td>
<td>4</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>EDU 3480 Org &amp; Curriculum of the Secondary Sch</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>EDU 4040 Reading in the Content Areas: Middle &amp; Sec Education</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>EDU 4050 Special Methods for the Middle School</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>EDU 4060-4160 Special Methods for the Secondary School</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>EDU 4220 Diff Instruction for the Inclusive Classroom</td>
<td>2</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>EDU 4230 Classroom Management</td>
<td>2</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>EDU 4320 Teaching Social Studies</td>
<td>2</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>EDU 4340 Children's Literature</td>
<td>2</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>EDU 4500 Lang Acquis &amp; Lit Curr Dev</td>
<td>4</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>EDU 2500 Pre-Practicum</td>
<td>0</td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>EDU 2510 Pre-Practicum</td>
<td>0</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>EDU 4900 Practicum – Moderate Disabilities</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>EDU 4901 Practicum – Middle School</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>EDU 4902 Practicum – Secondary Schools</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>EDU 4903 Practicum – Elementary Schools</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>EDU 4905 Practicum - Early Childhood</td>
<td>12</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDU 4906 Practicum – Elementary with Mod Disab</td>
<td>12</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>

Additionally, please note that students gaining middle- and secondary-school licenses should follow the college-wide general education requirements. Students gaining early childhood, elementary, and moderate disabilities licenses are required to take additional courses which fulfill DESE requirements as well as all of the Merrimack College's general education requirements. (Case-by-case exceptions may be available only by approval of your advisor and the department chair.) Please refer to program sheets available in the Education Department office, Austin Hall, room 230 or on our website for updated information on Distribution Requirements.

Students must also take and pass a set of tests – the MTELs – required of all classroom teachers by the Commonwealth of Massachusetts. See the matrix below for the particular tests required,
depending on your particular licensure area. It is strongly encouraged that the Communication and Literacy test is taken and passed by the end of the sophomore year and the Foundations of Reading (if applicable) taken concurrently with enrollment in EDU 3310. All MTEL tests (including the General Curriculum & subject matter tests) should be passed prior to entry into the student-teaching semester. Additionally, all students should have a minimum of a 3.00 GPA in their major prior to entry into the student-teaching semester.

<table>
<thead>
<tr>
<th>MTEL Tests</th>
<th>ECE</th>
<th>ELEM</th>
<th>MOD DIS</th>
<th>MIDDLE</th>
<th>SEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication &amp; Literacy</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Foundations of Reading</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Curriculum</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early Childhood</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subject Matter tests</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

**Minor in Education**

Students can minor in education through the taking of a structured sequence of relevant coursework. The education minor may be within a licensure or non-licensure track. The licensure track will best prepare those students interested in the 5th year program (see below) or in preparation for teaching in a private, independent, or international school context. Alternatively, the minor in Educational Studies will offer students an in-depth examination of the educational system through multiple disciplinary perspectives, such as philosophy and sociology.

**Minor in Education towards Licensure (20 or 24 credits)**

| EDU 2110 | Foundations & Principles of Ed | 4 | x | x | x | x |
| EDU 2210 | Child & Adolescent Development | 4 |   | x | x |   |
| EDU 2310 | Intro to Early Childhood       | 4 | x |   |   |   |
| EDU 2230 | Applied Adolescent Psychology  | 4 |   | x | x |   |
| EDU 3210 | Psych of Learning & Assessment | 4 | x | x | x | x |
| EDU 3380 | Org & Curriculum of the Mid School | 4 | x |   |   |   |
| EDU 3420 | Instr Method & Tech for Mid & Sec Ed | 4 | x | x |   |   |
| EDU 3480 | Org & Curriculum of the Sec School | 4 |   |   | x | x |
| EDU 3310 | Teaching Reading & LA          | 4 | choose | choose | choose |   |
| EDU 3340 | Teaching Mathematics & Technology | 4 | one | one | one |   |
| EDU 3360 | Teaching Science, Health & Phys Ed | 4 | choose | choose | choose |   |
| MTH 1400 | Math for Elem Educators        | 4 | one | one | one |   |
| SCI 1000 | Investigations in Life & Physical Sciences | 4 | one | one | one | x |
| EDU 4500 | Lang Acquis & Lit Curr Dev     | 4 |   |   |   |   |

**Minor in Educational Studies (24 credits)**

Required Coursework:

| EDU 3190 | Urban Education |
| EDU 3620 | Cultural Diversity in the Schools |
| EDU 4480 | Critical Education: Theory, Literacy, and Pedagogy |
| EDU 2110 | Foundations and Principles of Education |
| OR EDU3200 | Language Issues in Education |

CHOOSE TWO (Additional courses may be applicable):

| PHL 2600 | Philosophy of Education |
Transfer Students
The education department strongly encourages and welcomes transfer students into the education major. The School of Education has formal articulation agreements with Northern Essex Community College, Middlesex Community College, and North Shore Community College, which foster seamless and thus efficient and effective opportunities for timely graduation with their bachelor's degrees with an education major. Please contact the transfer office and the department chair for specific details of these agreements. Additionally, the education department will work on a case-by-case basis with all transfer students to set up an individualized plan of study based on your particular transcript and educational background. Please work with your advisor and transfer credit office of your home institution as early as possible to insure a smooth transition.

5th Year Program in Education
The School of Education offers a 5th year program where Merrimack College students can gain a master's degree in education and applicable licensure through a 12-month intensive graduate program. Depending on students' major and course-taking, opportunities exist for an expedited completion given the fulfillment of multiple licensure requirements. Please refer to the graduate academic catalog for details.

EDU 2110
Foundations and Principles of Education 4 cr.
An introduction to the social and philosophical principles which have shaped educational thought and practices viewed in historical perspective; the challenge of modern education in our urban, suburban, technological, and mobile culture; the professional, legal, and community responsibilities of the teacher; organization of the American school system; contemporary issues in education. Close examination of the social context of schooling will be included. Three hours a week.

EDU 2130
Diversity and Social Justice 4 cr.
This course will focus on issues of diversity and social justice within the context of PreK-12 education. Its purpose is to develop theoretical, conceptual, pedagogical, and curricular foundations for supporting issues of equity and access as well as marginalized individuals, groups, and peoples. Themes will include urban education, immigration and English-language status, and special education. Students will examine both systemic and curricular approaches within educational settings to develop a conceptual framework as well as the practical implications of these themes and issues.

EDU 2210
Child and Adolescent Development 4 cr.
This course will introduce students to theories and principles of child and early adolescent development. The course will specifically address the application of such theories to educational practice, examining the biological, cognitive and social changes associated with development, birth through early adolescence. Students will engage in a service learning project to gain understanding of children in this age range. Fulfills X in LS Core. Three hours a week.

EDU 2230
Applied Adolescent Psychology 4 cr.
This course will focus on the physical, cognitive, social and emotional aspects of adolescent development from an applied perspective. Specifically, issues related to teaching adolescents in middle schools and high schools, grades 5-12, will be considered. Students will engage in a service learning project to gain understanding of children in this age range. Fulfills X in LS Core. Three hours a week.

EDU 2240
Adult Development 4 cr.
This course will introduce students to theories and principles of child and early adolescent development. The course will specifically address the application of such theories to educational practice, examining the biological, cognitive...
and social changes associated with development, birth through early adolescence. Students will engage in a service learning project to gain understanding of children in this age range. Three hours a week.

EDU 2310
Introduction to Early Childhood Education 4 cr.
This course will introduce students to biological, cognitive, and sociocultural theories early childhood development from the period of prenatal growth through age eight. This course will examine topics including prenatal growth, infant health, language development, child care and schooling, play, family life, learning assessment, differentiated instruction, and multicultural perspectives of early childhood development as relevant to educational practice. Students will engage in an observational assignment to gain insight into the specific development of young children. Three hours a week.

EDU 2500
Pre-Practicum Field Experience Curriculum, Methods and Materials No Credit
Prerequisite: Enrollment in Teacher Preparation Program; junior standing. This is the first Pre-Practicum and should be taken in conjunction with a methods course or EDU 3210 - Psychology of Learning and Assessment.

EDU 2510
Pre-Practicum Field Experience in Curriculum, Methods and Materials No Credit
Prerequisite: Enrollment in Teacher Preparation Program; senior standing: Elementary Education and Teacher of Students with Moderate Disabilities (Pre-K-8) must register for this concurrently with any fall semester, senior year methods course. For Middle School, EDU 4050 – Special Methods for the Middle School; for Secondary School, EDU 4060-4160 – Special Methods for the Secondary School.

EDU 3190
Urban Education 4 cr.
This course will examine the economic, sociological, and political factors which impact schooling in urban settings. Special focus will be placed on issues such as: limited English proficiency (LEP), financial resources, and the role of the family, among others. Three hours a week.

EDU 3200
Language and Social Processes 4 cr.
This course will examine all facets of language acquisition and usage from the perspective of neo-classical educational linguistic theory. The writings of renowned linguists (Chomsky, Whorf, Goodman, Thomason, Fishman, deSaussure, Bernstein, Spolsky, et. al.) will be explored and applied to both modern and postmodern views of language. Issues of communication, policy, power, knowledge, dominance, conflict, gender, socioeconomic status and bilingual education will be discussed, especially as those issues impact the success, or failure, of students in the U.S. public school system. A field project will be required. Three hours a week.

EDU 3210
Psychology of Learning and Assessment 4 cr.
This course will focus on the general principles of the psychology of learning. There will be special attention paid to assessment techniques. The psychology of learning and assessment will be studied from an applied perspective. We will also consider the impact of social emotional development on the context of classrooms and schools. This course will also include an introduction to testing and measurement. An action research/workshop project will be a cornerstone feature of this course. Prerequisites: EDU 2210 (for Elementary Ed) or EDU 2230 (for Middle or Secondary Ed.) Fulfills X in LS Core. Three hours a week.

EDU 3310
Teaching Reading and Language Arts 4 cr.
This course will study the various components of the Language Arts: Listening, speaking, and reading and writing skills. The course examines recent research and theoretical foundations for reading instruction to gain knowledge and understanding of the current methodology and appropriate curriculum materials for the teaching of reading at the various developmental levels. This course includes the study of Bilingual Education/Biliteracy-ELL and multiculturalism. It also helps to prepare students for the required MTEL exams, particularly Foundations of Reading. Three hours a week.

EDU 3340
Teaching Mathematics & Technology 4 cr.
This course is designed to enable prospective elementary school teachers to teach mathematics efficiently and effectively to diverse student populations. Prospective teachers will learn how to develop and coordinate learning objectives, assessment techniques, and instructional methodologies according to the psychological principles of how
children learn mathematics. Attention will be given to teaching recommendations from the National Council of Teachers of Mathematics as well as the professional standards for teaching determined by the Department of Elementary and Secondary Education of Massachusetts.

**EDU 3360**
**Teaching Science, Health & Physical Education**
4 cr.
This inquiry-based course examines how children learn science and how teachers facilitate that learning. The course will be based on a framework where students use evidence to construct explanations and engage in argumentation. The course will be set in real life settings (both inside and outside the classroom/lab) and students will become actively involved in the following: participating in and developing inquiry based laboratory investigations, teaching an inquiry based unit to elementary students, assessing student understanding, and initiating self/group reflections of implementation efforts. Health issues and physical education strategies related to elementary students will also be addressed. Observation and field experience are required.

**EDU 3380**
**Organization and Curriculum of the Middle School**
4 cr.
This course provides students with an introduction to the philosophy, organization, development and implementation of middle school courses of study. Special emphasis will be placed on the socio-cultural context of teaching in the contemporary American middle school. Examination of contemporary middle school curricula, instructional techniques and issues in assessment of student learning will also be included. Ample class time will also be devoted to in-depth discussion of classroom management, special or alternative scheduling models, and current thinking on the teaching and learning process. Three hours a week.

**EDU 3420**
**Instructional Methodologies and Technology for Middle & Secondary Education**
4 cr.
Through an integration of conceptual presentation and hands-on learning learners will develop competence for the secondary school level (7-12) in long-term course planning, lesson plans, teacher-centered and student-centered instructional methods, learning styles, engaging students in learning, test construction, assessment and evaluation, classroom management, and learning climate. In each of these areas there will be an exploration of the role of instructional technology in fostering student success. Demonstration classes by the student will be required. Coursework will integrate the expectations for teaching found in Curriculum Frameworks and Instructional Technology Standards. Fulfills X in LS Core. Three hours per week.

**EDU 3480**
**Organization and Curriculum of the Secondary School**
4 cr.
This course provides students with an introduction to the philosophy, organization, development and implementation of high school courses of study. Special emphasis will be placed on the socio-cultural context of teaching in the contemporary American high school. Examination of contemporary high school curricula, instructional techniques and issues in assessment of student learning will also be included. Ample class time will also be devoted to in-depth discussion of classroom management, special or alternative scheduling models, and current thinking on the teaching and learning process. Three hours a week.

**EDU 3620**
**Cultural Diversity in the Schools**
4 cr.
Focuses on the design and development of elementary, moderate disabilities and middle school programs that address cultural diversity including different racial, ethnic, cultural and linguistic groups as well as educational issues related to gender and exceptionality. Special focus will be put on the development of ESL (English as a Second Language) programs. This course examines the philosophy, history and recent curriculum trends for multicultural education including the concepts and issues of culture, cultural pluralism, bicultural/bilingualism, ethnicity and global education. Fulfills D and X in LS Core. Three hours a week.

**EDU 4040**
**Reading in the Content Areas**
2 cr.
This course will focus on the importance of reading across the curriculum. Theories of reading and techniques for improving student reading and comprehension skills will be explored. Must be taken in the same semester as EDU 4050, 4060, 4100, 4120, 4140, or 4160. Three a per week.

**EDU 4050**
**Special Methods for the Middle School**
2 cr.
This course will focus on methods and materials for Middle School teaching (5-8). Topics to be examined include appropriate teaching strategies and approaches for addressing the middle school age student needs as well as the design of an effective middle school curriculum. Developments in curriculum materials, and innovations, current and
planned, in the area of middle school teaching will be explored. Observation of selected school classes and
demonstration lessons by the student will be required as part of Special Methods. EDU 4050 must be taken in the
same semester as EDU 4040. Three hours a week.

EDU 4060, 4100, 4120, 4140, 4160
Special Methods for the Secondary School
2 cr.

Special Methods in Subject Fields
The emphasis is on the adaptation of general methods to the particular subject area and the development of the
individual skills and techniques required in the subject field. Developments in curriculum materials, and innovations,
current and planned, in the specific teaching subjects will be explored. Observation of selected school classes and
demonstration lessons by the student will be required as part of Special Methods. EDU 4060 - EDU 4160 must be
taken in the same semester as EDU 4040. Fulfills X in LS Core. Three hours a week.

EDU 4060
Special Methods of Teaching English
gr. 8-12
2 cr.

EDU 4100
Special Methods of Teaching Social Science
gr. 8-12
2 cr.

EDU 4120
Special Methods of Teaching Mathematics
gr. 8-12
2 cr.

EDU 4140
Special Methods of Teaching Science
gr. 8-12
2 cr.

EDU 4160
Special Methods of Teaching Modern Languages
gr. 5-12
2 cr.

EDU 4220 & EDU 4221
Differentiated Instruction for the Inclusive Classroom
2 cr.

Classroom Management and Learning Reinforcement
2 cr.

These two courses will address classroom management issues pertinent in all classrooms. In addition, the course
will review current practices in differentiated instruction for children at all ability levels. The major areas to be covered
in this course will include the characteristics and needs of typically developing children and those with communication
problems, visual and hearing impairments, physical and health-related challenges, mental retardation, learning
disabilities, gifted and talented attributes, and emotional and behavioral disorders. The process for identification
referral and placement of students though an Individual Education Plan (IEP) will be reviewed. Three hours a week.

EDU 4260 Counseling and Guidance in the Schools
4 cr.

This course will provide an introduction to theory and practice of school counseling and guidance. Competencies
focused on in this course will include the development of rapport and communication skills, interviewing techniques,
evaluation and interpretation of cumulative records and test results/testing reports. This course will also provide
students with an overview of laws affecting school counseling/guidance. The ethical issues related to counseling and
guidance will also be reviewed. Service learning will be required and this will add a supervised field component to this
course. Prerequisites: EDU 2210 and EDU 2230 or permission of instructor

EDU 4320
Teaching Social Studies
2 cr.

The course content will address various aspects of social studies education such as global awareness, cultural
diversity, the development of geography skills and the planning and implementation of social studies units. The
needs of bilingual, ESL and special needs students in these curriculum areas will be studied. In each area there will
be a focus on the methodology, materials and theoretical foundations for the specific curriculum scope and sequence.
Students will be required to develop instructional folders for each curriculum area. EDU 4320 must be taken in the
same semester as EDU 4340 – Children’s Literature. Three hours a week.
EDU 4340
Children's Literature 2 cr.
This course addresses children’s and young adult literature and literary techniques, as well as basic principles and concepts in the teaching of visual and performing arts to children. Included are genre characteristics and identification, recognition of quality literature, and artistic elements of illustration. Students will apply essential skills unique to teaching each art form – dance, music, theatre, visual arts– to children – and the integration of these into other disciplines. EDU 4340 must be taken the same semester as EDU 4320. Three hours a week.

EDU 4480
Critical Education: Theory, Literacy, and Pedagogy 4 cr.
This course will examine the modern and postmodern “critical” movements in the field of Education. Special emphasis will be placed on the three most well known areas of critical education – theory, literacy, and pedagogy. Writings/ideas of prolific researchers/theorists/activists will be a significant part of the course. Examples will be drawn from a variety of text and journal resources as well as from the lived schooling experiences of students enrolled in the class. Included in this course will be an exploration of why schools are a critically important reflection of broader societal, political and socioeconomic concerns and conditions. Required for Educational Studies minor. Three hours a week.

EDU 4500
Language Acquisition and Literacy Curriculum Development 4 cr.
This course will focus on theories of acquisition of key language components, namely phonology, morphology, syntax, semantics and pragmatics. Through case studies, students will gain an appreciation for the phases of language development and will understand the reasons for dysfunction and its effect on overall school achievement. There will be a thorough examination of mild to moderate language disability, its causes and successful intervention strategies, as well as the expected phases of development in both first and second language acquisition. In addition to language acquisition, this course will also focus on the design and modification of curriculum, instructional materials, and general education classroom environments for students with moderate disabilities. It will address ways of preparing and maintaining students with disabilities in the general education classroom; for example, through the use of behavioral management principles, as well as other inclusive practices. (e.g. RTI – Response To Intervention)

EDU 4800
Directed Study 4 cr.
In lieu of a formal course, qualified upper class students may, with the approval of the chair, substitute an intensive program of reading under the direction of a member of the department.

EDU 4810
Directed Research 4 cr.
In lieu of a formal course, a student may, with the approval of the chair, pursue an intensive program of research under the direction of a member of the department.

EDU 4900
Practicum – Moderate Disabilities 12 cr.
No course description. Fulfills X in LS Core.

EDU 4901
Practicum – Middle Schools 12 cr.
No course description. Fulfills X in LS Core.

EDU 4902
Practicum – Secondary Schools 12 cr.
No course description. Fulfills X in LS Core.

EDU 4903
Practicum – Elementary Schools 12 cr.
No course description. Fulfills X in LS Core.

EDU 4904
Practicum – Elementary Schools 6 cr.
No course description. Fulfills X in LS Core.
EDU 4905
Practicum – Early Childhood Education  12 cr.
No course description. Fulfills X in LS Core.

EDU 4906
Practicum – Elementary with Moderate Disabilities  12 cr.
No course description. Fulfills X in LS Core.

EDU 4920
Seminar: Practicum Organization  0 cr.
No course description.

EDU 4921
Seminar: Practicum Implementation  0 cr.
No course description.

EDU 4999
Honors Research Seminar  4 cr.
This Honors Seminar is for Education majors (Juniors) who wish to pursue a specialized research project prior to the Practicum in senior year. Weekly discussions and presentation of progress on research are required. Three hours a week. Consent of the instructor is required.

Department of Electrical Engineering
School of Science & Engineering

Faculty:

Co-Chairs (2013-20134): Associate Professors Ming Chen and Abdullatif Bagengi
Associate Professors Adams, Bowhers and Poteat

Our Mission

Vision
To have a diverse and vibrant community of students from the US and beyond leading to graduates who are widely recognized as outstanding electrical engineers.

Mission
To provide an outstanding Electrical Engineering education while also contributing to the Merrimack College, local, and professional communities.

Program Educational Objectives

To accomplish our Mission, our students will develop the following:

1. Adaptability to changing employer needs and technology trends;
2. Diagnosing and solving problems;
3. A system-level understanding of their engineering contributions. Our graduates understand that their work influences and is influenced by engineering throughout the system;
4. An understanding of the program management implications of their work. Our graduates understand the influence their decisions have on issues such as project scheduling, cost and quality;
5. Designing or testing devices and or systems;
6. Serving on teams as a contributing member;
7. Practice electrical engineering in application areas including but not limited to the following:
   • Analog, digital and wireless circuit design, test and manufacture
   • Integrated circuit design, layout, and fabrication
   • Telecommunications and packet technology
   • Electrical power generation, distribution, and quality
   • Application of renewable energy, energy conversion and energy efficiency
   • Embedded controller and high-level programming and design;
8. Engage in regular upgrading of their knowledge and skill set as part of ensuring both their personal success and the success of their employer. Many pursue graduate work, continuing education, or professional trainings.

Program Outcomes

Consistent with our Program Educational Objectives, our students will have:

1. An ability to apply knowledge of mathematics, science, and engineering;
2. An ability to design and conduct experiments, as well as to analyze and interpret data;
3. An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability;
4. An ability to function on multidisciplinary teams;
5. An ability to identify, formulate, and solve engineering problems;
6. An understanding of professional and ethical responsibility;
7. An ability to communicate effectively;
8. The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context;
9. A recognition of the need for, and an ability to engage in life-long learning
10. A knowledge of contemporary issues;
11. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

The field of Electrical Engineering covers a wide range of applications, ranging from the transmission of electric power, to the design of computer microprocessors, to cellular phone and antenna design, among many others. Students are provided with a very strong grounding in the fundamentals required to succeed in a wide variety of industries, or to go on to graduate school. The program emphasizes a high level of hands-on lab experiences, and both class and lab are held in a mentoring environment. With the option of on-the-job training through the cooperative education program, the student has the additional opportunity to interrelate academic work with practice in an engineering environment. The curriculum is accredited by the Accreditation Board for Engineering and Technology (ABET) and is designed to provide the student with a broad range of courses in the basic sciences and mathematics, engineering sciences, humanities, and social sciences. Students have the option of adding a “Computer Engineering” concentration to their degree work, choosing advanced electives from courses such as Data Communications and Data Networking.

In addition to satisfying the College’s Core Curriculum in Liberal Studies requirements, students who seek a Bachelor of Science in Electrical Engineering degree must further have completed the following major and cognate courses or their equivalents.
### TYPICAL CURRICULUM FOR A BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

#### FRESHMEN YEAR

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEN 1001</td>
<td>Introduction to Engineering</td>
</tr>
<tr>
<td>MTH 1217</td>
<td>Calculus I</td>
</tr>
<tr>
<td>MTH 1218</td>
<td>Calculus II</td>
</tr>
<tr>
<td>MTH 2219</td>
<td>Calculus III</td>
</tr>
<tr>
<td>MTH 2220</td>
<td>Differential Equations</td>
</tr>
<tr>
<td>MTH 1505</td>
<td>Applied Engineering Statistics</td>
</tr>
<tr>
<td>PHY 2211</td>
<td>Physics I</td>
</tr>
<tr>
<td>PHY 2212</td>
<td>Physics II</td>
</tr>
<tr>
<td>CHM 1180</td>
<td>Chemistry for Engineers</td>
</tr>
<tr>
<td>CSC 1610</td>
<td>Computer Science I</td>
</tr>
</tbody>
</table>

#### SOPHOMORE YEAR

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEN 1100</td>
<td>Analog Fundamentals</td>
</tr>
<tr>
<td>EEN 1200</td>
<td>Digital Fundamentals</td>
</tr>
<tr>
<td>EEN 2130</td>
<td>Circuit Theory I</td>
</tr>
<tr>
<td>EEN 2140</td>
<td>Circuit Theory II</td>
</tr>
<tr>
<td>EEN 2250</td>
<td>Assembly for Electrical Engineering</td>
</tr>
<tr>
<td>EEN 2270</td>
<td>Embedded Microprocessors</td>
</tr>
<tr>
<td>EEN 3130</td>
<td>Signals and Systems</td>
</tr>
<tr>
<td>EEN 3210</td>
<td>Electronics I</td>
</tr>
<tr>
<td>EEN 3220</td>
<td>Electronics II</td>
</tr>
<tr>
<td>EEN 3430</td>
<td>Engineering Electromagnetics</td>
</tr>
<tr>
<td>EEN 3270</td>
<td>Energy, Generation, Conservation and Technology</td>
</tr>
<tr>
<td>EEN 4270</td>
<td>Feedback Circuits</td>
</tr>
<tr>
<td>EEN 4750</td>
<td>VLSI Design</td>
</tr>
<tr>
<td>EEN 4960</td>
<td>Design Project I</td>
</tr>
<tr>
<td>EEN 4970</td>
<td>Design Project II</td>
</tr>
</tbody>
</table>

Eight credits of advanced electives from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEN 3555</td>
<td>Power Engineering I</td>
</tr>
<tr>
<td>EEN 3565</td>
<td>Power Engineering II</td>
</tr>
<tr>
<td>EEN 5145</td>
<td>Discrete Time Signals and Systems</td>
</tr>
<tr>
<td>EEN 5175</td>
<td>Digital Architecture and Hardware Description Language</td>
</tr>
<tr>
<td>EEN 5265</td>
<td>Engineering Management</td>
</tr>
<tr>
<td>CSC 3925</td>
<td>Data Communications</td>
</tr>
<tr>
<td>CSC 3935</td>
<td>Data Networking</td>
</tr>
<tr>
<td>EEN 4705/4715</td>
<td>Special Topics (2/4 credits)</td>
</tr>
<tr>
<td>EEN 4805/4815</td>
<td>Directed Study (2/4 credits)</td>
</tr>
</tbody>
</table>
Late Afternoon Program in Electrical Engineering.
To accommodate the needs of students who are employed full-time in local industry, the EEN Department offers a 7 year BSEE program available to these students by scheduling lectures at 4 p.m. with laboratories at night. Courses supporting these programs, in First Year Writing, religion and philosophy, the humanities, the social sciences, mathematics, chemistry, and physics may be taken through the Office of Graduate and Professional Studies (GPS) during evening hours. All full-time Electrical Engineering students should be aware that they must be prepared for the scheduling of some of their course work at 4 p.m.

Cooperative Education Program in Electrical Engineering.
The cooperative education calendar for the EEN major is designed as a five-year program. In this program, the student alternates between working full time in industry and enrolling as a full time student. The benefits of working in industry while obtaining an Engineering degree are many, including developing hands on experience, determining what field of Electrical Engineering one enjoys, and also making good money while in school. Upon graduating, the student has job contacts in place, and also can talk with more confidence to recruiters. Often students will receive a job offer from a company where they have completed co-op work. For the student willing to take an extra year to obtain the BSEE degree, the co-op option is a superb alternative

Major GPA. All EEN courses are calculated in the GPA for the major.

Math Courses. EEN students taking Pre-calculus or Calculus I in a given semester must pass the course with a “C” (2.0) or better in order for that course to be used as a prerequisite for further math courses.

Computer Engineering Concentration
In addition to required courses in Computer Science (CSC 1610), Assembly for Electrical Engineers (EEN 2250) and Embedded Microprocessors (EEN 2270), a concentration in Computer Engineering includes eight credits of advanced elective from the following courses:
  - CSC 3925 Data Communications
  - CSC 3935 Data Networking (offered every other year)
## Minor Requirements

There are two minors offered by the Electrical Engineering Department: a standard EE minor, and a computer engineering minor. The EE minor emphasizes analog electronics, while the computer engineering minor focuses on the interface between hardware and software.

### Electrical Engineering

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSC 1610</td>
<td>Computer Science I</td>
</tr>
<tr>
<td>EEN 1100</td>
<td>Analog Fundamentals</td>
</tr>
<tr>
<td>EEN 1200</td>
<td>Digital Fundamentals</td>
</tr>
<tr>
<td>EEN 2130</td>
<td>Circuit Theory I</td>
</tr>
<tr>
<td>EEN 2140</td>
<td>Circuit Theory II</td>
</tr>
<tr>
<td>EEN 3210</td>
<td>Electronics I</td>
</tr>
</tbody>
</table>

### Computer Engineering

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEN 1177</td>
<td>Renewable Energy and the Environment</td>
</tr>
</tbody>
</table>

119
EEN 1200  
**Digital Fundamentals**  
The design and analysis of digital systems at the bit, gate, flip-flop level with particular emphasis on the application of digital systems. Topics include Boolean algebra, logic gates, and integrated circuit design including the use of Karnaugh maps to minimize the number of gates; combinational systems such as arithmetic circuits, decoders, encoders, and multiplexers, and dynamic logic blocks as latches, Flip-Flops, counters and shift registers. Laboratory projects will involve designing, building, and testing of some digital systems. Prerequisite: EEN 1100 or declared CS major, also MTH 1000 with a C or higher. Three hours of lecture a week and one three-hour laboratory a week.

EEN 2130  
**Circuit Theory I**  
Course addresses the fundamentals of circuit theory including, Ohm’s Law and resistive circuits, Kirchhoff’s current and voltage laws, basic DC circuit analysis and network theorems, nodal and loop analysis, and equivalent circuit concepts. The study of capacitors, inductors, and transient circuits, including their many applications, are also covered. Prerequisite: MTH 1217 with a C (2.0) or higher. Three hours of lecture a week and one three-hour laboratory a week.

EEN 2140  
**Circuit Theory II**  
This course is a continuation of EEN 2130, with focus on AC circuit analysis, including: transient response of RC and RL circuits, and AC steady-state circuit concepts including forcing functions, phasors, and impedance. Also covered are such topics as steady-state power analysis, polyphase circuits, frequency response, and discussion of network performance. Prerequisite: EEN 2130. Three hours of lecture a week and one three-hour laboratory a week.

EEN 2250  
**Assembly for Electrical Engineering**  
Computer structure and machine language, representation of numeric and character data, mnemonic operations including the data transfer, arithmetic, branching, and bit manipulation operations, symbolic addressing, addressing modes, subroutines and procedures, macros, and input/output as they are implemented on an IBM PC (Pentium). Prerequisite: CSC 1610 or Equivalent. Three hours of lecture and lab a week.

EEN 2270  
**Embedded Microprocessors**  
Today’s computers fall into two categories. The first uses high performance microprocessors such as the Pentium Class of Processors. The second category focuses on issues of space, cost, low power and fast development in products such as wireless phones, automobiles, security systems, and washing machines. This course focuses on the second category and the Hardware and Software design of these controllers. Students will learn how to design embedded systems via both lecture and laboratory instruction. Laboratory projects will include designing, building and testing of these systems and evaluating the HW/SW tradeoffs. Prerequisites: EEN 1200 and EEN 2250. Alternatively CSC 3720 can take the place of EEN 1200 and EEN2250. Three hours of lecture a week and one three-hour laboratory a week.

EEN 3130  
**Linear Signals and Systems**  
Continuous time linear signals and systems are described and analyzed in both time and frequency domains. Sinusoids (complex exponentials) and differential equations are used to represent signals and systems in the time domain with response developed via the convolution integral. Frequency domain analysis includes the capabilities of the Fourier series, Fourier transform and the Laplace transform. Applications in signal processing are included to provide context for the analysis technique. Prerequisites: EEN 2140 and MTH 2220 with a C (2.0) or higher. Four hours of lecture a week.

EEN 3210  
**Electronics I**  
The semiconductor pn junction, diodes, diode circuits, and its application are studied. A detailed study of field effect transistors (FETs), including physical structure and regions of operation, DC biasing circuits design and analysis, ac small signal equivalent circuit, switching and amplifier applications. Design and analysis of common-source, emitter follower amplifiers using FETs. A detailed study of bipolar junction transistors (BJTs), including physical structure and regions of operation, DC biasing circuits design and analysis. Prerequisites: EEN 2140, CHM 1180 or equivalent. Three hours of lecture a week and one three-hour laboratory a week.
EEN 3220
Electronics II
4 cr.
A detailed study of bipolar junction transistors (BJTs) ac large and small signal equivalent circuit, switching and
amplifier applications. Design and Analysis of common-source and emitter followers at low and high frequencies. An
introduction to operational amplifier (op-amps), its characteristics and applications. Analyzing several ideal op-amps
such as inverter and non-inverter. Designing and analyzing FETs and BJTs, current sources (current mirrors). Basic
understanding the characteristics and terminology of the ideal differential amplifier. Analyzing the basic bipolar
differential amplifier. Prerequisite: EEN 3210. Three hours of lecture a week and one three-hour laboratory a week.

EEN 3270
Energy, Generation, Conservation and Technology
4 cr.
Course covers generation, transmission and distribution of U.S. electrical power systems. Faradays’ law is covered,
with applications to generators and transformers. A significant portion of the course is devoted to Energy Efficiency
and Renewable energy (EERE) topics, including wind, hydro and solar. The importance of EERE in light of present
environmental, economic, and ethical considerations is covered. Energy measurement and smart grid technology are
discussed. This is a junior level ”project” course, and a significant project involving real-world EERE is required.
Prerequisites: EE Junior Standing. Six hours of lecture, demonstrations, and lab experiences a week.

EEN 3430
Engineering Electromagnetics
4 cr.
Course covers vectors, fields, and mathematical quantities associated with fields. Transmission line theory is
covered, with coaxial cable as an application. Electrostatics and Magnetostatics are covered. Faraday’s and
Ampere’s laws are covered, along with the full set of Maxwell’s laws. Plane wave radiation concepts are explored,
including polarization and power density. Applications and real-world examples are stressed throughout the course.
Prerequisites: PHY 2211, and MTH 2219 with a C (2.0) or higher. Six hours of lecture, demonstrations, and lab
experiences a week.

EEN 3555
Power Engineering and Power Quality I
2 cr.
Phasors, real and reactive power in single phase and poly-phase AC circuits; balance three phase circuits; power in
three phase circuits; introduction to power quality; power quality problems and solution such as, electrical transients,
harmonics, voltage regulation, and power factor; magnetic circuits and introduction to transformer and its circuit
analysis, such as, open and short circuits test. Prerequisite: EEN 3430 or equivalent. Two hours of lecture a week.

EEN 3565
Power Engineering and Power Quality II
2 cr.
To introduce the students to the present methods of power system analysis and design to include introduction to
AC/DC motors and generators, the power electronics, and building electrical systems, and the power quality and
energy saving. Topics include power electronic switching devices, power transistors, and residential electrical
systems, such as building design, motor circuit design. Prerequisite: EEN 3555 or equivalent. Two hours of lecture a
week.

EEN 5145
Discrete Time Signals and Systems
4 cr.
An advanced elective that parallels a student’s understanding of continuous time signals and systems with a
complete treatment of discrete time signals and systems with applications. This course will introduce the sampling
process and develop discrete time signal and system representation and analysis in both time and frequency
domains. The Z-Transform will be developed to ease difference equation analysis analogous to the continuous time
Laplace transform. Digital Filtering, including both Finite Impulse Response (FIR) and Infinite Impulse Response (IIR)
will be used to apply methods. Prerequisite: EEN 3130. Four hours of lecture a week.

EEN 5175
Digital Architecture and the Hardware Description Language
4 cr.
Advances in silicon technology have enabled System-on-Chip (SOC) designs containing more than ten million gates.
Several aspects of engineering need careful attention in highly complex component design projects: Architecture,
partitioning and hierarchy; design verification; design-for-reuse. This advanced elective will introduce students to the
Verilog Hardware Description Language as we apply common digital architectures to a range of high-level functional
design problems. Using lab and project-based teaching, we will write behavioral descriptions and synthesize
hardware in the form of field programmable gate arrays (FPGA). Lecture and Lab.
EEN 5265  
**Engineering Management**  
4 cr.  
An introductory course in the management of technology-based companies combining reading, lecture, case study and project teaching methods. The course presents introductory material from the areas of accounting and financial principles, R&D management, project development, management practices and human factors. Language and effective communication principles will be a recurring theme throughout the course. *Four hours of lecture a week.*

EEN 4270  
**Feedback Circuits**  
4 cr.  
The basic theory of feedback control systems using classical approaches. Feedback problems are formulated and treated from the transfer function, s-plane and frequency response approaches. The role of the system characteristic equation in determining transfer function, transient response and system stability is emphasized by examples of operational amplifier circuits. Prerequisites: EEN 3220 and EEN 3130. *Four hours of lecture a week.*

EEN 4705  
**Special Topics in Electrical Engineering**  
2 cr.  
Reading, lectures, study and research on topics of importance in electrical engineering. This course is tailored to the interest of the faculty and students and is offered only on demand. Prerequisite: consent of the instructor. Class and lecture format is variable.

EEN 4715  
**Special Topics in Electrical Engineering**  
4 cr.  
Reading, lectures, study and research on topics of importance in electrical engineering. This course is tailored to the interest of the faculty and students and is offered only on demand. Prerequisite: consent of the instructor. Class and lecture format is variable.

EEN 4750  
**VLSI Design**  
4 cr.  
Introduces a hierarchical design methodology for VLSI design and presents both NMOS and CMOS technology. Circuits are designed on computer workstations for actual IC fabrication. Prerequisites: EEN 2140 and EEN 3210. *Five hours of lecture and laboratory a week.*

EEN 4805  
**Directed Study**  
2 cr.  
Qualified students may propose a course of individual study and work to be conducted under the direction of a member of the department. Based on the needs of industry, special topics in a particular research area may be proposed by the faculty as well. Prerequisite: consent of the instructor.

EEN 4815  
**Directed Study**  
4 cr.  
Qualified students may propose a course of individual study and work to be conducted under the direction of a member of the department. Based on the needs of industry, special topics in a particular research area may be proposed by the faculty as well. Prerequisite: consent of the instructor.

EEN 4960  
**Design Project I**  
2 cr.  
Design project I and II form a project-oriented laboratory drawing on the student's prior work in electronics, computer systems, control systems, communication or energy conversion. In the first semester, the student formulates a design project (or research study) in consultation with the instructor. Project plans are developed through a phase gate development model to the point of design review. Students participate in planning and design phases as technical reviewers in addition to their individual design responsibility. Prerequisite: Senior standing. *Fulfills X in LS Core. Two hours of lecture per week.*

EEN 4970  
**Design Project II**  
2 cr.  
Design project I and II form a project-oriented laboratory drawing on the student's prior work in electrical engineering. Tasks such as layout, fabrication, coding and test are generally required as students complete project implementation. Project developments complete the phase gate model with students serving as the reviewers and technical resources in addition to their individual responsibility. Project presentations complete the capstone experience. Prerequisite: EEN 4960. *Fulfills X in LS Core. Two hours of lecture per week.*
Elementary Education concentration,
Elementary Education with Moderate Disabilities concentration
See Education or Human Development

Embedded Controller concentration
See Physics

Department of English
School of Liberal Arts

Faculty:
Chair (2013-2014): Professor Steven Scherwatzky
Professors Branca, Mahoney, and Plasse
Associate Professors Johnson, Keohan, Plunkett, and Vatalaro
Assistant Professor McWhorter

Students in the Merrimack English program learn that literature, film and other forms of storytelling have the capacity to influence social change, challenge dominant versions of history, rewrite cultural myths, shape concepts of identity, and represent aspects of lived experience that cannot be expressed fully by other means. They become knowledgeable about the ways in which culture shapes word, artist, reader, text and events, and they develop an understanding of the entire creative process, from the creation of imaginative writing to the interpretation of it by skilled, agile readers.

Our small course sizes promote close contact between students and professors and permit faculty to read carefully and respond thoughtfully to what students have written. We dedicate ourselves to fostering conversation about literature and writing in and out of the classroom; we quickly learn and remember our students' names; we devote individual attention to those who seek it. We value all forms of writing, whether formal or informal, creative or academic, because we have found that writing triggers discovery, cultivates the formation of dialogue between readers and books, and closes the distance between readers.

English Department faculty recognize that, in addition to advancing students' ability to read and write well about traditional literary texts, a good program in English will also provide opportunities for developing increased understanding of the scope of literary creativity, including the creation of imaginative writing, for cultivating the ability to interpret and examine the value of narratives in alternative media (digital, film, graphic), and for drawing attention to the often overlooked contributions made by other factors during the creative process, such as the influences of climate and location. To serve these purposes, we currently offer concentrations in literature and creative writing, with increasing opportunities in film studies as well.

Our mission dovetails firmly with the goals of the School of Liberal Arts by creating an intellectual platform that enables students to become well-informed and reflective critical thinkers, that provides them with opportunities to participate in the process of discovering and making knowledge and that incorporates hands-on, experiential, and collaborative learning experiences—including with faculty—into its program and courses. Majors and minors in English benefit from having freedom in the design of their programs, aided by their faculty advisors, and from participating in the many activities supported by the department, including
those promoting interaction among faculty, students and alumni, and co-curricular internships
that give students experience in event programming, writing, editing, publishing, and sharing
original scholarship with others.

Satisfying the requirements for the major in English includes completing a minimum of 38
credits in the major according to one of the patterns described below. Transcripts reflect the
concentration chosen, i.e. English/Literary Studies or English/ Creative Writing. Courses are to
be distributed as follows:

**Literary Studies Concentration**

1. ENG 2050 Introduction to Literary Studies
   *Ordinarly, this requirement should be completed before the end of the sophomore
   year.*
2. Three (3) courses at the 3000 level or higher distributed as follows: one course
   before 1800, one course after 1800, one course either before or after 1800.
3. Three (3) literature electives at the 3000 level or higher.
4. Two (2) open English electives at the 3000 level or higher.
   *Two courses at the 2000 level or below exclusive of FYW 1050 may count as English
   electives if taken before the end of the junior year or before the completion of a total
   of twenty-four courses.*
5. ENG 4950 Senior Seminar.

**Creative Writing Concentration**

1. ENG 2050 Introduction to Literary Studies
   *Ordinarly, this requirement should be completed before the end of the sophomore
   year.*
2. Three (3) courses at the 3000 level or higher distributed as follows: one course
   before 1800, one course after 1800, one course either before or after 1800.
3. Three (3) creative writing courses at the 3000 level or higher.
4. Two (2) open English electives at the 3000 level or higher.
   *Two courses at the 2000 level or below exclusive of FYW 1050 may count as English
   electives if taken before the end of the junior year or before the completion of a total
   of twenty-four courses.*
5. ENG 4950 Senior Seminar

**Major GPA.** The GPA for the English major is calculated by taking the average of all ENG and
JRL courses (except FYW 1050).

**Minor in English**

Students may take a minor in English. The minor consists of five courses. The required course
is ENG 2050 Introduction to Literary Studies. The remaining four courses are to be distributed
as follows: one 3000-level or higher course before 1800, one 3000-level or higher course after
1800; two open electives at the 3000-level or higher. *One course at the 2000 level or below
exclusive of FYW 1050 may count as an English elective if taken before the end of the junior
year or before the completion of a total of twenty-four courses.*

**Teacher of English.** In addition to the requirements for the major, English-Education Co-majors
must also complete the required teacher preparation curriculum outlined under the Program for
Teacher Preparation in the Education Department. Students planning to enter the teaching program need to bear in mind that the last semester of their senior year will be taken up by their off-campus practicum. All requirements for the major, including cognates, must be fulfilled by the end of the first semester of the senior year. Accordingly, English-Education Co-majors should take ENG 2050 Introduction to Literary Studies by the end of their sophomore year. English-Education Co-majors must take specific English courses to fulfill major requirements and should consult current guidelines in the department office. Satisfying the requirements for the major in English with an Education Co-Major includes completing a minimum of 38 credits in the major.

FYW 1050 (formerly ENG 1050 and WRT 1050)  
**Introduction to College Writing**  
4 cr.  
Introduction to the rhetorical practices of college-level writing. Emphasizes the interaction of writer, audience, language, purpose, and situation. Fosters an understanding of the ways in which writing, thinking, and learning are related. Sections limited to 15 students each. Intensive concentration during the semester on the student's own writing examined in class and in conference with the instructor. Either FYW1050 or ENG1050 or WRT1050 satisfies the Institutional requirement in first-year writing and fulfills FYW in LS Core. Cannot be taken in addition to ENG1050 or WRT 1050. Does not count toward English major or minor. Three hours a week.

ENG 1060  
**Horror Fiction**  
4 cr.  
Horror Fiction is an introductory-level course that examines our culture’s undying fascination with narratives involving the supernatural, the deviant, the violent, and the macabre. The greatest horror stories captivate readers, because they serve as metaphors for examining traditional as well as emerging moral, political, and social issues. Course readings include Frankenstein, Dracula and other great horror classics, in addition to contemporary works of horror and science fiction. Course also includes work with horror films. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 1500  
**Major British and World Authors**  
4 cr.  
One-semester course designed to introduce students to British and World literature through selected works of writers both classic and modern, as well as others from continental European and non-European traditions. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 1550  
**Major American Authors**  
4 cr.  
One-semester course designed to introduce students to American literature through the study of writers representing a range of cultures and literary traditions. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 2050  
**Introduction to Literary Studies**  
4 cr.  
This course introduces students to such traditional literary genres as fiction, poetry, and drama, as well as newer and emerging forms such as the graphic novel, creative non-fiction, digital storytelling, and film. Emphasis is given to teaching students to read closely and to write analytically. The course also familiarizes students with a variety of interpretive strategies. Students leave the course recognizing the value of close reading and self-conscious interpretation. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 2200  
**Introduction to Poetry**  
4 cr.  
This course exposes students to a wide variety of poems and types of poems composed by authors writing in English. Course work balances close reading of texts with the pleasures created by listening to poems read aloud. Opportunities for creative assignments. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 2300  
**Detective Fiction**  
4 cr.  
Study of two major subdivisions of detective fiction, the puzzle story and the private eye novel, as well as recent trends and developments such as the forensic detective and the female hardboiled private eye. Practice in writing in
the genre. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 2700-ENG 2790
Special Topics in Literature 4 cr.
Study of selected works in relation to a common theme or topic as represented in various periods and genres. Prerequisite: FYW 1050.

ENG 2740
Politics in Literature 4 cr.
This course examines six literary works in which a major role is played by politics, Shakespeare’s Richard III, Stowe’s novel Uncle Tom’s Cabin, Shaw’s Arms and the Man, Remarque’s All Quiet on the Western Front, Steinbeck’s Grapes of Wrath, and George Orwell’s Animal Farm. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 2750
Women and Literature 4 cr.
In this course, we will be reading texts that explore the social, cultural and historical forces that both contribute to and repress women’s self-knowledge, and we will explore how race, class and sexuality shape and construct various identities for women. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 2770
Literature and Film 4 cr.
Study of the transformation of works of literature into film, focusing on the different techniques used in cinema, literature, and the relationship of film to traditional literature. Class will focus on four major films and the literature they are based on. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG2780
From Comics to Film 4 cr.
This course will study the impact of graphic novels on contemporary cinema. It will also study the unique art form of comics. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 3100
Beowulf and Old English Literature 4 cr.
Study of Beowulf and other poetic and prose works of the period 700-1100 in translation as well as in Old English. Attention to these works in their historical and cultural contexts and to the development of the English language. Before 1800. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 3140
Chaucer and Middle English Literature 4 cr.
Chaucer’s Canterbury Tales and other poetic and prose works of the period 1100-1485 in Middle English and in translation. Attention to these works in their historical and cultural contexts and to the development of the English language. Before 1800. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 3200
Renaissance Literature 4 cr.
Study of non-dramatic works of the period 1485-1660 in their historical and cultural context. Emphasis on authors such as Shakespeare, Sidney, Spenser, Marlowe, Jonson, Wroth, Lanyer, Donne, Herbert, and Marvell. Before 1800. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 3220
Revenge and Romance: Renaissance Drama 4 cr.
Through close study of selected plays produced in England from 1590-1642 by Kyd, Marlowe, Jonson, Shakespeare, Webster and Ford, this course examines the literary and theatrical dimensions of Renaissance drama, with particular attention to how the plays dramatize contradictory forces in English Renaissance culture and to placing Shakespeare’s plays in the context of drama by his contemporaries. Before 1800. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.
ENG 3250 Shakespearean Drama 4 cr.
This course explores Shakespearean drama through close study of six plays selected from among the tragedies, comedies, histories, and romances, with emphasis on how our understanding of the plays is shaped by literary genre, early modern theatrical conventions, and the cultural contradictions of the English Renaissance. Before 1800. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 3280 Milton and the Culture of Revolution 4 cr.
This course examines Milton's Paradise Lost and other poetic and prose works of seventeenth century England in their historical context. Addresses the impact of the English Civil War on the literary imagination, with special attention to political and religious controversy. Before 1800. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 3300 Restoration and Eighteenth-Century Literature 4 cr.
This course examines the writers and works of the period 1660-1800 in their historical and cultural context. Addresses the rise and decline of satire and the emergence of Preromanticism, with special attention to the role of genre in shaping literary expression. Emphasis on authors such as Behn, Swift, Pope, and Johnson. Before 1800. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 3320 Jane Austen and the Eighteenth-Century Novel 4 cr.
This course examines the development of the English novel from its origins in criminal biography and religious tracts to its excursions into social reform. Addresses the radical instability of this newly-emergent, highly-experimental genre, with special attention to the role of satire and sentiment in shaping narrative constructions of the individual. Before 1800. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 3350 Sex, Race, and Empire: 1660-1814 4 cr.
This course examines the emergence of women and black male writers into the world of public authorship in England during the Restoration and eighteenth-century. Addresses questions of gender, constructions of race, and impact of mercantile expansion on the literary imagination. Includes such writers as Cavendish, Behn, Equiano, Wollstonecraft, and Austen. Before 1800. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 3360 The Undead Eighteenth Century; Origins of English Gothic Literature 4 cr.
This course examines the origins of English gothic verse and fiction, from the Graveyard Poets through Jane Austen. Attention to the formal conventions of the genre, focusing on the ways in which the supernatural mediates the rational and the irrational, sin and salvation, and licit and illicit sexuality, as well as the persistence of the gothic in popular culture today. Before 1800. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 3400 Kings, Queens, Guillotines: Revolution and Romanticism 4 cr.
This course examines the dramatic effects of the French Revolution and its legacy of violence and bloodshed on British writing composed during the late 1700s and early 1800s. After 1800. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 3420 American Renaissance 4 cr.
Some of the greatest masterpieces of American literature were written between 1830 and 1880. This course will study the emergence of a unique brand of American literature during this period, and how it helped to shape the emerging identity of the new country. After 1800. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 3440 Doubt, Change, and Compromise: Victorian Literature 4 cr
Victorian Literature—time of complacency or time of turmoil? The British Victorian period, 1832 to 1901, is frequently stereotyped as a time of respectability and conventionality, particularly in comparison to the Romantic period.
immediately preceding it. Yet the Victorian world was in many ways one of incredible change and turmoil. The course will include poetry, prose, and fiction by writers such as Tennyson, Barrett Browning, Carlyle, and Dickens, examining some of the very different ways in which Victorians dealt with the problems of their world. After 1800. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 3500
Modern British Fiction, Empire, and Englishness 4 cr.
British modernist fiction is an innovation in literature that took place from the end of the nineteenth century into the early part of the twentieth century and that broke with the dominant conventions of realism and linear narrative. In this course, we will investigate how empire and World War I transformed fiction, and made it into something altogether new and different. We will question how and why modernism incorporates such elements as dream-logic, fragmentation, and stream-of-consciousness narrative techniques. After 1800. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 3520
Modern Irish Literature 4 cr.
This course is a survey of key texts by Irish writers throughout this century. We will be reading history, criticism, fiction, poetry and drama as we explore the complex history and politics that inform much of Irish writing, with special attention to the issues of colonialism, nationalism and gender. We will explore the revivalist nostalgia for a "pure" Irish past, as well as the modernist angst and ambivalence of those writers who wished to forge a new identity for Ireland in the wake of conflicts, betrayals and change. After 1800. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 3550
Modern American Literature 4 cr.
Study of American literature produced by American authors beginning at the turn of the century within the social and cultural context of the period. Emphasis on writers such as Gertrude Stein, Mina Loy, William Faulkner, Robert Frost, William Carlos Williams, Abraham Cahan, Sterling Brown, and Langston Hughes. After 1800. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 3620
Contemporary American Literature 4 cr.
This course traces the theatrical impulse in Western culture by studying the development of drama as a major literary form, from the classical drama of ancient Greece and the European medieval and early modern theater to works from the American and contemporary world stages. Attention to genre, theater history, and the cultural work that drama performs at different moments in its history as well as to how plays are shaped by theater spaces and staging conventions. Readings from such playwrights as Aeschylus, Shakespeare, Ibsen, Brecht, Beckett, Churchill, and Vogel. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 3680
The Theatrical Impulse: World Drama Then and Now 4 cr.
Study of literary remixing centering on Beowulf and the poem's linked remixes and mash-ups, ranging from literary works in other genres, such as those by J. R. R. Tolkien and Michael Crichton, to versions and adaptations in other media arts such as film, comics, video and board games. Some attention to remix theory and copyright issues in digital culture, as well as opportunities for students to create their own literary remixes. Before or After 1800. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 3682
Mixing & Mashing Monsters: From Beowulf to Tolkien, Crichton, & Back Again 4 cr.
Study of the comic book and graphic novel as a visual storytelling medium. The course will explore how meaning is produced in graphic narratives through a combination of words and pictures. Verbal and visual properties and conventions of the medium will be explored through study of a variety of graphic narratives, including non-fiction "picto-essays." After 1800. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.
ENG 3700-ENG 3790

Topics in English Studies Series 4 cr.
Focused study of selected works in relation to a common issue, topic, theme, or tradition. May satisfy before or after 1800, depending on particular course. Prerequisite: FYW 1050.

ENG 3790
Poe, Hawthorne, and the American Short Story 4 cr.
Study of the influence of Edgar Allan Poe and Nathaniel Hawthorne upon the emergence of the modern short story, as well as cultural changes within 19th-century America that contributed to the increased market for this new genre.
After 1800. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 3800-ENG 3890 Cultural Diversity Series 4 cr.
Study of selected writers and works outside the mainstream of traditional literary study, with attention to the question of canonicity. May satisfy before or after 1800, depending on particular course. Prerequisite: FYW 1050.

ENG 3800 Postcolonial Literatures 4 cr.
While the term "postcolonial" is used to describe and define literatures from former colonies (in this case, former British colonies), the term is hotly debated. In this course, we will read texts from Africa and India in order to work toward an understanding of what is meant by "postcolonial" literatures, with special attention to issues such as identity, resistance, nation-building and nationalism, gender, exile and migration. After 1800. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL and D in LS Core. Three hours a week.

ENG 3810 American Literature by Women of Color 4 cr.
Study of authors such as Zora Neale Hurston, Gwendolyn Brooks, Toni Morrison, Alice Walker, Gloria Naylor, Amy Tan, and Rita Dove. Emphasis on how the writings of these women grapple with the double bind of gender and race. After 1800. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL and D in LS Core. Three hours a week.

ENG 3820 Twentieth-Century Drama and Performance by Women 4 cr.
This course studies a range of twentieth-century female dramatists, exploring how their plays represent issues that are crucial to women's lives, including identity, family, marriage, motherhood, beauty/body image, race, sexuality, and social class, along with how they both embrace and challenge traditional dramatic forms and styles. Readings include works by African-American, Latina, European-American, and British writers and dramatic forms such as the realistic ensemble drama, the one-woman show, mixed media presentations, and theater of the absurd. After 1800. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL and D in LS Core. Three hours a week.

ENG 3830 American Indian Renaissance 4 cr.
Study of the flourishing of Native American poetry and fiction since 1967 when N. Scott Momaday received the Pulitzer Prize for House Made of Dawn. Writers such as Leslie Silko, Louise Erdrich, N. Scott Momaday, Linda Hogan, Simon Ortiz, and Wendy Rose. After 1800. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL and D in LS Core. Three hours a week.

ENG 3850 Twentieth-Century Caribbean Writers 4 cr.
This course is a survey of key texts by Caribbean writers throughout this century. We will be reading literature, criticism and theory as we explore the social and historical contexts that inspire Caribbean writers, with special attention to the history of colonialism and the African and Amerindian influences that shape Caribbean literature. We will also examine ritual and spiritual philosophies, such as obeah, and storytelling traditions, such as anancy tales, all of which contribute in various ways to the rich textures of Caribbean writing. After 1800. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL and D in LS Core. Three hours a week.

ENG 3860 Beyond The Godfather: Italian American Women Writers 4 cr.
Moving beyond the cultural stereotypes that associate Italian Americans mainly with food and organized crime, this course examines the intersections of gender, ethnicity, and writing in autobiography, fiction, poetry, and memoir by Italian American women authors, focusing on how these writers have discovered, expressed, and redefined their problematic identities within American and Italian American culture as they grapple with such issues as the immigration experience, Old World/New World conflicts, Italian American stereotypes, family, motherhood, marriage, sexuality, beauty/body image, and work. After 1800. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL and D in LS Core. Three hours a week.
ENG 3870
Literature of the Harlem Renaissance 4 cr.
This course will approach the study of literary modernism (roughly 1890-1940) by focusing on the works of the Harlem Renaissance. We will examine the diversity of African American identities represented in this literature and consider how the Harlem Renaissance helps to redefine America during this fraught historical moment. Readings to be selected from such authors as Langston Hughes, Nella Larsen, Claude McKay, W.E.B. Du Bois, and Zora Neale Hurston. After 1800. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 3900 – ENG 3950
Creative Writing Series 4 cr.
Practice and criticism in a workshop format for those interested in writing fiction, poetry, drama, or other literary forms. Prerequisite: FYW 1050.

ENG 3900
Creative Writing: Fiction 4 cr.
This course is designed for students interested in working with fiction writing. The first half of the course involves analyzing selected short stories and working with focused creative writing exercises. The second half of the course is set up as a fiction workshop, with students presenting their fiction to small groups and to the class as a whole. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 3902
Creative Writing: Non-Fiction 4 cr.
Introduces the genre of creative nonfiction. Students will study and produce prose forms such as autobiography, literary memoir, imaginative non-fiction (non-fiction purposefully incorporating fiction); literary journalism. The latter half of the course will be devoted to workshop, in which students read and respond to each other’s longer nonfiction projects. Prerequisite: FYW 1050.

ENG 3910
Writing Comics and the Graphic Novel 4 cr.
This course is designed for students interested in writing for comics and graphic novels. It is a workshop course in which students learn the basics of creating a narrative that relies heavily on complementary images for its effect. The class focuses on how to outline, pace, and format comic scripts. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 3920
Creative Writing: Poetry 4 cr.
This course is designed for students interested in writing poetry. The course will involve reading poetry as well as working with focused creative writing exercises and the reading and discussion of student’s poetry in workshop format. Prerequisite: FYW 1050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

ENG 4000
Advanced Creative Writing Workshop: Fiction 4 cr.
Discussion and critical evaluation of students' fiction pieces in workshop format. Designed for students with a previous background in fiction writing and an understanding of the conventions of the genre in which they are working. Prerequisite: FYW 1050, ENG3900, or permission of instructor. Fulfills AL in LS Core. Three hours a week.

ENG 4100-ENG 4200
Special Topics and Field-Based Seminar Series 4 cr.
A diversified series that permits study of a work, author, or topic in seminar format. Also provides options for students to fulfill the core curriculum experiential learning requirement. Restricted to juniors and seniors. Prerequisite: FYW 1050 and ENG 2050, or permission of instructor. May satisfy before or after 1800 or other English major requirement depending on the particular course.

ENG 4100
Seminar: King Arthur in Victorian England 4 cr.
Nineteenth-century British authors and artists, like those of other periods, adapted the tales of Camelot and King Arthur’s court to reflect their own culture and time period. The course focuses on an analysis of Victorian texts that reconstruct Arthurian materials to reflect cultural attitudes on such subjects as the concept of honor, the nature of the
hero, and the role of women. After 1800. Prerequisite: FYW 1050 and ENG 2050, or permission of instructor. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

**ENG 4160**  
Readers, Writers, and Books  
Study of various topics in book history, such as editing, publishing, and printing texts, textual criticism, book format and design, bookselling and collecting. Hands-on sessions in McQuade Library's Special Collections. Prerequisite: FYW 1050 and ENG2050. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

**ENG 4850**  
Public Service Fall or Spring Internship  
8 cr.  
As participant observers, students study theoretical and practical approaches to government by serving as research and staff aids to leaders in the public sector at the federal, state or local levels of government. Students must work at least an average of 20 hours per week in the field. In addition, students will work individually and in groups with the internship Director to produce a 20-25 page research paper on a topic related to the internship experience. Prerequisite: Seniors and juniors with permission from the Instructor and English Dept. Chair. Four (4) of the eight credits earned for this internship may be used to fulfill an English major Elective requirement. Fulfills X in LS Core.

**ENG 4851**  
Public Service Summer Internship  
4 cr.  
As participant observers, students study theoretical and practical approaches to government by serving as research and staff aids to leaders in the public sector at the federal, state or local levels of government. Students must work in the field at least an average of 15 hours per week for eight weeks, totaling 120 hours. In addition, students will work individually through email with the internship Director to produce a 10-15 page reflective research paper on a topic related to the internship experience. Prerequisite: Seniors and juniors with permission from the Instructor and English Dept. Chair. The four (4) credits earned for this internship may be used to fulfill an English major Elective requirement. Fulfills X in LS Core.

**ENG 4900**  
Directed Study  
4 cr.  
Intensive program of reading/writing under the direction of a full time member of the department. Provides qualified seniors and second-semester juniors with an opportunity to work in depth on a focused topic not covered by the usual departmental course offerings. Requires a formal detailed proposal approved by the faculty members and the department chair. Prerequisite: ENG 2050, at least three additional courses in the major, a minimum GPA of 3.0 in the major, or permission of the instructor, in addition to the approval of the chair and consent of the members of the department under whose supervision the Directed Study will be conducted.

**ENG 4950 (W)**  
Senior Seminar  
4 cr.  
Study of selected texts and contexts in seminar format to foster integration of knowledge concerning literature and language as well as to explore issues relating to the creation and interpretation of texts and the current status of English studies. Required for English majors. Prerequisite: FYW 1050, ENG 2050, and senior status. Satisfies Institutional Writing Intensive requirement. Fulfills W in LS Core. Three hours a week.

**JRL 2020**  
Feature Writing  
4 cr.  
Study of theory and practice in the preparation of newspaper and magazine feature writing. Satisfies a Humanities distribution requirement. Three hours a week.

**JRL 2040**  
News Writing  
4 cr.  
Examination of writing techniques and styles appropriate to news coverage in a community newspaper. Satisfies a Humanities distribution requirement. Three hours a week.

**JRL 2070**  
Sports Writing  
4 cr.  
Examination of writing techniques and styles appropriate to sports coverage in newspapers, magazines, and other publications, assignments that will require attendance at intercollegiate sporting events on campus. Satisfies a Humanities distribution requirement. Three hours a week.
JRL 4800
Directed Study in Journalism 4 cr.
Intensive program of reading and research leading to a major academic writing project. Restricted to qualified upper-level students. Prerequisite: FYW 1050. Permission of instructor. Three hours a week.

Environmental Studies and Sustainability
Interdisciplinary Program Housed in the School of Liberal Arts

Faculty:
Affiliated Faculty: Faculty who teach in the Program are from many Departments and Programs that develop courses in consultation with the ESS Advisory Committee.
Environmental Studies and Sustainability Advisory Committee: Dr. Jon Lyon, Dr. Sean Condon, Dr. Jane Parent, Dr. Rose-Mary Sargent and Dr. Charles Tontar

The Environmental Studies and Sustainability (ESS) program is an interdisciplinary program that recognizes that the need to understand, respond to and alter the impacts of human activity on the natural systems of the planet is immediate and unprecedented. Current and future generations of students graduating from Merrimack College will be faced with the challenge to re-think, re-design and re-create how humans make use of all natural resource based systems on earth. The driving force behind the interdisciplinary Environmental Studies and Sustainability Degree Program is to educate not only our students to meet these challenges and prepare them to succeed in the emerging green economy, but also to educate the entire campus community as well as the Merrimack Valley community, and to build Merrimack into a regional model for sustainable practices. The Driving force behind the interdisciplinary Environmental Studies and Sustainability Degree Program is to educate not only our students to meet these challenges and prepare them to succeed in the emerging green economy, but also to educate the entire campus community as well as the Merrimack Valley community, and to build Merrimack into a regional model for sustainable practices. The curriculum is truly interdisciplinary weaving together courses in environmental science, social science, the humanities, business and economics. Students will develop competencies in all areas of sustainability. The degree program is built around four interlinking components: Curriculum, Campus Sustainability, Community Engagement and Global Context. By themselves, each of these components is significant. Integrated together, they provide a powerful synergy and will provide ESS Program students with a rich undergraduate experience with opportunities to build competencies in sustainability while taking advantage of new opportunities for community engagement, internships, independent research, learning outside of the classroom, service, international study and employment.

The ESS Program at Merrimack combines the theoretical with the practical and encourages hands-on and real-world experience in the field at every turn. Students need to experience and engage first-hand, the applied aspects of Environmental Studies and Sustainability. All students are required to participate in a Community Internship in the junior year and fully participate in a senior capstone Project that works on sustainability projects with teams of students, faculty and community partners.

The ESS Program will educate students in Liberal Arts, Science and Engineering and Business about how philosophical, economic, political, scientific and cultural ideas and activities shape our conception of and behavior toward the natural environment and how the natural environment in turn affects society. The curriculum explores: human connections to the physical and natural world; ethics and values; how natural systems function; technological and economic relationships to sustainability; motivating environmentally sustainable behavior; and effective pedagogical strategies for integrating sustainability.

To prepare students to meet these challenges, the curriculum is designed to be rigorous yet flexible. This curriculum requires a set of core courses, including the Environmental Studies
Gateway Course for first year students. However, the major also offers flexibility for students to concentrate by obtaining a minor or even a major in another discipline.

Requirements for a Major in Environmental Studies and Sustainability

Satisfying the requirements for the Environmental Studies and Sustainability major includes completing a minimum of 40 credits in the major.

Required Core Curriculum (20 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESS 1050</td>
<td>Environmental Studies Gateway (required intro. course)</td>
<td>4 credits</td>
</tr>
<tr>
<td>BUS 1100</td>
<td>Essentials of Business</td>
<td>4 credits</td>
</tr>
<tr>
<td>ESS 2050</td>
<td>Sustainable Business Practices</td>
<td>4 credits</td>
</tr>
<tr>
<td>ESS 4850</td>
<td>Community Internship</td>
<td>4 credits</td>
</tr>
<tr>
<td>ESS 4820</td>
<td>Senior Seminar/Project I</td>
<td>2 credits</td>
</tr>
<tr>
<td>ESS 4920</td>
<td>Senior Seminar/Project II</td>
<td>2 credits</td>
</tr>
</tbody>
</table>

Beyond the required core courses, students select courses from within the following three areas: Liberal Arts, Science and Engineering and Business. Additional Environmental Studies and Sustainability approved courses can be taken from choices in Biology, Business, Economics, Electrical Engineering, Health Sciences, History, Philosophy, Political Science, Sociology, Religious and Theological Studies and other Departments.

Tracking in the ESS Major

Beyond the required core, students can also pursue four different tracks in the ESS major.

Environmental Science - This track is for students who have interests in the pure and/or applied sciences, including Biology, Chemistry, Health Science or Engineering. Students will explore the intersection between science and society, recognize the interdependencies between human society and the natural world, explore how environmental problems are inherently interdisciplinary and the role science plays is helping solve problems. Field work and community-based service is emphasized.

Environmental Policy - This track will examine what constitutes effective environmental policy and how we achieve it to protect the environment and ourselves. The track will focus on both domestic and global environmental issues with an emphasis on both federal and local environmental policy. Students will examine, analyze, and actively participate in exploring how social, political and economic values influence environmental policy, and vice versa, how federal and local policies (including regulations, taxes, laws, and incentives), influence values.

Environmental Justice - Students taking this track will be exposed to the economic, ethical, historical, and political dimensions of the interaction between nature and society not only to understand how environmental problems often arise from power relations and unequal control over natural resources, but also to appreciate why we have a duty to address these problems and to identify strategies for responsible action that can lead to social change.

Sustainable Business - This track focuses on the delivery of economic, social, and environmental business performance where students apply models, tools, best practices and frameworks to incorporate social and environmental dimensions into daily operations of businesses. Students will gain awareness of basic environmental science, energy
management, social science and business concepts and issues related to sustainable development. Students will recognize the challenges of sustainable development as well as the opportunities and limits for the private sector in meeting these challenges.

Whatever TRACK students choose, they are required to take the following distribution of courses in fulfilling their ESS Major requirements:

Science and Engineering Courses – minimum of 8 credits
- BIO 3009 Ecology, Environment and Society
- BIO 3090 Global Field Studies
- EEN 1177 Renewable Energy and Energy Efficiency
- HSC 1103 Global Public Health
- HSC 2300 Nutrition, Diet and Health
- MTH 1111 Basic Statistics

Liberal Arts Courses – minimum of 8 credits
- HIS 3525 Environmental History of North America
- PHL 2070 Environmental Ethics
- PHL 3050 Philosophy of Science
- SOC 3600 Sociology of Health

Economics and Business – minimum of 4 credits
- ECO 1201 An Introduction to Economics
- ECO 1202 Topics in Introductory Economics
- ECO 3305 Ecological Economics

All majors are also strongly encouraged to participate in the Student Green Team, Sustainable Merrimack and/or the Annual Interdisciplinary Sustainability Symposium.

There is flexibility in the exact sequence and semester offerings of many courses. This flexibility gives ESS majors opportunities to minor or major in another discipline, in scheduling their Community Internship and Senior Seminar/Project requirements as well as to pursue any Study Abroad options.

Major GPA. Students must achieve a final graduation point average of 2.50 or better within the major.

Students in the Environmental Studies and Sustainability Program are also strongly encouraged and advised to at least minor in another degree program at Merrimack College or pursue a double major. Student advising in the ESS Program will require close coordination and oversight, especially given the interdisciplinary curriculum. All advising will be coordinated and/or conducted by the Program Director.

Minor in Environmental Studies and Sustainability
There is also the option of pursuing a Minor in Environmental Studies and Sustainability. The Minor would consist of five (5) courses (20 credits). Those courses are as follows:
- ESS 1050 Environmental Studies Gateway
- ESS 4850 Community Internship
- Any other three (3) courses in the Environmental Studies curriculum (no more than one from any one Department)

Minors would also be required to work with the Campus Sustainability Initiative and participate in the Annual Sustainability Symposium.
ESS 1050  
Environmental Studies and Sustainability Gateway 4 cr.  
This gateway course is required of all majors and is an interdisciplinary introduction to environmental studies and sustainability from the perspectives of the natural sciences, the social sciences, business and ethics to the range of environmental problems confronting the globe today. The course provides an overview of both global and regional issues and discusses different approaches to achieving sustainability. Three hours a week.

ESS 2050  
Sustainable Business Practices 4 cr.  
The course provides students with an integrative approach to learning the theory and application of sustainable business practices. Students will learn various technical, organizational and operational aspects of sustainable business practices through active learning opportunities, case discussions, technological applications and external activities. Prerequisites: BUS 1100. Four hours a week.

ESS 4850  
Community Internship 4 cr.  
Students work in environmental studies and sustainability internship placements that match the students’ academic program, interests and skills. Internships can be arranged across a wide array of public and private organizations focused on environmental policy, business, research, regulation, enforcement, ethics, education or other areas in the student’s interest. Students must work a minimum number of 100 hours at the placement site and/or doing the work required by the internship. A classroom component is included and designed to provide an opportunity for analysis and discussion of the internship experience with other students and faculty. Internships are overseen by the Program Director. Typically taken in the junior year.

ESS 4820  
Senior Seminar/Sustainability Project I 2 cr.  
Literature, studio and/or field research to identify, analyze or develop solutions for environmental problems. The project may include more than one student and will be directed by faculty and various project partners. Students are required to elect both ESS 4820 and ESS 4920. Prerequisites: Senior Environmental Studies and Sustainability major standing and consent of instructor.

ESS 4920  
Senior Seminar/Sustainability Project II 2 cr.  
This is a continuation of ESS 4001. The project may include more than one student and will be directed by faculty and various project partners. A senior project, including a final research report/paper/poster/demonstration, completes the two-semester course. Prerequisite: ESS 4820.

European History minor  
See History

Experimental Psychology minor  
See Psychology

Finance minor  
See Business Administration

Department of Finance  
Girard School of Business

Faculty:  
Chair (2013-2014): Associate Professor Frances A. Quinn  
Assistant Professor Silva
Finance majors enjoy many diverse opportunities in corporate and government institutions. Financial managers must be able to convey information to all functions of the firm. The field of finance includes positions of financial management including financial analysts, cash management, credit management, as well as entrepreneurial areas such as financial planning and consulting. The growing field of investment and financial services offers positions from brokers and traders and portfolio and money managers to certified financial planners and chartered financial analysts.

The finance profession is challenging, dynamic, and rewarding. The successful student will develop and apply analytical and communicative skills needed in today’s business environment. In addition to satisfying the college’s general education requirements and the cognate and core requirements for the major in business administration, students concentrating in finance must complete the following courses:

- FIN 3315 Financial Analysis
- FIN 4406 International Financial Management
- FIN 3325 Investments
- FIN 3335 Corporate Finance

The Concentrate requirement includes the above four courses plus 8 credit hours of finance elective courses below:

- FIN 4410 Financial Planning and Services
- FIN 4425 Advanced Corporate Finance
- FIN 4431 Advanced Finance
- FIN 4430 Risk Management & Derivatives
- FIN 4433 Advanced Investments
- FIN 4900 Special Topics in Finance

FIN 3315 Financial Analysis 4 cr.
This course covers valuation and net present value concepts used for valuing securities, projects, and companies. Topics include financial statement analysis, working capital management, and financial forecasting. Prerequisite: BUS 2213, BUS 2215. Four hours a week.

FIN 3325 Investments 4 cr.
This course introduces portfolio theory and examines risk-return trade offs and portfolio diversification. Topics include investment environment, financial systems, institutions, and markets, how securities are traded, security analysis, and equity, fixed income, and derivative valuation. In addition, this course discusses management of bond portfolios. This course includes a security analysis and valuation project. Prerequisite: FIN 3315. Four hours a week.

FIN 3300 Personal Finance 4 cr.
This elective course introduces the student to basic financial literacy. This course will provide the basic tools and concepts needed for students to make informed decisions about their own personal finances. Content includes application of the time value of money concepts to understand the basics of investing in stocks and bonds and other saving vehicles. Other topics explore personal loans, purchasing a home, credit management, budgeting, and development of personal financial statements. Simple tax planning and auto and health insurance are also covered. Prerequisite: BUS 2215. Four hours a week.

FIN 3335 Corporate Finance 4 cr.
This course further explores the core areas of corporate finance. Topics include the cost of capital and its relationship to the financial structure of the firm, factors determining the cost of equity, and the cost of debt. Capital budgeting techniques are covered in the context of valuing long term investment projects. Finally, techniques of short-term financial management such as receivable management, credit management and working capital management are studied. Prerequisite: FIN 3315. Four hours a week.
FIN 4406
International Financial Management 4 cr.
This course covers the environment of multinational financial management, international financial markets with emphasis on the foreign exchange market, international flow of funds, relationships between exchange rates and economic variables, as well as hedging techniques and international arbitrage. This course also examines international capital budgeting, short-term financing and investment, and foreign direct investment. Prerequisite: BUS 2215. Four hours a week.

FIN 4410
Financial Planning and Services 4 cr.
The course examines the many areas of the financial planning system. Topics explored include retirement planning, estate planning, insurance planning, investment planning and tax planning. The financial planner must understand the needs of the client and apply a financial plan which best suits those needs. One of the course objectives is for students to plan, develop and process financial plans for varying situations and circumstances. Prerequisite: Senior Standing only. Fulfills X in LS Core. Four hours a week.

FIN 4430
Risk Management and Derivatives 4 cr.
This special topics course allows the students to explore interest rate futures, commodity futures, financial instrument futures and the option markets. Further coverage includes the hedge fund market.

FIN 4431
Advanced Finance 4 cr.
The special topics course allows the student to explore and discuss contemporary issues in the finance concentrate including, but not limited to, advanced finance topics. Prerequisite: FIN 3315. Four hours a week.

FIN 4433
Advanced Investments 4 cr.
The special topics course allows the student to explore and discuss contemporary issues in the finance concentrate including, but not limited to, advanced Investment topics. Prerequisite: FIN 3315. Four hours per week.

FIN 4800
Directed Study 4 cr.
An independent study course for superior senior students under the direction of a faculty member. Approval must be obtained from the chair and the faculty member involved. This cannot be used to replace required finance electives.

FIN4900
Special Topics in Finance 4 cr.
This course is designed to explore contemporary issues in Finance. The specific topic varies each time the course is taught. Descriptions are available in the Business Dean's office. Prerequisite: FIN3315. Four hours a week.

Fine Arts
See Visual & Performing Arts

French
See World Languages & Cultures

General Psychology Minor
See Psychology

General Health Science concentration
See Health Sciences
Department of Health Sciences
School of Science & Engineering

Faculty:
Chair: Professor Kyle McInnis
Associate Professor Walsh, FitzPatrick, and Finn
Assistant Professor Yan
Director of Sports Medicine & Athletic Training: Birgid Hopkins
Athletic Training Clinical Education Coordinator: Dennis Fontaine
Athletic Training Clinical Instructor: Leah Pouliot
Sports Medicine Instructors/Athletic Training Clinical Faculty: Andrew Cannon, Allan DeValle, Heather Carr and April Buchheit
Medical Director/Team Physician: Steven J. Andriola, M.D.

Mission. The Department of Health Sciences at Merrimack College prepares students to excel in a wide variety of careers in the health professions and human performance.

Health Sciences Program
The program offers a strong foundation in the basic sciences, mathematics and technology, enhanced by diverse experiential learning opportunities. Students are mentored in the development of career-related skills in a student-centered curriculum that fosters an active learning environment and practical experience in the health care and human performance fields. Clinical and laboratory competencies are acquired in coursework and through participation in off-campus clinical experiences. Internship, Service Learning and Co-op programs in healthcare facilities, clinical laboratory science, biomedical research, and community health and educational settings maximize opportunities for direct career entry, for obtaining BOC certification, American College of Sports Medicine and National Strength and Conditioning Association certifications, and for pursuing advanced professional study.

The Health Sciences Department offers Bachelor of Science degree programs in Athletic Training, Health Science and Sports Medicine. Each of these areas of study follows a specific curriculum that offers a core of courses exposing students to the breadth of their discipline and advanced courses whose content is current, relevant and explores the specific subject area in depth. All programs in the department emphasize the scientific process by utilizing both independent and collaborative investigative approaches in the laboratory, stressing scientific communication and offering senior thesis research, internships and practica so that students might gain practical experience in their area of interest. The department also serves the college as a whole by offering non-major courses that fulfill the college's STEM requirement in the Core Curriculum in Liberal Studies. The department encourages professional involvement by faculty and students in the Merrimack Valley community by offering service learning opportunities, seminars and workshops. The Lawrence Math Science Partnership program places Merrimack students with Lawrence middle school youth in after school programs that focus on math and science inquiry-based activities. The Community Service Partnership Program identifies community institutions, organizations, and facilities that focus on health and wellness, share and support our vision of community service, and assist in the placement of our students into their
programs for diverse experiential learning and service opportunities. Faculty invite Health Sciences students to participate in a research program designed to mitigate childhood obesity in Lawrence by targeting middle school children in a technologically advanced “Active Science” project that promotes health and mobility, enhances teaching and learning in science, and educates our undergraduates in community-based research methods.

With the expansion of the health care industry, and with its continuous evolution into new forms of service for patients, the opportunities for Health Sciences graduates are growing. At Merrimack, we provide students with an excellent scientific foundation in the study of human biology as well as program flexibility to find their appropriate niche within the health care system. The Department attempts to make students aware of the many facets of health care delivery, and to assist in selecting options for career development and advancement. All college wide and School requirements must be satisfied by students in the Department of Health Sciences.

**Departmental Academic Policies**

- All Health Sciences & Sports Medicine Majors must maintain a 2.5 cumulative grade point average (GPA) to remain in good academic standing within the Department. Athletic Training Majors must maintain a 2.75 cumulative GPA.
- All students must achieve a grade of “C” or higher in ALL Departmental courses (SME, HSC, ATR prefix), with the exception of students majoring in Athletic Training which requires a minimum of a “C+” or better in all core courses. Students must successfully repeat any Departmental course that falls below these grades.
- All students must successfully complete with a grade of “C” or higher in all Departmental courses that serve as a prerequisite to other courses. For example, students must achieve a grade of “C” or higher in Anatomy and Physiology I before progressing to Anatomy and Physiology II. Athletic Training majors must achieve a grade of “C+” or higher to progress to any course requiring a pre-requisite.
- Students are allowed to repeat any Departmental course below a “C”, as long as the course is re-taken in the Department or at a 4-year accredited institution with prior approval.
- Students will only be allowed to retake a Departmental course (e.g., HSC, SME, ATR prefix) in which a grade is issued no more than two times.
- Receiving a W in a course will not be considered officially enrolled, therefore will not result in an academic penalty.

**Policies on Probation / Dismissal from the Department of Health Sciences**

**Departmental Probation**
Any student that falls below the 2.5 / 2.75 cumulative GPA will be notified that they are on academic probation in a formal written letter from the Chair of Health Sciences. Any student who does not show satisfactory progress in completing the academic requirements for the Bachelor of Science Degree in HS, SM, AT for two consecutive semesters will be subjected to academic dismissal from the major.

**Appeals Process**
All students will have the opportunity to appeal their probationary or dismissal status. Once the student has received formal notification, they have five business days to petition to the Chair of Health Sciences in writing, outlining any perceived or extenuating circumstances that may support their case. The Student Affairs Committee comprised of faculty from the Department of
Health Sciences will review each appeal, and present their recommendations to the Department Chair. The Department Chair will then notify the student and the Dean of the final ruling.

**Athletic Training Major**

This academic program involves the study and implementation of those medical skills used in the diagnosis and treatment of the physically active, and includes learning the means of injury prevention, the recognition and evaluation of sports-related injuries, the management, treatment and disposition of these injuries, and the rehabilitation of injured patients. The Athletic Training Major is a CAATE accredited program (Commission on Accreditation of Athletic Training Education). It is a rigorous science-based program of study that includes a clinical component in which students acquire a certain body of practical knowledge and competencies. The following major courses are required (minimum of 102 credits):

<table>
<thead>
<tr>
<th>Health Science and Sports Medicine</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>HSC 1122/L Human Anatomy and Physiology I</td>
<td></td>
</tr>
<tr>
<td>HSC 1123/L Human Anatomy and Physiology II</td>
<td></td>
</tr>
<tr>
<td>HSC 3303/L Clinical Microbiology</td>
<td></td>
</tr>
<tr>
<td>HSC 2300 Nutrition, Diet, and Health</td>
<td></td>
</tr>
<tr>
<td>HSC 3302 Introduction to Public Health</td>
<td></td>
</tr>
<tr>
<td>HSC 3336(W)/L Human Pathophysiology</td>
<td></td>
</tr>
<tr>
<td>SME 1101 Acute and Emergency Care</td>
<td></td>
</tr>
<tr>
<td>SME 1304/L Care and Prevention of Athletic Injuries</td>
<td></td>
</tr>
<tr>
<td>SME 1317 Sports Medicine Administration</td>
<td></td>
</tr>
<tr>
<td>SME 1318 Research Design</td>
<td></td>
</tr>
<tr>
<td>SME 2345 Essentials of Strength and Conditioning I</td>
<td></td>
</tr>
<tr>
<td>SME 3307/L Therapeutic Exercise</td>
<td></td>
</tr>
<tr>
<td>SME 3309/L Therapeutic Modalities and Pharmacologic Agents</td>
<td></td>
</tr>
<tr>
<td>SME 3308/L Biomechanics</td>
<td></td>
</tr>
<tr>
<td>SME 3311(W)/L Physiology of Exercise</td>
<td></td>
</tr>
<tr>
<td>ATR 2312/L Evaluation and Assessment I</td>
<td></td>
</tr>
<tr>
<td>ATR 2313/L Evaluation and Assessment II</td>
<td></td>
</tr>
<tr>
<td>ATR 2000, 2001, 3000, 3001, 4000, 4001 Clinical Experiences I-VI</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Biology</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 1027/L Principles of Biology I</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemistry</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 1210/L Chemistry for the Health Professions I</td>
<td></td>
</tr>
<tr>
<td>CHM 1220/L Chemistry for the Health Professions II</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mathematics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH 1111 Statistics</td>
<td></td>
</tr>
<tr>
<td>MTH 1016 Pre-Calculus Mathematics</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Physics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PHY 2201/L General Physics I</td>
<td></td>
</tr>
</tbody>
</table>
The Athletic Training major has specific admission and retention requirements. All students admitted to the Sports Medicine program as freshman may apply to the Athletic Training Education Program/Major if they meet the Program Admissions criteria.

**Freshman Year:**
Freshman candidates who have achieved the following may begin hours of observation in the Athletic Training Facility second semester (spring) of their freshman year:
- an overall cumulative GPA of 2.75 or better
- a minimum of C+ or better in SME 1101 Acute and Emergency Care; HSC 1122 Anatomy and Physiology I

At the end of the Freshman Year, those students who have fulfilled the following requirements may apply into the Athletic Training Program:
- an overall cumulative GPA of 2.75 or better
- minimum of a C+ in SME 1304/L Care and Prevention of Athletic Injuries; HSC 1123 Anatomy and Physiology II

**Application Procedures**
Students wishing to apply into the Athletic Training Major at Merrimack College who have fulfilled all requirements must submit to the Program Director:
- a letter of application
- two letters of recommendation (at least one from a Merrimack College faculty member).

Note: The application must be received no later than October 15th of their sophomore year.

Once all required materials are received all applicants will be reviewed based on the following criteria and receive points which can be totaled toward a maximum of 100 points:
1. Overall GPA 30 points
2. GPA in SME 1304/L Care and Prevention of Athletic Injuries 30 points
3. Interview 20 points
4. Upper-class student sponsor 10 points
5. Ankle taping 10 points

**I. Overall GPA [30 Points]**
The following points will be given to students in achievement of their GPA:

- 2.75 - 2.99 10 points
- 3.00 - 3.24 15 points
- 3.25 - 3.49 20 points
- 3.50 - 3.74 25 points
- 3.75 - 4.00 30 points

**II. Care & Prevention GPA [30 Points]**
The following points will be given to students in achievement of GPA in Care & Prevention of Athletic Injuries:

- 2.75 - 2.99 10 points
- 3.00 - 3.24 15 points
- 3.25 - 3.49 20 points
- 3.50 - 3.74 25 points
- 3.75 - 4.00 30 points
III. Interview [20 Points]
The interview committee will consist of the Program Director, Clinical Coordinator and three College athletic trainers aligned with the program (faculty, clinical instructors or clinical staff), which will account for four [4] points, totaling twenty [20]. At the end of each interview, the five individuals will rate the candidate 1 - 4 based on the following scale:

<table>
<thead>
<tr>
<th>Rating</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor</td>
<td>1 point</td>
</tr>
<tr>
<td>Fair</td>
<td>2 points</td>
</tr>
<tr>
<td>Good</td>
<td>3 points</td>
</tr>
<tr>
<td>Excellent</td>
<td>4 points</td>
</tr>
</tbody>
</table>

All points from each staff member will be tallied and calculated based on the twenty point scale.

IV. Upper Class Student Sponsor [10 Points]
Each applicant for the Athletic Training Education Program must be sponsored by an upper class student in the Program. No more than two candidates may be sponsored by the same person. Each sponsor will score the candidate based on the following criteria:

1. Appearance
2. Punctuality
3. Communication skills [ability to interact with others]
4. Presentation/Attitude
5. Motivation

V. Ankle Taping [10 Points]
Each candidate will be asked to tape one functional ankle in less than two and one half minutes. The requirements for taping an ankle are as follows:

1. 2-4+ anchors
2. 3-4 stirrups
3. 2 sets of heel locks [one reverse]
4. 1 figure eight
5. 2-4+ close up anchors

The rating scale for ankle taping is as follows:

<table>
<thead>
<tr>
<th>Rating</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over 2 minutes and 30 seconds</td>
<td>0 points</td>
</tr>
<tr>
<td>Poor</td>
<td>3 points</td>
</tr>
<tr>
<td>Fair</td>
<td>5 points</td>
</tr>
<tr>
<td>Good</td>
<td>7 points</td>
</tr>
<tr>
<td>Excellent</td>
<td>10 points</td>
</tr>
</tbody>
</table>

Once students are admitted to the program, they are required to maintain the following minimum standards:

1. Minimum of C+ or better in Clinical Experiences I-VI
2. GPA of 2.75
3. Satisfactory clinical education evaluations (field experiences)
4. Meet Program/College Technical Standards as delineated on the Health Sciences website (and #6 under retention in the Athletic Training Major). Students who do not maintain the above minimum standards are placed on probation and are required to correct all deficiencies by the end of the next semester. Students who do not correct deficiencies may be dropped from the curriculum. Students enrolled in the Merrimack College Athletic Training Major meet with the Clinical Education Coordinator to plan the clinical education experience. Students are required to gain clinical experience throughout their course work in the Athletic Training Facility. The clinical experience is structured so the Athletic Training Student gains progressive development of technical skills and knowledge. Students in the major gain a
variety of experiences within an athletic training facility, including work with athletes in equipment intensive sports. Exposure to upper extremity and lower extremity injuries as well as gender specific and general medical conditions among the physically active is required. The Clinical Education Coordinator and the Preceptor will formally evaluate each student’s progress at the end of each semester.

Retention in the Athletic Training Major
Due to the extensive course load and necessity of class prerequisites, students will be expected to follow the course sequence according to the program flow chart available from the Health Sciences Department.
1. An overall GPA of 2.75 must be maintained in order to work in the Athletic Training Facility, as well as a C+ or better in each of the athletic training core courses. Failure to maintain this level could result in dismissal from the program.
2. Satisfactory completion of competencies and evaluations from clinical supervisors is required. An evaluation must be completed by the Preceptor at the end of each clinical rotation.
3. All students in the Bachelor’s degree Athletic Training Major must be enrolled as full time students.
4. Technical Standards

The Athletic Training Major at Merrimack College is a rigorous and intense program that places specific requirements and demands on the students enrolled in the program. An objective of this program is to prepare students to enter a variety of employment settings and to render care to a wide spectrum of individuals engaged in physical activity. The technical standards set forth by the Athletic Training Major establish the essential qualities considered necessary for students admitted to this program to achieve the knowledge, skills and competencies of an entry-level athletic trainer, as well as meet the expectations of the program’s accrediting agency (Commission on Accreditation of Athletic Training Education (CAATE). The following abilities and expectations must be met by all students admitted to the Athletic Training Major. In the event a student is unable to fulfill these technical standards, with or without reasonable accommodation, the student will not be admitted into the program.

Compliance with the program’s technical standards does not guarantee a student’s eligibility for BOC certification exam.

Technical Guidelines
Athletic training is an intellectually, physically and psychologically demanding profession. The National Athletic Trainers’ Association’s “Athletic Training Educational Competencies and Proficiencies” in conjunction with the Role Delineation Study describes and outlines the necessary skills, abilities and essential qualities that an Athletic Trainer must possess to safely and knowledgeably practice in the field. In such, the Athletic Training Major at Merrimack College is a rigorous and intense program of study that places these specific requirements and demands on the students enrolled in the program.

Standards. Candidates for selection to the Athletic Training Major must demonstrate the following.
1. The ability to learn through observation. Observation requires the functional use of vision, hearing and somatic senses. The student must be able to participate in lectures, as well as laboratory and practicum demonstrations. He/she should be able to:
   a. Observe clinical signs through visual and tactile assessment (swelling, deformity), palpate a patient accurately to determine variations from the norm (through palpation of anatomical structures)
b. Observe output readings to determine a patient’s condition and status of treatment (blood pressure, range of motion, loss of function)
c. Ability to listen to a patient describe their medical history and symptoms

2. The student must possess the ability to communicate effectively and sensitively.
   a. With patients: to obtain information regarding the patients’ health complaints and disposition.
   b. With colleagues and other members of the health care community: to convey essential information for safe and effective care. In addition, students must be able to read, communicate in writing and demonstrate computer literacy assignments. The student must also be able to understand and speak the English language at a level consistent with competent professional practice.

3. The student must have sufficient motor function through the utilization of fine and gross motor skill in combination with equilibrium to elicit information from the patient examination through palpation, muscular strength assessment, joint range of motion measurement and other evaluative techniques. The student must also possess sufficient motor function to be able to respond in a potentially catastrophic injury (obstructed airway management, CPR, and in-line stabilization of cervical spine). Students must also be able to implement movements required to provide therapeutic care (stretching, taping, and wound care techniques).

4. The student must possess the intellectual abilities to effectively solve problems and critically think. They must be able to measure, calculate, reason, analyze, integrate and synthesize information in a timely manner. The student must be able to synthesize knowledge and integrate the relevant aspects of a patient’s history and examination findings to develop an effective treatment program. In addition, students must be able to comprehend three-dimensional relationships and to understand spatial relationships of structures.

5. Students must possess the psychological ability required for the full use of their intellectual abilities, for the exercise of good judgment, for the prompt completion of all responsibilities inherent to assessment and care of patients, and for the development of mature, sensitive and effective relationships with patients. Students should be able to tolerate physically and mentally taxing work loads and function effectively under stress. They must be able to adapt to a changing environment, and function in the face of uncertainties inherent in the setting of athletic training. Students must demonstrate ethical behavior, both in the classroom and during their clinical experience.

**Reasonable Accommodations.** A student must demonstrate the above skills and abilities, but may do so with or without reasonable accommodation. The Athletic Training Major in combination with the ADA advisor will provide reasonable accommodations to qualified students to enable them to meet these technical guidelines. Whether or not an accommodation is reasonable will be determined on an individual basis. Students seeking academic accommodations must provide medical documentation of their disability and comply with the procedures of the Merrimack College Office of Disability Services. Once a student’s eligibility is established the ADA advisor will forward a set of recommended accommodations to the Dean of Science and Engineering. The Dean, in consultation with the Chair of Health Sciences and Program Director, reviews these recommendations to ensure that the accommodations requested are reasonable, taking into account whether the accommodation would jeopardize clinician/patient safety, or the educational process of the student or the institution, including all coursework, clinical experiences and internships deemed essential to graduation.

**Academic Probation**
If a student’s GPA drops below a 2.75, the following action will be taken:
Phase I: Said student will be given a written warning of potential academic probation, however the student will be allowed to continue with the clinical component of the program throughout that semester.

Phase II: If at the end of this semester, the student does not demonstrate progress towards improvement of the GPA, he/she will be placed on formal academic probation without the ability to perform clinically in the program during the next semester. Continued inability to demonstrate progress towards achieving a 2.75 GPA during the academic year may result in dismissal from the program. A student who has been placed on formal academic probation must petition the ATEP Program Director and Allied Health for re-admittance into the Athletic Training Major.

Transfer Students
Students wishing to transfer into the Merrimack College Athletic Training Major are required to follow College transfer policy as outlined in the College catalog. The Athletic Training Major will not accept any transfer of clinical experiences from previous institutions.

Health Science Major
Students within the Health Science major may choose from the general degree, the Public Health concentration or the Nutrition concentration. Each offers a set of courses oriented toward different career paths.

Health Science General Concentration.
A Bachelor of Science degree in Health Science is awarded to students who complete four years of academic study on campus. Courses required in this major include:

<table>
<thead>
<tr>
<th>Health Science</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>HSC 1122/L</td>
<td>Human Anatomy and Physiology I</td>
</tr>
<tr>
<td>HSC 1123/L</td>
<td>Human Anatomy and Physiology II</td>
</tr>
<tr>
<td>HSC 3500</td>
<td>Introduction to Nutritional Sciences</td>
</tr>
<tr>
<td>HSC 3302</td>
<td>Introduction to Public Health</td>
</tr>
<tr>
<td>HSC 3303/L</td>
<td>Clinical Microbiology</td>
</tr>
<tr>
<td>HSC 3336W/L</td>
<td>Human Pathophysiology</td>
</tr>
<tr>
<td>HSC 4850</td>
<td>Health Science Internship or HSC 4810 Directed Research</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Biology</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 1027/L</td>
<td>Principles of Biology I</td>
</tr>
<tr>
<td>BIO 1028/L</td>
<td>Principles of Biology II</td>
</tr>
<tr>
<td>BIO 2018/L</td>
<td>Genetics</td>
</tr>
<tr>
<td>BIO 3037/L</td>
<td>Cellular Biochemistry I</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemistry</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM1110/L</td>
<td>General Chemistry I</td>
</tr>
<tr>
<td>CHM 1120/L</td>
<td>General Chemistry II</td>
</tr>
<tr>
<td>CHM 2210/L</td>
<td>Organic Chemistry I</td>
</tr>
<tr>
<td>CHM 2220/L</td>
<td>Organic Chemistry II</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mathematics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH 1111</td>
<td>Statistics</td>
</tr>
</tbody>
</table>

146
Any one of the following:
- MTH 1016 Pre-calculus Mathematics
- MTH 1217 Calculus I
- MTH 1218 Calculus II

Physics
- PHY 2201/L General Physics I
- PHY 2202/L General Physics II

Students who major in Health Science general major will explore various aspects of human biomedical science, and may choose major courses and electives that suit their interests, aptitude, and career goals. Health Science graduates of the Merrimack program have entered diverse fields within the health care system, including professional medical practices, positions in biomedical research and industry, public health, hospital administration, education, and medical technology.

Students in the general Health Science major are advised on an individual basis to include certain courses into their program depending on the particular career path they have chosen. For example, someone interested in a career in health care administration may elect related courses from the Girard School of Business and International Commerce. Most Health Science majors participate in the Internship program designed to explore career potential. Together with the Internship Coordinator, students plan their placement according to interest and career goals in clinical, academic, community, or industrial health care, laboratory or research settings. Each internship experience is equivalent to a four-credit course. This program has been very successful in helping students to confirm their career choices by offering hands-on experience in the workplace, as well as in allowing students to accumulate the prerequisite clinical experience required by certain professional graduate programs. A Co-op program is also available which places Health Science majors in positions related to their field of interest.

**Health Science Public Health Concentration.**

Public health is the science of protecting and improving the health of communities through education, promotion of health lifestyles and research for injury and disease prevention. Public health work involves analyzing the effect of genetics, personal choice and the environment on health in order to develop programs that protect the health of families and communities. Many health challenges face our local and global communities, in the areas of emerging infectious disease, obesity and sedentary lifestyle, aging, health care policy and costs, environmental health, health promotion and education, etc. The Department of Health Sciences offers a concentration in public health within the health science major, to increase interest among students in pursuing careers in public health as well as preparing them effectively for graduate education in health care professions as well as in other fields with public health implications (law, business, international affairs, etc.). The public health field is currently experiencing a workforce shortage at local, state and federal levels.

A Bachelor of Science degree in Health Science with a concentration in Public Health is awarded to students who complete four years of academic study on campus. Courses required in this major include:

*Health Science*
- HSC 1122/L Human Anatomy and Physiology I
- HSC 1123/L Human Anatomy and Physiology II
- HSC 3500 Introduction to Nutritional Sciences
- HSC 3302 Introduction to Public Health
Students will choose from a list of public health selective courses from across the College chosen for their relevance to interdisciplinary aspects of public health. This course list is available from the Department.

Note: Students choosing this concentration who are interested in professional programs in medicine, dentistry, veterinary medicine, etc. should be sure to include CHM2220/L and 2 semesters of physics with lab in their program.

Health Science Nutrition Concentration
The Nutrition concentration within the Health Science major introduces students to the important role that nutrition plays in human health and wellness. Required courses explore the fundamentals of nutritional science, the public health applications of nutrition in the community, the clinical dimensions of human nutrition, and nutritional perspectives within the foodservices industry. Students enrolled in the Health Science Nutrition concentration are prepared for entry-level positions in the health and wellness and foodservices fields. Graduates of this major are encouraged to continue their education in graduate programs designed to maximize career options and mobility in the growing field of human nutrition. For those with advanced degrees, employment opportunities exist in the dietetics, foodservice and clinical nutrition fields, with growing prospects in the public health and nutrition education areas.

A Bachelor of Science degree in Health Science with a concentration in Nutrition is awarded to students who complete four years of academic study on campus. Courses required in this major include:
Health Science
HSC 1122/L Human Anatomy and Physiology I
HSC 1123/L Human Anatomy and Physiology II
HSC3500 Introduction to Nutritional Sciences
HSC 3302 Introduction to Public Health
HSC 3303/L Clinical Microbiology
HSC 3510 Community Nutrition
HSC 3520 Foodservice Systems*
HSC 3530 Medical Nutrition Therapy*
HSC 3336W/L Human Pathophysiology
HSC 4850 Health Science Internship I
HSC 4855 Health Science Internship II
(* Courses currently under development)

Biology
BIO 1027/L Principles of Biology I
BIO 1028/L Principles of Biology II
BIO 2018/L Genetics
BIO 3037/L Cellular Biochemistry I

Chemistry
CHM1110/L General Chemistry I
CHM1120/L General Chemistry II
CHM2210/L Organic Chemistry I

Mathematics
MTH 1111 Statistics and any one of the following:
MTH 1016 Pre-calculus Mathematics
MTH 1217 Calculus I
MTH 1218 Calculus II

Note: Students choosing this concentration who are interested in professional programs in medicine, dentistry, veterinary medicine, etc. should be sure to include CHM2220/L and 2 semesters of physics with lab in their program.

Health Science Graduates
Health Science graduates have successfully entered graduate programs in areas such as public health, environmental health, microbiology, and professional programs in medical schools, dental schools, physician assistant, nurse practitioner, medical technology, optometry and podiatry, and MBA programs. (A partial list of postgraduate schools attended by our graduates is available on the college website.) Graduates have also entered the work force after graduation in positions as teachers, laboratory technicians in academic and industrial laboratories, and as community leaders in public health.

Sports Medicine Major
The Sports Medicine major prepares students for a variety of careers and graduate study in fields such as physical therapy, human performance, wellness and health promotion. The program includes several major elective courses that allow the student, working with the academic advisor, to tailor their program toward their field of interest.
The major has the following requirements (minimum of 92 credits)

**Health Science and Sports Medicine**
- HSC 1122/L  Human Anatomy and Physiology I
- HSC 1123/L  Human Anatomy and Physiology II
- HSC 2300  Nutrition, Diet, and Health
- HSC 3302  Introduction to Public Health
- HSC 3310  Health Behavior and Promotion
- HSC 3336(W)/L  Human Pathophysiology
- SME 1101/L  Acute and Emergency Care
- SME 1304/L  Care and Prevention of Athletic Injuries
- SME 1318  Research Design in Sports Medicine
- SME 2345  Intro to Strength and Conditioning
- SME 3308/L  Biomechanics
- SME 3311(W)/L  Physiology of Exercise
- SME 4850  Sports Medicine Internship
- SME/HSC  Major Elective I
- SME/HSC  Major Elective II
- SME/HSC  Major Elective III
- SME/HSC  Major Elective IV

**Biology**
- BIO 1027/L  Principles of Biology I

**Chemistry**
- CHM 1210/L  Chemistry for the Health Professions I
- CHM 1220/L  Chemistry for the Health Professions II

**Mathematics**
- MTH 1111  Statistics
- MTH 1016  Pre-Calculus Mathematics

**Physics**
- PHY 2201/L  General Physics I
- PHY 2202/L  General Physics II

Students interested in physical therapy may use their major electives to take courses that provide the student with the prerequisites needed to apply to graduate programs in Physical Therapy. To become a registered physical therapist, students must study for two-three years to get a Master’s or Doctoral Degree in Physical Therapy. There are several graduate programs in Massachusetts, and there is a very competitive application process for admission into these programs. Merrimack College does not have a graduate program in physical therapy.

Students interested in certification by the National Strength and Conditioning Association as a Certified Strength and Conditioning Specialist may use their major electives to take courses that provide the pre-requisites for this field.
Note: A minimum grade point average of 2.75 is required to remain in the Sports Medicine major.

Departmental Policies

1. All students must achieve a grade of “C” or higher in ALL Departmental courses, with the exception of students majoring in Athletic Training which requires a minimum of a “C+”. (SME, HSC, ATR Prefix)

2. All students must achieve a grade of “C” or higher in all Departmental courses that serve as a prerequisite for other courses. For example, students must achieve a grade of “C” or higher in Anatomy and Physiology I before progressing to Anatomy and Physiology II. Athletic Training majors must achieve a grade of “C+” or higher to progress to any course requiring a prerequisite.

3. Students are allowed to repeat any departmental course below a “C”, as long as the course is re-taken in the Department or at a 4-year accredited institution with prior approval.

Minor in Health Science

Requirements for the minor program in general Health Science include HSC1122, 1123 and three additional HSC courses at the 2000 - 4000 levels, with a minimum of 18 credits. Students who minor in Health Science will be assigned an advisor from the faculty.

Minor in Public Health

Public health is the science of protecting and improving the health of communities through education, promotion of health lifestyles and research for injury and disease prevention. Public health work involves analyzing the effect on health of genetics, personal choice and the environment in order to develop programs that protect the health of families and communities. The Department of Health Sciences offers a minor in public health, which can complement majors in many diverse fields. The 20-credit minor requires three core courses, HSC 3302, HSC 3310 and HSC 3103, and two selected courses chosen from an list of approved related courses in Communications, Biology, Mathematics, Political Science, Psychology, Sociology, Women and Gender Studies and Writing. Students in this minor will be assigned and advisor from the Health Sciences faculty.

Minor in Sports Medicine

Requirements for the minor program in Sports Medicine include HSC 1122, 1123 and three additional SME courses at the 2000-4000 levels, with a minimum of 18 credits. Students who minor in Sports Medicine will be assigned an advisor from the faculty.

ATR 2312/ ATR 2312L Evaluation and Assessment of Athletic Injuries and Illnesses I 4 cr.
Evaluation and Assessment of Athletic Injuries and Illnesses I Lab
This course is designed to educate students on the principles of orthopedic examination and assessment. Emphasis will be placed on pathology of injury and illness for the low back and lower extremity including an intensive study of the evaluative techniques used during the assessment of the injured/ill athlete and the physically active in order to determine proper care (and/or referral to other health care providers when appropriate). Prerequisites: HSC 1122, 1123, SME 1304. Three hours of lecture plus one laboratory period a week.

ATR 2313/ATR 2313L Evaluation and Assessment of Athletic Injuries and Illnesses II 4 cr.
Evaluation and Assessment of Athletic Injuries and Illnesses II Lab
This course is designed to educate students on the principles of orthopedic examination and assessment. Emphasis will be placed on pathology of injury and illness for the head, cervical spine and upper extremity including an intensive study of the evaluative techniques used during the assessment of the injured/ill athlete and the physically active in order to determine proper care (and/or referral to other health care providers when appropriate). Prerequisite: ATR 2312. Three hours of lecture plus one laboratory period a week.
ATR 2000, 2001, 3000, 3001, 4000, 4001
Clinical Experiences in Athletic Training I - VI 2 cr.
Each Clinical Experience is designed to provide the Athletic Training Student with the appropriate knowledge and skill acquisition of clinical competencies in Athletic Training. Athletic Training Students will be formally instructed and evaluated in the six domains of Athletic Training. Learning over time will be facilitated through review and evaluation of clinical skills and proficiencies in prior coursework as well as through a simultaneous field experience under the direct supervision of an Approved Clinical Instructor. Prerequisites: For ATR 2000 - SME 1304. For ATR 2001 - ATR 2000, 2312. For ATR 3000 - ATR 2001, 2313. For ATR 3001 - ATR 3000, 3307. For ATR 4000 - ATR 3001, 3309. For ATR 4001 - ATR 4000. Fulfills X in LS Core.

HSC1104
Introduction to Human Disease 4 cr.
The course will offer an introduction to human disease appropriate for students of all majors. The human body is a masterpiece of art. The more one understands the functioning of the body, the greater appreciation one has for it. Disease states, the body's natural attempts to right what is wrong and the compensatory actions involved will be discussed. The general mechanisms of disease as well as specific body systems will be discussed from a human-interest point of view. The course focuses on basic medical concepts that are useful to every student and encourages them to become a medical advocate for themselves or for family members. It is so important to understand doctors and your health care plan, to be able to ask important questions, and to know what questions to ask. In addition, the course will cover many diseases that are 'in the news' and allow the student to gain some knowledge and insight into the myths and facts surrounding these diseases. Satisfies a Mathematics/Science distribution requirement. Fulfills a STEM requirement in LS Core. Four hours a week.

HSC 1106
Human Biology 4 cr.
An introduction to the structure and function of human body at the level of cells, tissues organs and organ systems. A special emphasis is placed on the functions of the nervous and endocrine systems and their role in homeostasis and the integration and regulation of the functions of the other tissues and organs. The course will also consider molecular, Mendelian and population genetics. This course is designed primarily for students who intend to major or are majoring in psychology. Prerequisite: none. Not open to BIO/HSC majors. Satisfies a Mathematics/Science distribution requirement. Fulfills a STEM requirement in LS Core. Four hours a week.

HSC 1122/HSC 1122L
Anatomy and Physiology I 4 cr.
Anatomy and Physiology I Laboratory
An introduction to the structure and function of the human body. This course will focus on the basic principles of cells and tissues, and the integumentary, musculoskeletal, central and peripheral nervous, sensory, and endocrine systems. The laboratory is a required component that will provide the opportunity for the student to understand, acquire and develop the practical skills necessary to comprehend the structure and function of the human body. Satisfies a Mathematics/Science distribution requirement. Fulfills a STEM requirement in LS Core. Three hours of lecture plus one laboratory period a week.

HSC 1123/HSC 1123L
Anatomy and Physiology II 4 cr.
Anatomy and Physiology II Laboratory
This course continues the human anatomy and physiology topics and includes the circulatory, respiratory, digestive, urinary, and reproductive systems. The laboratory is a required component that will provide an opportunity for the student to further develop and apply the practical skills necessary to comprehend the structure and function of the human body. Prerequisite: HSC 1122. Three hours of lecture plus one laboratory period a week.

HSC 2300
Nutrition, Diet and Health 4 cr.
Nutrition, Diet and Health will introduce the student to the science of nutrition. The fundamentals of protein, carbohydrate, fat, vitamin, and mineral requirements and metabolism will be explained as a basis for the study of the relationship between diet and health in both a personal and global perspective. The impact that human nutrition and industrial agriculture have on environmental quality, food resources and energy consumption will be explored. Nutrition, Diet and Health has a mandatory civic engagement component related to important public and environmental issues in human nutrition, health, and fitness that are considered in the course. Satisfies a Mathematics/Science distribution requirement. Fulfills a STEM requirement in LS Core. Four hours a week.
HSC 3302
Introduction to Public Health 4 cr.
Public health aims to understand the occurrence and causes of disease within populations with the goal of prevention and health promotion, through changes in individual behavior, control of infectious disease and environmental health factors, and social and political organization for health improvement. The aim will be to describe the patterns of selected diseases in populations, to explain the causation of disease at the cell/physiological to social levels, to predict disease occurrence and to control disease through prevention strategies aimed at individuals, communities and governments. Satisfies a Mathematics/Science distribution requirement. Fulfils a STEM requirement and X in LS Core. Four hours a week.

HSC 3103
Global Public Health 4 cr.
Global public health is a study of the biological, socioeconomic and environmental contributors to health and disease in populations around the world. Students will investigate the determinants of health, how health status is measured, and will review the burden of disease, risk factors and approaches to global cooperation to address health problems within and between nations for successful interventions. Specific issues underlying strategies and organization for health care delivery and health services will be discussed and linked to community service projects that aim to develop social responsibility through civic engagement and humanitarian activities. Satisfies a Mathematics/Science distribution requirement. Four hours a week.

HSC 3303/HSC 3303L
Clinical Microbiology
Clinical Microbiology Laboratory 4 cr.
A study of the structure, biochemistry, physiology, and classification of the microorganisms which cause human disease, including bacteria, fungi, protozoa, and viruses. The epidemiology and pathogenesis of human infectious diseases will be considered. The role that microorganisms play in both health and disease, and the prevention and control of infectious disease in individuals, as well as in community settings, will be addressed. Laboratory investigations will focus on the development of aseptic technique, and on the isolation and identification of organisms associated with human infection. Prerequisites: BIO 1027. Three hours of lecture plus one laboratory period a week.

HSC3310
Health Behavior and Promotion 4 cr.
This course focuses on health behavior theories and strategies to promote individuals’ healthy lifestyle. In addition, students will explore and apply theoretically based principles and strategies to real-life cases. Emphases are placed on improving students’ competency in understanding of health behaviors in the modern world and design of theory-based interventions to improve health behaviors. 3 credit hours are devoted to didactic lecture; 1 credit hour is devoted to activity-based experiential learning.

HSC3311
Applied Health Behavior and Promotion 4 cr.
This course focuses on the application of health behavior change. After taking HSC 3310, Health Behavior and Promotion, students should understand different health behavior theories. In this course, students are required to work with individuals and communities to apply these theories and practice skills of health behavior promotion. Prerequisite: HSC 3310

HSC3312
Introduction to Epidemiology 4 cr.
An introduction to basic concepts in epidemiology, the science of public health. Epidemiology is concerned with the distribution and determinants of health and disease, injury, disability, morbidity and mortality in populations. Topics will include history, epidemiological measurements of disease occurrence, descriptive epidemiology and patterns of disease, establishing association and causality, types of study designs, disease outbreak investigation, public policy and social and behavioral epidemiology. Prerequisite: HSC 3302. Four hours a week

HSC 3336(W)/ HSC 3336L
Human Pathophysiology
Human Pathophysiology Laboratory 4 cr.
The study of human physiology altered by pathological conditions, injury and disease. The individual organ systems, their diseases, diagnosis and treatments are considered in a systemic manner, with emphasis on conditions important to community health. This seminar/laboratory course builds upon the principles and foundations of prerequisite courses and enhances the knowledge of general medical conditions and the ability to perform a more thorough investigation and patient evaluation and execute basic clinical examination and laboratory science
diagnostic procedures. Prerequisites: HSC 1122, 1123, BIO 1027. Fulfills W in LS Core. Three hours of lecture plus one laboratory period a week.

HSC3400
Clinical Research Design 4 cr.
The course emphasizes research methods used for the conduct of human studies and will introduce students to the ethical conduct of clinical research. The research methodologies of 4 study designs will be explored, focusing on the applicability of each design to differing research questions and the benefits of each design. The course will cover the development of a good research question, study design, selection of study subjects, data collection and management, analysis and how to estimate study sample size. Students will address a current public health problem and develop a research protocol that addresses the public health problem. Four hours a week.

HSC 3491
Health Science Seminar 4 cr.
An investigation of a selected topic of interest in health science and medicine, with an emphasis on reference identification and location, critical reading, analysis and interpretation of data, group discussion and presentation of primary scientific literature in oral and written form. Prerequisite: Jr/Sr major in BI, HS, SM. Four hours a week.

HSC3500
Introduction to Nutritional Sciences 4 cr.
Introduction to Nutritional Sciences studies the chemical, biological and physiological principles of human nutrition. It focuses on the fundamentals of protein, carbohydrate, fat, vitamin, and mineral nutritional requirements and metabolism, and studies the basic relationships between diet, health and fitness. Nutrient deficiencies and excesses, as well as nutrient needs during the different life stages will be explored. The impact that human nutrition and industrial agriculture have on environmental quality, food resources and energy consumption will be considered. This course has a mandatory civic engagement component related to important public and environmental issues in human nutrition. Prerequisites: HSC 1122, HSC 1123, CHM 1110, CHM 1120. Four hours a week.

HSC 3510
Community Nutrition 4 cr.
Public health efforts in communities are implemented in many different types of settings, including community non-profit agencies, worksites, health centers, clinics, hospitals, schools, churches, supermarkets, recreational and sports centers, councils on aging/senior centers, and emergency feeding sites. This intensive course provides presentations, readings and activities related to the broad range of community-based nutrition research, programs and policies. This course is required to complete the Nutrition Concentration for the Health Science Major. Students will become familiar with community-based research and programs focused solely on nutrition as well as those in which nutrition is one component. Students will engage in skill-building and participatory activities, as well be introduced to case examples of creative and innovative approaches to community nutrition. Through periodic field visits and guest speakers, students will have an opportunity to dialogue with public health experts and practitioners who can influence community nutrition practice. Upon completion of this course, the students will have a toolbox of skills to utilize and apply in a wide range of practice settings.

HSC 4800
Directed Study 4 cr.
In lieu of a formal course, qualified upper class Health Science/Sports Medicine students may take an intensive program of reading under the direction of a member of the department. Prerequisite: departmental approval.

HSC 4810, 4815
Directed Research 4 cr.
Literature and laboratory research directed by faculty members. Prerequisites: senior standing and consent of the instructor. Fulfills X in LS Core.

HSC 4850, 4855
Health Science Internship 4 cr.
A work-study experience co-supervised by the Internship Coordinator and a mentor in the workplace. Students are placed according to interest and career path in a clinical, academic, community, or industrial setting for the purpose of gaining hands-on experience in the health care field. Students who volunteer for internship in clinical, academic, and community settings provide a public service to the facility or program. Prerequisites: senior standing and consent of the department. Fulfills X in LS Core.
SME 1104  
Introduction to Physical Activity, Fitness, and Wellness  4 cr.  
This course is a survey of the discipline of health and fitness, including knowledge derived from performing physical activity, studying about physical activity, and professional practice centered in physical activity. It includes an analysis of the importance of health and wellness in daily life, the relationship between physical activity and the discipline of kinesiology, and the general effects of physical activity experiences. The course surveys the general knowledge base of the Health Science discipline as reflected in the major sub disciplines and reviews selected concepts in each, showing how they contribute to our understanding of the nature and importance of physical activity. The students will learn about the fitness components of wellness; flexibility, cardiorespiratory fitness, muscular strength and endurance, body composition, nutrition, weight management, and cancer. Fitness and other positive life style habits that lead to better health, improved quality of life, and total well-being will be discussed. Students will be responsible for developing a self-paced fitness program that will be followed for the duration of the semester. In addition, the course introduces students to the general and specific characteristics of the health and wellness professions. Four hours a week.

SME 1200  
Acute & Emergency Care  4 cr.  
This course is required for all Sports Medicine & Athletic Training Majors. Acute and Emergency Care will provide the student with the necessary knowledge and life skills that will be utilized in accident recognition, referral and management. Through clinical, practical and evidence based scenarios students will acquire the necessary skills to aid in sustaining the quality of life and minimize the consequences of injury or sudden illness in emergency situations. All students will have the opportunity to become certified through the American Academy of Orthopedic Surgeons in CPR/AED for the healthcare provider. Four hours a week.

SME 1304/SME 1304L  
Care and Prevention of Athletic Injuries  4 cr.  
Care and Prevention of Athletic Injuries Laboratory  
The course is designed to acquaint the student with the field of sports medicine by investigating its relationship with orthopedic medicine, nutrition and human physiological processes. The role of sports medicine in society, the role of the athletic trainer in sport, nutrition and the athlete, drug use in sports, and modalities used in the rehabilitation of sports injuries will be studied. There will be a concentration on joint injuries with respect to their prevention and care. The mechanics of injury, emergency care, rehabilitation and taping techniques will be covered. Prerequisites: HSC 1122, SME 1101, 1102. Three hours of lecture plus one laboratory period a week.

SME 1317  
Healthcare Administration  2 cr.  
This course is designed to educate students on the management and administration of health care to physically active individuals in sports medicine. The class is a culminating experience to prepare students to become entry-level professionals. By completing this class, students should demonstrate mastery in health care management concepts and display the values in health care administration consistent with the Code of Ethics of the National Athletic Trainers Association and Standards of Practice for Athletic Training and Sports Medicine. Prerequisites: SME 1101, 1102. Four hours a week; half semester.

SME 1318  
Research Methods in Sports Medicine  2 cr.  
This course introduces the student to current research in athletic training and sports medicine. The student learns about the research process, reads, comprehends and appreciates journal articles and begins writing a research proposal on a topic related to the sports medicine field. Specific attention is directed toward formal written communication using prescribed format. Prerequisites: SME 1101, 1102. Four hours a week; half semester.

SME 2345  
Strength and Conditioning I  4 cr.  
This course is designed as an introduction to the principles of strength and conditioning with an emphasis on applications for improving health and performance in the athlete and non-athlete population. General content areas include concepts and applications of the exercise sciences, nutritional factors, psychology of athletic performance, physiological adaptation of aerobic and anaerobic exercise, hormonal responses, age and gender differences, performance enhancing substance. Lab will focus on an introduction to exercise technique, testing and evaluation, and program design in the strength and conditioning field. This course prepares students to sit for the Certified Strength and Conditioning Specialist exam offered by the National Strength and Conditioning Association. Prerequisites: HSC 1122, 1123, SME 1304. Three hours of lecture.
SME 3307/SME 3307L
Therapeutic Exercise
Therapeutic Exercise Laboratory
This course is designed to offer Athletic Training and Sports Medicine students a study of the principles and objectives of therapeutic exercise in the rehabilitation of athletic injuries. The course will examine different forms of exercise, resistance and motion and the proper application of each in order to stabilize, modify or reverse the process responsible for disability when the nature of the underlying cause is identifiable. Prerequisites: HSC 1122, 1123, SME 1304. Three hours of lecture plus one laboratory period a week.

SME 3308/SME 3308L
Biomechanics
Biomechanics Laboratory
The scientific factors affecting human movement are studied. Basic tissue, (bone, cartilage, ligament, tendon) influences are emphasized. Psychological and neurological control mechanisms are examined. Normal movement patterns are reviewed with emphasis on gait, fitness activity and performance analysis. Pathological implications are integrated into the course as the material progresses regionally from one area of the body to another. Modern techniques that quantify human movement and movement patterns are investigated. Current topics in biomechanics research and the design of such projects are made real by abstracting of grouped articles. Handouts are used in addition to course texts. In lab teams will be established to achieve common goals. Existing video analysis systems will be used to both study human motion and to create a database of human motion. Prerequisites: HSC 1122, 1123, PHY 2201. Three hours of lecture plus one laboratory period a week.

SME 3309/SME 3309L
Therapeutic Modalities
Therapeutic Modalities Laboratory
This course is designed to offer Athletic Training and Sports Medicine students the opportunity to comprehend the principles of physical agents used in the treatment of sports injuries. The various theories of therapeutic modalities, their application to the healing process and their physiological effects on the patient will be examined as well as their indications and contraindications. Prerequisites: HSC 1122, 1123, SME 1304. Three hours of lecture plus one laboratory period a week.

SME 3311/SME 3311L
Exercise Physiology
Exercise Physiology Laboratory
A detailed examination of cardiovascular, respiratory and metabolic physiology, responses to acute exercise, and exercise training adaptations. Laboratory will emphasize exercise testing procedures and techniques as well as research principles. Prerequisites: HSC 1122, 1123. Three hours of lecture plus one laboratory period a week.

SME 3347
Exercise Testing Techniques and Prescription
The course will examine the principles of exercise testing and prescription as they apply to fitness and athletic performance. The course is designed to provide the student with a basic understanding of normal and abnormal exercise responses in a variety of populations. The course will cover topics in the following areas, energy production, nutrition, body composition, periodization, and fitness testing as related to strength and conditioning. Prerequisites: SME 3311, 2345. Four hours a week.

SME 4348
Exercise Program Design
This course is intended to take the skills and principles acquired in SME 3347 and to integrate them into the development of specific strength and conditioning programs. These programs may aid in injury prevention, performance enhancement, and overall general fitness. The development of these programs may be achieved through periodized manipulation of acute and chronic training variables. Four hours a week.

SME 4850
Sports Medicine Internship
A work-study experience co-supervised by the Internship Coordinator and a mentor in the workplace. Students are placed according to interest and career path in a clinical, academic, community, or industrial setting for the purpose of gaining hands-on experience in the health care field. Students who volunteer for internship in clinical, academic, and community settings provide a public service to the facility or program. Internship placements are available in the areas of Pre-Physical Therapy and Strength and Conditioning. These placements will include three five-week rotations at differing Physical Therapy, Sports Medicine, Strength and Conditioning facilities. Prerequisites: senior standing and consent of the department. Fulfills X in LS Core.
Department of History
School of Liberal Arts

Faculty:
Chair (2013-2014): Associate Professor John J. Condon
Associate Professors Poirier and Vorderer
Assistant Professor Shockro

The study of history provides students with the opportunity to gain critical and reflective thinking abilities, communication skills, and an understanding of the rich diversity of human cultures that will be valuable in their personal and professional development. The Department, therefore, offers a wide range of courses in American and European history. History students should not only read about, but also conduct active research into the past as the best means of gaining an understanding of history, and they should, in addition, develop the writing skills needed for the effective communication of their understanding. The Department encourages students to pursue study overseas and to avail themselves of active learning through the Department’s internships.

Major in History
The history major requires a minimum of ten history courses. In addition, in order to better understand other cultures and to do research, students must successfully complete two courses in the same modern foreign language at the intermediate level or its equivalent.

Capstone Sequence
As part of a capstone sequence, history majors are required to undergo a rigorous training in the historian’s approaches to research methods, writing, and ethical responsibilities and then produce a seminar paper representing significant historical research. The capstone sequence begins in the spring of the student’s junior year with Historical Methodology, and is followed by the Senior Thesis in the fall of the senior year.

Student Learning Outcomes
The Senior Thesis, HIS 4991(W), is intended to achieve the following student learning outcomes: the ability to formulate a clear argument; the ability to employ the correct mechanics of English grammar and syntax; the ability to follow historians’ conventions of citation; the ability to analyze sources; and the ability to synthesize facts in a logical way.

Required Courses
- HIS 1119 The European Experience: Antiquity to the Reformation
- HIS 1120 The European Experience: Early Modern to the Present
- HIS 2340 Survey of Latin American History: From Pre-Contact to the Present or Slavery and Race in Early Modern Atlantic World, 1400-1800
- HIS 3991 Introduction to Historical Methodology
- HIS 4991(W) Senior Thesis

Five Additional Courses

European History — at least ONE of the following:
- HIS 3350 Ancient History
- HIS 3360 Medieval Civilization
HIS 3370 Renaissance, Reformation and Exploration
HIS 3376 Era of the French Revolution and Napoleon
HIS 3378 History of Modern Britain
HIS 3380 Science, Technology, and Society
HIS 3390 Modern European Social History
HIS 3391 Women in Modern European History
HIS 3401 Topics in Nineteenth-Century Europe
HIS 3410 Twentieth-Century Europe
HIS 3470 History of Imperial Russia
HIS 3471 From Lenin to Putin: Russia in the Twentieth Century

United States History — at least ONE of the following:
HIS 1106 U.S. History I: From Pre-Contact through the Civil War & Reconstruction
HIS 1107 U.S. History II: From Reconstruction to the Present
HIS 2329 American Social History
HIS 3320 The American City
HIS 3326 History of American Architecture
HIS 3425 Contemporary United States History
HIS 3434 Revolutionary America, 1760-1800
HIS 3435 The Peoples of Early America
HIS 3437 Civil War and Reconstruction
HIS 3439 Slavery and Race in Early Modern Atlantic World, 1400-1800
HIS 3525 Environmental History of North America

In addition to taking ONE European and ONE American history course as described above, majors must take at least THREE other history courses at the 2000 level or above in order to complete the major.

*Only those History majors who are also Education majors may count both HIS 1106 and 1107 towards fulfillment of their major requirements.

Internship
HIS 4896 Internship
HIS 4897 Internship

Major GPA. To graduate with a major in history, a student must achieve a 2.00 grade point average in the major courses. The GPA for the History major will be calculated by taking the average of courses designated HIS.

Minor in History
The Department offers minor programs in European and United States history. The minor in European or United States history requires completing a minimum of 5 courses and a minimum of 18 credits in courses that satisfy minor requirements. The GPA for the History minor will be calculated by taking the average of courses designated HIS.

European History Minor
Required Courses:
HIS 1119 The European Experience: Antiquity to the Reformation
HIS 1120 The European Experience: Early Modern to the Present

Three Courses Chosen from the Following:
HIS 3350 Ancient History
HIS 3360 Medieval Civilization
HIS 3370 Renaissance, Reformation and Exploration
HIS 3376 Era of the French Revolution and Napoleon
HIS 3378 History of Modern Britain
HIS 3380 Science, Technology, and Society
HIS 3390 Modern European Social History
HIS 3391 Women in Modern European History
HIS 3401 Topics in Nineteenth-Century Europe
HIS 3410 Twentieth-Century Europe
HIS 3470 History of Imperial Russia
HIS 3471 From Lenin to Putin: Russia in the Twentieth Century

United States History Minor

Required Courses:
HIS 1106 U.S. History I: From Pre-Contact through the Civil War & Reconstruction
HIS 1107 U.S. History II: From Reconstruction to the Present

Three Courses Chosen from the Following:
HIS 2329 American Social History
HIS 3320 The American City
HIS 3326 History of American Architecture
HIS 3425 Contemporary United States History
HIS 3434 Revolutionary America, 1760-1800
HIS 3435 The Peoples of Early America
HIS 3437 Civil War and Reconstruction
HIS 3439 Slavery and Race in Early Modern Atlantic World, 1400-1800
HIS 3525 Environmental History of North America

Teacher of History

A student interested in teaching grades K-12 may combine the requirements of a major in history with a second major in education. A student must have a 3.0 grade point average in history to be eligible for student teaching.

HIS 1106 U.S. History I: From Pre-Contact through the Civil War and Reconstruction 4 cr.
This course offers an introduction to American history from the beginning of European expansion through the Civil War and Reconstruction. Drawing upon the methods and insights of social, political, and cultural history, the class lectures and discussions will explore a range of topics, including: the colonial encounter, labor systems, racial formation, the movement for independence and the formation of the American Republic, religion and reform movements, the democratic and market Revolutions, the transformation of gender roles, and the causes and consequences of the Civil War and Reconstruction. Satisfies a Humanities distribution requirement. Fulfills H in LS Core. Three hours a week.

HIS 1107 U.S. History II: From Reconstruction to the Present 4 cr.
This course examines the major events, themes, figures, and eras of the history of the United States since the Civil War. Political, social, and economic history are integrated in order to provide students with an opportunity to appreciate the multicultural heritage of the United States, as well as the global forces that have shaped the history of the country. Students are also introduced to the craft of the historian. Satisfies a Humanities distribution requirement Fulfills H in LS Core. Three hours a week.

HIS 1119 The European Experience: Antiquity to the Reformation 4 cr.
This course examines the major events and developments in European history from ancient civilizations through the Renaissance and Reformation, with particular emphasis upon the political context, the causes and implications of
social and economic change, and cultural evolution. This course is not open to students who have received credit for World Civilization I. Satisfies a Humanities distribution requirement. Fulfills H in LS Core. Three hours a week.

**HIS 1120**
The European Experience: Early Modern to the Present 4 cr.
This course examines the major events and developments in European history since about 1600, with particular emphasis upon the political context, the causes and implications of social and economic change, and cultural evolution. This course is not open to students who have received credit for World Civilization II. Satisfies a Humanities distribution requirement. Fulfills H in LS Core. Three hours a week.

**HIS 2329**
American Social History 4 cr.
Examines the structure of American society. Special attention is given to the study of patterns of social change in the 19th and 20th centuries and the role of minorities in the history of the United States. Satisfies a Humanities distribution requirement. Fulfills H in LS Core. Three hours a week.

**HIS 2340**
Survey of Latin American History: From Pre-Contact to the Present 4 cr.
An interpretative overview of Latin American history, from the eve of European expansion to the present. The class lectures and discussions will explore a range of topics, including: European conquest and colonization, systems of coerced labor, race and ethnicity, religion, gender roles, labor relations, the environment, nationalism and globalization, and foreign relations. Particular attention will be paid to agency (peoples' ability to shape, within often powerful constraints, their own histories), and diversity (of people, places and ideas). Satisfies a Humanities distribution requirement. Fulfills H and D in LS Core. Three hours a week.

**HIS 3320**
The American City 4 cr.
American urban development from the colonial period to the present. Emphasis on the influences which shaped the urban environment and contemporary efforts to rebuild American cities. Satisfies a Humanities distribution requirement. Fulfills H in LS Core. Three hours a week.

**HIS 3325**
History of American Architecture 4 cr.
This course introduces students to Native American and Western European traditions as they influenced the development of American architecture. Emphasis is placed on the historical context (political, economic, social, and cultural) of American architecture. Students also gain a knowledge of the language of architecture and the ability to identify and differentiate architectural styles and periods and have the opportunity to apply those skills in a course project. Satisfies a Humanities distribution requirement. Fulfills AL or H in the LS core. Three hours a week.

**HIS 3350**
Ancient History 4 cr.
Political and cultural history of the ancient Middle East and Europe from the earliest civilizations through the sixth century. Emphasis on the development of new political and religious systems through the study of archaeological evidence and primary texts. Satisfies a Humanities distribution requirement. Fulfills H in LS Core. Three hours a week.

**HIS 3360**
Medieval Civilization 4 cr.
Cultural history of the European Middle Ages, stressing the thought, religion, literature, and art of the sixth through the fifteenth centuries. Particular attention will be given to the development of the Church, new expressions of spirituality, and the consolidation of political power in medieval Europe. Satisfies a Humanities distribution requirement. Fulfills H in LS Core. Three hours a week.

**HIS 3370**
Renaissance, Reformation and Exploration 4 cr.
Examination of the cultural and religious history of Europe of the fourteenth, fifteenth, and sixteenth centuries. Emphasis on the art and architecture of the Renaissance, the theological and political ramifications of the Reformation, and the new perspectives and consequences of exploration. Satisfies a Humanities distribution requirement. Fulfills H in LS Core. Three hours a week.
HIS 3376  
Era of the French Revolution and Napoleon  4 cr.  
This course examines the political, social, and economic foundations of the Ancien Régime in France to uncover both its inherent weaknesses and contradictions and those eighteenth-century trends which arose in challenge to these foundations. Once the origins and causes of the Revolution have been established, this course details the phases and consequences of the Revolution and the Napoleonic period. Particular attention focuses upon the aspirations and activities of the major social groups in the unfolding events and the continuing influence of the Revolution. Satisfies a Humanities distribution requirement. Fulfills H or a SOSC requirement in LS Core. Three hours a week.

HIS 3378  
History of Modern Britain  4 cr.  
This course examines the political development of Britain as oligarchy, constitutional monarchy, and parliamentary democracy from the seventeenth century to the present. Focus particularly will center on the crucial economic and social changes of the eighteenth century and beyond which made Britain the world’s first industrial society and formed the basis for its period of world hegemony. How Britain lost its status, the effects of this decline, and its role in recent European unity will also be covered. Satisfies a Humanities distribution requirement. Fulfills H in LS Core. Three hours a week.

HIS 3380  
Science, Technology, and Society  4 cr.  
This course examines the development of technology in the modern world. Although the focus is Eurocentric, considerable attention is paid to those scientific and industrial developments, particularly the various phases of the Industrial Revolution, that profoundly affected and continue to affect the entire world. This course traces not only the elements of scientific and technological advance but also seeks to assess the far-reaching social and economic impact of technological change. Satisfies a Humanities distribution requirement. Fulfills H or a SOSC requirement in LS Core. Three hours a week.

HIS 3390  
Modern European Social History  4 cr.  
This course examines social structure and social groups within the context of the political and, in particular, economic development of Western Europe in the modern era. The course centers primarily on Britain, France, and Germany as three representative areas of the significant trends in social history. Satisfies a Humanities distribution requirement. Fulfills H or a SOSC requirement in LS Core. Three hours a week.

HIS 3391  
Women in Modern European History  4 cr.  
This course focuses on the important issues, struggles, strengths, accomplishments, and experiences of European women. It examines both the attitudes towards women and the activities of women within the political, social, and economic context of modern European history. Particular attention is paid to the ways in which women’s position has been affected by class and other factors. Satisfies a Humanities distribution requirement. Fulfills D in LS Core and H or a SOSC requirement in LS Core. Three hours a week.

HIS 3401  
Topics in Nineteenth-Century Europe  4 cr.  
This course examines major social, economic, cultural, and political aspects of the nineteenth century. Although the specific focus of the topics will vary from year to year, the century’s particular and characteristic developments, such as liberalism, industrialization, revolution, socialism, and class differentiation, will be addressed. Satisfies a Humanities distribution requirement. Fulfills H in LS Core. Three hours a week.

HIS 3410  
Twentieth-Century Europe  4 cr.  
This course follows the developments within and among the great European states throughout the twentieth century. Major events will be examined not only in their political context but also within the crucial framework of economic and social change and its implications. Satisfies a Humanities distribution requirement. Fulfills H in LS Core. Three hours a week.

HIS 3425  
Contemporary United States History  4 cr.  
This course explores the economic, political, and social forces that have influenced the development of the United States since the post-World War II era. The origins and the consequences of the Cold War, as well as the challenges of globalization, are given special attention. Satisfies a Humanities distribution requirement. Fulfills H in LS Core. Three hours a week.
This course examines United States history from roughly 1760 to 1800 and focuses on the following questions: First, why did the American Revolution occur? Second, what made it possible for diverse colonists to unite and to win their independence? Third, what impact did the war have on the different peoples who lived in North America at the time? (Or to put it another way, how revolutionary was the Revolution?). Satisfies a Humanities distribution requirement. Fullfills H in LS Core. Three hours a week.

**HIS 3439**
Slavery and Race in the Early Modern Atlantic World, 1400-1800  
4 cr.  
Between 1450 and 1850 more than twelve million men, women and children were forced to leave Africa to face slavery in Europe and the Americas. Employing a thematic and comparative approach, this course examines the emergence, development, and significance of plantation slavery in the Atlantic World between 1400 and 1800. It will focus on four interrelated questions: First, how can we explain the emergence and development of large-scale chattel slavery in the Americas? Second, what is the relationship between the emergence of chattel slavery and the evolution of racialized thinking in the Early Modern Atlantic period? Third, what did it mean to be enslaved, and what was similar and different about the experience of enslavement across time and space in the Atlantic World? Finally, how did African men, women and children and their descendants understand, respond and even resist their enslavement? Satisfies a Humanities distribution requirement. Fullfills H and D in LS Core. Three hours a week.

**HIS 3470**
History of Imperial Russia  
4 cr.  
This course examines the rise and development of Russia from its origins in the Kievan principality through the collapse of the Tsarist system in 1917. Particular emphasis will be placed on the consolidation and extension of autocracy and serfdom and those institutions’ social, economic, and cultural ramifications. Satisfies a Humanities distribution requirement. Fullfills H in LS Core. Three hours a week.

**HIS 3471**
From Lenin to Putin: Russia in the Twentieth Century  
4 cr.  
This course examines the history of the Union of Soviet Socialist Republics. Particular attention is paid to the pre-Revolutionary background, the causes of the Revolutions in 1917, Marxism-Leninism, the cultural revolution, Stalinism, and the social and economic context of political events and change from 1917 to the collapse of the Soviet Union in 1991. Satisfies a Humanities distribution requirement. Fullfills H in LS Core. Three hours a week.

**HIS 3525**
Environmental History of North America  
4 cr.  
This course examines some of the principal ways that human beings have interacted with the natural environment of North America from roughly 1600 to the present. Humans have always shaped and been shaped by their natural environment, and through course readings, lectures and discussions, participants in this course will examine this reciprocal relationship. Issues to be discussed include Native American management of the environment; the effects of the European ecological invasion; resource exploitation since the industrial era; the foundations of the preservationist and conservationist movements at the beginning of the twentieth century; the evolution of twentieth-century environmentalism; and the historical context of current environmental problems. Satisfies a Humanities distribution requirement. Fullfills H in LS Core. Three hours a week.
HIS 3991
Introduction to Historical Methodology 4 cr.
Spring term only. Required of all junior history majors. Special attention to composition, bibliography, historiography, and research methods. Prerequisite: History majors of junior standing or consent of the instructor. Three hours a week.

HIS 4896/4897
Internship in History 4 cr.
Off-campus work-study experience in areas related to the discipline of history. Practical experience in editing, administration, the law, museum and historical agency work supervised by a member of the department. A field-based project is central to the experience. This program expands the occupational potential of the history major. Open to juniors and seniors with a strong academic record and with the consent of the Internship Director. Fulfills X in LS Core.

HIS 4991(W)
Senior Thesis 4 cr.
Fall term only. Required of all senior history majors. Topics are selected in the complementary course, Introduction to Historical Methodology. This course includes advanced historical research and preparation of a seminar paper as well as critiques of other students' papers. Prerequisite: HIS 3991. Fulfills W in LS Core Three hours per week.

Human Development minor
See Psychology

Human Development
Interdisciplinary Program

Chair (2013-14): Associate Professor Deborah Margolis

Overview
The Human Development program accommodates students with interests in a variety of types of human service including, but not limited to, Education and Psychology. The Human Development major is a perfect choice for students wishing to gain an understanding of development across the lifespan. This major is strongly encouraged for those students interested in becoming early childhood or elementary education teachers.

The Human Development major provides a solid foundation for students interested in graduate programs and/or future careers in education, human services and social sciences. The Human Development Program is truly an interdisciplinary major. Human Development students will take courses in Education, Psychology, and across the Liberal Arts and Sciences.

Program Structure and Areas of Concentration
All Human Development majors take a set of core courses: a series of Foundational courses, a series of courses in Approaches to Inquiry, and specific courses addressing Developmental Progressions and Processes in a variety of different psychological domains. Students choose an area of concentration in one of the following areas: (1) Psychology; (2) Elementary Education, (3) Elementary & Moderate Disabilities (4) Early Childhood Education and (5) School and Society. Finally, all students fulfill a capstone experience, either through their practicum (student-teaching), senior thesis, or field experience component. Students entering in the year 2013 will be required to take at least one course from the Diversity category. Students entering the Human Development major in the years 2012, 2011, 2010, and 2009 will be allowed to take any course from the Diversity or Electives category to fulfill their Electives requirement.
• The Psychology concentration supports students’ understanding of key life span issues within and across multiple psychological perspectives and areas of inquiry.
• The Elementary, Elementary & Moderate Disabilities, and Early Childhood Education concentrations all lead to a teaching license in that particular area of focus. Please see the school of education website (www.merrimack.edu/schoolofeducation) for specific details about gaining such a license.
• The School and Society concentration supports students’ understanding of key issues within human development through the perspective of the role and function of schools and other institutions serving children and their families in our society.

Human Development majors, like all other Merrimack College students, take additional courses that fulfill liberal studies core requirements. Students in the licensure concentrations will also take a set of courses that are required for State licensure. Please note that Human Development is a new major and as such is an evolving and growing program. Interested students are encouraged to visit the website and speak to their advisor for the most up-to-date information. The requirements for the various concentrations are as follows:

<table>
<thead>
<tr>
<th>FOUNDATIONAL COURSES</th>
<th>HUMAN DEVELOPMENT</th>
<th>EDUCATION – Licensure Tracks</th>
<th>EDUCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ECE</td>
<td>Elem</td>
<td>Elem w/ MOD</td>
</tr>
<tr>
<td>PSY 1000</td>
<td>PSY 1000</td>
<td>PSY 1000</td>
<td>PSY 1000</td>
</tr>
<tr>
<td>PSY 2300 or EDU 2210</td>
<td>PSY 2300 or EDU 2210</td>
<td>PSY 2300 or EDU 2210</td>
<td>PSY 2300 or EDU 2210</td>
</tr>
<tr>
<td>EDU 2110</td>
<td>EDU 2110</td>
<td>EDU 2110</td>
<td>EDU 2110</td>
</tr>
<tr>
<td>COGNATE COURSE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HSC 1106</td>
<td>HSC 1106</td>
<td>HSC 1106</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>APPROACHES TO INQUIRY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PSY 1100W</td>
<td>PSY 1100W</td>
<td>PSY 1100W</td>
</tr>
<tr>
<td></td>
<td>PSY 2110</td>
<td>PSY 2110</td>
<td>PSY 2110</td>
</tr>
</tbody>
</table>

<p>| DEVELOPMENTAL PROGRESSIONS &amp; PROCESSES |                    |                    |
|                                         | choose one: EDU 2230; EDU 2240; PSY 3310; PSY 3340; PSY 3380 OR SOC | choose one: EDU 2230; EDU 2240; PSY 3310; PSY 3340; PSY 3380 OR SOC | choose three: EDU 2230; EDU 2240; PSY 3310; PSY 3340; PSY 3380 OR SOC 3850; PSY 3310 OR EDU 4500 | choose three: EDU 2230; EDU 2240; PSY 3310; PSY 3340; PSY 3380 OR SOC 3850; PSY 3310 OR EDU 4500 |
|                                         | EDU 4500           | EDU 4500           | EDU 4500   | EDU 4500       |</p>
<table>
<thead>
<tr>
<th>Requirement</th>
<th>Course codes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ELECTIVES</strong></td>
<td></td>
</tr>
<tr>
<td>CRM 2000; SOC 3450; EDU 3200;</td>
<td>CRM 2000; SOC 3450; EDU 3200; EDU 4260; EDU 4480</td>
</tr>
<tr>
<td>EDU 4260; EDU 4480</td>
<td>CRM 2000; SOC 3450; EDU 3200; EDU 4260; EDU 4480</td>
</tr>
<tr>
<td><strong>DIVERSITY</strong></td>
<td></td>
</tr>
<tr>
<td>Choose one: PSY 3250; EDU 3620;</td>
<td>Choose one: PSY 3250; EDU 3620; WGS 1010; WGS 2010</td>
</tr>
<tr>
<td>WGS 1010; WGS 2010</td>
<td>Choose one: PSY 3250; EDU 3620; WGS 1010; WGS 2010</td>
</tr>
<tr>
<td><strong>TEACHER EDUCATION LICENSURE</strong></td>
<td></td>
</tr>
<tr>
<td>EDU 2310</td>
<td>EDU 4210; EDU 4320</td>
</tr>
<tr>
<td></td>
<td>EDU 4340</td>
</tr>
<tr>
<td></td>
<td>EDU 3340</td>
</tr>
<tr>
<td></td>
<td>EDU 3360</td>
</tr>
<tr>
<td></td>
<td>EDU 3310</td>
</tr>
<tr>
<td></td>
<td>EDU 4220; EDU 4221</td>
</tr>
<tr>
<td></td>
<td>EDU 3210</td>
</tr>
<tr>
<td><strong>CAPSTONE</strong></td>
<td></td>
</tr>
<tr>
<td>EDU 4905</td>
<td>EDU 4903; Capstone Senior Thesis Field Experience</td>
</tr>
<tr>
<td></td>
<td>PSY 4961 &amp; 4966 OR PSY 4910 &amp; 4915</td>
</tr>
</tbody>
</table>

165
Humanities
School of Liberal Arts

Coordinator:
Professor Arthur O. Ledoux

Current Teaching Faculty:
Arthur O. Ledoux, Department of Philosophy;
Ellen L. Longsworth, Department of Visual and Performing Arts;

The Humanities 1010-1020 sequence was launched with grants from the National Endowment for the Humanities. HUM 1010 focuses primarily on ancient Greek culture while HUM 1020 engages the culture of the Middle Ages. These interdisciplinary courses have been taught by a team of faculty from English, Fine Arts, History, Philosophy, and Religious Studies and are counted as fulfilling the humanities distribution requirement or an AL requirement in the LS Core. The courses of the Humanities sequence together offer a unique opportunity to explore the foundations of Western, Judaeo-Christian culture. Each one, however, is designed to be accessible on its own and may be elected independently of the other.

HUM 1010
Stories of Ancient Greece 4 cr.
An exploration of the creative genius of Greece in its Classical Period (6th to 4th centuries B.C.E.) and of its roots in the earlier civilizations of Egypt and Crete. Lectures, readings, discussions and films investigate the Greek achievement in mythology, art and architecture, theater, government, philosophy, social organization and human conduct. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

HUM 1020
Medieval Europe 4 cr.
An exploration of the genius of medieval Europe in shaping a brilliant civilization from the often contradictory materials of Abrahamic and Greco-Roman traditions. Lectures, readings, discussions and films investigate ancient Jewish and early Christian thought and art, the evolution of the Christian Church, monasticism and learning, the rise of Islam, medieval art and architecture and the influence of the church and mosque on medieval culture. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

Human Performance and Wellness concentration
See Health Sciences

Information Technology
See Computer Science

Integrative Biology concentration
See Biology

Department of International Business
Girard School of Business

Director (2013-2014): Associate Professor Catherine Rich-Duval

The international business studies program is designed for students who wish to integrate proficiency in a foreign language and understanding of a foreign culture with managerial...
excellence in international business. With the counseling of a faculty advisor, students cluster electives around an interest in international business as a field of academic inquiry. In addition to satisfying the college's general education requirements and the cognate and core requirements for the major in business administration, students concentrating in international business studies must complete the requirements listed below. Study abroad is strongly recommended (although not required) for all students concentrating in International Business.

**Concentration Business Requirements:**
- FIN 4406 International Financial Management
- MGT 3357 International Management
- MKT 3320 Global Marketing
- INB 4450 Senior Seminar in International Business
  (see course description below)
- ECO An International Economics class taking one of the following classes:
  - ECO 3303 Economic Development
  - ECO 3306 International Economics
  - ECO 3310 Money and Finance

**Modern Language Minimum Requirement:**
Competence equivalent to or completion of the intermediate level (2010 and 2020) in a modern language. (Students with a documented primary language other than English are strongly recommended to take two (2) English classes that will substitute for the above Modern Language requirement. This must be approved in advance by the Director of International Business.)

**Culture Requirement:**
One course chosen from the Modern Languages cultural course list or the following:

<table>
<thead>
<tr>
<th>Communication Studies</th>
<th>Economics</th>
<th>History</th>
<th>Philosophy</th>
<th>Political Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 3231 Intercultural Communication</td>
<td>ECO 3303 Economic Development</td>
<td>HIS 1119 The European Experience: Antiquity to the Reformation</td>
<td>PHL 2420 Asian Philosophy</td>
<td>POL 1500 Comparative Politics</td>
</tr>
<tr>
<td>ECO 3306 International Economics</td>
<td>ECO 3312 The History of Economic Thought</td>
<td>HIS 1120 The European Experience: Early Modern to the Present</td>
<td></td>
<td>POL 2510 International Politics</td>
</tr>
<tr>
<td>(PLEASE NOTE: cannot be double counted with above Int'l Economics requirement)</td>
<td></td>
<td>HIS 2340 Survey of Latin American History</td>
<td></td>
<td>POL 2581 Political Thought: Plato to Machiavelli</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HIS 3378 History of Modern Britain</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
INB 4450
Senior Seminar in International Business 4 cr.
This senior capstone course provides an opportunity for students to integrate and build upon the knowledge and understanding they have developed through their international business concentration. Students will analyze current global business issues from a variety of perspectives, and apply their knowledge of economics, culture, marketing, management, accounting and finance to address problems. Learning methods will include case studies, guest lectures, comprehensive research projects, readings and extensive class discussions. Prerequisites: MKT 3320 and MGT 3357, Senior standing in International Business or permission of the Director of International Business. Four hours a week.

INB 4900
Special Topics in International Business 4 cr.
This course is designed to explore contemporary issues in International Business. The specific topic varies each time the course is taught. Descriptions are available in the Business Dean's office.

International Relations minor
See Political Science

International Studies
Interdisciplinary Program

Contact: Chair of Department of Political Science or Department of History

The International Studies Major is an interdisciplinary program designed to develop cross-cultural understanding and the ability to interact effectively with others in our increasingly complex and diverse global community. It provides undergraduate preparation for students considering post-graduate study and/or careers in international business, law, media, education, and governmental or non-governmental organizations. The major is anchored in Political Science and History to provide students with an understanding of the political and historical forces that have shaped current realities in the countries and/or regions under study. Students are strongly encouraged to extend this core preparation by choosing additional minors, or an
additional major, in related disciplines appropriate for their individual goals, essentially tailoring their preparation to their aims. For all students, additional cultural and/or language studies focused on the individual student’s particular region or country of interest are strongly recommended in order to develop a cultural competence that extends beyond the shaping forces of political systems and local/regional/global history.

In addition to completing the core introductory and methodology courses in History and Political Science, students will focus part of their coursework on a specific region of the world by fulfilling two of their three required area studies courses in their choice of regional area: Latin America, Europe, or Asia. Modern foreign language proficiency, equivalent to second semester intermediate level coursework, is required for International Studies majors. Students are also strongly encouraged to choose one of the following experiential learning opportunities: study abroad, a Washington semester, or a relevant internship. In the senior year, the required capstone course serves to integrate the disciplinary perspectives in the major’s coursework, the theoretical and applied knowledge and skills acquired by students, and the program’s academic and career related goals.

**Major Requirements**

Satisfying the requirements for the major in International Studies includes completing a minimum of 38 credits and a minimum of ten courses (10), as specified below. In addition, International Studies majors must demonstrate proficiency in a modern foreign language at the second semester intermediate level.

*The following courses are required of all International Studies majors:*

**Core Introductory Courses (3 courses)**
- HIS 1131 World History 1500 to the Present (course being developed)
- POL 1500 Comparative Politics
- ECO 1201 An Introduction to Economics

**Advanced Core Courses (3 courses)**
- POL 2510 International Politics or POL3540 – International Political Economy
- HIS 3xxx World History Since 1945 (available 2014-15)
- POL 2000 Political Science Methods

**Global Dynamics Course (choice of 1 course from the list below)*
- COM 3231 Intercultural Communication
- ECO 3306 International Economics
- ECO 3303 Economic Development
- FIN 4406 International Financial Management
- HIS 3380 Science, Technology, and Society
- HSC 3103 Global Health
- MGT 3357 International Management
- MKT 3320 Global Marketing
- PHL 3030 Global Justice
- POL 3540 International Political Economy
- PSY3250 Cultural Psychology
- RTS 3850 War & Peace
- RTS 2990 Women in Islam
SOC 3330  Racial and Ethnic Minorities
WGS 3110  Global Women’s Issues

Area Studies (choice of 2 courses in same geographical area)*

**Latin America**
- HIS 2340  Survey of Latin American History
- POL 3521  Latin American Politics
- POL 3531  Politics of the Developing Nations
- SPA 3510/20  Culture and Civilization of Spain and the Hispanic World
- SPA 3630  Studies in the Popular Culture of Latin America & Spain
- SPA 4080  Hispanic Literature in Translation

**Europe**
- FRE 3510/20  France and Its Civilization I & II
- HIS 3390  Modern European Social History
- HIS 3410  Twentieth Century Europe
- POL 3526  Politics of the European Union
- POL 3522  British Politics
- HIS 3378  History of Modern Britain
- HIS 3471  From Lenin to Putin: Russia in the Twentieth Century
- POL 3524  Politics of Russia and the Post-Soviet States
- SPA 3510/20  Culture and Civilization of Spain and the Hispanic World
- SPA 3630  Studies in the Popular Culture of Latin America & Spain

**Asia**
- POL 3520  Modern China
- POL 3523  Japanese Politics

**Senior Capstone Course (1 course)**

An integrative seminar or directed study in senior year that will involve a major original research paper.

*Some Global Dynamics and Areas Studies courses may require pre-requisites. If a student wishes to use one of these courses to fulfill a major requirement in International Studies he or she is responsible for either taking the requisite(s) or obtaining a waiver from the professor teaching the course.

**Additional requirements and recommendations:**

**Language Requirement** – Modern foreign language proficiency at the second semester of intermediate level is required of all International Studies majors.
Experiential Learning – Students are encouraged to participate in study abroad, Washington Semester, or a relevant internship.

Related Minors - International Studies majors are strongly encouraged to minor in a related discipline (such as economics, sociology, art history, communication, or business) that will enable them to gain additional disciplinary knowledge of special relevance to their individual career goals and/or encouraged to minor in language or cultural studies to develop their understanding of culture’s influential role in human behavior. Coursework in related fields also enables International Studies majors to approach issues and questions which are the focus of their major from novel perspectives, to discern unappreciated connections, and to develop an understanding of the many contextual factors that influence how individuals and societies relate across national boundaries.

Interpersonal Communication concentration
See Communication Arts & Sciences

Italian minor; Italian Studies
See World Languages & Cultures

Jewish/Christian/Muslim Relations minor
See Religious & Theological Studies

Law, Ethics, & Society Minor
School of Liberal Arts

Faculty Advisor: Assistant Professor of Philosophy Sandra Raponi

The Law, Ethics, and Society Minor is a multi-disciplinary liberal arts minor that focuses on the role of law in contemporary society. The purpose of the minor is to enable students to develop an understanding of the interaction between law and important ethical theories, social structures, and political systems, and to think critically about how ethical, social, and political issues ought to be addressed through law.

This minor is intended for students who plan on attending law school, students who are interested in pursuing other law-related careers, students who are interested in public policy, and students who are simply interested in learning more about the role of law in our society. In order to ensure that this minor provides students with a good preparation for law school, it has been developed in accordance with the American Bar Association’s Statement on Pre-Law Preparation.

The minor requires the completion of a minimum of 18 credits, with a minimum of five courses chosen from the list below and distributed so that no more than two elective courses can be taken from the same department.

Course Requirements. Students must choose one of the following core courses:
Elective Courses. No more than two elective courses can be taken from the same department (not including the core courses listed above).

- CRM 1000 Introduction to Criminology
- CRM 2200 Corporate and White Collar Crime
- CRM 2300 Hate Crimes
- CRM 3000 Society and Law
- CRM 3050(W) Female Deviance, Crime and Social Control
- MGT 3320 Employment Law and Labor Relations
- MGT 3330 Legal Environment of Business
- HIS 2329 American Social History
- HIS 3425 Contemporary United States History
- PHL 2080 Approaches to Ethics
- PHL 2040 Introduction to Political Philosophy
- PHL 2060 Biomedical Ethics
- PHL 2030 Contemporary Moral Problems
- PHL 2070 Environmental Ethics
- PHL 2500 Theories of Justice
- PHL 3020 Philosophy of Law
- PHL 3030 Global Justice
- POL 2122 Law and Society
- POL 2181 American Political Thought
- POL 2510 International Politics
- POL 3150 Criminal Law
- POL 3151 American Constitutional Law
- POL 3152 Civil Liberties
- WGS 3710 Gender and the Law
- WGS 3720 Gender, Immigration and the Law

Experiential Component: Strongly Recommended

It is strongly recommended that students participate in an experiential learning component, such as Moot Court, an internship in law or social justice, or Ethics Bowl. One of the four Elective courses may be fulfilled with an experiential learning component. To explore qualifying options, students should speak with their Minor advisor.

Learning Objectives

This Liberal Arts minor will help students prepare for law school by providing them with a comprehensive background that promotes the skills and areas of knowledge recommended by the Pre-Law Committee of the American Bar Association. In addition, this minor will also be of interest to students who do not intend to go to law school but are interested in learning more about the role of law in our society or in pursuing other law-related careers.

Upon completion of the minor students should achieve the following learning objectives:

1. Demonstrate analytical, problem-solving, and critical thinking skills;
2. Demonstrate writing, communication, and research skills;
3. Demonstrate an understanding of the relationship between law and justice, and law and morality;
4. Demonstrate a basic understanding of political and legal thought, particularly regarding different conceptions of justice, rights, and the role of law in society;
5. Demonstrate a basic understanding of the American political and legal system;
6. Demonstrate an understanding of normative theories that are used in legal and judicial reasoning, as well to justify legislation and public policy (ex. consequentialist and rights-based arguments);
7. Demonstrate an understanding of law in its historical, social, philosophical, and cultural context;
8. Demonstrate a basic understanding of human behavior, social interaction, and diverse cultures as these relate to law;
9. Demonstrate a basic understanding of the international and global context of law, including an understanding of world events, human rights, international law, international institutions, and global justice;
10. Demonstrate the ability to read and understand legal cases;
11. Demonstrate analytical, problem-solving and critical thinking skills;
12. Demonstrate writing, communication, and research skills;
13. Demonstrate an understanding of the relationship between law and justice, and law and morality;
14. Demonstrate a basic understanding of political and legal thought, particularly regarding different conceptions of justice, rights, and the role of law in society;
15. Demonstrate a basic understanding of the American political and legal system;
16. Demonstrate an understanding of normative theories that are used in legal and judicial reasoning, as well to justify legislation and public policy (ex. consequentialist and rights-based arguments);
17. Demonstrate an understanding of law in its historical, social, philosophical, and cultural context;
18. Demonstrate a basic understanding of human behavior, social interaction, and diverse cultures as these relate to law;
19. Demonstrate a basic understanding of the international and global context of law, including an understanding of world events, human rights, international law, international institutions, and global justice;
20. Demonstrate the ability to read and understand legal cases.

Department of Management
Girard School of Business

Faculty:
Chair (2013-2014): Professor Bruce Han
Professors Pariseau and Sendall
Associate Professors Grinnell, Kapelner, Kezim, Parent and Stewart
Assistant Professor Jin

Both for-profit and not-for-profit organizations require competent managers at all decision making levels. Decision makers are required in areas including finance, accounting, and marketing, as well as information systems, human resources, and operations. The management concentration allows students to develop their decision making and communication skills, as they tailor programs to fit their special areas of interest. Students concentrating in Management must complete the following courses: Organizational Behavior, Legal Environment of Business,
and three four-credit electives (12 cr.) in any area of management. In addition to satisfying the college’s general education requirements and the core requirements for the major in business administration, students in the Management concentration must take a minimum of five courses in their junior or senior year:

- MGT 3310 Organizational Behavior
- MGT 3330 Legal Environment of Business
- 3 electives within Management
- BUS 4850 will also satisfy one of the Management electives

MGT 3301 Systems Analysis and Design

This course provides students with an introduction to the structured methods and principles employed in the analysis, design, and implementation of information systems in organizations. Specific topics include problem investigation, feasibility analysis, requirements determination, system design, control and audit, and implementation and maintenance. Prerequisites: BUS 2210 and BUS 2220. Four hours a week.

MGT 3308 Quality Management

This course provides an overview of the importance of quality in a rapidly changing business environment. Quality management principles, methods and tools will be introduced and requirements for successful implementation of a quality management program will be identified. Prerequisite: BUS 2220. Four hours a week.

MGT 3309 Introduction to Management Science

This course provides coverage of the decision making process using quantitative information. The student’s power to logically model and analyze diverse decision making scenarios is combined with software-based solution procedures. Students learn the skills needed to apply decision models to various business problems. A variety of selected analytical approaches are explored including linear programming, waiting lines and simulation. Prerequisite: BUS 2220. Four hours a week.

MGT 3310 Organizational Behavior

This course builds on the knowledge and skills developed through the Business Enterprise core courses. The course will focus on individual and group level organizational behavior within domestic and international contexts, with specific emphasis on leadership, power, communication, negotiation, organizational change and self-managed team processes. This course is designed to deepen students' understanding of behavioral theories and provide them with opportunities to apply that learning to inter-personal, group and organizational problems. This is an experiential course and it is recommended for students planning to apply to graduate school in business or related areas. Prerequisite: Junior standing or 16 credits of BUS courses. Fulfills X in LS Core. Four hours a week.

MGT 3315 Database Management Systems

Database management systems focuses on proper planning, design and implementation techniques. The primary focus of the course is on conceptual database design using system analysis and design techniques; weekly lab assignments using Microsoft Access culminate in a team-based design and implementation project. Emphasis is on relational DBMS. Topics include: SQL, database design and implementation, data normalization, ad hoc query methods, input and output design, file maintenance, data warehousing, backup and recover. Prerequisites: BUS 2210 and BUS 2220. Fulfills X in LS Core. Four hours a week.

MGT 3316 Web Development

This course introduces the student to Web page development; topics include forms, images, and dynamic HTML. Students will understand the project life cycle of web development - needs requirements, technical analysis, development, usability testing, and deployment. They will also be exposed to various web development tools. Prerequisites: BUS 2210 and BUS 2220. Four hours a week.

MGT 3320 Employment Law and Labor Relations

This course will introduce the student to the historical and cultural development of the legal, ethical and regulatory environment of modern business as it relates to the employment relationship. Topics will include common law rules
governing the relationships of employer-employee, principal-agent and employer-independent contractor. An examination of important statutory rules shall include the Occupational Safety and Health Act, National Labor Relations Act and Title VII of the Civil Rights Act together with its progeny the Age Discrimination in Employment Act, the Americans with Disabilities Act and the Equal Pay Act. Prerequisite: Junior standing or permission. Four hours a week.

**MGT 3325**  
**Ethics and Social Responsibility**  
4 cr.  
Ethics and Social Responsibility provides students with opportunities to examine the meaning of business ethics and the social responsibility of business in light of the numerous high profile challenges that managers face in the current business environment. Varying ethical approaches will be applied to ethical leadership and the management of conflicting values confronting business leaders on a daily basis. The more global issue of balancing principles of good business with principles of ethical behavior in various cultures will be discussed. Students will participate in a significant service-learning project in this course. Prerequisite: Junior standing or permission. Fulfills E and X in LS Core. Four hours a week.

**MGT 3330**  
**Legal Environment of Business**  
4 cr.  
This course is designed to provide students with an overview of the general framework of the legal environment in which twenty-first century business is expected to operate. The primary objective is to acquaint students with the many practical legal issues they should be cognizant of and are likely to encounter throughout their business careers. Class discussion will emphasize current court case decisions of the state and federal appellate courts and United States Supreme Court as appropriate. Students will appreciate how the law is integrated into the development of strategic business decisions. Primary course topics will be drawn from the following business law categories: (1) Government Regulation of Business and the Court System; (2) The Law of Contracts, Sales and an Introduction to the Uniform Commercial Code (UCC); (3) The Law of Torts: Negligence, Strict Liability and Product Liability with some applications to Professional Responsibility; (4) The Law of Agency and Employment, and (5) Methods of Business Formation Including Proprietors, Partnerships, Corporations and Special Business Forms. Prerequisite: Junior standing or permission. Fulfills E and X in LS Core. Four hours a week.

**MGT 3351**  
**Human Resource Management**  
4 cr.  
This is a broad survey course providing a comprehensive overview of several human resource functions, including recruitment and selection, compensation, training, performance evaluation, labor and employee relations. Students will consider HRM topics as they relate to all employees with different roles and perspectives for supervisors and subordinates, and how these topics apply to creating strategic directions for an organization. Using an applied setting focus, instruction methods combine interactive lectures, experiential exercises, current events, case review, and external project analysis and presentation. Prerequisite: MGT 3310. Fulfills X in LS Core. Four hours a week.

**MGT 3355**  
**Diversity in the Workplace**  
4 cr.  
This course, which may include a significant service learning component, explores the workplace dynamics related to people’s similarities and differences in characteristics such as race, ethnicity, gender, age, sexual orientation, gender identity, religion, and physical and mental ability. Topics include perception and attribution, the social construction of identity, privilege, power relations, discrimination, prejudice, stereotypes, and approaches businesses and other organizations take to address issues of workplace diversity. Prerequisite, one of the following: MGT 3310, MGT 3357, or BUS 3302. (Priority registration for MG and IB concentrates, remaining space available for other concentrates). Fulfills D in LS Core. Four hours a week.

**MGT 3357**  
**International Management**  
4 cr.  
This course focuses on the basic elements that one must understand when doing business across borders. The primary purpose of the course is to create awareness of and sensitivity to the decisions confronting the multinational business in order to prepare individuals to support companies’ moves from domestic to foreign environments. Students analyze the various external forces faced by geocentric leaders/managers. They examine operational issues and develop business strategies necessary for success in the global race for profitable growth. Lectures, class discussions, and case analyses help students to explore management and economic issues critical to the success of a geocentric employee/manager. Prerequisites: ECO 1203 and ECO 1204, or ECO 1201. Four hours a week.
MGT 4400
Networking and Data Communications  4 cr.
This course examines data communications and network theory, design, and implementation. Topics include network architectures, transmission encoding, direct-link networks, switching, routing, network analysis, network algorithms, internet-working, addressing, name services, security, data compression, congestion control, and high-speed networking. Tactics enabling design and deployment of extranets and intranets are explored. Practical approaches for creating high-speed, high-performance network configurations to support multiple media applications in the corporate sector are examined. Current issues and future directions in business data communications will be investigated. Prerequisites: BUS 2210 and BUS 2220.  Four hours a week.

MGT 4410
Business Forecasting  4 cr.
This course examines short and long term forecasting methods and their applications in business. Emphasis will be placed on problem-solving using computer applications. A forecasting project using computer applications is required in this course. Main topics include exponential smoothing and multiple regression. Prerequisite: BUS 2220.  Four hours a week.

MGT 4414
Organizational Dynamics  4 cr.
This course builds on the individual and group level content and activities of prior Organization Studies courses. Specific topics will include the advanced analysis, implications, and management of multiple organizational level topics, including decision making and how it creates a learning organization, organizational culture, strategic structure and design, and the management of change. The interactive roles of leadership, communication, and decision making at the organizational level will be addressed experientially. Prerequisite: MGT 3310.  Fulfills X in LS Core.  Four hours a week.

MGT 4415
e-Business  4 cr.
The Internet and World Wide Web have fundamentally changed how we transact business both domestically and globally. The purpose of this course is to provide students with an overview of the following topics that pertain to the business of electronic commerce: Technology infrastructure: overview of electronic payment systems, authentication, security, privacy issues, network infrastructure and media convergence; Organizational applications: overview of metrics, branding, customer interfaces, supply chain and electronic commerce business models: B2B, B2C, C2G, m-commerce, etc; Policy Issues: overview of legal and policy issues underlying electronic commerce, such as privacy, intellectual property rights, tax implications, the impact of international EC laws and policies. The course format combines lectures, seminar presentations, classroom discussions, and research. Emphasis is placed on shared learning through web-based and in-class exchanges of contemporary e-commerce issues. Prerequisite: BUS 2210.  Fulfills X in LS Core.  Four hours a week.

MGT 4800
Directed Study  4 cr.
An independent study course for superior senior business students under the direction of a faculty member. The student must identify his/her intention to apply for this course in the semester prior to actual enrollment. Must be approved by both the directed study faculty member and the Management Department Chair.

MGT 4900
Special Topics in Management  4 cr.
This course is designed to explore contemporary issues in Management. The specific topic varies each time the course is taught. Descriptions are available in the Business Dean's office. Pre-requisite: MGT 3310.  Four hours a week.

Department of Marketing
Girard School of Business

Faculty:
Chair (2013-2014): Associate Professor Catherine Rich-Duval
Associate Professors Comegys, Stasio, and Fitzmaurice
Marketing offers creative and rewarding career paths that provide an exciting range of opportunity for professional achievement and personal growth. The range of opportunity covers a number of diverse paths from product management and development, global marketing management, logistics and physical distribution and strategic analysis to creative positions in communication, advertising, and public relations. Market research and marketing and sales management remain the pinnacle of the profession.

Mission
The Marketing faculty provides students with meaningful educational experiences that integrate marketing theory and practice with interactive classroom and experiential learning. Through our program, marketing concentrates develop professionally and are able to analyze, think critically about and formulate decisions to address strategic marketing and business problems. Additionally, graduates will be able to communicate clearly and work effectively in teams in the context of a changing global environment. Through primary dedication to teaching and with special emphasis on ethics, values, passion for learning and respect for diverse views, the Marketing faculty provides individualized attention to students that focuses on the development of the requisite skills of communication, analysis, problem solving and decision-making. The Department of Marketing is committed to the development of its faculty, review and planning of its curricula, and the continuous improvement of the delivery of its instruction.

Requirements
In addition to satisfying the college’s general education requirements and the cognate and core requirements for the major in business administration, students concentrating in marketing must complete at least five courses in marketing.

Required Marketing Core
- MKT 3300 Marketing Strategy
- MKT 4420 Marketing Research
- MKT 4980 Marketing Seminar

Required Marketing Electives (at least two courses)
- MKT 3303 Advertising and Promotion
- SPM 3305 Sports Marketing
- MKT 3309 Sales Management and Business Marketing
- MKT 3315 Entrepreneurship
- MKT 3316 Marketing of Services
- MKT 3318 Retail Management
- MKT 3320 Global Marketing
- MKT 3322 E-Marketing
- MKT 3328 Methods of Direct Marketing
- MKT 3355 Consumer Behavior
- MKT 3380 Brand and Product Management
- MKT 4800 Directed Study in Marketing
- MKT 4900 Special Topics in Marketing

MKT 3300 Marketing Strategy 4 cr.
This is the first course marketing concentrates take after the Principles of Marketing course. This course will include in-depth study and practical applications of key marketing concepts (i.e., marketing objectives, segmentation, targeting, positioning, customer lifetime value, competitive advantage, value proposition, product life cycle, and branding). Students will integrate their marketing knowledge with information about the environment to develop successful marketing strategies. Students tackle challenging marketing situations and cases, analyze data and
information, engage in research, and develop recommendations. Students also present, write, and critique during the semester and work on developing these skills. Prerequisite: BUS 2205. Four hours a week.

MKT 3303
Advertising and Promotion 4 cr.
The basic principles of advertising, direct marketing, sales promotion, public relations, publicity and personal selling and other forms of promotion are studied. The course will examine the factors affecting promotional decisions as well as the development of effective marketing communication strategies. Topics include establishment of objectives, identifying target audiences, budgeting, formulation, design and testing of message, media selection and analysis of effectiveness in the context of an integrated marketing plan and ethical considerations. Students will have an opportunity to apply their analytical and creative skills by developing actual TV, radio and print ads as well as write press releases using real world, practical and contemporary communication case studies. Prerequisite: BUS 2205 or permission of the instructor. Four hours a week.

MKT 3309
Sales Management and Business Marketing 4 cr.
This course provides the student with broad exposure to all aspects of sales management including both formulation and implementation of the sales program. It addresses the broader issue of identifying the role of personal selling in the marketing mix as well as the more specific issues such as identifying customer needs and satisfying those needs through the sales of a product or service. Emphasis is on the management of a sales force and the decision-making process relevant to the marketing of a product or service. Prerequisite: BUS 2205. Four hours a week.

MKT 3315
Entrepreneurship 4 cr.
The purpose of the course is to discover and understand the factors that govern the success (or failure) of entrepreneurial ventures and careers. A variety of different perspectives are introduced for learning about the creation and evolution of entrepreneurial ventures in different environments. The course will emphasize special strategic and operating issues faced by entrepreneurs that include family, management, and ethical decision matters. Prerequisite: BUS 2205. Four hours a week.

MKT 3316
Marketing of Services 4 cr.
The course examines the marketing methods and techniques used in the services sector, including professional services, health care, education, travel, financial and sports. Through readings and case study, the marketing aspects of the growing service industry are explored. Both non-profit and profit oriented organizations are examined. Prerequisite: BUS 2205. Four hours a week.

MKT 3318
Retail Management 4 cr.
This course explores the changing character of the retail trade. It examines consumer buying behavior, store location techniques, buying and merchandising policies, pricing policies, and promotional activities of all types of retailers. Learning methods will include case studies, comprehensive research projects, extensive class discussions and site visits to malls and local retailers. Prerequisite: BUS 2205. Four hours a week.

MKT 3320
Global Marketing 4 cr.
The course provides the student with exposure to global issues and concepts that are relevant to businesses. Topics include the dynamic and uncontrollable environment of global markets, assessing global market opportunities, and developing and implementing global marketing strategies. Students will have the opportunity to apply their research and analytical skills in the development of a marketing plan for a global product. Prerequisite: BUS 2205. Fulfills X in LS Core. Four hours a week.

MKT 3322
E-Marketing 4 cr.
The electronic revolution has dramatically altered the business landscape. Traditional issues of market segmentation and marketing mix formulation have to be resolved within an even more rapidly changing environment. At the same time, there continues to be the requirement for the marketing function to be creative and effect such changes. The E-Marketing course will focus on a framework within which both challenges can be met successfully. Special attention is given to how strategic marketing techniques in E-business are different from those in traditional business areas. Prerequisite: BUS 2205. Four hours a week.
MKT 3328
Methods of Direct Marketing
Direct marketing is a subset of marketing strategy that focuses on communicating directly with the customer via an offer that requires action. Direct marketing narrows the marketing effort to the customer most likely to purchase the product or service (and continue to be a consumer) via use of databases that capture purchase trends and characterize the high potential prospect. This course will cover the development of a direct marketing strategy, review media for direct marketing, introduce the development and maintenance of direct marketing databases, and provide the student with the opportunity to develop a direct marketing campaign for a product or service. Fulfills X in LS Core.
Prerequisite: BUS 2205. Four hours a week.

MKT 3355
Consumer Behavior
Marketers base their plans on assumptions about consumer behavior. This course will introduce consumer behavior concepts, theories, models, and research studies to help us understand consumers - why they buy and how they make decisions. We will learn how consumers make choices and judgments, form relationships with brands, perceive and learn information, are impacted by friends and others, form and change attitudes, are motivated to act, and are influenced by a variety of internal (i.e. individual) and external (e.g. social) factors. Understanding consumer behavior helps companies compete more effectively, design better products for consumers, and ultimately grow their businesses. Prerequisite: BUS 2205. Four hours a week.

MKT 3380
Brand and Product Management
This course takes the perspective of a product or brand manager – the individual responsible for the marketing success of the product. It examines key decisions facing product managers: how to analyze the market, develop a creative and effective product strategy, and make marketing mix decisions. Prerequisite: BUS 2205. Four hours a week.

MKT 4420
Marketing Research
Marketing Research plays an important role in providing timely and objective information to marketing decision makers. The primary objectives of this course are to introduce students to the research process and to some of the basic tools and techniques used in marketing research. Students will develop practical knowledge in identifying marketing problem areas, formulating research designs, selecting sources of data, constructing questionnaires, sampling methods, processing, quantitative analysis, and reporting information by completing an Institutional Research Board approved marketing research project. Prerequisites: BUS 2205, BUS 2213 and MKT 3300 and senior standing or consent of Department. Fulfills X in LS Core. Four hours a week.

MKT 4800
Directed Study
An independent study course for superior senior students under the direction of a faculty member. Approval must be obtained from the chair and the faculty member involved. Prerequisite: BUS 2205.

MKT 4980
Marketing Seminar
A capstone required course that integrates the total marketing effort by use of an experiential learning exercise in which students practice the design, implementation and control of global business strategies. Students participate in a sophisticated business simulation that is designed to capture the qualitative and quantitative dimensions of business decision-making within the context of an international business enterprise. Students essentially run an international start-up business for the semester. The problems and opportunities encountered require total immersion into the business enterprise as well as international relationships and economic trends. The course enables the student to apply what has been learned in other business courses. Seminar meets once a week. Prerequisites: BUS 2205, MKT 3300, MKT 4420 and senior standing or consent of Department. Fulfills X in LS Core. Four hours a week.

MKT 4900
Special Topics in Marketing
This course is designed to explore contemporary issues in Marketing. The specific topic varies each time the course is taught. Descriptions are available in the Business Dean's office. Prerequisite: MKT 3300. Four hours a week.
Mass Communication concentration
See Communication Arts & Sciences

Department of Mathematics
School of Science & Engineering

Faculty:
Co-Chairs (2013-2014): Associate Professor Xiaorong Shen and Professor Norma Rueda
Professor Bradley
Associate Professors Rowland, Sokolowski, and St. Vincent
Assistant Professors Benedict and Hall-Seelig

Mathematics majors acquire insight and understanding of a diverse range of both abstract and applied topics. They experience many facets of this powerful discipline and are well prepared for graduate programs or professional careers in education, business, government, or industry. In addition to satisfying the College’s general education requirements, students pursuing a Bachelor of Arts degree in Mathematics must complete the following major and cognate courses or their equivalents:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH 1314</td>
<td>Discrete Mathematics</td>
</tr>
<tr>
<td>MTH 1217</td>
<td>Calculus I</td>
</tr>
<tr>
<td>MTH 1218</td>
<td>Calculus II</td>
</tr>
<tr>
<td>MTH 2219</td>
<td>Calculus III</td>
</tr>
<tr>
<td>MTH 2220</td>
<td>Differential Equations</td>
</tr>
<tr>
<td>MTH 3335</td>
<td>Linear Algebra</td>
</tr>
<tr>
<td>MTH 4336</td>
<td>Abstract Algebra</td>
</tr>
<tr>
<td>MTH 4343</td>
<td>Real Analysis</td>
</tr>
<tr>
<td>CSC 1610</td>
<td>Computer Science I</td>
</tr>
</tbody>
</table>

and enough additional credits of mathematics electives (2000 level or higher) to reach a total of 48 credits in the major. All students are strongly urged to take additional mathematics electives and two semesters of a natural science. In order to graduate, all Mathematics majors in their senior year will be required to take the Mathematics Major Field Test, administered by the Educational Testing Service (ETS).

Major GPA. The GPA for the Mathematics major will be calculated by taking the average of the eight required mathematics courses and the best 12 credits of mathematics electives numbered 2000 or higher.

Teacher of Mathematics. In addition to the courses required by the Department of Education for the teacher preparation program, the student must complete all of the requirements for a major in mathematics listed above and MTH 2423 Topics in Geometry, MTH 2527 Probability and Statistics I, and MTH 3400(W) Readings in Mathematics. The student must maintain a 3.00 quality point average.

Custom Designed Interdisciplinary Major Programs. The Department of Mathematics encourages students to design their own customized program of studies that combines an in-depth study of mathematics with extensive work in a related discipline. In addition to the College’s general education requirements, these programs generally require 24 credits in mathematics at the 1200 level or higher, 24 credits in the related department, and a 4-credit capstone course that integrates work in the two disciplines. In the past, students have pursued
joint majors that combine mathematics with biology, chemistry, computer science, economics, electrical engineering, civil engineering, physics, and psychology. Other combinations are possible. Interested students should meet with the chair of the Mathematics Department to select faculty advisors from the two departments, to create a proposed set of courses from each department, and to obtain the necessary approvals.

**Minor in Mathematics**
A student in any major can earn a Minor in Mathematics by completing 20 credits in mathematics (typically 5 courses) at the 1200 level or higher, including at least one course at the 2400 level or higher. Courses selected must include MTH 1217 Calculus I, MTH 1218 Calculus II.

**Mathematics Placement Exam.** Students who have not already earned credit for a college-level calculus course (equivalent to MTH 1115, MTH 1217 or higher) must take the Merrimack College Mathematics Placement Exam before registering for any math course.

**MTH 1000 Concepts in Algebra**
4 cr.
A one semester course designed to develop fundamental algebraic and problem-solving concepts and skills. Topics include linear, quadratic, square root, rational, exponential and logarithmic functions and equations. This course utilizes individual investigation, group problem-solving, and writing in order to enhance students' understanding of algebraic models and the problem-solving process. A graphing calculator is required. We recommend a TI-84+. This course is open only to students whose Placement Exam results indicate that they need further preparation for subsequent mathematics courses. Fulfills Q in LS Core. Six hours a week.

**MTH 1003 Introductory Mathematics for Business**
4 cr.
A one-semester course designed to develop algebraic and quantitative problem-solving skills. Students will use algebraic, exponential and logarithmic functions as well as matrices and fundamental concepts of probability to solve applied problems selected primarily from the field of business. This course is not open to students who have credit for any math course numbered MTH 1115 or higher. Fulfills Q in LS Core. Four hours a week.

**MTH 1016 Precalculus**
4 cr.
This course develops students' mathematical problem-solving skills and prepares students for courses in calculus and science. Emphasis is on the creation and use of functions and graphs to explain the relationship between quantities in applied problems. Types of functions investigated include linear, quadratic, polynomial, rational, exponential, logarithmic, trigonometric, and their inverses. Graphing calculator is required. We recommend TI-84+. Fulfills Q in LS Core. Four hours a week.

**MTH 1110 Basic Statistics with Fantasy Football**
4 cr.
The course covers the same topics as the standard course MTH1111 Basic Statistics: basic methods of statistical inference including the organization and analysis of data, sampling theory, point and interval estimation, hypothesis testing, correlation and regression analysis, and analysis of variance. What differentiates this course from MTH1111 is that students in this course will use statistical tools to analyze football statistics and strategically play fantasy football as co-owners of franchises. MTH 1110 is not open to students with credit for MTH1111, MTH 2527, MTH 1505, BUS 2213, BE 213, or ST 211. Satisfies a Mathematics/Science distribution requirement. Fulfills Q and a STEM requirement in LS Core. Four hours a week. Fall semester only.

**MTH 1111 Basic Statistics**
4 cr.
Basic methods of statistical inference including the organization and analysis of data, sampling theory, point and interval estimation, hypothesis testing, correlation and regression analysis, and analysis of variance. MTH 1111 is not open to students with credit for MTH 2527, MTH 1505, BUS 2213, BE 213, or ST 211. Satisfies a Mathematics/Science distribution requirement. Fulfills Q and a STEM requirement in LS Core. Four hours a week.
MTH 1112
Adventures in Mathematics  4 cr.
An exploration of modern topics and modes of thinking in mathematics for students not planning to specialize in math or science. Topics may include numbers and counting, dealing with infinity, the Golden Rectangle, the fourth dimension, rubber sheet geometry, knots, fractals, and chaos. Satisfies a Mathematics/Science distribution requirement. Fulfills a STEM requirement in LS Core. Four hours a week.

MTH 1115
Calculus and Quantitative Methods for Business  4 cr.
A one-semester course in algebra, matrix theory, probability, and differential and integral calculus of algebraic, exponential, and logarithmic functions. At the end of the course, the student should understand the mechanics of all four mathematical techniques and appreciate their use in business applications. These skills should prepare the student for further study in quantitative courses in business, statistics and economics. Prerequisite: MTH 1003 or exemption from MTH 1003 through the Mathematics Placement Exam. Satisfies a Mathematics/Science distribution requirement. Fulfills Q and a STEM requirement in LS Core. Four hours a week.

MTH 1217
Calculus I  4 cr.
A first course in calculus for functions of a single variable. Limits, derivatives, and integrals of algebraic, trigonometric, exponential, and logarithmic functions, and applications of differentiation, including related rates, optimization, and the evaluation of indeterminate forms will be covered. Graphing calculator is required. We recommend Ti-84+. Prerequisite: MTH 1016 or exemption from MTH 1016 through the Mathematics Placement Exam. Satisfies a Mathematics/Science distribution requirement. Fulfills Q and a STEM requirement in LS Core. Four hours a week.

MTH 1218
Calculus II  4 cr.
A continuation of MTH 1217 for functions of a single variable. Includes techniques and applications of integration, sequences, and series, including Taylor series, and vector algebra. Graphing calculator is required. We recommend Ti-84+. Prerequisite: MTH 1217. Satisfies a Mathematics/Science distribution requirement. Fulfills Q and a STEM requirement in LS Core. Four hours a week.

MTH 1314
Discrete Mathematics  4 cr.
An introduction to mathematics for first-year math majors exposing the student to a breadth of topics in the discipline while developing skills in written and oral communication of mathematical ideas, problem solving, and theorem proving. Topics include an introduction to number theory, logic, proofs, graph theory, combinatorics and discrete probability. Satisfies a Mathematics/Science distribution requirement. Fulfills Q and a STEM requirement in LS Core. Four hours a week.

MTH 1412
Foundations of Mathematics II  4 cr.
This course is designed for prospective elementary teachers and has two over-arching themes: (1) to investigate why mathematical operations and procedures work as they do in algebra, geometry, and probability and, in the process, to develop proficiency and an appreciation of the value of mathematics; and (2) to develop an ability to explain one’s reasoning clearly in written and spoken language. Individual and group problem-solving activities, pattern exploration, and model construction will provide students with a variety of opportunities to build their own deep understanding of foundational mathematical concepts and procedures. The topics to be covered are algebraic modeling, plane, solid and spherical geometry, measurement, and probability and statistics. Fulfills Q, STEM, and X in LS Core. Six hours a week.

MTH 1505
Applied Statistics and Probability for Engineers  4 cr.
An introduction to applied statistical and probability methods in engineering dealing with discrete and continuous variables, joint distributions, estimation, tests of hypotheses, regression, design of experiments and control charts. Statistical computer packages will be used in connection with some of the material studied. Prerequisite: MTH 1217. Co-requisite: MTH 1218. Fulfills Q in LS Core. Four hours a week.

MTH 2219
Calculus III  4 cr.
Functions in parametric form and the calculus of these functions, including polar, cylindrical, and spherical coordinates. Vectors in two and three dimensional space and the calculus of vector-valued functions. Lines, planes,
and surfaces in three dimensional space. The calculus of functions of several variables: limits, partial and directional
derivatives, gradient, tangent planes and normal lines, relative maxima and minima, double and triple integrals in
rectangular and polar form. Graphing calculator is required. We recommend TI-84+. Computer algebra software may
also be required. Prerequisite: MTH 1218. Four hours a week.

MTH 2220
Differential Equations  
4 cr.
An introduction to ordinary differential equations and their use in science and engineering. Topics include first order
separable, linear, homogeneous and exact equations; higher order linear equations and first order linear systems;
elementary numerical methods; and an introduction to planar dynamical systems and their local phase portraits at
critical points. An emphasis is placed on linear equations and systems and their solution using techniques such as
eigenvalues, variation of parameters, Laplace transform, and power series. Prerequisite: MTH 2219 or consent of the
instructor. Four hours a week.

MTH 2423
Topics in Geometry  
4 cr.
Selected topics from Euclidean and non-Euclidean geometries. Emphasis is placed on exploring different types of
geometry and the writing of proofs. Prerequisite: MTH 1314 and MTH 1218 or consent of the instructor. Offered in
the fall semester of even-numbered years. Four hours a week.

MTH 2527
Probability and Statistics I  
4 cr.
A calculus-based treatment of probability and statistics for situations involving one random variable or population.
Calculating probabilities using counting techniques, set theory, discrete and continuous random variables. Descriptive
statistics, central limit theorem, confidence intervals and hypothesis testing for mean and proportion. Simple linear
regression and chi-square test. MINITAB statistical software used throughout this course. Prerequisite: MTH 1218.
Fulfills Q in LS Core. Four hours a week.

MTH 2528
Probability and Statistics II  
4 cr.
A calculus-based treatment of probability and statistics for situations involving two random variables or populations.
Joint probability distributions, confidence intervals, hypothesis tests, analysis of variance, and nonparametric
statistics. MINITAB statistical software used throughout this course. Prerequisites: MTH 2219 and MTH 2527. Four
hours a week.

MTH 2644
Combinatorics and Graph Theory  
4 cr.
An introduction to the basic techniques and modes of reasoning for combinatorial problem solving. Emphasis on the
three principal aspects of combinatorial reasoning: the systematic analysis of different possibilities, the exploration of
the logical structure of a problem, and ingenuity. Topics include the basic properties of graphs, isomorphisms,
planarity, Hamilton and Euler cycles, and graph coloring in graph theory and the basic counting rules, generating
functions, recurrence relations, and inclusion exclusion in enumeration. Prerequisites: MTH 1314 and MTH 1218.
Four hours a week.

MTH 2650
Knot Theory  
4 cr.
An introduction to the mathematical theory of knots, with emphasis on knot invariants, including tricolorability,
unknotting number, bridge number, genus, and knot polynomials. Applications to other areas of mathematics as well
as to biology, chemistry, and physics will also be explored. Prerequisites: MTH 1314 and MTH 1218. Four hours a week.

MTH 3335
Linear Algebra  
4 cr.
An introduction to linear algebra and its applications. This course will cover systems of linear equations, matrices,
determinants, vector spaces and change of basis, inner product spaces and orthogonality, linear transformations, and
eigenvalues and eigenvectors. Graphing calculator and mathematical software technology will be used to illustrate
computational and numerical issues. Prerequisite: MTH 1218. Four hours a week.

MTH 3400(W)
Readings in Mathematics  
4 cr.
A course in readings in mathematical literature and in mathematical writing. Selected topics will be investigated within
their historical and cultural context. Recent developments in the mathematical sciences will also be explored. Each
student will be responsible for reading selected articles, writing several papers, and researching a topic for final presentation. Prerequisites: MTH 1314 and MTH 1218. Offered in the fall semester of odd-numbered years. **Fulfills W in LS Core.**

MTH 3701
**Modeling and Simulation**
4 cr.
Introduction to modeling and computer simulation. Examples will be drawn from numerous areas in the physical, biological and social sciences, and business. Probabilistic as well as deterministic models will be considered. Prerequisites: MTH 2220 and CSC 1610 or consent of the instructor. **Four hours a week.**

MTH 3725
**Numerical Analysis**
4 cr.
Theory and application of selected topics from Numerical Analysis. Topics include: solutions of equations and systems of equations, interpolation, numerical differentiation and integration, and numerical solution of differential equations. Emphasis is given to methods that can be implemented on a computer. If time allows, other topics may be added such as Least Squares and Eigenvectors. Prerequisites: MTH 1218 and CSC 1610 or consent of the instructor. **Four hours a week.**

MTH 4336
**Abstract Algebra**
4 cr.
This course is an introduction to the theory of groups, rings, and fields. Emphasis will be on abstract theorems, proofs, and rigorous mathematical reasoning. Prerequisite: MTH 3335 or consent of the instructor. **Four hours a week.**

MTH 4343
**Real Analysis**
4 cr.
This course is an introduction, with emphasis on theory, to the foundations of the calculus of real valued functions of real variables. Topics will include uniform continuity, compactness, uniform convergence, differentiation and integration. Prerequisite: MTH 2219 or consent of the instructor. **Four hours a week.**

MTH 4600
**Topics in Mathematics**
4 cr.
Reading, lectures, study, and/or research in a branch of advanced mathematics in which a course is not regularly offered. Prerequisite: permission of the instructor. May be taken more than once. **Four hours a week.**

MTH 4623
**Applied Analysis**
4 cr.
An introduction to applied analysis for students of science, engineering, and mathematics. Topics are selected from among those in Fourier analysis, partial differential equations, calculus of variations and vector calculus. Prerequisite: MTH 2220. **Four hours a week.**

MTH 4645
**Complex Analysis**
4 cr.
An introduction to the calculus of functions of a complex variable for students of science, engineering, and mathematics. Topics include complex differentiation, harmonic functions, the Cauchy-Riemann equations, contour integrals, the Cauchy integral theorem and Cauchy integral formula, Taylor and Laurent series, the residue theorem, and conformal mapping. Prerequisite: MTH 2219. **Four hours a week.**

MTH 4800
**Directed Study**
4 cr.
In lieu of a formal course, qualified upper-class students may propose an intensive program of reading under the direction of a member of the department. May be taken more than once. A student wishing to elect this course will be required to submit a proposal to the department and receive departmental approval prior to registration.

MTH 4850
**Directed Research**
4 cr.
In lieu of a formal course, qualified upper-class students may propose an intensive program of undergraduate research under the direction of a member of the department. This will involve reading articles from mathematical journals and conducting research on open problems in mathematics, culminating in a presentation and/or thesis paper. May be taken more than once. A student wishing to elect this course will be required to submit a proposal to the department and receive departmental approval prior to registration. **Fulfills X in LS Core.**
Mechanical Engineering
See Civil and Mechanical Engineering

Middle School Education concentration
See Education

Modern Languages
See World Languages and Cultures

Molecular and Cellular Biology and Biotechnology concentration
See Biology

Moral Philosophy minor
See Philosophy

Music minor
See Visual & Performing Arts

Nutrition concentration
See Health Sciences

Organizational Communication concentration
See Communication Arts & Sciences

Department of Philosophy
School of Liberal Arts

Faculty:
Chair (2013-2014): Professor Ledoux
Professors Heffernan, Sargent and Wians
Associate Professor Cowart
Assistant Professor Raponi

Why study philosophy? Philosophy courses strengthen students’ thinking, writing, and analytic abilities, while exposing them to some of life’s most persistent and important questions. Philosophy majors and minors improve their chances of getting into top graduate programs and law schools, while non-majors gain a richer education and preparation for work and life. Courses in philosophy at Merrimack are designed to appeal to a variety of student interests and concerns regardless of one’s major or intended career.

For our majors and minors, the Philosophy Department offers a rigorous program of study that prepares students for post-graduate work in philosophy, law, and related fields—and beyond. Breadth and depth of understanding is the aim of the program’s required courses. A
balance is struck between issues courses (e.g., Epistemology, Metaphysics, Ethics) and history of philosophy courses that enliven and enlighten the issues by revealing the setting in which they arose and developed.

The variety of electives (such as Women, Ethics and Society, Asian Philosophy, Philosophy of Law, Existentialism, and Environmental Ethics) together with the directed study program allow the student ample opportunity both to pursue in greater depth an area of particular interest and to give the program a personal flavor.

Our program is designed to familiarize students with the central issues in the different areas of philosophy and to cultivate students’ abilities to think critically, analytically, and imaginatively about those issues.

Satisfying the requirements for the major in Philosophy includes completing a minimum of 34 credits in the major and a minimum of nine courses (9), as specified below:

A major program in Philosophy enables students to choose one of the following tracks:

**General Track in Philosophy**
- PHL 1000 Introduction to Philosophy
- Two courses in Moral and/or Political Philosophy
- Two courses in History of Philosophy
- One course in Metaphysics
- One course in Epistemology
- Two Philosophy Electives

**Moral & Political Track in Philosophy**
- PHL1000 Introduction to Philosophy
- PHL 2080 Approaches to Ethics
- PHL 2040 Introduction to Political Philosophy
- One course in History of Philosophy
- One course in Metaphysics or Epistemology
- One Elective (any 3000-4000 level philosophy course)
- Three courses from the following:
  - PHL 2100 Women, Ethics & Society
  - PHL 2020 Perspectives on the Good Life
  - PHL 2030 Contemporary Moral Problems
  - PHL 2050 Ethics in the Professions
  - PHL 2060 Biomedical Ethics
  - PHL 2070 Environmental Ethics
  - PHL 2090 Values in a Technological Culture
  - PHL 2310 Socrates and the Examined Life
  - PHL 2500 Theories of Justice
  - PHL 3020 Philosophy of Law
  - PHL 3030 Global Justice
  - PHL 3180 Existentialism
  - PHL 3190 American Philosophy

**Major GPA.** The GPA for the Philosophy major will be calculated by taking the average of courses designated PH/PHL.
Minors in Philosophy

Students in any field of study may choose a general minor in philosophy, a minor in political philosophy, a minor in moral philosophy or a minor in philosophy of science. The minor in Philosophy requires completing a minimum of 18 credits, with a minimum of 5 courses that are chosen from the minor tracks listed below.

General Minor in Philosophy

- PHL 1000 Introduction to Philosophy
- One course in Ethics
- One course in History of Philosophy
- One course in Metaphysics or Epistemology
- One Philosophy elective

Minor in Political Philosophy

- PHL 1000 Introduction to Philosophy
- One course in Ethics
- PHL 2040 Introduction to Political Philosophy
- Choose two of the following:
  - PHL 2500 Theories of Justice
  - PHL 3020 Philosophy of Law
  - PHL 3030 Global Justice

Minor in Moral Philosophy

- PHL 1000 Introduction to Philosophy
- PHL 2080 Approaches to Ethics
- Three additional courses in Ethics

Minor in Philosophy of Science

- PHL 1000 Introduction to Philosophy
- PHL 3050 Philosophy of Science
- Choose three of the following:
  - PHL 2020 History of Ancient Philosophy
  - PHL 2060 Biomedical Ethics
  - PHL 2070 Environmental Ethics
  - PHL 2090 Values in a Technological Culture
  - PHL 2700 Philosophy of the Social Sciences
  - PHL 2730 Philosophy of Psychology
  - PHL 3160 History of Modern Philosophy
  - PHL 3210 Philosophy of Mind
  - PHL 4020 Epistemology

PHL 1000
Introduction to Philosophy 4 cr.

A first course in philosophy focusing on classic questions that have stirred the perennial human quest for wisdom. We will explore such questions as: Are humans free or determined? How do the mind and body interact? Is ethics just relative to each person or society? Should there be any limits to the political freedom of citizens? Does God exist? The course will introduce students to the methods and culture of philosophy: sympathetic understanding, critical analysis, fair argumentation, and a persistent desire to know the truth whatever it is. The focus and questions covered will be determined by each instructor. Fulfills PHL in LS Core. Three hours a week.
PHL 2010
Logic 4 cr.
Logic is the study of the art of reasoning, including the principles of deductive and inductive logic. The aim of this course is to assist students in the development of their analytical and critical thinking skills by learning how to recognize and evaluate various argument forms and fallacies found in literature, news reporting, advertisements, and the academic disciplines. Satisfies a Humanities distribution requirement. Three hours a week.

PHL 2020(W)
Perspectives on the Good Life 4 cr.
Before it comes to an end, how shall I spend the life I have? What would make that life genuinely worth living? We will seek the guidance of many masters: East and West, ancient and modern, women and men and from diverse races. We have much to consider, but the main challenge for each of us is to shape a perspective we can each embrace as our own. What could be more important? Prerequisite: PHL 1000. Satisfies a second institutional requirement in Philosophy if needed or a Humanities distribution requirement. Fulfills E and W in LS Core. Three hours a week.

PHL 2030
Contemporary Moral Problems 4 cr.
The course consists of three logically distinct parts: (1) Meta-ethical questions such as: “In what sense is Ethics a science?” “Can moral judgments be true or false?” “Is morality objective or subjective?”; (2) ethical theories such as Utilitarianism, Deontology, and Natural Law Theory, and (3) application of the ethical principles to several major problem areas in human life. Prerequisite: PHL 1000. Satisfies a second institutional requirement in Philosophy if needed or a Humanities distribution requirement. Fulfills E in LS Core. Three hours a week.

PHL 2040
Introduction to Political Philosophy 4 cr.
A critical examination of some of the basic issues in political philosophy: the purpose and justification of government, the legitimate extent of government authority over the individual, a citizen’s obligation to obey the law, and the nature of rights and justice. Prerequisite: PHL 1000. Satisfies a second institutional requirement in Philosophy if needed or a Humanities distribution requirement. Fulfills E in LS Core. Three hours a week.

PHL 2050
Ethics in the Professions 4 cr.
The course is designed to introduce students to the three major ethical theories: Natural Law, Deontology, and Utilitarianism. After the students have been familiarized with the fundamental principles and with the logical structure of moral reasoning, we will examine some of the many moral problems that arise in the professional lives of doctors, lawyers, engineers, advertisers, etc. Topics will include privacy, confidentiality, deception, commutative and distributive justice in hiring and compensation, etc. The course will stress case studies in the form of group discussions and presentations of cases in class by students. Prerequisite: PHL 1000. Satisfies a second institutional requirement in Philosophy if needed or a Humanities distribution requirement. Fulfills E in LS Core. Three hours a week.

PHL 2060
Biomedical Ethics 4 cr.
A critical examination of moral issues in medicine and bioethics. Topics will be selected from among the following: the physician relationship; informed consent; research ethics; issues at the end of life including euthanasia and physician assisted suicide; the allocation of scarce medical resources; race and gender in medicine; reproductive and genetic control, etc. Ethical theories and principles will be introduced to help analyze the chosen issues. Prerequisite: PHL 1000. Satisfies a second institutional requirement in Philosophy if needed or a Humanities distribution requirement. Fulfills E in LS Core. Three hours a week.

PHL 2070
Environmental Ethics 4 cr.
Environmental Ethics concerns humanity’s relationship with nature. In addition to questions about our moral obligations to other humans, animals, plants, ecosystems, and future generations, the course will also look at recent work on the Land Ethic, Ecocentrism, Deep Ecology, Global Eocentrism, Ecocentrism, Social Ecology, and Sustainability. We will begin with a brief look at some background texts before turning to philosophical analysis of such contemporary issues as climate change, renewable energy, pollution, and sustainability. Prerequisite: PHL 1000. Satisfies a second institutional requirement in Philosophy if needed or a Humanities distribution requirement. Fulfills E in LS Core. Three hours a week.
PHL 2080  
Approaches to Ethics  
4 cr.

The course presents the positions and examines the arguments of several of the dominant ways of approaching ethical issues and questions. Although specific determinations are made by the individual instructor, the course survey generally includes the following particular approaches to ethics: Divine Command Theory (Euthyphro, Augustine), Virtue Ethics (Aristotle, Machiavelli), Epicureanism and Stoicism (Epicurus, Epictetus), Natural Law Theory (Aquinas, Hobbes), Moral Sense Theory (Hume, James Q. Wilson), Deontology (Kant), Utilitarianism (Mill), Evolutionary Ethics (Nietzsche, Edward O. Wilson), and the Existentialist Ethics of Ambiguity (Sartre, Simone de Beauvoir). Prerequisite: PHL 1000. Satisfies a second institutional requirement in Philosophy if needed or a Humanities distribution requirement. Fulfills E in LS Core. Three hours a week.

PHL 2090  
Values in a Technological Culture  
4 cr.

A critical examination of the way in which technological innovation has shaped our modern culture. Students will study major ethical traditions, pursue individual research projects on particular areas of technology, suggest solutions to ethical problems that arise there, and report their conclusions. Prerequisite: PHL 1000. Satisfies a second institutional requirement in Philosophy if needed or a Humanities distribution requirement. Fulfills E in LS Core. Three hours a week.

PHL 2100 (W)  
Women, Ethics & Society  
4 cr.

What is feminism? What are the different forms of oppression? This topic-driven course explores the moral dilemmas that result from living in a patriarchal society. Students will read leading feminist scholarship on topics related to sexism, such as body image, sexuality and violence, and media representations of oppressed groups. Students will have the opportunity to determine where they stand on controversial issues by participating in class discussions. Prerequisite: PHL 1000. Satisfies a second institutional requirement in Philosophy if needed or a Humanities distribution requirement. Fulfills E, D and W in LS Core. Three hours a week.

PHL 2200 (W)  
History of Ancient Philosophy  
4 cr.

From the beginnings of their literature, the ancient Greeks displayed a steady concern and even preoccupation with what human beings may know and what may lie concealed from our knowing. This course will provide a survey of Greek philosophical thought organized around the theme of the problem of human knowledge, beginning with the Presocratics, then turning to dialogues by Plato and Aristotle’s comprehensive approach to nature and human knowledge, and concluding with the Stoics, Epicureans, and Sceptics. Prerequisite: PHL 1000. Satisfies a second institutional requirement in Philosophy if needed or a Humanities distribution requirement. Fulfills W in LS Core. Three hours a week.

PHL 2310  
Socrates and the Examined Life  
4 cr.

In this course, students will focus on the ethical issues, provocations, and example of the Athenian philosopher Socrates (469-399 BCE). Though Socrates himself wrote nothing—everything we know about him was recorded by others—his inquiries into virtue, justice, and piety, his relentless cross-examination of others, and his insistence that "the unexamined life is not worth living" have set the questions and shaped the methods of a large part of ethical thinking ever since. Students will encounter Socrates primarily through a series of philosophical dialogues by his pupil Plato. But to develop a fuller—and more critical—understanding, students will also read a perceptive ancient comic lampoon of Socratic moral instruction along with key later responses to the enigmatic Socrates and his teachings. Prerequisite: PHL 1000. Satisfies a second institutional requirement in Philosophy if needed or a Humanities distribution requirement. Fulfills E in LS Core. Three hours a week.

PHL 2330  
History of Medieval Philosophy  
4 cr.

The course will survey the history of Medieval philosophy. It will pay special attention to the conflicting demands of the Medieval inheritance, the symbolic struggle between Athens and Jerusalem. On the one hand, as religious believers they placed faith and Scripture at the pinnacle of their investigations; on the other hand, as philosophers they inherited a tradition of rational human thought begun by the pagan Greeks, a tradition that did not give privileged status to faith or revelation, but which nevertheless compelled their respect by its intellectual strength. Prerequisite: PHL 1000. Satisfies a second institutional requirement in Philosophy if needed or a Humanities distribution requirement. Three hours a week.
The works of Augustine focus on perennial ethical questions and moral problems, for example, freedom and responsibility, individuals and communities, justice and injustice, power and peace, imperialism and oppression, and tolerance and intolerance. The course examines the Augustinian approach to ethical reasoning and clarifies how many of Augustine’s positions are related to his arguments about values with those who think differently from him, especially the dominant philosophers of the Roman Empire, the Stoics and the Neo-Platonists. Classes focus on teaching students to engage in rigorous but respectful discussions and to apply valid rules of ethical reasoning in order to learn how to make sound moral decisions and resolve moral dilemmas in their own lives. Prerequisite: PHL 1000. Satisfies a second institutional requirement in Philosophy if needed or a Humanities distribution requirement. Fulfills E and W in LS Core. Three hours a week.

PHL 2420
Asian Philosophy
A philosophical examination of the most influential traditional wisdoms of Asia: Hindu, Buddhist, Confucian, Taoist, and Islamic. Considers the systems of value that emerge from such classics as the Bhagavad Gita, Dhammapada, Analects, Tao Te Ching, and the Tao Te Ching. Clarifies these Eastern systems, where appropriate, by comparing and contrasting them with the value systems of western philosophical and religious traditions. Prerequisite: PHL 1000. Satisfies a second institutional requirement in Philosophy if needed or a Humanities distribution requirement. Fulfills D and E in LS Core. Three hours a week.

PHL 2500
Theories of Justice
This course will critically examine alternative theories of justice, including libertarianism, socialism, liberalism, communitarianism, and feminism. Prerequisite: PHL 1000. Satisfies a second institutional requirement in Philosophy if needed or a Humanities distribution requirement. Fulfills E in LS Core. Three hours a week.

PHL 2600
Philosophy of Education
‘Educate’ comes from a Latin word meaning to lead. But when we educate, what do we lead students toward? Does education develop our nature, or reform it? How has education been viewed over history? Students will engage in critical examination of both classic and contemporary texts. Special attention will be paid to three themes: democracy and education, the role of education in a pluralistic society, and the special challenges of Catholic higher education. Prerequisite: PHL 1000. Satisfies a second institutional requirement in Philosophy if needed or a Humanities distribution requirement. Three hours a week.

PHL 2700
Philosophy of the Social Sciences
How do the various social sciences (economics, history, political science, psychology, and sociology) conceptualize and value human activity? What methods and explanatory categories are shared and at which points do the various disciplines diverge? The ethical, epistemological, and ontological assumptions in the historical development of the social sciences will be examined as a way to answer these questions. Prerequisite: PHL 1000. Satisfies a second institutional requirement in Philosophy if needed or a Humanities distribution requirement. Three hours a week.

PHL 2730
Philosophy of Psychology
A critical examination of the philosophical issues related to psychology. With an emphasis on cognitive and developmental psychology, this course will include such topics as: concept formation, language acquisition, metaphors, reductionistic vs. holistic explanations, emergence, and creativity. This course will isolate and evaluate the metaphysical and epistemological assumptions made by psychologists today. Prerequisite: PHL 1000. Satisfies a second institutional requirement in Philosophy if needed or a Humanities distribution requirement. Three hours a week.

PHL 2850(W)
Philosophical Hermeneutics
Philosophical hermeneutics investigates the human experience of understanding in an inclusive way. The course thematizes how understanding operates in the humanities, the natural sciences, the social sciences, the technical and vocational disciplines, as well as in ordinary life. Thus the focus is on understanding as such and not as restricted to any specific content. Yet comparisons and contrasts also emerge, since diverse examples of understanding and misunderstanding from all areas dominate class discussions. Gadamer’s Truth and Method: Basic Outlines of a Philosophical Hermeneutics serves as a first guide to questions about evidence, knowledge, and truth in art, history, and literature. Other participants in the issues-driven dialogue include Schleiermacher, Dilthey,
Nietzsche, Heidegger, Derrida, and Spivak. Prerequisites: PHL 1000. Satisfies a second institutional requirement in Philosophy if needed or a Humanities distribution requirement. Fulfills W in LS Core. Three hours a week.

PHL 3020
Philosophy of Law 4 cr.
This course will investigate philosophical issues that are central to the law. Topics may include the nature of law, the relationship between law and morality, the role of judges and adjudication, the nature of rights, the ideal of the rule of law, the justification of punishment, and the feminist critique of the law. Students will critically read some of the most influential philosophers in legal theory as well as important cases, judgments and statutes. Some questions that we will explore include: Why must I obey the law? Can an unjust law still be a law? Can civil disobedience be justified? To what extent, and on what grounds, should the law not infringe on an individual's right to liberty, free speech and freedom of religion? Under what conditions should a person be held legally responsible for his or her acts? Prerequisite: PHL 1000. Satisfies a second institutional requirement in Philosophy if needed or a Humanities distribution requirement. Fulfills E in LS Core. Three hours a week.

PHL 3030
Global Justice 4 cr.
This course will examine issues of justice in the global context. First, we will examine issues concerning state sovereignty and the moral standing of states. On what grounds are states justified in using military force against another state? What moral constraints should there be on the means used during war? On what grounds can military force be used for humanitarian intervention? Do states have a right to intervene in cases such as genocide? Do states also have a duty to intervene for humanitarian reasons? Why and how does the development of international human rights limit state sovereignty? Second, we will consider the issue of global distributive justice. Do wealthy states have a duty to provide foreign aid to poor states? Do individuals have a moral duty to provide aid to the distant needy? Satisfies a second institutional requirement in Philosophy if needed or a Humanities distribution requirement. Fulfills E in LS Core. Three hours a week.

PHL 3040
Philosophy of Religion 4 cr.
Grappling with questions of ultimate religious import: Does God exist? Is there a life for us after we die? If God made the world, how come there is so much evil? Do you have to be religious to be moral (or vice versa)? Do faith and reason contradict each other? Do mystics have a special knowledge of these matters? Is there only one true religion? Students will write a term paper researching a major question and then present their own reasoned position. Prerequisite: PHL 1000. Satisfies a second institutional requirement in Philosophy if needed or a Humanities distribution requirement. Fulfills E in LS Core. Three hours a week.

PHL 3050
Philosophy of Science 4 cr.
A critical examination of the methods and goals of science, as well as analysis of how political, social, religious, ethical, environmental, cultural, and technological factors have affected the development of the sciences and how they continue to have an impact on the way that science is practiced today. Prerequisite: PHL 1000. Satisfies a second institutional requirement in Philosophy if needed or a Humanities distribution requirement. Three hours a week.

PHL 3160
History of Modern Philosophy 4 cr.
The course traces the empiricist and rationalist foundations of modern philosophy, as well as its relations to developments in those fields which have come to be known as natural sciences and social sciences, by close readings of the texts of Bacon, Descartes, Hobbes, Spinoza, Leibniz, Locke, Berkeley, Hume, and Kant. Prerequisites: PHL 1000 and another course in philosophy or the permission of the professor. Three hours a week.

PHL 3180
Existentialism 4 cr.
Existentialism focuses on the question about the meaning of human life, especially in connection with the reported death of God. Examining the origin and evolution of human values, existentialists such as Kierkegaard, Dostoyevsky, Nietzsche, Heidegger, Sartre, de Beauvoir, and Camus exercise powerful influences on contemporary ethical questions and moral problems, for example, social justice and injustice, punishment and responsibility, gender relations, imperialism and racism, the origin and evolution of values, and the roles of reason and religion in ethics. The course examines existentialist concepts, arguments, and positions, and clarifies how they arise in value disputes with essentialists, deontologists, positivists, and utilitarians. Classes encourage students to engage in rigorous but respectful discussions and to learn how to apply ethical reasoning to make moral decisions in their own
lives. Prerequisites: PHL 1000. Satisfies a second institutional requirement in Philosophy if needed or a Humanities distribution requirement. Fulfills E in LS Core. Three hours a week.

PHL 3190
American Philosophy 4 cr.
American history is rich in philosophical thought and conflict: Native American shamans, Puritan divines, Revolutionary statesmen, Transcendentalist poets, abolitionists, feminists, and philosophers of Pragmatism. How have we grappled with the meaning of a civilization where high ideals of equality have collided with brutal realities of oppression? Have we discovered and tested values we can now offer the wider world? Prerequisite: PHL 1000. Satisfies a second institutional requirement in Philosophy if needed or a Humanities distribution requirement. Three hours a week.

PHL 3210
Philosophy of Mind 4 cr.
The central question addressed in the philosophy of mind is: how are mental states related to physical states? This course will begin by considering the historical and contemporary theories that attempt to address this problem, including dualism, behaviorism, the identity theory, eliminative materialism, functionalism and embodied cognition. The second half of the course will be devoted to a discussion of a number of contemporary issues in the philosophy of mind, including intentionality, personal identity, consciousness, qualia, language, and social cognition. Prerequisites: PHL 1000. Satisfies a second institutional requirement in Philosophy if needed or a Humanities distribution requirement. Three hours a week.

PHL 3650
Aesthetics 4 cr.
We are so immersed in the various forms of artistic expression and production in our daily lives—whether visual, musical, literary, or architectural—that we seldom stop to consider what art is and why it has such power to affect us. What makes something art? Are there objective artistic standards, or are all standards merely subjective preferences? How can different art works sometimes excite us, sometimes calm us, make us laugh, and make us cry? These are some of the questions we shall ask as we study art’s power, meaning, and social and political dimensions. Depending on the interests of the instructor, the course may emphasize a particular art form, such as painting or music. Prerequisite: PHL 1000. Satisfies a second institutional requirement in Philosophy if needed or a Humanities distribution requirement. Fulfills X in LS Core. Three hours a week.

PHL 4000
Contemporary Analytic Philosophy 4 cr.
This course will offer a critical examination of philosophical theories concerning the nature of language. Incorporating 20th century texts in the analytic tradition, the central topics will include the following: Truth and Meaning, Reference and Descriptions, Metaphors, Names and Speech Act Theory. Readings are from Frege to Quine, including an analysis of the early vs. later Wittgenstein’s conception of language. Prerequisites: PHL 1000 and another course in Philosophy or the permission of the professor. Three hours a week.

PHL 4010
Contemporary Continental Philosophy 4 cr.
A survey of the current approaches to philosophy on the Central European scene. Authors to be read and discussed include the Germans Husserl, Heidegger, and Habermas, as well as the French Derrida, Foucault, and Lyotard. Special attention is given to the debate between hermeneutics and deconstruction. Prerequisites: PHL 1000 and another course in Philosophy or the permission of the professor. Three hours a week.

PHL 4020
Epistemology 4 cr.
A course on the theories of knowledge and the problems associated with knowledge currently debated in the philosophical literature. Included will be the correspondence, coherence, and pragmatic theories of truth. Other topics will include relativism, skepticism, foundationalism, reliabilism, naturalized epistemology, the problem of induction, and the myth of the given. Prerequisites: PHL 1000 and another course in Philosophy or the permission of the professor. Three hours a week.

PHL 4030
Metaphysics 4 cr.
“All things excellent are as difficult as they are rare”—Spinoza. Metaphysics is devoted to some of the rarest, most excellent, and certainly most difficult philosophical texts ever written. In studying writings by Aristotle, Kant, Hegel, and Heidegger (or philosophers of equivalent importance), we shall encounter radically different answers to the question “What is being?”: being is substance (and pre-eminently the highest substance, God); it is the necessary
ground for human thought; it is the ultimate resolution of all contradictions inherent in thought; it is that which we approach through our questions but never reach. But even apart from their answers, the philosophers chosen reveal their greatness as thinkers by the variety of ways in which they understand and approach the question of being. Prerequisites: PHL 1000 and another course in Philosophy or the permission of the professor. Three hours a week.

PHL 4200
Special Topics in Philosophy 4 cr.
This course will offer an in-depth study of a philosopher or philosophical issue. Prerequisites: PHL 1000 and another course in Philosophy or the permission of the professor. Three hours a week.

PHL 4800
Directed Study 4 cr.
This course allows upper class students who have acquired sufficient knowledge through a variety of courses in philosophy to pursue an intensive program of readings in a specialized area under the direction of a member of the department. Prerequisite: Approval of the Chair and consent of the member of the department whose supervision the Directed Study will be conducted.

Department of Physics
School of Science & Engineering

Faculty:
   Chair (2013-2014):  Associate Professor Craig W. Looney
   Professor White
   Associate Professor Tambasco

Physics seeks to discover and describe the rules governing natural phenomena at all scales, from the building blocks of space-time to the large-scale structure of the universe. The Department of Physics offers a wide range of courses related to this fundamental discipline, ranging from popular general education courses such as Introduction to Astronomy to advanced quantitative courses such as Electromagnetic Theory and Quantum Mechanics. Our major and minor programs are designed to serve the full spectrum of students who wish to undertake serious study in physics.

Physics Career Paths. The in-depth study of natural law demands and develops highly valued and widely applicable analytical and quantitative abilities. This foundation can be tailored — in part through appropriately chosen electives* from related or complementary fields — to prepare students for a diverse array of careers and post-graduate opportunities, including but not limited to the following:

• Direct entry into careers with a significant analytical and/or quantitative component
• Medical and law school; M.B.A. and other professional programs
• Interdisciplinary graduate programs
• Graduate study in physics (Physics B.S., or Physics B.A. plus further physics and math electives strongly recommended)
• High-school physics teaching (see below)

* The Merrimack Physics B.A. and B.S. have room for 36 and 24 credits of free electives, respectively, which makes Physics one of the most flexible majors within the School of Science and Engineering.

Major Requirements (Physics B.A., B.S). The Physics B.A. consists of nine physics courses and five mathematics courses. The Physics B.S. requires an additional 12 credits of physics
electives. The Physics B.A. and the Physics B.S. requirements include the completion of a minimum of 54 and 66 credits, respectively, in courses that satisfy major requirements.

**Physics B.A.** (normally 56 credits):

**Mathematics**
- MTH 1217 Calculus I
- MTH 1218 Calculus II
- MTH 2219 Calculus III
- MTH 2220 Differential Equations
- MTH 3335 Linear Algebra

(or suitable alternates chosen in consultation with and approved by the Physics Department)

**Physics**
- PHY 2211 Physics I
- PHY 2212 Physics II
  
  (note: a grade of B or higher in both Physics I and Physics II is required to major in Physics)
- PHY 2241 Modern Physics
- PHY 3304 Thermal Physics
- PHY 3311 Analytical Mechanics I
- PHY 3345 Electromagnetic Theory I
- PHY 4412 Quantum Mechanics I
- PHY 4451 Advanced Laboratory
- PHY 4500 Mathematical Physics

**Physics B.S.** (normally 68 credits): Physics B.A. requirements plus 12 additional credits of physics-related electives chosen from among the following:

- Additional upper division Physics courses
- AST 1101 Introduction to Astronomy
- Upper division courses from other departments approved by the Physics Department

**Interdepartmental Contract Majors.** The fundamental nature and quantitative aspects of physics make it a natural framework for the construction of a wide range of interdisciplinary “interdepartmental contract majors.” Students interested in this option should discuss the possibilities with a member of the physics department.

**Education Certification.** The Physics B.A. or B.S. with a double major in Education provides Merrimack students the opportunity to graduate with initial licensure to teach physics in grades 8-12. Students interested in a teaching career should connect with an advisor from the School of Education as soon as possible.

**Embedded Controller Concentration**

Embedded controllers are the relatively small, inexpensive, low power microprocessors found in a vast array of devices ranging from mobile phones to washing machines to automobiles. Students who complete this concentration will have learned how to design, build, and test simple embedded controller systems. The necessary programming and circuitry principles and techniques learned along the way are valuable in their own right.
EEN 1200 Digital Fundamentals  
CSC 1610 Computer Science I  
EEN 2250 Assembly for Electrical Engineering  
(or, with advisor approval, CSC 3720 Computer Architecture)  
EEN 2270 Embedded Microprocessors*

*EEN 2270 requires knowledge of both analog and digital circuits. The analog circuit requirement is met by PHY 2212. The digital circuit requirement is satisfied by either EEN 1200 (normally required as a pre-requisite but which can be taken as co-requisite with instructor approval) or by permission of the instructor pending completion of assigned background reading on digital circuits.

The Physics Minor serves students majoring in other areas who desire a deeper understanding of Physics. In particular students who minor in Physics are engaged in an in-depth introduction to many of the most important physical concepts that shape our world today including relativity theory and quantum mechanics. These ideas – once considered far removed from our everyday world – impact our lives daily and at every level, from using our GPS phone to our understanding of the nature of reality.

Physics Minor
The following courses are normally required.

MTH 1217 Calculus I  
MTH 1218 Calculus II  
PHY 2211 Physics I  
PHY 2212 Physics II  
PHY 2241 Modern Physics  
Two physics electives chosen in consultation with the Physics Department. (It should be noted that some physics electives would require further mathematical prerequisites.)

The minor in Physics requires completing a minimum of 26 credits in courses that satisfy minor requirements.

Research Experience for Undergraduates (REU). While not required for graduation, the physics department strongly recommends that all physics majors participate in a physics-related REU in the summer between their junior and senior year. Most REU programs offer housing allowances, stipends comparable to what many students would earn at a summer job, and, most importantly, provide students the opportunity to participate in and contribute to a real research program. Physics majors, in consultation with their advisors, should begin identifying and applying to REU programs in the Fall semester of their junior year. A departmentally-approved REU fulfills the Experiential Learning (X) requirement in the Liberal Studies (LS) Core.

AST 1101 Introduction to Astronomy  
4 cr.  
An introduction to modern astronomy. Topics include astronomical observation techniques and instrumentation, stellar evolution, galaxies, modern cosmological theories, the solar system, cosmic origins and the search for extraterrestrial intelligence. Satisfies a Mathematics/Science distribution requirement. Fulfills a STEM requirement in LS Core. Three hours of lecture plus one two-hour laboratory period a week. Some of these periods are during the evening.

PHY 2201, 2202 General Physics I, II  
4 cr. each  
A one-year introduction, without calculus, to the elements of physics. Topics include mechanics, electricity, magnetism, optics, waves, and (time permitting) thermodynamics and modern physics. Prerequisite: MTH 1000 or
equivalent. Satisfies a Mathematics/Science distribution requirement. Fulfills Q and a STEM requirement in LS Core. Three hours lecture and three hours lab a week.

**PHY 2211, 2212**  
*Physics I, II*  
4 cr. each  
A one-year calculus-based introduction to physics, for students in engineering, chemistry, biology, physics, and others. Topics include mechanics, electricity and magnetism, optics, waves, and (time permitting) thermodynamics and modern physics. Prerequisites: MTH 1217 (for PHY 2211) and MTH 1218 (for PHY 2212). Satisfies a Mathematics/Science distribution requirement. Fulfills Q and a STEM requirement in LS Core. Three hours lecture and three hours lab a week.

**PHY 2213**  
*Introduction to Thermodynamics*  
2 cr.  
A two-credit (one semester) introduction to thermodynamics. Topics include the ideal gas law, the molecular interpretation of temperature, the first law of thermodynamics, the second law of thermodynamics (including a quantitative treatment of entropy), heat transfer, and applications of the laws and relations of thermodynamics to thermal expansion, phase changes, calorimetry, heat engines, and refrigerators. Prerequisites: PHY 2211 and MTH 1218. Two hours a week.

**PHY 2241**  
*Modern Physics*  
4 cr.  
A one-semester course, required for all physics majors, focused primarily on revolutionary post-1900 physical theories and their application to understanding the nature of space, time matter, and energy. Topics include special relativity, the failure of classical physics (as illustrated by the photoelectric effect and the double slit experiment), the dual wave-particle nature of light and matter, the wave function and its interpretation, the Schrodinger equation and its solutions for selected bound and unbound problems, and the physics of atoms, nuclei, and elementary particles. Fulfills Q and a STEM requirement in LS Core. Prerequisites: PHY 2212 and MTH 1218. Four hours a week, occasional laboratory.

**PHY 3008**  
*Introduction to General Relativity*  
4 cr.  
In Einstein’s theory of general relativity, gravitation is understood as an interaction between mass and spacetime. In the elegant words of Taylor and Wheeler: “spacetime tells mass how to move; mass tells spacetime how to curve.” In this course we bypass Einstein’s field equations (the subject of advanced graduate physics courses) and go straight to the Schwarzschild metric, which makes general relativity — the best theory of gravity that has been developed to date — accessible to anyone willing to use algebra, differential calculus, and a handful of integrals. Topics include the relationship between special and general relativity, gravitational time dilation, the role of general relativity in the Global Positioning System, the advance of the perihelion of Mercury, gravitational deflection of light, and orbital mechanics in the vicinity of a black hole. Prerequisites: MTH 1218 and PHY 2221, or permission of the instructor. Satisfies a Mathematics/Science distribution requirement. Fulfills Q and STEM requirement in LS Core. Four hours a week. Offered on sufficient demand.

**PHY 3200**  
*Mathematical Physics*  
4 cr.  
Mathematical methods employed throughout science are investigated with a particular emphasis on those used in physics. Topics normally include infinite series, complex algebra, differential equations (including method of power series substitution), Fourier series, operators and matrices (including eigenvalue problems), coordinate systems, and vector calculus. Further topics may be included at the discretion of the instructor. Prerequisites: PHY 2241, MTH 2219.

**PHY 3304**  
*Thermal Physics*  
4 cr.  
The laws of thermodynamics, their application to single and multi-component systems, and their underlying foundation in statistical mechanics. Prerequisites: PHY 2241 and MTH 2219. Four hours a week.

**PHY 3311**  
*Analytical Mechanics I*  
4 cr.  
Newton’s laws, motion of a particle, oscillations, Newtonian gravitation, rotating and other non-inertial reference frames, motion of rigid bodies. Prerequisites: PHY 2241 or permission of the department, MTH 2219. Co-requisite: MTH 2220. Four hours a week.
PHY 3325
Physical Optics 4 cr.
An introduction to the scalar theory of diffraction. Topics include the scalar wave equation and its applications, coherence and comparison of thermal and laser sources, interferometry and its applications to instrumentation, and linear optical systems analyses for imaging. Prerequisites: PHY 2241 and MTH 2219. Four hours a week. Offered on sufficient demand.

PHY 3345
Electromagnetic Theory I 4 cr.
This course focuses on the development and application of the integral and differential forms of Maxwell's equations. Specific topics typically include vector calculus, electrostatics and magnetostatics in vacuum, Laplace's equation and related boundary value problems, electromagnetic induction, the wave equation and electromagnetic waves. Prerequisites: PHY 2241, MTH 2219 and MTH 2220. Four hours a week.

PHY 4412
Quantum Mechanics I 4 cr.
Schroedinger equation, Dirac notation, infinite square well, quantum simple harmonic oscillator, angular momentum, spin, the hydrogen atom, and (time permitting) further topics chosen by the instructor. Prerequisites: PHY 2241, MTH 2219, MTH 2220. Co-requisite: MTH 3335. Four hours a week.

PHY 4451
Advanced Laboratory 4 cr.
An advanced laboratory course in which students conduct experiments similar to those that led to the development of modern physics. Several hours of largely independent laboratory work per week. Fulfills X in LS Core.

PHY 4803
Special Topics in Physics variable credit
Reading, lectures, study and research on topics of importance in physics, tailored to the interests of the participating faculty and students. Offered only on demand, subject to instructor availability. Prerequisites: Instructor consent.

PHY 4806
Directed Research variable credit
Supervised investigation of an experimental or theoretical problem of interest to the student. Prerequisites: evidence of sufficient background to undertake the problem of interest, subject to availability of a faculty advisor.

Political Communication minor
See Political Science

Political Philosophy minor
See Philosophy

Department of Political Science
School of Liberal Arts

Faculty:
Chair (2013-2014): Associate Professor Harry Wessel
Professor Li
Associate Professors Kane and Mayer
Assistant Professor Bilev

Consistent with the liberal arts tradition, the political science major at Merrimack College aims to provide students with a rich, rigorous, and wide-ranging educational experience. Our goal is to create an intellectual environment in which students can acquire knowledge of the discipline, develop their academic skills, think critically about the world around them, and
prepare to become thoughtful and productive members of society. Political science majors should be able to examine a political situation or phenomenon, understand it in an informed way, analyze it from multiple perspectives, appreciate its complexity, and connect it to theoretical paradigms or practical experiences and considerations. The political science curriculum is therefore designed to cumulatively integrate the following learning objectives: acquiring knowledge and skills, developing an appreciation for intellectual inquiry, and promoting active learning.

**Major Requirements**
Satisfying the requirements for the major in Political Science includes completing a minimum of 38 credits in the major.

**The following courses are required of all Political Science majors:**
- POL 1100 Politics of the United States
- POL 1500 Comparative Politics
- POL 2000(W) Political Science Methods
- POL 4800 Senior Seminar: Politics and the Policy Process

POL 2000(W) Political Science Methods must be completed by the end of the student’s sophomore year, except by permission of the department chair.

At least two courses are to be in the area of United States politics and government and are to be selected from:
- POL 2111 State and Local Politics
- POL 2120 Government, Business and Society
- POL 2121 Public Administration and Public Policy
- POL 2122 Law and Society
- POL 2181 American Political Thought
- POL 3112 Congress and the Legislative Process
- POL 3113 American Presidency
- POL 3114 Political Parties and Interest Groups
- POL 3122 Issues in Public Policy
- POL 3130 Campaigns and Elections
- POL 3131 Polling and Public Opinion
- POL 3132 Political Psychology
- POL 3140 Mass Media and American Politics
- POL 3141 Political Communication
- POL 3150 Criminal Law
- POL 3151 American Constitutional Law
- POL 3152 Civil Liberties and Civil Rights
- POL 3160 United States Foreign Policy
- POL 4199 Women and Politics

At least two courses are to deal with the world outside the United States and are to be selected from the following:
- POL 2510 International Politics
- POL 2581 Political Thought: Plato to Machiavelli
- POL 2582 Political Thought: Machiavelli to Marx
- POL 3520 Modern China
- POL 3521 Latin American Politics
- POL 3522 British Politics
POL 3523  Japanese Politics
POL 3524  Politics of the Russia and Post-Soviet States
POL 3525  Politics of the Middle East
POL 3526  Politics of the European Union
POL 3530  Democracy, Development and Violence
POL 3531  Politics of Developing Nations
POL 3540  International Political Economy
POL 4599(W)  Issues and Cases in U.S. Foreign Policy

The remaining two courses may be taken from either of the two areas listed above, or qualified students may take some or all of them from the following:

POL 4700  Directed Study
POL 4850(W)  Public Service (Fall or Spring Session) Internship*
POL 4851  Public Service Summer Internship
POL 4900  Senior Honors Seminar

*The Public Service (Fall or Spring) Internship is an 8 credit/2 course equivalent, with four credits counting toward Political Science and four toward electives. Students can complete up to 12 internship credits; one fall or spring (8 cr.) and a summer internship (4 cr.).

Major GPA
The GPA for the Political Science major will be calculated by taking the average of courses designated POL.

Minor Requirements
The minors in Political Science require completing a minimum of 18 credits in courses that satisfy the minor requirements. Students who elect to minor in Political Science must select five courses from one of the following concentrations:

United States Politics
POL 1100  Politics of the United States (Required)
POL 2000(W)  Political Science Methods (Required)
POL 2111  State and Local Politics
POL 2120  Government, Business and Society
POL 2121  Public Administration and Public Policy
POL 2122  Law and Society
POL 2181  American Political Thought
POL 3112  Congress and the Legislative Process
POL 3113  American Presidency
POL 3114  Political Parties and Interest Groups
POL 3122  Issues in Public Policy
POL 3130  Campaigns and Elections
POL 3131  Polling and Public Opinion
POL 3132  Political Psychology
POL 3140  Mass Media and American Politics
POL 3141  Political Communication
POL 3150  Criminal Law
POL 3151  American Constitutional Law
POL 3152  Civil Liberties and Civil Rights
POL 3160  United States Foreign Policy
POL 4199  Women and Politics
International Relations
POL 1500 Comparative Politics (Required)
POL 2000(W) Political Science Methods (Required)
POL 2510 International Politics
POL 3520 Modern China
POL 3521 Latin American Politics
POL 3522 British Politics
POL 3523 Japanese Politics
POL 3524 Politics of the Russia and Post-Soviet States
POL 3525 Politics of the Middle East
POL 3526 Politics of the European Union
POL 3530 Democracy, Development and Violence
POL 3531 Politics of Developing Nations
POL 3540 International Political Economy
POL 4599(W) Issues and Cases in U.S. Foreign Policy

Political Communication (cannot be elected by Communications Studies Majors)
COM 1020 Public Communication (Required)
POL 2000(W) Political Science Methods (Required)
POL 1100 Politics of the United States
Either one:
POL 3130 Campaigns and Elections
POL 3131 Polling and Public Opinion
Either one:
POL 3140 Mass Media and American Politics
POL 3141 Political Communication

For the Political Science minor, only students who have taken a methods course in history or
the other social sciences may, with departmental permission, substitute another Political
Science course for POL 2000(W), Political Science Methods. The total courses required
remains five.

Pre-Law Minor
The Pre-Law Minor is an interdisciplinary law minor for students who are interested in attending
law school, who plan on pursuing legal related careers, or who want to learn more about
different areas of the law that may be relevant to their professional careers or to legal areas they
are likely to encounter in their personal lives. The minor provides students with exposure to
substantive law courses and topics. For those students interested in attending law school, the
courses in the minor will help confirm their interest in pursuing a legal career, enhance the
critical thinking, analytical, and other skills students will need to be successful in law school,
provide insight into how lawyers think and analyze legal issues, expose students to the Socratic
method and to the unique way of studying the law used in law school, and also provide students
with sufficient knowledge and background in the law to be competitive in law school. For
students not planning on law school, the minor will provide them with practical information and
exposure to the legal system and to the legal issues and topics that will be useful in their
careers and personal lives.
The Pre-Law minor requires a minimum of five courses: two required courses, three electives,
and an experiential component. The two required courses are an introductory course in the law
and a constitutional law course that will provide students with a basic understanding of the U.S.
legal and court systems, knowledge of the U.S. Constitution, and an overview of some
substantive legal areas both from a practical and theoretical perspective. The three elective courses offer a range of choices to coincide with student interests. The experiential component will provide students with practical exposure to and experience in the law or a related legal area. Students can meet this experiential requirement by participating in an internship, a service learning assignment, or moot court; by attending lectures or other Pre-Law events; or by engaging in additional experiential learning activities approved by the department.

For declared Pre-Law minors, the prerequisites are waived for POL2122 Law and Society. All other Political Science courses in the minor can be taken without meeting any department prerequisites for these courses provided a student has taken POL2122 Law and Society or MGT 3330 Legal Environment of Business.

Satisfying the requirements for the Pre-Law minor includes completing a minimum of 18 credits, a minimum of five courses (with no more than three courses in one department), and an experiential component, as specified below:

POL 2122 Law and Society or MGT 3330 Legal Environment of Business (Legal and Ethical Support Systems for the class of 2012)
POL 3151 American Constitutional Law or POL 3152 Civil Liberties and Civil Rights
Completion of an Experiential Learning Component (Internship, Service Learning Assignment in a legal area, Moot Court, or participation in Pre-Law events or other experiential learning activities approved by the department)

Three additional elective courses chosen from those listed below:

**Political Science**
- POL 3152 Civil Liberties and Civil Rights
- POL 3151 American Constitutional Law
- POL 3150 Criminal Law

**Business**
- MGT 2000 Special Topics in Business Law
- MGT 3320 Employment Law and Labor Relations
- SPM 3500 Legal Environment of Sports

**Women’s and Gender Studies**
- WGS 3710 Gender and the Law
- WGS 3720 Gender, Law and Immigration

**Pre-Law Minor Learning Outcomes**

Upon completing the Pre-Law minor, students will be able to demonstrate

1. Improved critical thinking, analytical, and problem solving skills;
2. A strong understanding of and appreciation for the law and its role in society;
3. Improved verbal and written communication skills and research skills;
4. An understanding of the court system and the legal process;
5. The ability to understand complex laws and court decisions;
6. The ability to interpret, integrate, synthesize and apply complex information effectively from multiple sources;
7. An understanding of many of the pertinent legal issues, laws, and court decisions impacting government, business, and society and impacting students their professional and personal lives.
POL 1000  
Current Issues in Politics and Government  
4 cr.  
An introduction to the field of political science designed for non-majors and undecided majors. This course examines several current policy controversies in the political arena and explores how they can be understood using common concepts and theories in the discipline. The course will focus on current policy debates such as: What to do about low voter turnout? How should the US relate to other countries in the world? Does the legal system produce justice? Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

POL 1100  
Politics of the United States  
4 cr.  
An introduction to the American political system, this course examines (1) the Constitutional basis of American politics, (2) the national institutions that are involved in decision-making and public debate (for example, the Presidency and the bureaucracy, the Federal Courts, the Congress, political parties, the media), (3) issues that Americans argue about (rights and liberties, economic benefits, foreign policy), and the processes by which those arguments are conducted and resolved (campaigns and elections, administrative action, legislation, lobbying, publicity). Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement and X in LS Core. Three hours a week.

POL 1500  
Comparative Politics  
4 cr.  
An introduction to the field of comparative government, this course examines a variety of national approaches to common political problems, such as those of who rules, of how much power is reserved for the government, of how power is transferred, of how decisions are made and who is consulted, of how the government can gain popular support, and of what goals society should pursue. Several Western, Marxist, and Third World government systems will be examined in an historical context. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

POL 2000(W)  
Political Science Methods  
4 cr.  
This course considers a variety of approaches to political science research, but emphasizes the behavioral and quantitative approaches that are widely utilized in the study of politics. Students will develop both research skills and learn to understand and appreciate the methodology of the discipline. This course is required for the major or minor and must be taken by majors by the end of sophomore year. Students are strongly encouraged to take Basic Statistics, prior to taking this course. Prerequisites: Political Science major or minor, and POL 1100 or POL 1500. Satisfies a Social Science distribution requirement. Fulfills Q and W in LS Core. Four hours a week.

POL 2111  
State and Local Politics  
4 cr.  
The face-to-face interactions between citizens and governments in states and communities are the central focus of this course. This course will examine what various governments and officials do, how and when they do it. This course will discuss the institutions and policies of state and local governments and also consider the effect of outside factors such as federalism, grass roots participation, interest groups and political parties of governing. Prerequisite: POL 1100 or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

POL 2120  
Government Business and Society  
4 cr.  
This course examines the relationship between the public and private sector in the United States from a constitutional, historical and contemporary perspective. Public policy issues such as economic and social regulation, antitrust and economic stabilization policy will be examined in detail. Students will research and orally present a case study of a contemporary government-business relationship. Prerequisite: POL 1500 or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

POL 2121  
Public Administration and Public Policy  
4 cr.  
This course is an examination of the structures and functions of the federal, state and local governments of the United States. Special attention will be given to the public policy process at the federal level. Students will complete in writing and present orally in class a detailed research project on a contemporary public policy issue. Prerequisite: POL 1100 or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.
POL 2122
Law and Society 4 cr.
An introductory course in the law that examines the theoretical and practical aspects of the law and its impact on individuals and society. The course will cover the history and sources of U.S. law, the difference between substantive, procedural, criminal, and civil law, legal reasoning, the structure and role of the federal and state court systems, the role of the litigation process, and the law of torts and contracts. Through the use of selected readings and court cases, the course will focus on the legal, political, and social implications of select legal issues such as affirmative action, discrimination laws, drug testing, privacy laws, copyright laws and music downloading, legalization/decriminalization of marijuana, hate crimes, gun control, abortion rights, and the right to die. Prerequisite: POL 1100 or POL 1500. Prerequisites are waived for declared Pre-Law minors. Three hours a week.

POL 2181
American Political Thought 4 cr.
This course will consider the American vision of government from its roots in the thought of Locke, Calvin and Montesquieu and its institutionalization by Madison, Hamilton, Jefferson and other founders, through its development by Lincoln in the Civil War period and by Roosevelt and Johnson in the New Deal and Great Society eras. The course will concentrate on analyzing the writing of these various thinkers while focusing on themes such as freedom, property, rights, constitutionalism, equality and the role of government. Prerequisite: POL 1100 or consent of the instructor. Fulfills a SOSC requirement in LS Core. Three hours a week.

POL 2510
International Politics 4 cr.
An examination of the major forces in world politics: international security, international institutions and regimes, nationalism, political and economic development, globalization, conflict and conflict settlement, resource competition, and demographic pressures in light of the main theories within the discipline. Prerequisite: POL 1500 or the consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

POL 2581
Political Thought: Plato to Machiavelli 4 cr.
The political ideas and theories of representative thinkers from the classical period through the Renaissance. The course includes readings from Plato, Aristotle, Cicero, Augustine, Aquinas and Machiavelli. Prerequisite: POL 1100 or POL 1500 or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills H or a SOSC requirement in LS Core. Three hours a week.

POL 2582
Political Thought: Machiavelli to Marx 4 cr.
The political ideas and theories of representative thinkers from the Renaissance to the present. The course includes readings from Machiavelli, Hobbes, Locke, Rousseau, Marx and later writers. Prerequisite: POL 1100 or POL 1500 or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills H or a SOSC requirement in LS Core. Three hours a week.

POL 3112
Congress and The Legislative Process 4 cr.
A study of the lawmaking body in the United States Government, this course will consider the powers of the legislature, representation, membership and elections, the committee system, and the effect of inter and intra government forces on the policymaking process. The course will also focus on the legislative process with students participating in a legislative simulation. Prerequisite: POL 1100 or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Four hours a week.

POL 3113
The American Presidency 4 cr.
This course will examine the constraints which limit presidents, the opportunities that presidents can seize, and the virtues which maximize their prospects for success. The objective of this course is to broaden your understanding of how this uniquely personalized institution developed, its constitutional authority, its relationship with other branches of government and how one gets selected for this office. Finally we will assess its current strengths and weaknesses and discuss the perception and reality of presidential power and leadership. Prerequisite: POL 1100 or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.
POL 3114
Political Parties and Interest Groups 4 cr.
This course examines the roles played by political parties and interest groups in the American political system. This course will explore two themes: (1) how parties and interest groups manage social conflict and make it meaningful and (2) how much do political parties and interest groups give or fail to give citizens the opportunity to control those in government. Prerequisite: POL 1100 or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

POL 3122
Issues in Public Policy 4 cr.
This course examines selected contemporary issues in public policy at the national level of politics in the United States. Examples of policy areas include, but are not limited to, national security, economic stabilization, immigration, and global warming. Students will complete a 20-25 page research paper on a selected topic. Prerequisite: POL 2121 or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement and X in LS Core. Three hours a week.

POL 3130
Campaigns and Elections 4 cr.
The course will focus on the process by which American choose elected officials. Topics such as voting behavior, fundraising, the role of the media in campaigning and campaign ethics will be discussed. Sophomore or above standing. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement and X in LS Core. Three hours a week.

POL 3131
Polling and Public Opinion 4 cr.
This course examines what ordinary citizens think about politics, the origins of these attitudes, and what role public opinion plays in the American political system. Significant attention will be paid to the techniques of survey research by which we measure public opinion. Prerequisites: POL 1100 and POL 2000, or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

POL 3132
Political Psychology 4 cr.
This course investigates how the field of psychology and psychological theories inform our understanding of important questions of political theory and practice. Theories drawn from social psychology, organizational psychology, and the psychology of personality will be applied to questions of how ordinary citizens think and act politically, how nations and their leaders interact, and how government institutions function at the highest levels. Prerequisites: POL 1100 or POL 1500 or PSY 1000. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

POL 3140
Mass Media and American Politics 4 cr.
This course examines the role of the media in shaping political opinions and behavior. The role of the media in setting political agendas and reporting and interpreting political events will be examined. The nature and influence of public opinion in a democratic society will be studied. Sophomore or above standing. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

POL 3141
Political Communication 4 cr.
This course examines the role of political communication in the United States. The course will cover such topics as political advertising, campaign consulting and management and policymaking, polling, speech writing, negotiation, mediation and alternative dispute resolution. Students will write and present a political lobbying project on a contemporary political issue. Prerequisite: POL 1100 or POL 3140 or consent of the instructor. Fulfills a SOSC requirement in LS Core. Three hours a week.

POL 3150
Criminal Law 4 cr.
This course is a survey of criminal law, including sources, classification, definitions, elements, defenses, and culpability. It will cover the history and development of criminal law and will differentiate between substantive, procedural, civil and administrative law. Specific topics include: homicide, assault and battery, domestic violence and protective orders, rape and sex offenses, theft crimes, criminal conspiracies, narcotics and alcohol offenses, white collar crimes, illegal firearms, Internet related crimes, the juvenile justice system, the role and impact of plea bargaining in the criminal justice system, victim’s rights, and punishment and sentencing. The course will also
underscore the procedures associated with the judicial process, including criminal procedure and court jurisdiction on federal and state levels. Prerequisite: POL 1100 or consent of the instructor. Fulfills a SOSC requirement in LS Core. Three hours a week.

POL 3151
American Constitutional Law
A study of the United States Supreme court in the American political system viewed historically and through analysis of leading cases from the court’s inception to the present. Prerequisite: POL 1100 or POL 1500 or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

POL 3152
Civil Liberties and Civil Rights
A study of the way in which the American political system defines and defends the civil liberties and civil rights of individuals and groups. Prerequisite: POL 1100 or POL 1500 or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement and D in LS Core. Three hours a week.

POL 3160
United States Foreign Policy
A study of the formulation and execution of United States foreign policy, with special attention to historical experience, established traditions, and recurrent policy debates over the proper role of the United States in the world. Prerequisite: POL 1100 or POL 1500, or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

POL 3520
Modern China
An examination of the development of modern China since 1840. Internal and foreign policies will be covered with an emphasis on the period since the 1949 revolution. Prerequisite: POL 1500 or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement and D in LS Core. Three hours a week.

POL 3521
Latin American Politics
An examination of the major political trends and issues in contemporary Latin American countries, including poverty, inequality, underdevelopment, human rights, elections, military intervention and social changes. Investigation and discussion of the theories which seek to explain the determinants and consequences of these developments. Prerequisite: POL 1500 or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement and D in LS Core. Three hours a week.

POL 3522
British Politics
An examination of the structure, dynamics and processes of government in the United Kingdom. Topics include Parliament, the executive, interest groups, policy making, constitutional change, Britain in Europe, and British foreign policy. Several cases will be used to illustrate the political process. Prerequisite: POL 1500 or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

POL 3523
Japanese Politics
An examination of the modern political system; topics include the “consensual style” of politics, formal and informal institutions including parties and interest groups; domestic and foreign politics. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement and D in LS Core. Three hours a week.

POL 3524
Politics of Russia and Post Soviet States
This course is an examination of politics in post-communist countries, with a focus on Russia and the other former Soviet States. We will develop an understanding of political, economic and social “transformations,” and discuss political and economic policies and reforms, the rule of law, corruption, and impediments to change. Through comparative analysis, we will consider the extent to which “democratization” and “marketization” have occurred in these states (and the broader question of the relationship between democracy and a market economy) and whether post-Soviet states are heading toward democracy, reverting back to Communism, stalled, or are moving towards something else, such as a new version of authoritarianism. Prerequisite: POL 1500 or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.
POL 3525
Politics of the Middle East 4 cr.
This course examines major trends in the Politics of the Middle East. Focus will be on the political ideology and stability of the region as well as major contemporary issues facing Middle East countries. A look at relations within the Middle East and between the middle east and other parts of the world will include the following major topics: regionalism & regional organizations, and the Arab-Israeli conflict. Other topics will include: terrorism, democratizations, and whether peace is attainable. Prerequisite: POL 1500 or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement and D in LS Core. Three hours a week.

POL 3526
Politics of the European Union 4 cr.
This course will examine the history and theory of European integration as well as the inner workings of the contemporary EU political system. Moreover, some of the more important issues facing the EU will also be explored, such as: its planned eastern expansion, immigration policy, justice policy, and crime and terrorism policy. Prerequisite: POL 1500 or permission of instructor. Fulfills a SOSC requirement in LS Core. Three hours a week.

POL 3530
Democracy, Development and Violence 4 cr.
This course examines existing theories organized in three major themes within the study of comparative politics. Topics include the functioning of political systems in established democracies, the causes and consequences of democratization, economic development, political violence and ethnic or civil war. Qualitative and quantitative approaches will be used to assess and critique the current state of knowledge in each area. Prerequisite: POL 1500. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

POL 3531
Politics of Developing Nations 4 cr.
This course is a general survey of political structures, processes and problems in the developing nations, with specific examples from the experiences of representative countries. Prerequisite: POL 1500 or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

POL 3540
International Political Economy 4 cr.
This course examines how politics and economics come together in international relations and global problems. It explores why nations trade with each other and why they sometimes practice trade protectionism. It also probes the growing importance of regional economic blocks, such as the European Union and the North American Free Trade Agreement. Other topics include the rise and decline of American economic hegemony, the rise of Japan’s economic power, and global trade conflicts. The course also surveys economic reforms in the former Soviet Union and China as well as causes of underdevelopment in the developing world. Prerequisite: POL 1500 or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

POL 4199
Women and Politics 4 cr.
The course traces the changing role of women in the political system. It examine historically important social movements, differences between men and women in political attitudes and participation, the roles that women play in government, and current public policy debates related to issues of gender. Prerequisites: POL 1100 or WGS 1010, or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SGSC requirement and D in LS Core. Three hours a week.

POL 4599(W)
Issues and Cases in United States Foreign Policy 4 cr.
Using the case method of interactive learning, the course examines and compares decisions made in three different policy environments - the end of World War II, the height of the Cold War, and the post Cold War period - to stimulate discussion and analysis of the interplay of conservative and adaptive forces in United States foreign policy. Prerequisites: POL 1500 and POL 2510 or POL 3160, or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills W in LS Core. Three hours a week.
POL 4700
Directed Study 4 cr.
In lieu of a formal course, qualified upper class students may substitute an intensive program of reading and writing under the direction of a member of the department. Prerequisites: Minimum 3.00 GPA and permission of instructor. Fulfills X in LS Core.

POL 4800
Senior Seminar: Politics and the Policy Process 4 cr.
This seminar course will integrate material and skills developed in the prior coursework of senior majors in the study of the policy process. Students will master the disciplinary tools for policy analysis and apply these tools to a series of cases studies of policy areas throughout the course. This course will culminate in a senior project in which students will analyze a policy area of their choosing in a major research paper and present that material to broader community. Prerequisites: POL 1100, POL 1500, POL 2000, and senior standing or permission of instructor. Three hours per week.

POL 4850(W)
Public Service Internship (Fall or Spring Session) 8 cr.
As participant observers, students study theoretical and practical approaches to government by serving as research and staff aides to leaders in the public sector at the federal, state or local levels of government. Students must work at least an average of 20 hours per week in the field. In addition, students will work individually and in groups with the internship Director to produce a 20-25 page research paper on a topic related to the internship experience. Prerequisite: Seniors and juniors with permission from the instructor. Fulfills W and X in LS Core.

POL 4851
Public Service Summer Internship 4 cr.
As participant observers, students study theoretical and practical approaches to government by serving as research and staff aides to leaders in the public sector at the federal, state or local levels of government. Students must work in the field at least an average of 15 hours per week for eight weeks, totaling 120 hours. In addition, students will work individually through email with the internship Director to produce a 10-15 page reflective research paper on a topic related to the internship experience. Prerequisite: Seniors and juniors with permission from the instructor. Fulfills X in LS Core.

POL 4900
Senior Honors Seminar 4 cr.
This seminar course allows academically qualified senior majors to pursue, under the direction of departmental faculty, a significant original research project. Normally, seniors will be expected to use their senior seminar paper from POL 4800 as the basis for their senior honors thesis. Prerequisites: POL 4800, senior standing, and permission of instructor. Three hours a week.

Pre-Law minor
See Political Science

Pre-Physical Therapy concentration
See Health Sciences

Department of Psychology
School of Liberal Arts

Faculty:
Chair (2013-2014): Associate Professor Carol Ann Dalto
Professors Mascolo and Reichenthal
Associate Professor Shaw
Assistant Professors Blakeley, Hardway and Stroud
Psychology has traditionally been defined as the scientific study of behavior and mental processes, which captures the range of human experience. Individually, faculty members in the Department of Psychology at Merrimack College are interested in various aspects of human experience (developmental, social, perceptual, cognitive, clinical, etc.). Collectively, our goal is to gain insight into the central question that unites us: Why do people act the way they do? We also devote considerable attention to a corollary question: How can we go about studying human behavior and experience? The faculty invites our students to engage in conversation and inquiry about the dynamics of human behavior with us. In addition to developing a comprehensive understanding of classic and contemporary theory and research, we encourage students to participate in the activities that define psychology as a discipline. Through course work, research activities and field experience, the student joins with the faculty in building a comprehensive and critical understanding of what it means to be human.

The student who completes a major in psychology will display competency in each of the following areas:

- understanding of fundamental aspects of human behavior and experience;
- analytic reading skills;
- theoretical analysis and critical thinking skills;
- oral communication skills;
- statistical and methodological skills;
- group interaction and collaborative skills;
- information literacy and technology skills;
- understanding of ethical issues in psychology;
- appreciation of human diversity.

Students are encouraged to think holistically about their personal and career goals, and to develop an academic program that helps to move them toward those goals. Toward that end, a major or minor in psychology may be combined successfully with other programs in the liberal arts, education, science and engineering, or business administration. The knowledge, skills and abilities developed through the study of psychology at Merrimack College will provide the student with a solid foundation for pursuing graduate study and/or work opportunities in psychology and related disciplines. More importantly, it will start the student on a path for pursuing meaningful lifelong learning.

**Psychology Major Requirements.** Satisfying the requirements for a major in psychology includes completion of a minimum of 42 credits in psychology and a cognate course in health sciences as follows:

**Foundational Courses**
- PSY 1000 Introduction to Psychology
- PSY 1100(W) Psychological Inquiry and Methodology
- PSY 2110 Statistical Methods in Psychology

**Cognate Requirement in Health Sciences**
- HSC 1106 Human Biology

**Two Laboratory Courses in Basic Psychological Processes**
- PSY 3120 Cognitive Psychology
- PSY 3150 Behavioral Neuroscience
At Least One Course Related to Psychological Individuation
- PSY 2300 Developmental Psychology (counts only once toward fulfillment of major requirements)
- PSY 2400 Personality
- PSY 3410 Adult Psychopathology

At Least One Course Related to Social Relations
- PSY 2200 Social Psychology
- PSY 2300 Developmental Psychology (counts only once toward fulfillment of major requirements)

One of the Following Senior Capstone Options
- PSY 4900 Psychology Seminar
- PSY 4910/15 Senior Thesis Research I & II
- PSY 4960/66 Field Experience I & II

Further Explorations in Psychology. To complete the required 42 credits in psychology, students may take a combination of additional core courses, upper level psychology electives, a maximum of four credits in Directed Study and/or Directed Research, and the second semester of a 2-semester Senior Capstone Sequence.

Major GPA. The GPA for the psychology major will be calculated by taking the average of courses designated PSY.

Psychology Minor Requirements
The Department of Psychology at Merrimack College offers five minors in psychology. Satisfying the requirements for a minor includes completion of a minimum of 18 credits in one of the following areas of specialization:

General Psychology
- PSY 1000 Introduction to Psychology
- PSY 2200 Social Psychology
- PSY 2300 Developmental Psychology
- PSY 2400 Personality
- PSY 3410 Adult Psychopathology

Clinical/Counseling Psychology
- PSY 1000 Introduction to Psychology
- PSY 2300 Developmental Psychology
- PSY 2400 Personality
- PSY 3340 Developmental Psychopathology
- PSY 3410 Adult Psychopathology

Human Development
- PSY 1000 Introduction to Psychology
- PSY 2300 Developmental Psychology
- PSY 3340 Developmental Psychopathology
- PSY 3380 Psychology of Aging
Choose one of the following:
- PSY 2420 Psychology of Sex Differences
PSY 3250  Cultural Psychology
PSY 3310  Development of Intelligence and Thinking

Social/Organizational Psychology
PSY 1000  Introduction to Psychology
PSY 2200  Social Psychology
PSY 2280  Organizational Psychology
PSY 3250  Cultural Psychology
Choose one of the following:
PSY 2420  Psychology of Sex Differences
PSY 3180  Psychological Testing

Experimental Psychology
PSY 1000  Introduction to Psychology
PSY 1100(W)  Psychological Inquiry & Methodology
PSY 2110  Statistical Methods in Psychology
PSY 3120  Cognitive Psychology
PSY 3150  Behavioral Neuroscience

PSY 1000  Introduction to Psychology  4 cr.
Provides a general overview of the wide-ranging field of psychology. Students will explore major concepts and issues in the study of human thinking, feeling, and acting. These include biological foundations of behavior and experience, how people learn and develop, how individuals perceive the world, individual differences in behavior, social influence and social relations, the difference between normative and non-normative behavior, and approaches to therapy. This course is a prerequisite for all other courses in psychology. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS core. Three hours a week.

PSY 1100(W)  Psychological Inquiry and Methodology  4 cr.
Analysis of the varied ways psychologists ask and answer questions about the nature of psychological processes. Focuses on research philosophy, qualitative and quantitative methodology, as well as the development of critical reading and writing skills. This course should be taken as the first course after PSY 1000 by all majors, as it is designed to serve as a foundation for advanced courses in psychology. Prerequisite: PSY 1000. Satisfies Institutional Writing Intensive requirement. Fulfills W in LS Core. Three hours a week.

PSY 2110  Statistical Methods in Psychology  4 cr.
Introduction to analysis of data in psychology. Emphasis on the logic, use, and interpretation of inferential statistics, including the following: correlation and regression, single-sample and two-sample t-tests, analysis of variance and chi square. Prerequisite: PSY 1100W, MTH 1000 or placing out of MTH 1000 on the math placement test. Fulfills Q in LS Core. Three hours a week.

PSY 2200  Social Psychology  4 cr.
Emphasizes the centrality of social context in our psychological processes. Explores how people think about, influence and relate to each other. Prerequisite: PSY 1000. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

PSY 2280  Organizational Psychology  4 cr.
Application of psychological principles to the world of work. Emphasizes the organization as a complex social system. Applied topics include the selection, training, and evaluation of personnel. Theoretical issues include motivation, leadership, group dynamics, and organizational structure. Prerequisite: PSY 1000. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.
PSY 2300  
Developmental Psychology  
4 cr.  
Introduction to theory and research related to the development of psychological processes from infancy to adulthood. Analyzes the concept of development, the nature-nurture issue and the epigenetic nature of human development. Also examines cognitive, social, and personality development in their social and cultural contexts. Prerequisite: PSY 1000. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

PSY 2310  
Lifespan Psychology  
4 cr.  
Examines the development of a typical human being from conception to death. Investigates patterns of change in biology, cognition, personality, social interaction, and relationships that take place throughout the lifespan. Considers several conceptual issues including progression and regression, health and illness, normality and abnormality. This course is designed primarily for Health Sciences majors. It does not meet the requirements for a major in either Psychology or Human Development. Note that students who have already received credit for PSY2300 cannot receive credit for PSY 2310. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

PSY 2400  
Personality  
4 cr.  
Introduces classical and contemporary thinking on the concept of ‘personality’. Explores the contributions of several important theoretical frameworks in personality theory including psychoanalysis, phenomenology, trait theory, and learning. Prerequisite: PSY 1000. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

PSY 2420  
Psychology of Sex Differences  
4 cr.  
Examination of the development and psychological meaning of personality differences between men and women. Emphasizes character development, sense of self and interpersonal relationships from early childhood through adolescence and adulthood. Prerequisite: PSY 1000. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

PSY 2450  
Love, Sex and Relationships  
4 cr.  
Draws upon scholarship from psychology, sociology, and philosophy to explore central questions about the meaning of loving partnerships between adults: What does it mean to love? What are the components of an adult romantic relationship? How does the capacity for adult romantic relationships develop? What is sexual desire? What is the meaning of sexuality in a loving relationship? Prerequisite: PSY 1000. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

PSY 3120  
Cognitive Psychology  
4 cr.  
Examines major empirical and theoretical work on human information processing. Focuses on basic processes including sensory storage, pattern recognition, attention and memory. Also addresses complex cognitive processes including language, problem solving and decision making. Laboratory work will demonstrate principles discussed in class. Prerequisite: PSY 1100W. Corequisite PSY2110. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours of lecture and three hours of laboratory a week.

PSY 3150  
Behavioral Neuroscience  
4 cr.  
Examines the relationship between the neurophysiology of the brain and cognition. Topics include the neurophysiology of vision, touch, learning, memory, sleep, mental illness, hemispheric functions, and consciousness. The role of neuronal plasticity in altering brain structure and function after injury or learning is given special emphasis. Lab work will demonstrate principles discussed in class. Prerequisite: PSY 1100W and HSC 1106. Corequisite: PSY 2110 or permission of instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours of lecture and three hours of laboratory a week.

PSY 3180  
Psychological Testing  
4 cr.  
Introduction to the history, theory, and methods of psychological testing. Explores how psychological tests are used to assess various psychological phenomena including personality, interests, attitudes, and mental ability. Considers
controversies surrounding the use of psychological tests. Prerequisite: PSY 1100W. Corequisite: PSY 2110 or a comparable statistics course. Three hours a week.

**PSY 3250**  
**Cultural Psychology**  
4 cr.  
Analyzes current theories and research on culture, race and ethnicity; and explores the ways in which the individual, social relations and culture mutually constitute each other. The course analyzes the rich interconnections between language and culture, and the role of culture in the construction of self and higher-order psychological processes. Students will examine cultural groups within and outside of the United States. Also includes consideration of cultural issues in the interpretation of personal experience and the role of cultural diversity in contemporary society. Prerequisite: PSY 1000. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement and D in LS Core. Three hours a week.

**PSY 3310**  
**Development of Intelligence and Thinking**  
4 cr.  
An analysis of theory and research related to the development of thinking. Explorations include the concept of levels and stages; the developmental course of thinking in multiple psychological and social domains; the relationship between language and thought; and the biological, individual, social and cultural processes that spur cognitive development. The course examines the perspectives of several major theorists and traditions, including Piaget and neo-Piagetian theory, Vygotsky and socio-cultural theory, cognitive science, and dynamic systems approaches to understanding the development of thinking. Prerequisite: PSY 1000. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

**PSY 3340**  
**Developmental Psychopathology**  
4 cr.  
Explores psychological disorders that affect children. Topics include depression, autism, suicide, hyperactivity, mental retardation and learning disabilities. Also investigates treatment modalities and theories of etiology. Prerequisite: PSY 1000. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

**PSY 3380**  
**Psychology of Aging**  
4 cr.  
Investigation of the major issues, theories, and findings in the psychological study of aging. Topics are organized around the themes of the psychosocial context of aging, cognitive aspects of aging, problems of aging, and positive aspects of aging. Emphasis is on current research findings, placed in the historical and theoretical contexts of contemporary psychology. Prerequisite: PSY 1000. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

**PSY 3410**  
**Adult Psychopathology**  
4 cr.  
Examination of basic issues in psychopathology. Focus on description, etiology and treatment of neurosis, character disorder, and psychosis from varying theoretical and clinical perspectives. Prerequisite: PSY 1000. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

**PSY 3450**  
**Biological Bases of Abnormal Behavior**  
4 cr.  
Examines the neurophysiology and psychopharmacology of nervous system dysfunction and the resulting behavioral changes, with an emphasis on mental illnesses and organic disorders. Focuses on comparisons between the various ‘normal’ states of consciousness and those found with central or peripheral nervous system disturbance. Emphasizes the continuous, rather than dichotic, nature of mental states and abilities. Prerequisite: PSY 1000; HSC 1106 or PSY 3150. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

**PSY 4700**  
**Selected Topics in Psychology**  
4 cr.  
An intensive, faculty-directed research-based course. Prerequisite: Junior/Senior, consent of the instructor. Three hours a week.
PSY 4800
Directed Study 1-4 cr.
In lieu of a formal course, qualified advanced students may, with the approval of the department, substitute an intensive program of study under the direction of a faculty member. Prerequisite: PSY 1000; departmental approval. Three hours a week.

PSY 4810
Directed Research 4 cr.
In lieu of a formal course, qualified advanced students may, with the approval of the department, substitute a research project under the direction of a faculty member. Prerequisite: PSY 1000, departmental approval. Three hours per week. Fulfills X in LS Core.

PSY 4900
Psychology Seminar 4 cr.
Senior capstone seminar on a special topic of the professor’s choosing. Students will read and discuss a series of primary and secondary texts and compose an integrative paper, written in APA format, related to the theme of the seminar. Prerequisite: senior standing, or permission of instructor. Three hours a week.

PSY 4910/PSY 4915
Senior Thesis Research I and II 4 cr.
A two-semester sequence of research and scholarship. May be started in the second semester of the junior year or in the first semester of the senior year. Prerequisite: PSY 1000, departmental approval. Three hours a week.

PSY 4960/PSY 4965
Field Experience in Psychology: Adult Clinical Studies 4 cr.
Two semesters of supervised participation by senior psychology majors in the activities of psychologists. Offers the possibility of placement in a variety of facilities that provide mental health services to adults. Prerequisite: PSY 3410, senior standing or permission of instructor. Fulfills X in LS Core.

PSY 4961/PSY 4966
Field Experience in Psychology: Ethnographic Analyses 4 cr.
A supervised internship in an organization that promotes individual development (schools, community organizations, social service agencies, etc.) or in other settings that lend themselves to participant-observation of psychological activity as it occurs in socio-cultural contexts. Students complete a year-long original ethnographic research project on a topic of their own choosing. Prerequisite: senior standing or permission of instructor. Fulfills X in LS Core.

Psychology concentration
See Human Development

Public and Professional Writing minor
See Communication Arts & Sciences

Public Health concentration; Public Health minor
See Health Sciences

Department of Religious and Theological Studies
School of Liberal Arts

Faculty:
Chair (2013-2014): Professor Mark Allman
Professors Norris and O’Hare
Associate Professors Enright, Kay, and Kelley

213
Religious and theological studies at Merrimack College investigate the meaning and purpose of life through a study of Christianity and other religious traditions. As a department at a Catholic and Augustinian institution of higher education, we ensure that students encounter the richness of the Catholic spiritual, intellectual and ecclesial tradition in the course of their study, and that they are introduced to the life, thought and influence of Saint Augustine.

Religious and theological studies enable students to engage in the appreciative and intellectually rigorous (critical) study of the single most powerful feature of human life: Religion. The Department offers a comprehensive program that not only investigates many aspects of Christianity, but also provides opportunities for the study of other religions.

Religious and theological studies at Merrimack College enable students to:

- Understand the world around them by analyzing the religious influences in history, politics and economics.
- Explore the most pressing ethical issues of the day, as well as the psychological and sociological forces that shape the human search for meaning.
- Develop analytical and writing skills, as well as a cross-cultural understanding and appreciation of the diversity of American culture.
- Attain a better understanding of themselves, their values and what ultimately makes them happy and fulfilled.

Because religion addresses these most basic questions, it also involves controversial topics. By becoming a religious and theological studies major or minor one engages some of the most exhilarating ideas, persons, and movements in all of human history. The ideas, readings and conversations encourage one to reflect on the meaning and direction of one’s own life and relationship to the eternal.

Opportunities include a major in religious studies, a major in theological studies, a general minor in religious and theological studies, and interdisciplinary minors in Science & Religion and in Jewish-Christian-Muslim Relations.

All students at Merrimack College entering prior to fall 2012 are required to pass eight (8) credits of religious and theological studies courses as follows:

RTS 1100 Christianity in Context
One additional RTS course at the 2000 level or above.

The introductory courses are given numbers at the 1000 level because they are the most basic in our department and are appropriate for first year students. All other courses are given numbers in the 2000, 3000, and 4000 range. These numbers are intended to indicate the progressively more challenging nature of the courses.

All students at Merrimack College entering as of fall 2012 are required to fulfill the Liberal Studies Core Religious and Theological Studies requirement (RTS1100). Many religious and theological studies courses fulfill core requirements such as Arts and Literature (AL), Ethics (E), Cultural Diversity (D), Experiential Learning (X), and Historical Studies (H).

**Religious and Theological Studies Major.** For students who wish to major in religious and theological studies, there are two tracks that they can choose, one with an emphasis in religious studies and the other with an emphasis in theological studies. Each program consists of 10
courses. Satisfying the requirements for the major in Religious and Theological Studies includes completing a minimum of 38 credits in the major.

**For the emphasis in religious studies requirements are as follows:**

- RTS 1100  Christianity in Context
- Three courses in World Religions
- One course in Biblical Studies
- One course in Systematic Theology or Christian History
- One course in Religion, Society & Ethics
- Two electives in Religious and Theological Studies
- RTS 4900  Seminar in Religious and Theological Studies - taken in junior or senior year.

**For the emphasis in theological studies requirements are as follows:**

- RTS 1100  Christianity in Context
- One course in World Religions
- Two courses in Biblical Studies
- One course in Christian History
- One course in Systematic Theology
- One course in Religion, Society & Ethics
- Two electives in Religious and Theological Studies
- RTS 4900  Seminar in Religious and Theological Studies - taken in junior or senior year.

**Major GPA.** The GPA for the religious and theological studies major will be calculated by taking the average of courses designated RTS.

**Honor Society.** Merrimack College is a member of the National Honor Society for Religious Studies and Theology (Theta Alpha Kappa), which is open to students who have completed at least 12 credits in religious and theological studies and have at least a 3.50 GPA in the major and an overall GPA of at least 3.00.

**Minor in Religious and Theological Studies**
The program for a minor in religious and theological studies is designed to help the students round out their academic careers with an understanding and intellectual grasp of religion as a part of human life and its development, and consists in any four courses in religious and theological studies beyond the introductory course (RTS 1100). The minor in Religious and Theological Studies requires completing a minimum of 14 credits at the 2000 level or above.

**Minor in Science and Religion**
Religion and science are two of the most powerful influences on human society and culture, and so it is a major premise of this interdisciplinary minor that achieving basic literacy in both areas is desirable for anyone who wishes to understand contemporary Western society. But this minor goes further in that it encourages students to investigate the variety of ways one can think about how these two areas of human activity are related to each other.

The minor in religion & science will require the completion of a minimum of 18 credits and a minimum of five courses as stipulated below.

**One required course**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>RTS2700</td>
<td>Science and Religion</td>
</tr>
</tbody>
</table>
Two Science courses
Students in this minor must take one course from two of the following departments:
Biology, Chemistry, or Physics.

Two electives from the following list (only one can be in ethics/values):
- RTS 3780  Evolution and Creation
- RTS 2950  Ethics in the Abrahamic Tradition
- RTS 3030  Humans, Earth & the Sacred: Religion & the Environment
- PHL 2060  Biomedical Ethics
- PHL 2070  Environmental Ethics
- PHL 2090  Values in a Technological Culture
- PHL 3030  Philosophy of Science

Minor in Jewish-Christian-Muslim Relations.
Religious ignorance is a luxury no one can afford. Religion (like sex, money and power) is one of the great motivators of human behavior. People do amazing and horrific things all in the name of their god(s). Those who minor in Jewish-Christian-Muslim relations study how these three great faiths have interacted over the centuries, not simply out of an interest in history, but also out of concern for our future.

The Jewish-Christian-Muslim Relations minor consists of 20 credits.

There are three required components
- RTS 1100  Christianity in Context (offered every term);  
- RTS 2950  Ethics in the Abrahamic Traditions (usually offered in the Fall term); and  
- RTS 3760  Theology & History of Jewish-Christian-Muslim Relations (usually offered in the Spring term).

The remaining two courses are electives drawn from a broad range of relevant studies. Some of the electives are outside of the Religious & Theological Studies Department. The two electives must focus on two different traditions. A list of approved courses is below.

Finally, all minors engage with Jews, Christians, Muslims and others, in active interfaith work promoting social, political and economic justice.

Approved Electives for the Jewish-Christian-Muslim Relations Minor

Inside the Religious & Theological Studies Department:
- RTS 2100  Judaism
- RTS 2150  Islam
- RTS 2200  Intro to Hebrew Scriptures
- RTS 2300  Intro to New Testament
- RTS 2400  St. Augustine
- RTS 2425  Pellegrinaggio in Italia (a travel study course)
- RTS 2450  History of Christian Thought
- RTS 2600  Catholicism
- RTS 2800  Social Ethics: Christian Perspective
- RTS 2810  Marriage & Family
- RTS 2900  Holocaust: Theology, Reality & Aftermath
- RTS 2990  Special Topics: Women in Islam
- RTS 3000  Buddhism & Islam: Body & Belief
RTS 2200 God in the Hebrew Bible
RTS 2300 Gender & the Bible
RTS 2350 Reading Scripture after the Holocaust
RTS 2400 American Catholicism
RTS 2425 Augustine & Algeria (a travel study course)
RTS 2600 The Roman Catholic Church
RTS 2610 Sacramental Theology
RTS 2620 Theology of the Virgin Mary
RTS 2650 Death & Dying in History, Religion and Society
RTS 2710 Theology through Women's Eyes
RTS 2750 Christians & Jews: Conflicts and Resolutions
RTS 2800 Ethical Witnesses: Dorothy Day and Thomas Merton
RTS 2850 War & Peace: Religious Perspectives
RTS 2900 Women's Voices in the Holocaust
RTS 3400 American Catholicism
RTS 3425 Augustine & Algeria (a travel study course)
RTS 3600 The Roman Catholic Church
RTS 3610 Sacramental Theology
RTS 3620 Theology of the Virgin Mary
RTS 3650 Death & Dying in History, Religion and Society
RTS 3710 Theology through Women's Eyes
RTS 3750 Christians & Jews: Conflicts and Resolutions
RTS 3800 Ethical Witnesses: Dorothy Day and Thomas Merton
RTS 3850 War & Peace: Religious Perspectives
RTS 3900 Women's Voices in the Holocaust
RTS 4400 St. Augustine Seminar

Outside the Religious & Theological Studies Department
COM 3231 Intercultural Communication
FAA 2630 Art of the Middle Ages
SPA 3750 Crossing Borders (a study-travel course)

Categories of Religious and Theological Studies Courses:

Biblical Studies: RTS 2200, RTS 2300, RTS 3200, RTS 3210, RTS 3350

Christian History: RTS 2400, RTS 2425, RTS 2450, RTS 3400, RTS 3425, RTS 3500, RTS 3600, RTS 3750, RTS 3760, RTS 3800, RTS 4400

Religion, Society & Ethics: RTS 2650, RTS 2700, RTS 2800, RTS 2810, RTS 2900, RTS 2950, RTS 3030, RTS 3050, RTS 3100, RTS 3350, RTS 3425, RTS 3700, RTS 3710, RTS 3780, RTS 3850, RTS 3900

Systematic Theology: RTS 2600, RTS 2650, RTS 2700, RTS 2810, RTS 3500, RTS 2950, RTS 3610, RTS 3620, RTS 3650, RTS 3700, RTS 3710, RTS 3750, RTS 3760, RTS 3780

World Religions: RTS 2000, RTS 2010, RTS 2020, RTS 2100, RTS 2150, RTS 2950, RTS 3000, RTS 3030, RTS 3100, RTS 3850

RTS1100 Christianity in Context 4 cr.
As an introduction to Christianity, this course will investigate a number of the “contexts” in which it began, in which it developed, and in which we find it today. Students will study Christianity in the historical contexts within the ancient world and of ancient Judaism, in the literary contexts of the Christian Bible and its interpretation, in the intellectual context of church history, and in contemporary global contexts. In keeping with the College’s Augustinian identity, mission, and vision, this course will also highlight the contributions of St. Augustine. Satisfies the first institutional requirement in religious and theological studies. Fulfills RTS in LS Core. Three hours a week.

RTS 2000 Hinduism 4 cr.
An introductory study of Hinduism that examines cultural, historical, moral, and symbolic aspects of Hinduism, including the origins of Hindu culture, iconography, ritual and the gods and goddesses of the Hindu pantheon. Uses
primary and secondary sources as well as fiction and videos. Analyzes excerpts from Rig-Veda, the Upanishads and The Bhagavad Gita as well as a complete abridged version of the Ramayana. Fiction explores questions regarding Hindu culture before and during the Hindu diaspora, bringing in issues of contemporary Hinduism, inside and outside of India. Satisfies the second institutional requirement in religious and theological studies. Fulfills D in LS Core. Three hours a week.

RTS 2010
Buddhism  4 cr.
An introductory study of the religious tradition as it developed in India and spread throughout Asia. The course concentrates on Theravada, Zen, and Vajrayana (Tibetan) forms of Buddhism, using examination of text, ritual, and images to understand the diversity of the Buddhist world. Studies varieties of practice, monastic as well as popular, cultural influences on Buddhism, and contemporary political and social issues such as women in Buddhism and Tibetan Buddhists in exile. Satisfies the second institutional requirement in religious and theological studies. Fulfills D in LS Core. Three hours a week.

RTS 2100
Judaism  4 cr.
This course will examine how early themes in Judaism affected modern Judaism and how relations with other faith groups have influenced Judaism. In addition, there will be a discussion of some of the modern challenges facing Judaism and an exploration of certain aspects of the modern world that could affect the survival of the Jewish people. Finally, given the rapidly changing landscape of world religions and their influence on world politics, students will be asked to compare the teachings of Judaism with those of the two other Abrahamic faiths, Christianity and Islam. Satisfies the second institutional requirement in religious and theological studies. Fulfills D in LS Core. Three hours a week.

RTS 2150
Islam  4 cr.
An introductory study of Islam, a complex religious tradition founded by Mohammed and drawing adherents from all over the world. Studies the historical movement and the charismatic impact of the founder of Islam, ritual practices, theological issues expressed in the Holy Qur’an and supplemented by Hadith literature, the personal and communal life of the people, and the mystical sects such as the Sufis. Modern Islamic movements and trends studied to bring traditional Islam into a modern perspective. Satisfies the second institutional requirement in religious and theological studies. Fulfills D in LS Core. Three hours a week.

RTS 2200
Introduction to Hebrew Scripture  4 cr.
This course introduces students to the Hebrew Scriptures as history, story, and literature. The importance of this literature for religious communities (Jews, Christians and Muslims) as well as its influence on the Western literary imagination (from Shakespeare to Tolstoy to Faulkner) is difficult to overemphasize. The approach to study in this class is informed by historical critical methods of scholarship; in addition other academic approaches will be welcomed, such as literary criticism, feminist criticism, liberation theology, socio-historical approaches, etc., especially when raised by students in the class. Satisfies the second institutional requirement in religious and theological studies. Fulfills AL in LS Core. Three hours a week.

RTS 2300
Introduction to the New Testament  4 cr.
This course is a critical, historical, and literary study of the collection of Christian writings known as the New Testament. Attention will be given not only to the literary forms of the New Testament documents, but also their composition and religious significance, as well as the inspiration this collection of documents has provided for writers and artists of many ages. Satisfies the second institutional requirement in religious and theological studies. Fulfills AL in LS Core. Three hours a week.

RTS 2400
St. Augustine: His Life and Thought  4 cr.
This is a study of the influence of St. Augustine of Hippo on Christianity and Western civilization. His life, times, and writings are studied with the goal of understanding his main theological ideas on grace, original sin, conversion, knowledge of God, the Trinity, faith in Christ, church, pedagogy, and politics. Satisfies the second institutional requirement in religious and theological studies. Three hours a week.
RTS 2425
Pellegrinaggio in Italia: In Search of Augustinian Community 4 cr.
This course is an in-depth study of St. Augustine of Hippo as well as an exploration of the origin of the Augustinians, the Religious Order which bears his name. After seven monthly preparatory seminars, students journey to Augustinian Italy to examine, first hand, sites of importance in Augustine’s life and in the origin and early history of the Augustinian friars. This experience provides active, engaged learning and dialogue among a community of friends, and offers a number of inter-disciplinary opportunities. The course will enhance the student's search for the wisdom that can result from a deeper understanding of self, others and God, the search which captivated the life of Augustine. The monthly seminars are held from Sept. to March and the journey takes place during Spring Break. Satisfies the second institutional requirement in religious and theological studies. Fulfills X in LS Core.

RTS 2450
History of Christian Thought 4 cr.
An investigation of selected themes in the history of Christian thought and doctrine from the biblical period through the Middle Ages to the present time. Emphasis will be laid on how Christian thinkers, reacting to outside influences, developed doctrine from biblical and other sources. Discussion will include central doctrines such as the Trinity, Christ, sin and grace, etc. Attention given to the way the Catholic, Protestant and Orthodox traditions reacted to the changing cultural situation, such as the Enlightenment and the rise of modern science. Satisfies the second institutional requirement in religious and theological studies. Fulfills H in LS Core. Three hours a week.

RTS 2650
Spirituality of Running 4 cr.
This course investigates ways in which running, perhaps the oldest of sports, has been understood as a spiritual experience throughout history. Students will examine the nature of spirituality in a variety of religions and cultures and look at how this spiritual side of sports – especially running – is expressed in literature and film. Finally, students are encouraged to explore their own experience of running to see how this can assist them in becoming more authentic persons and how running can enhance their experience of the world around them, and of God. Prerequisites: the prospective student must be involved in a running sport or demonstrate that he/she is a serious runner, and obtain permission of instructor. Satisfies the second institutional requirement in religious and theological studies. Fulfills H in LS Core. Three hours a week.

RTS 2700
Science and Religion 4 cr.
The purpose of this course is to introduce students to some of the main ways in which people have interpreted the interaction of science and religion, to help them understand some of the basic contours of the history of science and scientific method, and to give them an intellectual context in which they can explore ways of integrating science with a religious world-view. This will include discussion of topics such as scientific cosmology and the Bible, miracles and natural laws, as well as the pressing problems relating to ethics and the most current advances in science and technology – specifically in the area of healthcare ethics. Satisfies the second institutional requirement in religious and theological studies. Three hours a week.

RTS 2800
Social Ethics: Christian Perspectives 4 cr.
An examination of the Christian sources and methodologies used for addressing social, political and economic issues (e.g. peace, war, violence, economic justice, environmental justice, criminal justice, political justice, racism, sexism, homophobia and social justice). In particular, emphasis will be placed on the ethics of the Hebrew and Christian scriptures; Catholic social thought and how other religious traditions approach various issues of social justice. Students will be encouraged to explore the intersection of ethical theory and real-life issues of social injustice. Satisfies the second institutional requirement in religious and theological studies. Fulfills E, D and X in LS Core. Three hours a week.

RTS 2810
Marriage and Family 4 cr.
This course explores Christian understandings of marriage and family. Topics covered may include: the history of marriage, love, marriage as covenant, marriage as sacrament, marriage and family as vocation. Students will also examine ethical issues arising from married and family life such as sexuality, reproductive choices, parenting, gender roles, divorce and remarriage, same-sex marriage, as well as family management and decision-making. The course will include biblical, traditional and contemporary perspectives. Satisfies the second institutional requirement in religious and theological studies. Three hours a week.
RTS 2900
Holocaust: Theology, Reality and Aftermath 4 cr.
The course will identify the components of the Holocaust as well as those of any genocide paying particular attention to the historical development of anti-Semitism, especially within the Christian and Western contexts. Special attention will be given (as per the directive of the Holy See in implementing "We Remember") to the examination of Christian and Western actions and attitudes during the Holocaust to try to determine how cognitive, moral and faith development operated when propaganda attempted to manipulate them for evil. Lastly, it will examine how we remember the lives of those lost and the lessons of the event. Satisfies the second institutional requirement in religious and theological studies. Fulfills E and D in LS Core. Three hours a week.

RTS 2950
Ethics in the Abrahamic Tradition 4 cr.
This course will offer a focused study of the Abrahamic religious traditions (Judaism, Christianity and Islam) approach ethics both in theory and in practice. The course explores (1) the sources and methods of ethical reflection in each tradition including sacred texts and their interpretation, history, concepts of law, religious authority, role of conscience, role of reason and ethical principles (love, common good, freedom, etc.) and (2) a host of contemporary dilemmas currently under debate in these traditions (e.g. abortion, capital punishment, war and peace, biomedical ethics, sexual ethics). Attention will be paid to the consistencies and inconsistence within and between the "people of the book." Satisfies the second institutional requirement in religious and theological studies. Fulfills E in LS Core. Three hours a week.

RTS 2900
Special Topics in Religious Studies 4 cr.
This course will offer a focused study of selected topics of interest in Religious Studies. Satisfies the second institutional requirement in religious and theological studies. Three hours a week.

RTS 3000
Buddhism & Islam: Body & Belief 4 cr.
This course is a comparative study of Buddhism and Islam, including origins, historical and geographical development, scriptures, and doctrine with a focus on religious restrictions and prescriptions relating of food, clothing, sex, gender roles and ritual practices, exploring similarities and differences and their implications. Similarities point to the universal nature of human needs and drives; differences stem from variations in religious worldviews (conception of body and soul, relationship between humans and the divine). Satisfies the second institutional requirement in religious and theological studies. Fulfills D in LS Core. Three hours a week.

RTS 3030
Humans, Earth, & the Sacred: Religion & the Environment 4 cr.
This course surveys different religious traditions and their understandings of nature and human relations to other humans, animals, environment, and cosmos. In each case we will be looking at how those belief systems, or worldviews, result in particular attitudes that affect the environment and other humans by influencing human actions in relation to nature, and in turn how those actions (and thus the worldviews) affect humans, animals, plants, earth, and space, often in unintended ways, such as the way that those on the bottom of the socio-economic ladder suffer greater hardship and health issues such as exposure to pollution or toxins, environmental illnesses, and poorer food sources. Attention will be paid to power structures inherent in religious ways of understanding the roles of humans in relation to nature. Course requires site visits outside of class. Satisfies the second institutional requirement in religious and theological studies. Fulfills D and X in LS Core. Three hours a week.

RTS 3050
Religion and Popular Culture 4 cr.
This course examines religion in the United States—its definition, history, motivations and expressions—especially focusing on the relationship between religion and popular culture. In all cultures and throughout history people have practiced religion in other forms than those officially sanctioned; these are the focus of this course. Topics may include religious camps, religion and commerce, religion and leisure, religion and the media, miracle sightings, secularization, music, online religious practices (pilgrimage, e.g.), religious toys, religious apps, etc. We will explore religion as a living, changing phenomenon that people make their own to satisfy psychological and social needs, a phenomenon that makes use of available technologies and social changes. Satisfies the second institutional requirement in religious and theological studies. Three hours a week.

RTS 3100
Contemplation & Compassion: A Course in Meditation Practice 4 cr.
This is a course in which participants practice meditating. It also entails some study and conversation about meditating its relationship to prayer, to religion, to ideas about God, to what may be disclosed about human beings by
the act of meditating, the relationship of meditativness (contemplativeness) to compassion and some comparative perspectives on the contemplative stream in some world religions. Prerequisite: Permission of the Instructor. Satisfies the second institutional requirement in religious and theological studies. Fulfills X in LS Core. Three hours a week.

RTS 3200
God in the Hebrew Bible 4 cr.
The course examines representations of the divine in the Hebrew Bible/Old Testament as developed in current scholarly debates. The investigation focuses on selected biblical passages within their literary, historical, and cultural contexts. The course also introduces students to the hermeneutical complexities of reading texts that are regarded “sacred” in Judaism and Christianity but often stand in sharp contrast to doctrinal teachings about the divine. Discussions about the appropriations of these texts in contemporary religious, political, and academic discourses feature prominently. Satisfies the second institutional requirement in religious and theological studies. Three hours a week.

RTS 3210
Gender and the Bible 4 cr.
The course investigates the Bible as a “gendered” text of Christian and Jewish religious history and practice. It introduces students to the pertinent gender theories, primary texts, and scholarly discussions. The course also helps students to develop an understanding about the lasting influences of the Bible on past and present formations of gender as practiced in Western culture, politics, and religion. Satisfies the second institutional requirement in religious and theological studies. Fulfills D in LS Core. Three hours a week.

RTS 3350
Reading Scripture after the Holocaust 4 cr.
This course will explore how the Christian Scriptures are read and how that reading impacts Christian attitudes toward Jews and Judaism. Setting the stage by acknowledging the role of the Holocaust in the reexamination of Jewish-Christian relations, the course first explores a fundamental text in both the Hebrew and Christian Scriptures, the Book of Exodus, and then delves into texts of the Christian Testament, mindful of the Jewish historical roots and the frequent Anti-Jewish polemic found within those texts. The task of the course is to examine how a mature Christianity can approach its own Scriptures and deal with issues of supercessionism, covenant, election, Christology and defamatory polemic and still remain faithful to its own convictions. Satisfies the second institutional requirement in religious and theological studies. Fulfills AL and D in LS Core. Three hours a week.

RTS 3400
American Catholicism 4 cr.
The Catholic experience in the American environment from colonial times to the present. Analysis of the theological, cultural, social and political influences which have affected Catholicism. Satisfies the second institutional requirement in religious and theological studies. Fulfills H in LS Core. Three hours a week.

RTS 3425
Augustine and Algeria: A Study-Travel Course 4 cr.
This course will provide a first-hand experience of the complexity of interreligious understanding, tolerance, coexistence and harmony. Study will include an exploration of the ways in which religious belief and theological debate have influenced history, culture, and politics of the modern nation of Algeria. The course will explore the introduction of Christianity into North Africa, the cultural and religious milieu that was the background for the theological works of St. Augustine, the invasion by the Vandals, the introduction of Islam in the 7th and 8th centuries, the tension between Christianity and Islam during its colonization by France, the role of Islam in its war of independence and the ongoing political and religious tension as Algeria has struggled to build a modern democratic nation. Satisfies the second institutional requirement in religious and theological studies. Fulfills D in LS Core.

RTS 3600
The Roman Catholic Church 4 cr.
A systematic and interpretative study of the Church which explores the biblical and historical foundations of its nature, mystery and mission. An examination of the ways in which the Roman Catholic Church is affected by the structure and dynamics of society. Satisfies the second institutional requirement in religious and theological studies. Three hours a week.

RTS 3610
Sacramental Theology 4 cr.
This course explores sacraments through examination of anthropological, theological perspectives. The human phenomena of word, symbol, ritual, myth and the theological perspective of God’s call and humanity’s response form the basis of investigation, providing rationale of why growth in spiritual life is inherent to personal joy and freedom.
The study of historical origins, which gradually evolved into the contemporary rituals, will enlighten the deeper mystery and meaning of Catholicism's seven sacraments. In addition, the course explores the ecumenical discussion on "sacrament" and recent studies including Protestant understanding and practice. Satisfies the second institutional requirement in religious and theological studies. Three hours a week.

RTS 3620
Theology of the Virgin Mary
4 cr.
This course explores contemporary thinking on the Blessed Virgin Mary and its implications for interfaith dialogue, liberation, meaning of woman, and spirituality for the Christian. References to Mary in scripture and liturgy are also examined, as well as interdenominational theological approaches including the ecumenical dialogue on Mary, common sources of the first centuries, the Jewish Mary, goddess and mother images in other world religions, human rights and feminism, and a critical analysis of the meaning of apparitions and Marian prayer. Satisfies the second institutional requirement in religious and theological studies. Three hours a week.

RTS 3650
Death and Dying in History, Religion, and Society
4 cr.
This course examines the question "What happens when we die?" in conversation with the many individuals and cultures that have proposed answers to this and related questions. The course will investigate the ways religions and philosophies throughout history define and cope with the fact of death, as well as the scientific and religious study of near-death experiences, hauntings, and claims of communication with the dead. A final section examines treatments of death and the afterlife in popular culture such as literature, cinema, and TV. Satisfies the second institutional requirement in religious and theological studies. Three hours a week.

RTS 3710
Theology through Women's Eyes
4 cr.
Attentive both to women's contributions to the Christian tradition and to views of women articulated in the Christian tradition, this course examines the significance of women's experiences for theological and ethical reflection. It explores the implications of this for theological reflection on such topics as the human person, Christ, the Trinity, the Church and the liturgy as well as for ethical reflection on such topics as family, bioethics and social ethics. Satisfies the second institutional requirement in religious and theological studies. Three hours a week.

RTS 3750
Jews and Christians: Conflicts and Reconciliations
4 cr.
Study and conversation about the relations between Jews and Christians and the theological speech that characterizes those relations through history and into our own times is an occasion for critical assessment of how differences in religion, culture, race and ethnicity lead to antipathy, even violence, in the name of God; and an occasion for appreciative understanding of the intimacy of links between Jews and Christians and of the possibilities for interfaith reverence, understanding and engagement together in works of justice and of peace. This is the work of this course of study. Fulfills D in LS Core. Three hours a week.

RTS 3760
Theology & History of Jewish-Christian-Muslim Relations
4 cr.
This course considers the intertwined theologies and histories of the three "Abrahamic" Faiths: Judaism, Christianity and Islam, with a goal of fostering increased appreciation and understanding for all three traditions. It introduces the three Abrahamic Faiths and highlights some important theological issues that characterize and sometimes divide them, and also examines historical interactions between Judaism, Christianity and Islam. Satisfies the second institutional requirement in religious and theological studies. Three hours a week.

RTS 3780
Evolution and Creation
4 cr.
This course examines scientific theories of evolution (cosmic and biological) in the light of religious claims about the bible, God, and creation, separating the scientific content of the theories from religious and philosophical biases that often distort the conclusions that can be drawn from them. To that end we will study the historical development of the theories of evolution and examine the scientific and religious reaction to those theories, not only in the late 19th and early 20th centuries, but also recent reactions and developments, both scientific and religious. Satisfies the second institutional requirement in religious and theological studies. Three hours a week.

RTS 3800
Ethical Witnesses: Dorothy Day and Thomas Merton
4 cr.
A study and conversation about two of the most influential and exemplary United States Catholics of the 20th century, persons whose influence continues into the 21st century. Day and Merton's yearning and bumpy search, from youth
onward, for authentic living, for something to give themselves over to which would be worthy of their sense of the eminence of their own being, is a model of intentional, decisive living, of striving for something throughout one’s life which is beyond self-absorption and the trivial. The study of the witness of their lives sheds light on, among other things, questions of war and peace, racial harmony, economic justice, the works of mercy, the counter-cultural model of monastic living and the subversive political effects of contemplative practice. Satisfies the second institutional requirement in religious and theological studies. Fulfills E in LS Core. Three hours a week.

RTS 3850
War & Peace: Religious Perspectives 4 cr.
This course explores war and peace from a variety of theoretical and practical perspectives. It engages religious, philosophical, psychological, sociological and historical analyses of the phenomena of war and peace. Students will encounter such concepts as: Holy War (in both Christian and Muslim traditions); Pacifism (in the Christian, Jewish, Muslim and Hindu traditions); and the Just War tradition (as employed by Jews, Christians, Muslims, philosophers and political scientists). The course also explores a variety of particular challenges to war and peace, such as: guerrilla war, terrorism, nuclear war, and the use of military force for humanitarian causes. Satisfies the second institutional requirement in religious and theological studies. Fulfills E in LS Core. Three hours a week.

RTS 3900
Women’s Voices in the Holocaust 4 cr.
This course first examines the event of the Holocaust and its components, but then turns to the lives and stories of the women who lived in Europe during the Third Reich. Situating their experiences against women’s unique ways of knowing and behaving, the course employs sociological constructs to assist in understanding how women victims, bystanders and perpetrators endured this period of history. It also explores how religious faith was either abandoned or deepened through their experiences and how it aided in many women’s survival. Lastly, it investigates second generation voices of the “daughters of” those victims, bystanders and perpetrators as they try to understand their mother’s voices and lives. Satisfies the second institutional requirement in religious and theological studies. Three hours a week.

RTS 4400
St. Augustine Seminar 4 cr.
This seminar introduces students to a close reading in English of several of St. Augustine’s primary texts, including his Confessions. Major theological themes that emerge from these texts will also be studied in a seminar format that emphasizes reading, discussion and writing. The contemporary relevance of Augustinian spirituality and theology, as well as the influence of the Order of St. Augustine throughout Christian history will also be explored. Satisfies the second institutional requirement in religious and theological studies. Three hours a week.

RTS 4800
Directed Study 4 cr.
In lieu of a formal course, qualified upper-class students may substitute an intensive program of reading under the direction of a member of the department. Normally, a student must possess a cumulative quality point average of not less than 3.00 and have completed three courses in religion and theological studies offered in traditional format. Satisfies the second institutional requirement in religious and theological studies. Three hours a week.

RTS 4850
Internship in Religious and Theological Studies 4 cr.
The Internship in Ministry and Religious Education (MRE) is a semester-long opportunity for students who have declared a major in Religious and Theological Studies to engage in service in a parish, congregation, synagogue, or religiously affiliated secondary school, as well as in hospice and hospital pastoral care agencies. The IMRE has been created especially for students who wish to pursue professional careers in ministry and religious education or who intend to pursue academic careers in religious and theological studies. Fulfills X in LS Core.

RTS 4900
Seminar in Religious & Theological Studies 4 cr.
This course will be limited to ten junior and senior majors. The professor may make exceptions to this rule. This course is required for majors in religious and theological studies. The specific topic of the course is selected by the professor. It is designed to serve as a capstone to the major and to expose students to the type of course one might encounter at the graduate level.

Romance Languages
See World Languages and Culture
Science and Religion minor
See Religious & Theological Studies

School & Society concentration
See Human Development

Secondary Education Concentration
See Education

Self-Designed Major
Interdisciplinary Program

Contact: Deans of the Schools, Chairs of Departments offering relevant courses

This special interdepartmental major provides students with an opportunity to design an individualized curriculum that meets their particular academic interests and their professional and personal goals.

The major consists of at least 36 credits to be completed in a minimum of nine courses offered by two or more departments. Working with an academic advisor, students proposing a self-designed major will need to craft a program proposal that articulates the internal logic and academic objectives of the specific self-designed major.

All students proposing a self-designed major must select a field that will serve as their area of concentration for the major. For some, this choice may be an in-depth study of one or more disciplines, such as “American History and Literature” or “Sociology and Government.” Others may choose a theme or a problem from an interdisciplinary perspective, such as “Global Warming and Contemporary Culture.” Many students can use the program to develop a pre-professional or professional major not currently available as a departmental major.

How to Propose a Self-Designed Major

All students are required to submit a proposed plan of study listing the specific courses that will be required to complete the major. These courses must follow logically from a statement of educational purposes and goals.

In addition, majors require a minimum of 36 credits to be completed in a minimum of nine courses, although a major may include more than the minimum credits and courses. The courses included in the major must come from at least two departments, and at least half of them must be considered to be beyond the introductory level.

The proposal also must identify whether the degree to be earned with the major is a BA or a BS degree, and it must provide a brief name for the major that will be recorded in college records and printed on the student’s transcript.
Since the proposal must be approved by the departments that offer the courses included in the major, the final page of the proposal should include approval lines for the chairs of those departments to sign. The advisor, the relevant department chairs, and the dean can provide assistance and advice as the proposal is developed.

When all of these approvals have been obtained, a copy of the proposal should be submitted to the dean of the School in which the majority of the courses in the major are offered, and the original signed proposal should be submitted to the Registrar.

When the Registrar accepts the proposal, students can proceed to completing their designated courses and accomplishing their goals.

Proposals for self-designed interdepartmental majors should be developed before the end of the Junior year. A proposal submitted to the Registrar’s office in a student’s final semester may not be accepted.

Proposal Template

In summary, proposals for self-designed interdepartmental majors should include the following elements:

- Title including the name of the proposed major and whether the degree to be earned with this major is a BA or a BS (Example: “Proposal for a Self-Designed Major for a BA degree in Philosophy and Public Service”)
- Student’s name
- Identification of the student’s educational purposes and goals and/or professional and personal goals that the proposed major is designed to serve
- List of the specific courses to be completed for the major, with their relationship to the goals explained
- Minimum of 36 credits to be completed in a minimum of nine courses
- Courses must come from at least two departments
- At least half of the courses must be considered to be beyond the introductory level
- Approvals page with spaces for the signatures of the chairs of the departments offering the courses in the major and the dean of the appropriate school.

Self-Designed Minor

Interdisciplinary Program

Contact: Dean of the School of Liberal Arts, Chairs of Departments offering relevant courses

This special interdepartmental minor provides students with an opportunity to design an individualized minor that meets their particular academic interests and their professional and personal goals.

The minor consists of at least 20 credits to be completed in a minimum of five courses offered by two or more departments. Working with an academic advisor, students proposing a self-designed minor will need to craft a program proposal that articulates the internal logic and academic objectives of their specific self-designed minor.
All students proposing a self-designed minor must select a focus of study for the minor. For some, this choice may be a shared area or point of connection among two or three disciplines. Others may choose a theme or an issue approached from an interdisciplinary perspective. Students can use the self-designed minor to enrich their personal development and preparation in ways not currently available through a departmental minor.

**How to Propose a Self-Designed Minor**

All students are required to submit a proposed plan of study listing the specific courses that will be required to complete the minor. These courses must follow logically from a statement of educational purposes and goals.

In addition, minors require a minimum of 20 credits to be completed in a minimum of five courses. Although a minor may include more than the minimum credits and courses, it should not contain more than more than 30 credits, which is 75% of a minimal major requirement. The courses included in the minor should come from at least two departments. Students, however, may propose a minor with courses from just one department if (1) the minor is not offered by the department and they can take enough courses to fulfill the proposed minor (e.g., a Photography minor within Visual and Performing Arts) and (2) the proposed self-designed requirements does not simply replicate an existing minor—i.e., it cannot be an alternative version of an existing minor. At least half of the courses in a self-designed minor must be considered to be beyond the introductory level, and the proposal also must identify a brief name for the minor.

Since the proposal must be approved by the departments that offer the courses included in the minor and the dean, the final page of the proposal should include approval lines for the chairs of those departments and the dean to sign. The advisor, the relevant department chairs, and the dean can provide assistance and advice as the proposal is developed.

When all of these approvals have been obtained, a copy of the proposal should be submitted to the Dean of the School of Liberal Arts, and the original signed proposal should be submitted to the Registrar. When the Registrar accepts the proposal, students can proceed to completing their designated courses and accomplishing their goals.

Proposals for self-designed interdepartmental minors should be developed before the end of the Junior year. A proposal submitted to the Registrar’s office in a student’s final semester may not be accepted.

**Proposal Template**

In summary, proposals for self-designed interdepartmental minors should include the following elements:

- Title including the name of the proposed minor (Example: “Proposal for a Self-Designed Minor in Values and Community Service”);
- Student’s name;
- Identification of the student’s educational purposes and goals and/or professional and personal goals that the proposed minor is designed to serve;
- List of the specific courses to be completed for the minor, with their relationship to the goals explained;
- Minimum of 20 credits (and a maximum of 30 credits) to be completed in a minimum of five courses;
• Courses must come from at least two departments, except as noted above, and at least half of the courses must be considered to be beyond the introductory level;
• Approvals page with spaces for the signatures of the chairs of the departments offering the courses in the minor and the dean.

Social/Organizational Psychology minor
See Psychology

Department of Sociology
School of Liberal Arts

Faculty:
   Chair (2013-2014): Associate Professor Michael DeCesare
   Professors Dalphin and Tiemann
   Associate Professor Dorney

Statement of Philosophy and Purpose

“The sociological imagination enables us to grasp history and biography and the relations between the two within society. That is its task and its promise.”
--C. Wright Mills (1959).

Sociology is the systematic study of human society and the patterns and consequences of social interaction. The study of sociology cultivates a critical perspective that relies on observations and empirical evidence to demonstrate the effect that society has on the ways we think, feel, and act. The nature of society is such that it appears to be both apart from as well as a part of everyday human activity. While it exerts significant influence over our everyday lives, it is in the very details of human activity that society is constructed, maintained, and changed. The sociology program at Merrimack College provides students with an understanding of social life that recognizes the complex relationship and dynamic interplay between society and its members. Courses in sociology at Merrimack College focus on the degree to which people’s lives are significantly influenced and affected by broader socio-cultural, political-economic, and historical forces. A goal of the program, therefore, is to help students cultivate the sociological perspective as a type of critical thinking and informed analysis.

Students are taught the theoretical perspectives and various research methods that sociologists utilize to systematically study the multifaceted aspects of social life. Students are expected to develop a command of the methods used to conduct sociological analyses. As part of the program, students demonstrate proficiency in formulating a research question and constructing an appropriate research design by developing their own research proposal that is theoretically informed and methodologically appropriate. In addition, students study statistical analysis to further their ability to conduct sociological research.

Special emphasis is placed on social inequality in all courses offered by the Department of Sociology. A goal of the program, therefore, is to make students aware of the nature and effects of social inequality on the life chances of all members of society. The sociology program provides students with experiential learning opportunities to work in various community, human services, criminal justice, and health-related agencies where students are expected to apply sociological reasoning to their supervised field work experiences. This part of the program allows students to experience possible career interests, to learn from those already working in the field, to consider the need for further education, and to establish valuable contacts that may
be helpful in acquiring full-time employment. Sociology realizes its potential as an intellectual tool and guide for enlightened social action when students are given the chance to connect their knowledge and expertise with hands-on experience.

With a degree in sociology, students will be prepared for entry into a number of areas of work since they will possess the abilities and proficiencies associated with a liberal education. The sociology program provides students with the necessary preparation and background to pursue an advanced degree in sociology or a related field such as law, criminal justice, conflict resolution, social work, or public health. The success of the sociology program at Merrimack College will be measured by the students who graduate and remain challenged by the complexity of their world and become rededicated as new thinkers with fresh ideas as they approach the ongoing study of the human condition. With this knowledge, each student is expected to become a more informed, engaged, and contributing member of civil society. By these measures of success, students who complete the program in sociology at Merrimack College will indeed grasp the truth of Peter L. Berger’s observation that “the fascination of sociology lies in the fact that its perspective makes us see in a new light the very world in which we have lived all our lives” (1963). This new vision will make for a more enlightened person and humane society.

Requirements for a Major in Sociology

*Principles of Sociology* (SOC 1001) represents the major bridge between the Sociology Department and the Merrimack College community. It is taken by many students to satisfy a Social Science distribution requirement or a SOCS requirement in the LS Core, or as the required entry-level course to admit any student, including sociology majors and minors, to all upper-level Sociology courses. Students who enter Merrimack as a declared Sociology major must earn a C or better in SOC 1001 in order to remain in the major.

Satisfying the requirements for the major in Sociology includes completing a minimum of 38 credits in the major and a minimum of 10 courses as specified below. For a major, students must achieve at least a 2.0 grade point average in their major courses.

The following five (5) courses are required of all sociology majors:

- SOC 1001  Principles of Sociology
- SOC 4300  Social Class in America
- SOC 4600  Research Methodology (Fall)
- SOC 4725  Social Theory (Fall)
- SOC 4740  Statistical Analysis (Spring)

Sociology majors select five (5) electives from the following courses:

- SOC 2050  Social Work
- SOC 3150  Social Movements
- SOC 3300(W) Sociology of Education
- SOC 3370  Urban Sociology
- SOC 3400  Population Problems
- SOC 3450  Sociology of the Family
- SOC 3600  Sociology of Health
- SOC 3800  Sociology of Gender
- SOC 3850  Sociology of Aging
- SOC 4810  Directed Study
- SOC 4815  Directed Study
- SOC 4860  Social Service Field Work
- SOC 4865  Social Service Field Work
A maximum of two (2) of the five (5) electives may be taken from the following list of cognate courses:

- HIS 2329 American Social History
- HIS 3390 Modern European Social History
- PHL 2700 Philosophy of the Social Sciences (Prerequisite: PHL1000)
- POL 2121 Public Administration and Public Policy (Prerequisite: POL1100)
- POL 3122 Issues in Public Policy (Prerequisites: POL1100 and POL2121)
- POL 3131 Polling and Public Opinion (Prerequisites: POL1100 and POL2000)
- PSY 2200 Social Psychology (Prerequisite: PSY1000)
- PSY 3250 Cultural Psychology (Prerequisite: PSY1000)
- WGS 2010 Introduction to Ethnic Studies
- WGS 2200 Gender and Social Movements
- WGS 3100 Feminist Theory
- WGS 3140 Studies in Masculinities
- WGS 3250 Sex and Gender Studies
- WGS 3420 Gender, Race and the Media
- WGS 3830 Gender and Global Health
- WGS 4100 Gender Studies
- WRT 2020W Writing for Social Change

Requirements for a Minor in Sociology
Satisfying the requirements for the minor in Sociology includes completing a minimum of 18 credits in the minor and a minimum of 5 courses as specified below. For a minor, students must achieve at least a 2.0 grade point average in the minor courses.

The following four (4) courses are required of all Sociology minors:

- SOC 1001 Principles of Sociology
- SOC 4300 Social Class in America
- SOC 4600 Research Methodology (Fall)
- SOC 4725 Social Theory (Fall)

Sociology minors select one (1) other Sociology course as an elective.

SOC 1001 Principles of Sociology 4 cr.
The objectives of this introductory course are: (1) to cultivate the sociological perspective by acquainting students with basic sociological theories, methods, concepts and findings; (2) to use the basic concepts and principles of sociology to examine the various sectors of social life; and, (3) to develop an awareness of how and why social forces influence the experiences of everyday life. The course usually begins with a brief review of sociology’s historical origin, its major theoretical perspectives and its various research methodologies. The nature of culture, social interaction, group dynamics, bureaucracy, socialization, deviance, crime, urbanization, collective behavior, and social change are some of the topics studied. The course also explores some of the institutions of society, such as the family, the political economy, religion, education, and the medical system. A central focus of the course is understanding the nature of social inequality as it exists in the United States and across the globe in terms of age, gender, race, and social class. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

SOC 2050 Social Work 4 cr.
This course is designed to introduce students to the broad field of social work. Students who take this course become competent in the multi-disciplinary foundation of social work including values and ethics, diversity, populations-at-risk,
social and economic justice, human behavior and the social environment, social welfare policy and services and social work practice. Special attention is given to services for children and families, people with disabilities, gays and lesbians, the elderly, people with addiction and/or mental illness, and individuals in the criminal justice system. In addition, students are introduced to the various methods that social workers use including casework, group work and community organization. Prerequisite: SOC 1001 or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

SOC 3150
Social Movements 4 cr.
This course examines how social change happens by focusing on one particularly important agent of change: social movements. The course is organized around key sociological questions about social movements: When and why do they occur? Who joins, supports, and leaves them? How are movements organized, and what do they do? How are they influenced by external forces, such as the state and mass media? Finally, why do movements decline, and how can we measure any changes that they ultimately bring about? In the process of finding answers to these questions, we will examine the dominant theoretical paradigms in social movement scholarship, which include rational-choice theory, resource mobilization, political opportunity theory, and more recently, cultural approaches to the study of movements. Prerequisite: SOC 1001 or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

SOC 3300(W)
Sociology of Education 4 cr.
This course focuses on the structure, process, and social functions of education. It addresses a variety of sociological questions about the relationship between schools and society, including: Who is involved in the process of education, and what roles do they play? How and why are schools, classrooms, and curricula organized in the ways that they are? How do schools socialize and integrate children and adolescents into society? How do schools reproduce stratification and inequality? How is the education system connected to other social institutions? Finally, what are some alternative models to the traditional education system? The primary goal of the course is to encourage students to understand their own educational backgrounds from a sociological, rather than individualistic perspective. Prerequisite: SOC 1001 or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement and W in LS Core. Three hours a week.

SOC 3370
Urban Sociology 4 cr.
The study of the urban form at its most elementary level is the study of the fundamental social nature of human life. Urban Sociology is the study of the diverse and complex patterns of social life associated with people and places in large scale settlements. It examines the various historical, cultural, geo-political and economic factors that help explain the origin and development of the city as a social invention and changing human form. The sociological study of the city, therefore, explores the range of topics that relate to the promises and problems of social life of those who live or work or visit the urban setting. The course begins with a general review of the historical origins of urbanization and a more specific focus on urbanization, suburbanization and the growth of metropolitan regions in the United States. Traditional and American theories of urbanization are reviewed. Life as it is experienced in the city and its neighborhoods is examined in terms of class, gender, race-ethnicity, and lifestyles. Common problems of urban life such as poverty, racism, crime, and homelessness are addressed. Patterns and theories of political power at the local level are explored. A brief look at urbanization in the Third World serves as a stark juxtaposition to the experience of industrialized or western societies. The course concludes by considering the impending impact of the environmental issue on urban prospects and the role that metropolitan planning will play in shaping the form and place collective life will assume in the future. Prerequisite: SOC 1001 or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

SOC 3400
Population Problems 4 cr.
In this course we explore the history of world population growth and consider the prospects for future growth. We look at where the world’s population is distributed and from where population data emerges. Theories of population by Malthus, Marx, and others are discussed. We analyze important demographic variables of fertility, migration, and mortality. Some questions we consider in this class are: What fertility differences are there among countries in the world and within the United States? Who has the highest birth rates? How does migration of the population vary among countries and within the United States? What has been the American experience with regard to immigration? How does mortality vary among countries in the world and between groups within the United States? Who has the highest death rates? We also consider the demographics of income, age, race, and sex from the point of view of how they allow us to describe the makeup of a population. World social problems of environmental deterioration, food shortages, and inequality between rich and poor countries are also discussed. Solutions to these problems including

230
As family relationships, housing, retirement, social security, and the social service and health care maze are in response to the growing aged population. In considering the promises and problems of growing older, the social problems presented by the aging population are examined. The sociological revolution responsible for the “graying” of American’s age structure, and the policy and programs that have developed to meet the needs of older Americans are discussed followed by a presentation of the social theories of aging. The focus then turns to a study of the sociological forces that interact and affect the nature and quality of human development in later life. Aging corresponds to a complex process involving biological, psychological, and sociological forces. As Freund, McGuire and Podhurst point out in Health, Illness and the Social Body. A Critical Sociology [2003: 4], “The sick body is not simply a closed container, encased in skin that has been invaded by germs or traumatic blows but is also open and connected to the world that surrounds it. Thus the human body is open to the social body. Similarly, our material (or physical) environment, such as the urban landscape, the workplace, or our foods, is influenced by our culture, social structure, and relationships. And these in turn influence our bodies.” The course begins with a brief review of the history of past viewpoints and practices in western civilization toward health, healing and illness leading to the emergence of the modern medical profession, scientific medicine, and the establishment of the medical model as the primary paradigm of disease. We will examine the social factors that influence who gets sick, the types of illness suffered, the experience of being sick, the process of seeking help, and the context in which medical care is delivered. We will discuss the effect of stress on health and the role that human relationships and social support play in mediating stress. We will assess the state of our health care system and compare it to other systems. In general, we will depend on the theories, concepts and findings from sociology as they apply in the study of this area to direct our focus and inform our analysis. Prerequisite: SOC 1001 or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

SOC 3600 Sociology of Health 4 cr.
Health, illness and healing are not merely physiological states but also human experiences shaped by sociological forces. As Freund, McGuire and Podhurst point out in Health, Illness and the Social Body. A Critical Sociology [2003: 4], “The sick body is not simply a closed container, encased in skin that has been invaded by germs or traumatic blows but is also open and connected to the world that surrounds it. Thus the human body is open to the social body. Similarly, our material (or physical) environment, such as the urban landscape, the workplace, or our foods, is influenced by our culture, social structure, and relationships. And these in turn influence our bodies.” The course begins with a brief review of the history of past viewpoints and practices in western civilization toward health, healing and illness leading to the emergence of the modern medical profession, scientific medicine, and the establishment of the medical model as the primary paradigm of disease. We will examine the social factors that influence who gets sick, the types of illness suffered, the experience of being sick, the process of seeking help, and the context in which medical care is delivered. We will discuss the effect of stress on health and the role that human relationships and social support play in mediating stress. We will assess the state of our health care system and compare it to other systems. In general, we will depend on the theories, concepts and findings from sociology as they apply in the study of this area to direct our focus and inform our analysis. Prerequisite: SOC 1001 or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

SOC 3650 Sociology of Aging 4 cr.
Despite the elusive search for the fountain of youth by discoverers of old and scientists of today, growing old remains a fundamental and inevitable fact of life. Aging corresponds to a complex process involving biological, psychological and sociological forces that interact and affect the nature and quality of human development in later life. The purpose of this course is to examine in detail the sociological dimension of growing older and investigate the extent to which the sociological dimension influences and shapes other aspects or dimensions of aging. The changing composition of the age structure of American society is responsible for significant social changes whose powerful repercussions are being felt at every level of social life. The “graying” of American society has brought in its wake a series of new and compelling questions and challenges never before addressed. This demographic revolution poses new questions in an old garb regarding the fundamental relationship of the individual and society. The course begins by introducing the field of social gerontology and examining some common myths of aging. Different methods of conducting research in the field of aging are discussed followed by a presentation of the social theories of aging. The focus then turns to a socio-historical review of aging in American society with particular attention devoted to the modern demographic revolution responsible for the “graying” of American’s age structure, and the policy and programs that have developed in response to the growing aged population. In considering the promises and problems of growing older, such topics as family relationships, housing, retirement, social security, and the social service and health care maze are

Fulfills a SOSC requirement in LS Core. Three hours a week.

SOC 3450 Sociology of the Family 4 cr.
This course provides an overview of the family as a major institution of society using a sociological perspective. The family is studied from both the macro and micro levels with special attention devoted to the significant transformations and changes the family is undergoing in its form and functions. The changing nature of the family is discussed in terms of its effects on us individually as well as the impact the changes are making in society. The objectives of this course are: (1) to introduce students to the essential concepts, theories, and research used in sociology to analyze the family; (2) to enhance the students’ understanding of the complexity of family life and how family experience is shaped by race, social class, gender, and culture; (3) to enable students to identify and examine sociologically relevant problems and issues within the contemporary family; and (4) to encourage critical thinking and writing skills that demonstrate the students’ abilities to understand and analyze social phenomena. Prerequisite: SOC 1001 or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

SOC 3800 Sociology of Gender 4 cr.
Sociology of Gender examines the differences in socialization and life experiences of males and females. The purposes of this course are: (1) to discuss the differential experiences of females and males; (2) to relate current sociological theory to these experiences; and (3) to apply knowledge learned to students' own lives. Consequently, students' experiences, insights, questions, and ideas are a key part of this course. The class considers not only what is in terms of gender roles, but also what might be and how we, as change agents, may act to improve our individual and collective lives. Prerequisite: SOC 1001 or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

SOC 3850 Sociology of Aging 4 cr.
examined. Also, the role that gender, class, race and ethnicity play in creating the mosaic aging experience is considered, and the social dimension of Alzheimer’s disease is explored. Finally, the course concludes by considering the politics of aging. In general, the course depends on the theories, methods and findings from sociology as they have been applied to the study of aging to direct our focus and inform our analysis. Prerequisite: SOC 1001 or consent of the instructor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

**SOC 4300**  
Social Class in America  
4 cr.  
The social class structure in America is examined in terms of differences in wealth, prestige, and power. What explanations have been given for the existence of social classes? How have sociologists studied social class differences in the United States? How important are these differences for our day to day lives? What changes in our social class structure can we expect in the future? Prerequisite: SOC 1001 or consent of the instructor. Required for majors and minors. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

**SOC 4600**  
Research Methodology  
4 cr.  
An introduction to the research methods employed in sociology. Areas that the course covers include the following: the nature of science, ethical issues in research, how to do a research of the literature and relevant variables. Of central importance is a consideration of available research designs and the major options regarding methods of data collection, sampling techniques, and measurement plans. Prerequisite: SOC 1001 or consent of the instructor. Required for majors and minors. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement in LS Core. Three hours a week.

**SOC 4725**  
Social Theory  
4 cr.  
Both Classical and Contemporary Theory will be studied and discussed in this class. The class begins with an intensive study of the origins of sociological thought in the nineteenth century as a response to the conditions of modernity. Students will study the social analysis of thinkers who sought to make sense out of the dramatic shift from traditional to modern society. Students will read the original texts of such sociologists as Karl Marx, Emile Durkheim, and Max Weber, who are considered responsible for establishing the theoretical foundation of the modern discipline of sociology. The class will build on the foundation of these theorists, as students learn current day theoretical perspectives. Students will read original texts of the current theories in major sociological perspectives such as functional theory, conflict theory, interaction theory, rational choice, theory, and postmodernism. Prerequisite: SOC 1001 or consent of the instructor. Three hours a week.

**SOC 4740**  
Statistical Analysis  
4 cr.  
This course gives students an understanding of both the simple descriptive statistics they encounter in everyday life and the more advanced statistical techniques employed by social scientists and other researchers. The course answers four fundamental questions about social statistical analysis: What are some of the different statistical techniques that social scientists use to analyze data? How do we know when to use which technique? What are the strengths and weaknesses of each technique? How do we interpret the results of any given statistical analysis? Among the topics covered are measures of central tendency and dispersion, the standard normal curve, t-tests, analysis of variance, chi-square, and multivariate regression. The course has a required lab component, in which students learn to use SPSS to analyze real data. Prerequisites: SOC 1001 and SOC 4600 or consent of the instructor. Fulfills Q in LS Core. Three hours a week.

**SOC 4810/SOC 4815**  
Directed Study  
4 cr.  
In lieu of a formal course, qualified upper-class students may, with the approval of the Chair of the Department, substitute an intensive program of reading under the direction of a member of the department. Prerequisite: SOC 1001, consent of the Chair and a full-time member of the department under whose supervision the Directed Study will be conducted.

**SOC 4860/SOC 4865**  
Social Service Field Work  
4 cr.  
The Social Service Field Work course offers students who major or minor in Sociology with service learning opportunities. The course provides students a unique chance to experience possible career interests, to learn from those already working in the field, to consider the need for further education, and to establish valuable contacts that may be
helpful in acquiring fulltime employment. The prospect of working in the field, using and applying the sociological perspective is an integral and vital activity of the sociological tradition.

Students in this course select from a range of possible supervised field work opportunities within community, human services, criminal justice and health-related agencies. In return for their contribution to the activities of the agency, students receive direct professional supervision, valuable field experience, and earn four credits toward graduation.

Students volunteer at the placement agency between 12 to 15 hours a week. Students arrange with the supervisor at their placement an agreed upon work schedule, specific responsibilities that will be assigned to the student, and tasks expected to be accomplished by the student over the course of the placement. These agreements are stipulated in a Memorandum of Understanding document which is signed by the student, the agency, and the instructor.

In addition to the responsibilities the students assume as part of their placement, the academic component requires that the student meet on a periodic basis with the instructor to discuss Social Service Field Work experiences and progress toward applying the sociological perspective to these experiences. The course grade, therefore, is based on two components: a Placement Evaluation of Student Performance and a Course Project where the student applies some type of sociological analysis to the field work experiences. Prerequisite: SOC 1001 and consent of the instructor. Fulfills X in LS Core.

Spanish
See World Languages & Culture

Department of Sport Management
Girard School of Business

Faculty:
Assistant Professor Taesoo Ahn

The interdisciplinary Sport Management program prepares graduates for career success in the exciting, dynamic, and growing profession of sport management. Students who complete our innovative business core curriculum, are provided the knowledge, skills, and abilities that are essential to successful business careers. In addition, our specialized sport management concentrate gives students the education and training demanded by the continually expanding sport industry. The sport management concentrate is ideal for anyone who desires a career in sport marketing, events management, athletic administration, or facilities management, but also provides the general business preparation for other career opportunities.

In addition to satisfying the college’s general education requirements and the cognate and core requirements for the major in business administration, students concentrating in sport management must complete the following courses:

**Required Sport Management Core:**
- SPM 3000 Introduction to Sport Management
- SPM 3005 Sport Marketing
- SPM 4000 Sport Practicum

The concentrate requirement includes the above three courses plus eight additional credit hours of sport management elective courses shown below:
- SPM 3500 Legal Environment of Sports
- SPM 4250 Facilities and Event Management
- SPM 4900 Advanced Topics in Sport Management
- MGT 3325 Ethics and Social Responsibility
- SPM 4900 Special Topics in Sport Management
SPM 3000
Introduction to Sport Management 4 cr.
In this course, students will be introduced to the unique opportunities and operational aspects of a sport management career. The course will provide introductory exposure to the following areas: the historical evolution of American and international sports; the relationship between the mass media and the sports industry; the economic impact of sports; the interactive relationship between sports and society; and legal and ethical issues in sport management. Prerequisite: BUS 1100. Four hours a week.

SPM 3005
Sport Marketing 4 cr.
Marketing is a critical function in the sport organization. Sport marketing exposes students to the dynamics of marketing a sport organization. Topics include promotion, public relations, event sponsorship, strategic marketing, consumer behavior, and brand management. Prerequisites: BUS 2205 and SPM 3000. Four hours a week.

SPM 3500
Legal Environment of Sports 4 cr.
This course examines the legal issues arising from the areas of amateur and professional sport. Areas of study include, but are not limited to, constitutions, legal enactments, policy making in sport management, case law related to administrative, constitutional, contract, labor, product liability, and tort law, and risk-management techniques. Prerequisite: SPM 3000. Four hours a week.

SPM 4000
Sport Management Practicum 4 cr.
The practicum provides students with experiential learning opportunities relevant to the sport management career. This “hands-on” experience allows students to learn how their educational training applies to a sport organization. Prerequisite: SPM 3000. Fulfills X in LS Core. Four hours a week.

SPM 4250
Facilities and Event Management 4 cr.
This course is designed to prepare students to plan and manage sport and recreation facilities and events. Students will study and discuss client needs and the theories involved in planning, constructing, and managing facilities. Field trips to commercial and educational recreation facilities will occur throughout the semester. Students will review contemporary event promotion practices in the industry as well as the history of marketing events. Event types of study will include sporting events, concerts, trade shows, conventions, festivals, and exhibits. In addition, fundraising for event activities will be discussed. Prerequisite: SPM 3000. Fulfills X in LS Core. Four hours a week.

SPM 4900
Special Topics in Sport Management 4 cr.
This course is designed to explore contemporary issues in Sport Management. The specific topic varies each time the course is taught. Descriptions are available in the Business Dean’s office. Prerequisite: SPM 3000. Four hours a week.

Sports Medicine
See Health Sciences

STEM Education
Education Department

STEM (Science, Technology, Engineering & Mathematics) Education is a cutting-edge interdisciplinary major that prepares teachers to be competent and effective across the areas of mathematics, technology, engineering and science. The program helps future teachers understand the process of science and engineering and provides the foundation for teaching the ‘big ideas’, the beauty, and the logic of the natural world. The program provides key courses within the School of Science & Engineering as well as thematic courses on the processes of scientific literacy and the teaching of engineering and scientific knowledge. This program is only
open to Education majors as a double-major towards licensure in Early Childhood Education, Elementary Education, and/or Moderate Disabilities.

STEM EDUCATION PROGRAM REQUIREMENTS

<table>
<thead>
<tr>
<th><strong>STEM Foundational</strong> (all required; 24 total credits)</th>
<th><strong>Credits</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>STM 1010 Foundations of STEM</td>
<td>4</td>
</tr>
<tr>
<td>BIO 1028 Principles of Biology II</td>
<td>4</td>
</tr>
<tr>
<td>CHM 1110 General Chemistry OR CHM 1210 Chem for Health Professions</td>
<td>4</td>
</tr>
<tr>
<td>PHY 2201 General Physics OR PHY 2211 Physics I</td>
<td>4</td>
</tr>
<tr>
<td>MTH 1217 Calculus I OR MTH 1314 Discrete Mathematics</td>
<td>4</td>
</tr>
<tr>
<td>Technology or Engineering (one course)</td>
<td>4</td>
</tr>
</tbody>
</table>

**STEM Electives** (Choose three courses; 12 total credits)

<table>
<thead>
<tr>
<th><strong>Credits</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Sciences</td>
</tr>
<tr>
<td>BIO 1027 Principles of Biology I</td>
</tr>
<tr>
<td>BIO 3009 Environment, Ecology and Society</td>
</tr>
<tr>
<td>HSC 1106 Human Biology</td>
</tr>
<tr>
<td>HSC 2300 Nutrition, Diet and Health</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Credits</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Sciences</td>
</tr>
<tr>
<td>AST 1101 Introduction to Astronomy</td>
</tr>
<tr>
<td>CHM 1120 General Chem II OR CHM 1220 Chem for Health Professions II</td>
</tr>
<tr>
<td>PHY 2202 General Physics II OR PHY 2212 Physics II</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Credits</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics</td>
</tr>
<tr>
<td>MTH 1111 Basic Statistics</td>
</tr>
<tr>
<td>MTH 1112 Adventure in Mathematics</td>
</tr>
<tr>
<td>MTH 1217 Calculus I</td>
</tr>
<tr>
<td>MTH 1218 Calculus II</td>
</tr>
<tr>
<td>MTH 1314 Discrete Mathematics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Credits</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology/Engineering</td>
</tr>
<tr>
<td>CEN 1001 Introduction to Engineering</td>
</tr>
<tr>
<td>CSC 1510 Introduction to Information Technology</td>
</tr>
<tr>
<td>CSC 2210 Introduction to Computational Science</td>
</tr>
<tr>
<td>EEN 1177 Renewable Energy and Energy Efficiency</td>
</tr>
<tr>
<td>OR EEN 1065 Intro to Electricity and Electronics for Non-Engineers</td>
</tr>
</tbody>
</table>

**Practicum and Capstone** (both required; 8 total credits)

<table>
<thead>
<tr>
<th><strong>Credits</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>STM3000 Capstone</td>
</tr>
<tr>
<td>STM4000 Practicum</td>
</tr>
</tbody>
</table>

**STM1010 Foundations of STEM**

This course will introduce STEM and its integral role in our current society. Students will investigate questions in the life and physical sciences, engineering, and mathematics. Students will learn to identify and understand the elements of the scientific method. Students will use tools and instruments for observing, measuring, and manipulating objects in scientific activities. They should achieve a more advanced level of skill in experimental design by learning to conceptualize problems, test their hypotheses, conduct experiments and make modifications as necessary to answer STEM questions. *Four hours a week.*
STM3000
STEM Capstone
4 cr.
This course explores the core ideas of science that provide the framework for understanding the universe. It investigates many of the fundamental scientific principles that relate to all matter and life in the universe and considers technological advancements and engineering innovations that have altered the natural world and impact our lives on a daily basis. An integrated approach is used to establish the roles of the scientific method, physical laws and mathematical tools in our understanding of the natural world, including the concepts of scale and size, complexity, matter and energy, and the origins of the universe, our planet and of life. This course is supported by an experiential learning component related to the educational process. Students will explore a multitude of local resources that are available in the teaching of K – 5th grade science and math classes. Examples include visits to informal environments such as the Boston Museum of Science, Acton Discovery Museum, whale watch expeditions and the Joppa Flats Mass Audubon Sanctuary, which offer a variety of educational opportunities. Making connections with our undergraduate Science, Technology, Engineering and Mathematics students in their class projects such as bridge construction, circuit design, Thinkfest, the Seedling Project and the Environmental Sustainability campus initiatives offer opportunities for collaborative learning. At the end of the course, a global field study experience in which students travel with experienced faculty to Belize or Costa Rica to study tropical ecosystems is recommended. Four hours a week.

STM4000
STEM Practicum
4 cr.
This inquiry-based course provides students the opportunity to apply what they have learned throughout the STEM program to the teaching of that content to elementary students. This course examines how children learn science, math, technology and engineering and how teachers facilitate that learning. The course will be based on a framework where students use evidence to construct explanations and engage in argumentation. The course will be set in real life settings (both inside and outside elementary classrooms /lab/Quarrybrook Reservation) and students will become actively involved in the following: participating in and developing inquiry based STEM laboratory investigations, teaching those investigations to elementary students in two settings, assessing student understanding, addressing persistent student misconceptions and initiating self/peer/group reflections of implementation efforts. Observation and field experience are required. Four hours a week.

Studio Art Minor
See Visual & Performing Arts

Theological Studies Concentration
See Religious & Theological Studies

United States History minor
See History

United States Politics minor
See Political Science

Department of Visual and Performing Arts
School of Liberal Arts

Faculty:
Chair (2013-2014): Associate Professor Kathleen Sills
Professors Longsworth and Raymond
Associate Professor Gildea
Assistant Professor Pruett
Assistant Professor Piatt
The Department of Visual and Performing Arts offers a variety of courses in studio art and art history, digital design, music, and theatre. Students are presented with opportunities for study in art history and theory; in theatre history, theory, and appreciation; in music history, theory, appreciation, and performance; and of traditional and innovative processes and practices of the visual and performance arts: studio (e.g. drawing, painting, 2- and 3-dimensional design, photography), digital design, and theatre.

The courses offered by the Department serve to introduce students to the artistic traditions that are their heritage and to enable them to participate in the continuation and enrichment of these traditions. The Department offers three major and six minor programs.

The Visual and Performing Arts Major in Art and Art History
The major in art and art history gives the student both a broad-based and a focused, historical education in the arts. The core of the major consists of general history courses in art (i.e. painting, sculpture, architecture and related media), music, photography, and theatre, coupled with studio experience. More intensive courses in art, music, photography, theatre and literature (as appropriate to the chosen period) are then taken in combination so that the student emerges from the major with an informed view of the arts in a given period, such as the Renaissance, the Baroque, the Romantic, or the Modern. A senior seminar with thesis provides students with the opportunity to relate in a meaningful and substantial manner the various strands of their coursework in the arts. The senior seminar is preceded by a course in methodology and art literature that prepares students for this capstone experience of their senior year. Majors are encouraged to attend cultural affairs on-and-off-campus: concerts, gallery exhibitions, lectures, and the like.

The Visual and Performing Arts Major in Digital Design
The major in digital design provides students with the opportunity to use traditional media such as photography, paint, pencil and charcoal, and digital (graphic design) media to produce printed publications, 3D animation and illustration, and media-rich web sites. A digital design major will acquire as well a grounding in art history to make his or her work intelligent and insightful, whether the goal is to produce quality graphic design or fine art.

The Visual and Performing Arts Major in Theatre Arts
The major in theatre arts combines a liberal arts perspective with in-depth study of theatre in its historical and cultural contexts. At the core of the program is the belief that the best theatre artist is one who possesses both a broad knowledge of the theory and literature of the field and highly developed artistic skills. The major recognizes the importance of all aspects of theatre and offers courses and/or practical training in performance, technical theatre, design, directing, arts management and dramaturgy. In addition, the theatre arts major utilizes a not-for-profit academic model to promote student leadership and provide practical experience in arts related professions.

After Merrimack
The Visual and Performing Arts major in art and art history provides students with a comprehensive understanding of the arts expected of those who work in multi-art positions, such as critics, art coordinators, program consultants or generalists teaching art history at small colleges and schools for the arts. The Visual and Performing Arts major in digital design provides a professional foundation for work in graphic, web, and publishing design, as well as a foundation for creative work in fine arts. The Visual and Performing Arts major in theatre arts provides students with a well-rounded and broad understanding of the field of theatre studies and prepares students for graduate school or careers in theatre related professions.
**Major GPA.** Students must achieve a final graduation point average of 2.00 or better within any majors offered by the Visual and Performing Arts Department. The GPA for majors will be calculated as the average of all courses taken within the major.

**Major in Art and Art History**

The Art and Art History major requires the completion of a minimum of 48 credits and a minimum of 12 courses, as specified below.

**Core:**
- FAA 1710 Foundations of the Visual Arts
- FAA 1310 The Nature of Music
- FAA 1610 Art History I
- FAA 1620 Art History II
- 1 course: photography, video or theatre (studio; performance)
- 1 course: studio art (traditional studio)
- 1 course: History of Photography or History of Theater or History of Graphic Design
- 3 period courses (at least two of which are chosen from the same period):
  - history OR art, music, photography, theater OR literature (as appropriate), i.e. Renaissance, Baroque, American, 20th century, etc.
- FAA 3960 Methodologies of Scholarship in the Visual and Performing Arts
- FAA 4960 Senior Seminar with Thesis (required of all majors)

**Major in Digital Design**

The Digital Design major requires the completion of a minimum of 60 credits and a minimum of 15 courses, as specified below.
- FAA 1710 Foundations of Visual Arts
- FAA 1610 Art History I
- FAA 1620 Art History II
- FAA 1210 Basic Drawing I
- FAA 1230 2-Dimensional Design
- FAA 3850 The History of Graphic Design
- FAA 2840 Digital Photo and Design OR FAA 2450, Basic Digital Photography
- FAA 2850 Digital Video
- FAA 2860 Electronic Publishing
- FAA 3860 Computer Illustration
- FAA 3830 Web Design
- FAA 3840 Web Animation
- FAA 4820 3D Animation and Illustration
- FAA 3960 Methodologies of Scholarship in the Visual and Performing Arts
- FAA 4950 Digital Design Portfolio

**Major in Theatre Arts**

The Theatre Arts major requires the completion of a minimum of 42 credits and a minimum of 11 courses as specified below. In addition, each Theatre Arts major is required to serve on the Board of Directors of the Merrimack College Theatre program for a minimum of two semesters and a maximum of five semesters.
Core:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAA 2520</td>
<td>Theatre History I</td>
</tr>
<tr>
<td>FAA 2530</td>
<td>Theatre History II</td>
</tr>
<tr>
<td>FAA 1510</td>
<td>Acting I</td>
</tr>
<tr>
<td>FAA 2565</td>
<td>Theatre and Social Change</td>
</tr>
<tr>
<td>FAA 2590</td>
<td>Arts Management</td>
</tr>
<tr>
<td>FAA 2570</td>
<td>Technical Production for the Theatre</td>
</tr>
<tr>
<td>FAA 1530</td>
<td>Theatre Practicum (Rehearsal and Performance)</td>
</tr>
<tr>
<td>FAA 3960</td>
<td>Methodologies of Scholarship in the Visual and Performing Arts (Required of all Theatre Arts Majors)</td>
</tr>
<tr>
<td>FAA 4550</td>
<td>Senior Seminar (Required of all Theatre Arts Majors)</td>
</tr>
</tbody>
</table>

Two electives from the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAA 1520</td>
<td>Voice for the Stage</td>
</tr>
<tr>
<td>FAA 2500</td>
<td>Women in Theatre</td>
</tr>
<tr>
<td>FAA 2510</td>
<td>Acting II</td>
</tr>
<tr>
<td>FAA 2540</td>
<td>Introduction to Playwriting</td>
</tr>
<tr>
<td>FAA 2550</td>
<td>American Musical Theatre</td>
</tr>
<tr>
<td>FAA 2560</td>
<td>London Theatre</td>
</tr>
<tr>
<td>FAA 2580</td>
<td>Design for the Theatre</td>
</tr>
<tr>
<td>FAA 3510</td>
<td>Directing I</td>
</tr>
<tr>
<td>FAA 3520</td>
<td>Acting II</td>
</tr>
</tbody>
</table>

One elective may be fulfilled by the following English courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 3220</td>
<td>Renaissance Drama</td>
</tr>
<tr>
<td>ENG 3250</td>
<td>Shakespearean Drama</td>
</tr>
<tr>
<td>ENG 3680</td>
<td>World Drama</td>
</tr>
<tr>
<td>ENG 3820</td>
<td>20th Century Drama and Performance by Women</td>
</tr>
</tbody>
</table>

Minor in Visual and Performing Arts

There are six minor programs available, respectively emphasizing art history, studio art, digital design, animation, music and theatre.

Art History
The Art and Art History Minor requires the completion of a minimum of 24 credits and a minimum of 6 courses, as specified below.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAA 1710</td>
<td>Foundations of the Visual Arts</td>
</tr>
<tr>
<td>FAA 1610</td>
<td>Art History I: Prehistory to the Renaissance</td>
</tr>
<tr>
<td>FAA 1620</td>
<td>Art History II: The Renaissance to the Present</td>
</tr>
</tbody>
</table>

Studio: visual art
Elective: art history
Elective: art history

Studio Art
The Studio Art minor requires the completion of a minimum of 28 credits and a minimum of 7 courses, as specified below.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAA 1710</td>
<td>Foundations of the Visual Arts</td>
</tr>
<tr>
<td>FAA 1610</td>
<td>Art History I: Prehistory to the Renaissance</td>
</tr>
<tr>
<td>FAA 1620</td>
<td>Art History II: The Renaissance to the Present</td>
</tr>
</tbody>
</table>
Digital Design
The Digital Design minor requires the completion of a minimum of 28 credits and a minimum of 7 courses, as specified below.
- FAA 1710 Foundations of the Visual Arts
- FAA 1610 Art History I: Prehistory to the Renaissance
- FAA 1620 Art History II: The Renaissance to the Present
- FAA 1230 2-Dimensional Design
- FAA 2840 Digital Photography and Design
- Elective: computer based art course
- Elective: computer based art course

Animation
The Animation minor requires the completion of minimum of 22 credits and the minimum of 6 courses, as specified below.
- FAA 1210 Basic Drawing I or FAA 2840 Digital Photography and Design
- FAA 2220 Cartooning and Illustration
- FAA 2850 Digital Video
- FAA 3840 2D Web Animation
- FAA 3850 History of Graphic Design
- FAA 4820 3D Animation and Illustration

Music
The Music Minor requires the completion of minimum of 20 credits and minimum of 5 courses, as specified below.
- FAA 1310 The Nature of Music: The Art of Listening
- FAA 2301 Music History I: Antiquity to the Baroque
- FAA 2302 Music History II: Classical to the 21st Century
- FAA 2360 Elementary Music Theory: Understanding Musical Notation OR FAA 2380 Architecture of Music: From Phrase to Opera
- Elective Music course

I. Demonstration of competence to the senior music faculty member in performance and/or composition. Assistance in obtaining private instruction on the student’s chosen instrument will be given. The student will be expected to give a public performance and/or presentation, preferably in the last year of the degree.

II. Participation for at least 2 semesters in at least one on-campus musical ensemble. Currently the music ensembles include Pep Band, Jazz Band, Concert Choir, Chapel Ensemble, and Mackapella. Alternatives such as participating in the spring musical pit orchestra may be approved by the senior music faculty member.

Theatre
The Theatre minor requires the completion of a minimum of 20 credits and a minimum of 5 courses, as specified below
- FAA 2520 Theatre History: Part I: Origins in the Renaissance
- FAA 2530 Theatre History: Part II: Restoration to the Present
- Technical Theatre Requirement: (1)
- FAA 2570 Technical Production for the Theatre
Studio Requirement: (1)

FAA 1510  Acting I

OR

FAA 2510  Acting II

OR

FAA 3510  Directing I

Electives: (1)

FAA 1550  The Curtain Calls: An Introduction to Theatre for Everyone
FAA 2500  Women in Theatre
FAA 2540  Introduction to Playwriting
FAA 2550W  American Musical Theater
FAA 2560  London Theatre

Studio courses listed above also may be considered as electives.

FAA 1210  Basic Drawing I  4 cr.
An approach to drawing and its values through studio experience. Seeing is emphasized through a series of exercises involving figure and still-life drawing primarily concentrating on line. Light and dark values are investigated later in the course. Abstraction is briefly considered. Satisfies a Humanities distribution requirement. Fulfills AL in LS core. Three hours a week.

FAA 1230  2-Dimensional Design  4 cr.
Introduction to the vocabulary and grammar of visual composition. The basic design elements of figure-ground, point, line, shape, tone, color, texture, pattern and space will be explored through the project assignments. Concept, content, composition, and craft will be looked at as interlocking components. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

FAA 1270  Basic Painting I  4 cr.
An introduction to the principles of painting through direct studio experience with an emphasis on the plastic nature of painting and basic pictorial values. Attention to the needs of individual students. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three and one half hours a week.

FAA 1310  The Nature of Music: The Art of Listening  4 cr.
A course designed to introduce students to the art of active listening to music. A multiplicity of musical styles and genres are employed in the course as means toward the ultimate goal of developing deeper, more aware listening habits in students' daily life. The course will include exploration of western classical genres, including opera and the symphony; popular styles like jazz and rock; and folk musics of the world, including the Americas. Satisfies a Humanities distribution requirement. Fulfills AL and X in LS Core. Three hours a week.

FAA 1320  History of Rock & Roll  4 cr.
This course covers the history of rock music in Western culture, focusing mainly on British and American contributions to the style. It begins with an overview of the musics that were predecessors of rock, including early blues, jazz and rhythm and blues, continues through the birth of rock 'n' roll in the 1950, and traces developments throughout the second half of the 20th century and beyond, culminating in a review of current trends. Satisfies a Humanities distribution requirement. Fulfills AL and X in LS Core. Three hours a week.

FAA 1330  Survey of American Music  4 cr.
A survey of American music from the colonial era to the present, examining folk, popular, art, sacred, and secular music traditions in the United States within their cultural and historical contexts. A comprehensive survey of major trends in American musical history and a collective critical assessment of how Americans tell the story of their own musical heritage. Emphasis is placed on discussion, critical assessment of sources, and developing active listening skills. Satisfies a Humanities distribution requirement. Fulfills AL and X in LS Core. Three hours a week.
FAA 1350  
Pep Band  
0 or 1 cr.  
The Merrimack College Pep Band is a performing ensemble representing the students, faculty, staff, alumni, and fans in spirited fashion. This ensemble performs at all home Men’s Hockey games in the Lawler Arena with the exception of games occurring over winter break. Students may register for any combination of ensembles up to a total of 8 credits. Two hours a week.

FAA 1351  
Jazz Ensemble  
0 or 1 cr.  
This course is designed to give students experience rehearsing and performing in a large jazz ensemble. Development of jazz interpretation, ensemble skills, improvisational skills, and techniques specific to the jazz idiom are explored in depth. Pieces are selected to meet the individual needs of the group and are representative of a wide variety of jazz styles. Students may register for any combination of ensembles up to a total of 8 credits. Two hours a week.

FAA 1352  
Concert Choir  
0 or 1 cr.  
This course is designed to give students experience in rehearsing and performing in a vocal ensemble. Development of basic vocal techniques, ensemble skills, solfeggio skills, and techniques specific to vocal music are explored. Musical compositions are selected to expose the students to a wide variety of musical idioms. Students may register for any combination of ensembles up to a total of 8 credits. Two hours a week.

FAA 1353  
Merrimack Schola  
0 or 1 cr.  
This ensemble course gives both singers and instrumentalists experience in rehearsing and performing music in a liturgical context. The Merrimack Schola ensemble provides music for the 5 pm Sunday Mass in Austin Chapel, as well as music for special occasions, including the Baccalaureate Mass. All singers are welcome who wish to sing and grow in musical understanding. The ability to read music is not required. Basic vocal techniques, ensemble techniques, solfège ability, and musicological and liturgical context will be developed in this course. Instrumentalists who have the ability to read music fluently are welcome. Students may register for any combination of ensembles up to a total of 8 credits. Two hours a week.

FAA 1510  
Acting I  
4 cr.  
This is an introductory level acting class. The course explores the basic concepts of acting, characterization, improvisation, script analysis and rehearsal techniques through class exercises, written assignments, readings and preparation of monologues and scenes. This course seeks to impart an understanding of the primary physical, emotional, and intellectual skills needed to become an actor as well as the critical skills necessary to evaluate performance. Satisfies a Humanities distribution requirement. Fulfills AL and X in LS Core. Three hours a week.

FAA 1515  
Theatre Practicum: Rehearsal and Performance  
2 cr.  
This course is a hands-on learning experience in theatre production and performance. Students will gain practical skills and essential knowledge of what it takes to mount a production for the stage by working in one of five production areas: scene shop, lighting, costume shop, props or public relations/management. Students may also elect to focus their practicum experience on the performance area by appearing as an actor in a mainstage production. Requires a minimum of 40 hours of work. Students may take the course two times only. Prerequisite: Theatre major or minor or permission of instructor.

FAA 1520  
Voice for the Stage  
4 cr.  
This course is designed to develop stronger speaking/performance skills for actors and others who desire increased range, power and expressivity of their voice. Explores the techniques and training principles of Rodenburg and Linklater. Physical exercises will be implemented seeking to free up the natural voice. Reading and writing assignments required. Performance projects will be presented working with the following texts: poetry, prose, Shakespeare, contemporary drama, commercial script, and voice-over narrative. Fulfills AL in LS Core. Three hours a week.

---

242
FAA 1550  The Curtain Calls: An Introduction to Theatre for Everyone  4 cr.
What distinguishes live theatre from other art and entertainment forms and why has theatre withstood the test of time? This introductory level survey course explores the nature of the theatrical experience and seeks to familiarize the student with a variety of theatrical styles. Through readings, lectures, demonstrations and attending live theatre, students will become familiar with the various roles involved in making theatre (playwright, actor, director, designers, critics, etc.) as well as the basics of the sociology of theatre and performance.  Satisfies a Humanities distribution requirement.  Fulfills AL and X in LS Core. Three hours a week.

FAA 1555  Acting for Educators: Performance, Presence and Pedagogy  4 cr.
This course explores the integral relationship between the actors presence onstage and the educators presence in the classroom. The course serves as an introduction to the art of acting and teaches the basic concepts of acting, improvisation, script analysis, and rehearsal techniques. Students will acquire an understanding of the connection between performance skills and teaching in the classroom as well as the use of theatre practices as a pedagogical methodology.  Fulfills AL in LS Core. Three hours a week.

FAA 1600  Inside Art: Art History for Everyone  4 cr.
An active learning experience designed to acquaint students with outstanding works of art from around the world in, and outside of, the classroom. Field trips are integral to the course where the art museums and galleries become the classroom. As a general introduction to the history of art, “Inside Art” encourages an understanding of purposes and techniques, and emphasizes the relationship of an art work’s form to its meaning. For every gallery or museum visit (approximately five) a 2-3 pp. paper will be required as a record of the student’s experience. The Addison Gallery of American Art in Andover, the Currier Museum of Art in Manchester (NH), the Peabody Essex Museum in Salem, the DeCordova Art Museum and Sculpture Park in Lincoln, and the McCoy Gallery, The Rogers Center, are among the potential sites. “Inside Art” is designed for non-majors who are interested in a general introduction to world art (from prehistoric Europe to Egypt, China, ancient Greece and Rome, Oceania, Africa, modern Europe and the Americas) from an art historical perspective.  Satisfies a Humanities distribution requirement.  Fulfills AL and X in LS Core. Three hours a week.

FAA 1610  Art and Culture I: Prehistory to the Renaissance  4 cr.
An examination of selected works of art and architecture and the historical and cultural contexts appropriate to them, from the birth of image-making to the high culture of the late Middle Ages. Prerequisite: None.  Satisfies a Humanities distribution requirement.  Fulfills AL or H in LS Core. Three hours a week.

FAA 1620  Art and Culture II: The Renaissance to the Present  4 cr.
Art History II is anchored in the culture and traditions of Western Europe and America. Beginning in Italy during the early modern period, this course provides for an understanding of: individual artists and their works, studied within their historical and art historical contexts; the demands placed upon art-making by patrons and society; and the changing role of the artist’s place in society.  Satisfies a Humanities distribution requirement.  Fulfills AL or H in LS Core. Three hours a week.

FAA 1670  American Art I  4 cr.
The art of colonial America and the early Republic, from the 17th century to the 1870’s.  Satisfies a Humanities distribution requirement.  Fulfills AL in LS Core. Three hours a week.

FAA 1680  American Art II  4 cr.
American art from 1880 to the present.  Satisfies a Humanities distribution requirement.  Fulfills AL in LS Core. Three hours a week.

FAA 1710  Foundations of Visual Arts  4 cr.
An approach to an understanding of art through the consideration of both fine art and practical objects, perception and visual communication, style and media, critical analysis. Slide/lecture.  Satisfies a Humanities distribution requirement.  Fulfills AL in LS Core. Three hours a week.
FAA 2210
Basic Drawing II 4 cr.
A continuation of Basic Drawing I. Light and dark modeling and perspective drawing techniques are developed. Abstraction is emphasized in the latter part of the course. Collage is explored. Individual drawing projects are developed. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

FAA 2220
Cartooning and Illustration 4 cr.
This class will explore the possibilities of drawing and cartooning as a medium for creative expression and thoughtful communication of ideas. Students will be exposed to art making techniques derived from objective design elements and principles. Students will have the opportunity to create cartoon characters based upon the study of facial and anatomical forms, and to develop imaginative contexts for bringing characters to life and to tell a story. It is recommended, but not required, that students have drawing experience prior to taking this class. Three hours a week.

FAA 2230
3-Dimensional Design 4 cr.
This course explores the basic design elements of: space, surface, point, line, shape, form, color, texture, and pattern in the context of three dimensions. This is a hands-on studio experience with projects that consist of preliminary studies as well as “finished” works. Each project includes thumbnail sketches, rough examples, library research and a class critique. Each student will receive a project point evaluation sheet after the completion of a project. Prerequisite: FAA 1230 or consent of the instructor. Fulfills AL in LS Core. Three hours a week.

FAA 2250
Mixed Media Studio 4 cr.
This course will explore how the definition of art has been altered or extended through the following Modernist and Postmodernist techniques: collage, assemblage, found art, earth art, conceptual art and art of the book. It offers creative exploration in both two-and three-dimensions, which mirrors such art movements as Cubism, Expressionism, and Surrealism. Prerequisite: one art studio course at the college level. (Examples: drawing, 2-dimensional design, painting). Special permission may be granted by the instructor to students who have taken a number of art courses in high school. Fulfills AL in LS Core. Three hours a week.

FAA 2260
Art of the Portrait 4 cr.
This elemental drawing class uses structured weekly projects based on the portrait. Goals will be to develop skills of observation, an understanding of anatomy, proportion, and how light reveals form. The course will also cover the historical aspects of the portrait, relating to composition, symbolism, and style. Teaching will involve weekly demonstrations, individual instruction and group critiques. Students will work with various media, including pencil, charcoal and conte crayon, using photographs and live models. Fulfills AL in LS Core. Three hours a week.

FAA 2270
Basic Painting II 4 cr.
A continuation of FAA 1270A. The student is encouraged to experiment with materials and visual-structural systems. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three and one half hours a week.

FAA 2301
Music History I: Antiquity to the Baroque 4 cr.
The first half of a two-semester sequence surveying the music of the western classical tradition. This course examines the creation and development of musical genres throughout the historical periods from classical antiquity in Greece and Rome to the culmination of the Baroque. Emphases on active listening, writing about music, and the study of genres within their social and historical contexts. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

FAA 2302
Music History II: Classical to the 21st Century 4 cr.
The second half of a two-semester sequence surveying the music of the western classical tradition. This course examines the creation and development of musical genres throughout the historical periods from the Enlightenment through the present day. Emphases on active listening, writing about music, and the study of genres within their social historical contexts. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.
FAA 2360
Elementary Music Theory: Understanding Musical Notation 4 cr.
This course is structured to teach students the basic skills necessary in order to read, study and perform from musical notation. Musical elements including pitch, rhythm, the staff system, key and time signatures, intervals and chords, and modulation will be examined. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

FAA 2380
The Architecture of Music: From Phrase to Opera 4 cr.
This course is designed to teach students about formal structure in musical compositions. While emphasis will be placed on specific classical genres, including the sonata, symphony, and opera, students will be encouraged towards individual exploration of form in music of other styles and traditions as well, such as world music, jazz, and rock. Prerequisite: FAA 2360 or permission of instructor. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

FAA 2420
A Cultural History of Photography 4 cr.
The various forms, uses, styles, and genres of photography will be examined within social, philosophical, and aesthetic dimensions that have evolved in the medium from its beginnings through the 1980s. Students will participate in darkroom laboratory exercises and demonstrations in photochemical production. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

FAA 2450
Basic Digital Photography 4 cr.
Students will develop visual ability in a digital context to make, share, and publish photographs. Examples of photographic work from the history and philosophy of photography will provide for the development of a photographic vision. Composition, manipulation, restoration, and creating images for other uses, such as Power point, will be stressed. Students will also develop an on-line portfolio. A Digital SLR camera is required. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

FAA 2500
Women in Theatre 4 cr.
The study of women in theatre – primarily as subjects and playwrights but also as actors, designers, and directors. Course examines how gender is constructed and influenced through the work of women artists. Explores the role(s) of women in the theatre by addressing questions of racial identity, religion, sexuality, body image, and cooperative artistry. Research papers, performance projects and attendance at one outside performance required. Fulfills AL and D in LS Core. Three hours a week.

FAA 2505
Theatre has consistently made a significant impact on the socio-political structures in which it is performed. From the politics of the ancient world to the present day, theatre artists have used their art form to challenge the status quo, to expose unjust systems of oppression, to effect change in the social network. Likewise, government uses elements of theatre to promote particular agendas and suppress individuals and social groups who challenge the dominant groups claims to political power. Drawing of the long and varied history of theatre, this course will explore the political nature of theatre and the relationship between theatre arts, political ideologies, institutional structures, and efforts at social change between 1900 and the present day. Fulfills AL in LS Core. Three hours a week.

FAA 2510
Acting II 4 cr.
A second level acting class for those students who have completed Acting I (FAA 1510). This class is conducted as an intensive performance workshop where the focus is on refining acting skills and approaching classical and contemporary texts. Students will expand knowledge of acting theory through an introduction to the work of Michael Chekhov. Assignments include reading, written work, script analysis and preparation of monologues and scenes. Prerequisite: FAA 1510 or permission of the instructor. Satisfies a Humanities distribution requirement. Fulfills AL and X in LS Core. Three hours a week.

FAA 2520
Theatre History Part One: Origins to Renaissance 4 cr.
The first half of a two semester sequence exploring Western and Non-Western theatre history. Examination of dramatic literature and theatrical practice from the origins of theatre to the English Renaissance. Focus is on three basic areas of inquiry: the physical theatre, the social theatre, and the performing theatre. Research papers and
performance projects required. Satisfies a Humanities distribution requirement. Fulfills AL or H in LS Core. Three hours a week.

FAA 2530
Theatre History Part Two: Restoration to the Present 4 cr.
The second half of a two semester sequence exploring Western and Non-Western theatre history. This course examines dramatic literature and theatrical practice from the English Restoration to the contemporary theatre. Explores the physical, social, cultural, and historical evidence that leads us to hypotheses and conclusions as theatre historians. Includes introduction to theatre historiography. Research papers and performance projects required. Satisfies a Humanities distribution requirement. Fulfills AL or H in LS Core. Three hours a week.

FAA 2540
Introduction to Playwriting 4 cr.
Class involves intensive workshop style format devoted to the activity of writing for the stage. Examination of terminology, theory, principles, and methods of playwriting. Explores sources for developing dramatic works as well as strategies for critiquing new work. Class encourages creativity and discipline around the practice of playwriting. Course culminates in the writing and stage readings of students generated one-act plays. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

FAA 2550 (W)
American Musical Theater 4 cr.
An examination of the Broadway musical, exploring the history, music, and literature of this uniquely American art form. Students will study the structure, terminology, practitioners, organization and history of the American musical from 1866 through the present. Students will have the option to include an onstage performance as part of the course requirements. Satisfies a Humanities distribution requirement. Fulfills AL and W in LS Core. Three hours a week.

FAA 2560
London Theatre 4 cr.
Students will discover, through in-class study and travel to London, what makes London one of the world’s most important theatre cities. Beginning with Shakespeare and continuing to the present day, students will study significant theatrical figures, the cultural phenomena that shaped theatrical traditions, and the influence held by other European theatres and practitioners upon the London stage. Students will travel to London over spring break to witness live theatre, participate in workshops, meet practitioners, and gain greater appreciation for the role London holds as a global theatrical capital. Additional fees for travel apply. Satisfies a Humanities distribution requirement. Fulfills AL and X in LS Core.

FAA 2570
Technical Production for the Theatre 4 cr.
This class introduces students to the practices and techniques used in technical theatre with a focus on the Rogers Center for the Arts. Students will learn how to safely and effectively use equipment and tools used in lighting, sound and scenery construction as well as how to effectively run a show. Course requires outside preparation of projects that demonstrate practical and theoretical knowledge of the techniques and practices learned. Fulfills AL in LS Core. Three hours a week.

FAA 2580
Design for the Theatre 4 cr.
This course explores the world of design for the theatre including scenery, lighting and costumes. Students will be exposed to a variety of plays and learn how to read and analyze them from a designer’s perspective. Students will learn how to collaborate with other designers and directors. Students will learn how to generate and communicate design ideas through drafting, rendering and model-making. Fulfills AL in LS Core. Three hours a week.

FAA 2590
Arts Management 4 cr.
This course serves to introduce students to the challenging and exciting world of arts management. Through units of study that will include mission statements, board development, fundraising, marketing, strategic planning etc., students will be able to relate principles of business management to various arts organizations. Students will be exposed to the various arts organization in the Merrimack Valley and see principles of arts management in action. Three hours a week.
FAA 2610  
The Art of Ancient Egypt, Hither Asia, and the Aegean 4 cr.  
Explores the art, culture, and history of the ancient civilizations of Mesopotamia (modern Iraq and Iran), Egypt, and the Aegean. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

FAA 2620  
Classical Art 4 cr.  
Explores the foundations of Western culture in the art and history of ancient Greece, Etruria, and Rome. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

FAA 2630  
The Art of the Middle Ages 4 cr.  
This course explores the art, history and cultures of medieval Europe and the Mediterranean basin following the ruin of Imperial Rome to c. 1350. Special attention will be given to the sacred texts, objects, and spaces that were created in the service of Christian, Jewish, and Muslim religions. Sample topics include, but are not limited to, artistic and religious traditions, ritual theory and practice, iconography and iconoclasm, illuminated manuscripts, medieval knowledge, patronage, pilgrimage, and cultural interactions. Course work includes required readings, research projects, slide lectures, and class discussions. Course objectives are to introduce creative solutions to historic problems, foster visual and religious literacy, and advance critical thinking. Course counts toward a minor in Jewish, Christian, Muslim relations. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

FAA 2640(W)  
First Light: The Beginnings of Modernism in Western Art 4 cr.  
An exploration of the art and architecture of the early Italian Renaissance, with emphasis on the economic, social, political, religious, intellectual and aesthetic conditions that gave it birth. Satisfies a Humanities distribution requirement. Fulfills AL and W in LS Core. Three hours a week.

FAA 2650  
Artists, Princes, and Popes: From Renaissance to Reformation 4 cr.  
The art, culture, and history of late fifteenth-and sixteenth-century Italy, from Leonardo da Vinci to the aging Michelangelo, and the patrons who inspired some of the grandest achievements in all of Western Art. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

FAA 2660  
The Art of the Baroque: European Art of the 17th and 18th Centuries 4 cr.  
The art and architecture of a flamboyant age which saw at its conclusion the rise of the modern world. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

FAA 2670  
19th Century Art 4 cr.  
An exploration of the art and culture of Europe and America when scientific advances became common, the Industrial Revolution transformed society, and art and architecture were redefined in modern terms. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

FAA 2680  
Early 20th Century Art: The Development of Modernist Art 4 cr.  
The development of major movements in Europe and the United States in painting, sculpture, and architecture, from the turn-of-the-century to the end of World War II. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

FAA 2690  
Modern, Postmodern, and Beyond: Art from 1945 to the Present 4 cr.  
An examination of the art, culture, and history of post-War Europe and the United States, with particular focus on the shift of artistic influence from the Old World to the New, and the challenges presented by innovative technologies and 'commodity culture'. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

FAA 2840  
Foundations of Digital Photography and Design 4 cr.  
Student will learn the principles of digital photography, photographic illustration graphic design, web design, and animation through a series of assignments that will stress the integration of photography and other graphic fields. Through a series of projects, photographic concepts, typography, and the ways in which type and imagery are
effectively used together will be explored. This course also gives the opportunity for hands-on experience with basic web design and basic animation as well. Assignments will call for creative and communicative expressions.

Software: Adobe Photoshop and supporting utilities. Fulfills AL in LS Core. Three hours a week.

FAA 2850
Digital Video
4 cr.
This course will concentrate on the kinds of issues often confronted by today’s multimedia artists. Though studio production techniques will be covered, the importance of shooting on locale for various purposes will be explored. Issues concerning video on the web, in multimedia titles and on DVDs will be covered. Editing techniques as applied to video, stills, animation, and audio will be covered. Audio mixing and digital photography will be covered to the extent necessary for skillful editing. DVD production will be introduced. Software: Premiere. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

FAA 2860
Electronic Publishing
4 cr.
Students will learn the principles of basic design and publication design as applied to print media. Attention will be paid to layout, typography and interfacing with commercial printers. Portfolio will consist of four-color printouts of newsletters, menus, brochures and more. Software: Adobe inDesign and more. Fulfills AL in LS Core. Three hours a week.

FAA 3270
Advanced Painting
4 cr.
A course for experienced painters to produce a focused body of work done in serial development. In addition to studio work, student will investigate the serial approach of selected painters. Fulfills AL in LS Core. Three and one half hours a week.

FAA 3360
Principles of Composition
4 cr.
A course designed to teach the student the basic techniques of writing music – including aspects of structure, instrumental usage, handling of different textures and compositional principles. Intensive creative work, often leading to readings of this music and a final work in performance will lead the student to both technical and musical self expression. Prerequisite: FAA 2360 or permission of the instructor. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

FAA 3510
Directing I
4 cr.
An introduction to the three major areas of directing: script analysis, directing fundamentals, and practice. Students will explore through readings, written and practical exercises the goals and processes of directing for the theatre. Course culminates in a public-performance of student directed ten minute scenes. Prerequisite: FAA 1510 or permission of the instructor. Fulfills AL in LS Core. Three hours a week.

FAA 3520
Acting III
4 cr.
This is an advanced level acting class that explores acting in stylized plays as well as audition techniques. Course includes exercises, monologues and scene-work and culminates in a public performance. Class requirements include reading and critical writing assignments. Prerequisite: FAA 2510 or permission of instructor. Fulfills AL in LS Core. Three hours a week.

FAA 3620
Problems in Classical Art
4 cr.
A thematic study of the impact of the classical tradition upon Western art. Specific topics vary from year to year, with an emphasis on the persistence of classicism into the 20th century. Most recently the course has focused upon the nude as a form of art, inherited from ancient Greece, neglected, and then re-formed, and inspiring some of the greatest works of art of the modern world. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

FAA 3650
The World of Michelangelo
4 cr.
The course will deal with the life, art, and times of Michelangelo: the history of Florence from the age of Lorenzo the Magnificent to the end of the city’s Republican institution and the installment of the hereditary Medici rule; the history of the papacy, its attempts to combat the crisis of faith within the Church, and its struggle with the monarchs of Europe; and with Michelangelo the man, the artist, and the Christian, who in his life sought but was unable to stand
apart from the conflicts of his epoch, and in his sculpture, painting and architecture, drawing and poetry, gave expression to these conflicts with a scope and depth equaled by none of his contemporaries. Few were able to escape the power and reach of his influence. His age saw itself through the images that he created for it. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

FAA 3680
Topics in Modern Art 4 cr.
Introduces specific issues and approaches in the study of modern art. Sample topics include (but are not limited to) Impressionism, Symbolism, Cubism, and Expressionism. Most recently the focus of the course was landscape. European and American, with an emphasis on the Hudson River School. By focusing on a specific topic within modern art, the course develops the student’s writing and critical skills through intensive study that is not possible in a survey course. Fulfills AL and X in LS Core. Three hours a week.

FAA 3630
Web Design 4 cr.
The internet has created another outlet for designers’ creative expression. This course will examine the principles behind effective web page design. Students will design and produce sites for personal expression and for institutional and marketing applications making use of tables, frames, gif animation, forms, cascading style sheets, video and audio. Software: Adobe Dreamweaver, Adobe Photoshop. Prerequisite: None. Fulfills AL in LS Core. Three hours a week.

FAA 3840
2D Web Animation 4 cr.
Much of the animation seen on the internet is vector-based, 2D animation. Because of its modest bandwidth requirements, vector-based animation allows very large and lengthy presentation as well as short, high impact graphics in ads. This course will involve producing sophisticated web animation integrated into Flash based web pages. Web video and audio will also be implemented. Software: Flash, Photoshop, Dreamweaver and supporting utilities. Fulfills AL in LS Core. Three hours a week.

FAA 3850
History of Graphic Design 4 cr.
This course introduces specific issues and approaches in the study of graphic design. Sample topics include (but are not limited to) the history of the development of type, the history of illustration, the role of technology in design, movements such as the Bauhaus, Art Nouveau, Art Deco etc. There will be slide lectures, discussion and research. Fulfills AL in LS Core. Three hours a week.

FAA 3860
Computer Illustration 4 cr.
This course will familiarize the student with the principles of vector graphics as applied to illustration and image creation. Weekly design projects on the computer will allow for thorough understanding of the strengths, weaknesses and application of vector graphics to print media. Software: Adobe Illustrator. Fulfills AL in LS Core. Three hours a week.

FAA 3960(W)
Methodologies of Scholarship in the Visual and Performing Arts 4 cr.
This course examines how the discipline of art history came into being and how it engages with other disciplines. It also introduces theoretical models for art historical scholarship that are currently being used across disciplinary lines. Issues that will be explored include aesthetics and phenomenology, formalism, class, gender and race constructions, literary criticism, post-modern theory, as well as ritual and performance theory. Generally, the material for this course will be presented in a variety of ways, all designed to promote thoughtful discussion. This is a research and writing intensive course, which is designed in part to prepare visual and performing arts majors to write their senior thesis and do graduate level work. This course is required for all Art and Art History and Digital Design majors and is open to non-majors who have already had at least one semester of art, music or theatre history. Fulfills W in LS Core. Three hours a week.

FAA 4820
3D Animation and Illustration 4 cr.
Sometimes referred to as virtual reality, 3D computer graphics makes use of the creation of three-dimensional object or environment through a process called, “modeling.” Beginning with a wire-frame model, imagery is developed through the application of a surface to model (texture mapping) and the introduction of virtual lights, cameras, other 3D objects and background images. The result can be output as a single image for an illustration or the objects or camera can be moved over time and the resultant animation is output to video. Student portfolios will consist of
printed illustration and videos on DVD. In addition to creating animations, students will get an appreciation of the history of the medium by watching a critiquing animation produced by various studios over the history of the medium. Software: Lightwave, Premiere. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week.

FAA 4900
Directed Study 4 cr.
Qualified students may propose a course of individual study to be conducted under the direction of a member of the Department.

FAA 4910/4920
Visual and Performing Arts Internship 4 cr.
Work-study off-campus which involves the student in hands-on-experience in the arts. Under the supervision of a visual and performing arts faculty member, culminating in a field-related project (comprehensive report, a performance, exhibit, etc.) Open to juniors and seniors with consent of their visual and performing arts faculty advisor. Fulfills AL and X in LS Core.

FAA 4950
Digital Design Portfolio 4 cr.
This is a capstone course for Digital Design majors, meant to be taken the senior year after all or nearly all of the required studio courses for the major have been completed. Students will prepare two versions of a professional quality portfolio, one physical and one on their own web site. Students will demonstrate breadth of capability through presentation of works done in a variety of digital media. Additionally, through a capstone project or a suitable internship they will demonstrate a depth of knowledge in a focused area. Finally, students will learn how to write proposals and deal with business communications as it relates to their field. Fulfills X in LS Core.

FAA 4960
Senior Seminar with Thesis 4 cr.
Team taught by the Department. Topics will be selected appropriate to students’ areas of concentration. Required for all Art and Art History majors. Offered spring semester. Three hours a week.

Visual Storytelling
Interdisciplinary minor

Visual Storytelling Minor is an interdisciplinary minor offered by the departments of English Studies and Visual and Performing Arts.

The minor in Visual Storytelling integrates art, storytelling, and technology to introduce students to the field of creative visual storytelling with a focus on interdisciplinary study of the graphic novel. An integrated program of design, illustration, and narrative analysis, the minor introduces students to principles of graphic design and narration, cinematic, digital and traditional illustration techniques, and various approaches to storytelling for creative visual presentation.

The minor offers students the opportunity to concentrate in this focused area to satisfy an interest in comics/graphic novels and their film and digital adaptations, to prepare for further academic or professional study in visual storytelling and visual culture, or to work as cartoonists, graphic novelists, teachers of the graphic novel, or film and comics critics.

The Minor Program

The minor requires the completion of a minimum of 18 credits, with a minimum of five (5) courses chosen from the list below and distributed so that at least two (2) are English courses and at least two (2) are FAA courses.

FAA 1210 Basic Drawing I
Educational Objectives of the Minor

- Understand the drawing process, including sketching the human figure;
- Use computer tools and applications for design and imaging;
- Understand comics theory and demonstrate the ability to critically analyze graphic novels in terms of their verbal and visual properties;
- Understand film theory and demonstrate the ability to critically analyze film transformations of graphic novels;
- Know the history and elements of graphic design;
- Know the genres and conventions of graphic storytelling;
- Understand the basics of sequential imaging in film, print, and digital comics;
- Write or illustrate a graphic novel.

Department of Women’s and Gender Studies

School of Liberal Arts

Faculty:
Chair (2013-2014): Associate Professor Gordene MacKenzie
Part-Time Professors: Dr. Debra Michals, Elizabeth A. Leahy, J.D., Mary Beth Salerno, M.A.,
Dr. Nilka Alvarez-Rodriguez.
Affiliated Faculty from over 13 departments and programs cross-list courses with WGS
Women’s and Gender Studies Advisory Committee:
Dr. Monica Cowart, Dr. Cinzia DiGiulio, Dr. Elaine Donovan,
Dr. Gordene MacKenzie, Dr. Krista McQueeney, Dr. Ellen McWhorter, Dr. Susan Marine
and Dr. Marie Plasse

The Women’s and Gender Studies (WGS) program is an interdisciplinary program that
includes: women’s studies, feminist studies, gender studies, masculinity studies and sexuality
studies. The department is committed to a multicultural curriculum that integrates diverse
perspectives. Women’s and Gender Studies courses emphasize interactive learning in which
student involvement, critical thinking, and personal insight are encouraged and made relevant in
the learning process.

The Women’s and Gender Studies department at Merrimack College equips students
with the analytic skills to integrate insights from a variety of fields enabling them to become
conversant with a variety of theoretical and methodological approaches and apply them to the
study of gender.

Women’s and Gender Studies students examine the social, cultural and scientific
construction of gender; the dynamics of gender relations; processes of social change; and the
intersection of gender with race, ethnicity, class, nation, and sexuality. Our department combines courses offered by faculty in the Women and Gender Studies department and courses offered by affiliated faculty in other departments. Upon successful completion of the Women’s and Gender Studies Contract Interdepartmental Major and WGS Minor graduating seniors are awarded a certificate in Women’s and Gender Studies.

Students select from courses that focus on cultural representations of gender, sex, race, and ethnicity in film, media and popular culture, gender and the law, cross cultural, global, and historical characterizations of gender and gender movements, literary narratives, and theories about gender, economic aspects of gender and ethical, psychological and sociological dimensions of gender. Students in WGS can gain experience off-campus in courses that take learning out of the classroom into the field where students experience firsthand diverse cultures and landscapes in different areas like the desert southwest.

A minor and interdepartmental self-designed major in Women’s and Gender Studies leads to challenging careers in a wide spectrum of occupations. The Women’s and Gender Studies minor equips students with a range of interdisciplinary skills and a background in diversity which is highly valued in the 21st century labor force. The curriculum also helps prepare students for graduate study in the fields of women’s/gender/sexuality studies or for advanced study in traditional disciplines and professional fields. Many of our contract majors and minors are currently enrolled in or have completed graduate work in the fields of Gender and Sexuality Studies, Women’s Studies, Law, Sociology, Communication, Psychology, Education, History, Social Work, and Political Science.

**Requirements for the Self-Designed Women’s and Gender Studies Interdepartmental Major**

- Completion of a minimum of nine 4-credit courses (36 credit hours) that count toward the Women’s and Gender Studies Major. Four 4-credit courses must be taken in WGS.
- Completion of the required introductory course: WGS 1010 Gender and Society
- Majors must complete a short proposal for their self-designed interdepartmental Major.
- At least 20 hours must be taken in upper division courses.
- It is recommended that WGS Majors take either a directed study, internship, or fieldwork experience.
- Complete the requirements for the minor. See below: Contact the chair for more information.

**Requirements for the Women’s and Gender Studies Minor**

- A minimum of 18-20 credits in the minor.
- Completion of the required introductory course: WGS 1010 Gender and Society
- Remaining courses elected from Women’s and Gender Studies courses (there is no limit on how many WGS courses can count toward the minor)
- Only 2 cross-listed courses can be counted toward the minor in any single department. For example 2 cross-listed courses can be counted in English and other departments that we cross list courses from.
- It is highly recommended that Women’s and Gender Studies minors take at least one course beyond WGS 1010 that focuses on difference and diversity at the intersections of gender, race, ethnicity, sexuality and class. Minors are also encouraged to study gender in the context of “developing” nations beyond the western borders.

**Recommended courses on difference and diversity include, but are not limited to:**
Women’s and Gender Studies: WGS 2010 Ethnic Studies, WGS 2420 Gender, Sex and Film, WGS 2260 Southwestern Women Artists and Writers, WGS 2660 Southwest Studies, WGS 3110 Global Women's Issues, WGS 3250, WGS 3360 Fieldwork in the American Southwest, WGS 3250 Sex and Gender Studies, WGS 3420 Gender, Race and the Media, WGS 3660 Southwestern Women in the U.S., WGS 3630 "Changing Woman: " The Reality and Myth of Native American Women, WGS 4100 Gender Studies

Communication Arts and Sciences: COM 3231 Intercultural Communication, WRT 2010(W) Writing Across Cultures

Education: EDU 3620 Cultural Diversity in the Schools

English: ENG 3350 Sex, Race and Empire, ENG 3770 Caribbean Women Writers, ENG 3810 American Literature by Women of Color, ENG 3830 American Indian Renaissance, ENG 3860-Italian-American Writers, ENG 3870 Literature of the Harlem Renaissance

History: HIS 3439 Slavery and Race in the Early Modern Atlantic World

Management: MGT 3355 Diversity in Business

Psychology: PSY 3250 Cultural Psychology

Religious and Theological Studies: RTS 2290 Women in Islam

Sociology: SOC 3450 Sociology of the Family, SOC 4300-Social Class in America

World Languages and Culture: SPA 3310 Latinos in US Literature, Culture, and Service Learning, SPA 4050 Literature/Culture of Resistance

Contact the Director of the Women’s and Gender Studies Department if you have any questions or are planning to become a Women’s and Gender Studies minor or self-designed interdepartmental major.

Cross-listed Courses that count toward the Women’s and Gender Studies Minor

The following cross-listed courses are in rotation and count toward the Women's and Gender Studies Minor and Interdepartmental Self-Designed Major (see course descriptions in catalog for each department)

Communication Arts and Sciences

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 3201</td>
<td>Gender Communication</td>
</tr>
<tr>
<td>COM 3231</td>
<td>Intercultural Communication</td>
</tr>
<tr>
<td>WRT 2010</td>
<td>Writing Across Cultures</td>
</tr>
<tr>
<td>WRT 2020</td>
<td>Writing for Social Change</td>
</tr>
<tr>
<td>WRT 3700</td>
<td>Feminist Rhetoric</td>
</tr>
</tbody>
</table>

Criminology

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRM 3050(W)</td>
<td>Female Deviance, Crime and Social Control</td>
</tr>
<tr>
<td>CRM 3500</td>
<td>Domestic Violence</td>
</tr>
</tbody>
</table>

Economics

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO 1225</td>
<td>The Economics of Gender</td>
</tr>
</tbody>
</table>

Education

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDU 3620</td>
<td>Cultural Diversity in the Schools</td>
</tr>
</tbody>
</table>

English

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 2750</td>
<td>Women and Literature</td>
</tr>
<tr>
<td>ENG 3350</td>
<td>Sex, Race, and Empire: 1688-1814</td>
</tr>
<tr>
<td>ENG 3770</td>
<td>Caribbean Women Writers</td>
</tr>
<tr>
<td>ENG 3810</td>
<td>American Literature by Women of Color</td>
</tr>
<tr>
<td>ENG 3820</td>
<td>20th Century Drama and Performance by Women</td>
</tr>
<tr>
<td>ENG 3830</td>
<td>American Indian Renaissance</td>
</tr>
<tr>
<td>ENG 3850</td>
<td>20th Century Caribbean Writers</td>
</tr>
</tbody>
</table>

253
WGS 1010
Gender and Society 4 cr.
This course will explore current attitudes about women, men and differently gendered persons in Western society, approaching women's, men's and differently gendered person's experiences through insights provided by feminist thought on such areas as race and ethnicity, work, education, media, family, gender, sexuality, religion, and politics. Among the questions the course will consider are: Why is it important to study how gender is constructed? Why have women been treated differently than men in society? What is patriarchy? And how is power distributed based on gender? Required for the Women's and Gender Studies Contract Major and Minor. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement and D in LS Core. Three hours a week.

WGS 2010
Intro to Ethnic Studies 4 cr.
The main objective of this course is to introduce students to the academic field of Ethnic Studies, and the interdisciplinary questions it poses about the way that race, ethnicity and racism structure our world. Our focus is within a framework analyzing a range of themes and topics including the intersections of race, class, gender and sexuality; issues of power and privilege; immigration; popular culture and representation. The experiences of various communities of color will be explored including: African Americans, Asian Americans, Chicanos, Latinos, Native Americans and others. This course will also introduce major debates and issues facing Ethnic Studies in the 21st century such as immigration rights, Diaspora and globalization. A variety of mediums will be used in the course including historical and theoretical texts, newspaper articles, online postings, film and cultural analysis. Satisfies a Social Science distribution requirement. Fulfills D in LS Core. Three hours a week.
WGS 2100
History of Women in Science and Mathematics  
4 cr.
A survey of the role of women in both traditional science as we know it today and the work women did in ancient times as midwives, astronomers, mathematicians, chemists, pediatricians, pharmacists, botanists, epidemiologists, psychologists, etc. from the birth of science and mathematics in ancient times to this century, the major breakthroughs in science will be addressed in parallel with what women were doing in science. Biographies of women scientists and mathematicians in various fields and time periods will serve as examples to illustrate the evolution of science and mathematics and the key roles women have played in that evolution. How have women changed science and mathematics as their numbers in different fields increase? Satisfies a Social Science distribution requirement. Fulfills D in LS Core. Three hours a week.

WGS 2200
Gender and Social Movements  
4 cr.
This course will explore social activism around gender issues both in the U.S. and globally. It will look historically at efforts to forge greater social equality, as well as competing efforts to maintain traditional notions of gender and sexuality. We will look at grassroots and community activism, the changing meaning of citizenship and rights, and the impetus for and impact of reform, as well as women’s role as activists. Topics will include the intersection of race, class, gender and sexuality in several major US movements, namely, antislavery, suffrage, civil rights, feminism, and gay/lesbian rights. We will similarly explore the intersection of social justice initiatives in the US with movements around the world, noting how movements differ between nations and at the same time potentially influence each other. Finally, the course will address the anatomy of social change: how an issue comes to the fore, what leads people to become involved, the measures (successful or otherwise) taken to effect change, and the processes and timetables that facilitate or prevent change. Fulfills D in LS Core. Three hours a week.

WGS 2260
Southwestern Women Writers and Artists  
4 cr.
This course will examine the diverse writing, arts and crafts, architecture, culture and landscape of the American southwest. Our focus will be on American Indian, Latina, Hispanic, Chicanas, and women writers and artists whose work is inspired by their culture, history and the landscape. We will study how their work engages spiritual, social and embodied struggles on the borders and beyond. From performance art, painting, poetry, storytelling, Native American pottery, jewelry, weaving, essays and ceremonial dance we will consider how their writing and art challenge and expand the very definitions of what art and literature are. If you want to continue your work and learn by doing while visiting the southwest sign up for the Fieldwork in the American SW course, WGS 3360. Satisfies a Humanities distribution requirement. Fulfills AL and D in LS Core. Three hours a week.

WGS 2420
Gender, Sex and Film  
4 cr.
This course will explore how films intentionally or unintentionally reflect and shape our perceptions of sex and gender categories and norms. Throughout the course we will examine mainstream, independent, and international films looking at how gender, sex and race are represented. We will analyze how women and men and transgender persons have historically been portrayed in film and how sex and race are interlocked with gender. Questions and topics we will cover include how sexualities from heterosexual, bisexual lesbian and gay have been represented during different socio-historical periods; How different film genres from romance to horror and comedy position characters according to sex and gender; Who do we identify with and why? How do different audiences respond to characters based on the intersections of sex, race, and gender? Students will have the opportunity to reverse the lens and experiment with video. Satisfies a Humanities distribution requirement. Fulfills AL and D in LS Core. Three hours a week.

WGS 2520
Women in Historic Massachusetts  
4 cr.
We will explore the lives of women who shaped not only New England but the world. This class will be a hands on exploration into the lives and cultures of great Massachusetts women such as Maria Stewart, Louisa May Alcott, Margaret Fuller, the Peabody sisters, Tituba, Betsy Gump Chamberlain, and many others. Rather than spend each evening confined in a classroom reading endless texts we will spend the bulk of the class exploring the realities of these great women by going on field trips and reading informative articles. We will walk the paths they walked and travel back through time to explore what these great women did to make our world better for their having been there. Fulfills D and X in LS Core. Three hours a week.

WGS 2660
Southwest Studies in the US  
4 cr.
This team-taught cross-disciplinary course with a focus on ethnicity, gender and culture and one or two additional areas including ecology and/or astronomy combine to form a coherent picture of one of the most diverse parts of the
United States, the Southwest of New Mexico and Arizona. The course focuses on Native American, Chicana/o/Hispanic and Anglo forces that shape the land and influence the arts and architecture. We will examine Native American traditions, spirituality, gender, myths and rituals. In addition we will focus on two of the desert ecosystems of the Southwestern US, the Chihuahuan and Sonoran, and the boundaries between them. The dominant plants and animals will be examined. And/or students will study astronomy and archeo-astronomy. The Southwest includes the best observing sites in the continental US and we will examine optical and radio astronomy, and investigate the relationship of the sky to Anasazi culture and the astronomical alignments of the ruins of Chaco Canyon. The course includes a field trip to the Southwest. Cross-listed as SCI 2660. Fulfills D in LS Core. Three hours a week.

WGS 3000
Thinking Green: Environmental Justice, Gender and Animal Rights 4 cr.
This interdisciplinary course will examine theories and social movements focused on environmental justice, eco-feminism and animal rights. We will study environmental racism and how pollutants and toxic waste impact the health, lives, and lands of economically disadvantaged communities of color, including Native Americans, as well as efforts to change this. We will examine legal challenges and movements to expose and end cruelty to animals and animal exploitation, and the linkage between thinking green and creating an earth democracy that fosters a more just and healthy environment for all. We will investigate gender diversity and the impact that environmental degradation has on populations. And we will employ cultural environmental theories to analyze how the environment and the earth is represented and misrepresented in popular culture, literature and art. Three hours a week.

WGS 3100
Feminist Theory 4 cr.
This course will explore multiple Feminist Theories and practices. We will ask what constitutes a theory and explore how Feminist theories are informed by theories of gender, race, ethnicity, class, sex and nation. Throughout the semester we will look at how different Feminist theories view local and global cultures. We will also examine strategies for change and how Feminist theories influence and inform activism and other disciplines. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement and D in LS Core. Three hours a week.

WGS 3110
Global Women’s Issues: Gender, Activism and Social Justice 4 cr.
In this course some of the areas we will investigate are the effects of Globalization on women including UN resolutions that define women’s rights as human rights. We will explore how war, international trade agreements, global sweatshops, the international sex trade and new technologies like genetic engineering affect the lives of women across the globe. We will also look at how women are mobilizing internationally to create change in the local national and international landscapes. We will read narratives of Indigenous women from around the world. Some areas we will focus on are women in the Middle East, Mexico, Asia, South America and North America. We will ask how women are empowering themselves and others to fight for human rights and social justice. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement and D in LS Core. Three hours a week.

WGS 3120
Women and Film: The Politics of Representation 4 cr.
This course studies filmic representations of women and gender in US and international cinema, documentaries and independent film and the role of feminist film directors and producers. We will study feminist film analysis, analyze the different film genres like horror films where a strong woman usually defeats the monster. We will contrast US and International filmic representations of women. Issues to be addressed include how representations of women change historically and reflect shifting attitudes about gender, race, ethnicity, class, nation and sex. We will also explore audience responses to films and some techniques of filmmaking. Additionally, students will produce short videos as a means to explore how to create a feminist film and what it is like on the other side of the camera. Fulfills AL and D in LS Core. Three hours a week.

WGS 3140
Studies in Masculinities 4 cr.
The critical study of masculinities is not only a burgeoning subfield within women's and gender studies, but also an increasingly important subject within progressive humanities and social science scholarship of all kinds. Emerging initially as a result of the women's and gay liberation movements in the late 1960s and early 1970s, masculinity studies today is an interdisciplinary endeavor based on the notion that masculinities are historically produced, culturally specific, locally practiced, and (continually) subject to change. Furthermore, masculinity whether considered at the global, national, local, or personal level, is always informed and mediated by intersecting social categories of race, class, and sexuality. Fulfills D in LS Core. Three hours a week.
WGS 3230  
Gender and Popular Culture  4 cr.  
Popular Culture is the US's second largest export after weapons. In this course, we will examine how gender is used in popular culture artifacts from popular entertainment including sports, popular films, music and more. Employing popular culture methods and theories including cultural studies we will study how the meaning system is used to reinforce the status quo and also challenge it. By focusing on popular culture representations of women and gender in advertising, music videos, YouTube, television, magazines, and film we will explore how cultural values, fears, hopes and dreams are coded into gender scripts and representations and how race, class ethnicity, sex, and nation are interlocked with gender. We will ask what is at stake both in negotiating gender in contemporary culture and in doing "feminist" cultural criticism. In addition we will look at fan culture and ask what popular culture gender representations have to do with the lives and experiences of real people. Fulfills D in LS Core. Three hours a week.

WGS 3250  
Sex and Gender Studies  4 cr.  
This course examines the ways in which sex and gender are constructed in a range of interdisciplinary discourses including: political, legal, historical, psychological, medical, literary, popular culture and embodied practices. Much of the focus of the course will be on the biological, social, cultural and ethical dimensions of sex and gender with an emphasis on how cultures are organized around sex and gender. Students will examine the construction of sex and gender identities. We will look at how these identities are informed by race, ethnicity, class, nation and age. We will also explore the role of gender and sexuality in social movements, citizenship and human rights. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement and D in LS Core. Three hours a week.

WGS 3290  
Women and Business  4 cr.  
Women and Business will explore the nature, scope and development of women's relationship to the business world from an interdisciplinary perspective. The goal of the course is to demonstrate the ways in which gender norms and ideals have historically influenced business practices and opportunities and continue to do so. Using a feminist analysis, students will study the ways in which business itself has been historically gendered and socially constructed, how job categories become defined as male or female, how groups attempt to redefine the nature of work and the professions, and the strategies used by women, immigrants and people of color to enter the corporate world despite obstacles that may seek/have sought to bar them. The class will explore the dialectical relationship between female workers/entrepreneurs and the economy. While the course’s focus will be largely on the U.S., it will nonetheless address the impact of the so-called “global economy” on women’s work across race and class lines. Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement and D in LS Core. Three hours a week.

WGS 3300  
U.S. Women’s History  4 cr.  
An examination of the history of women in America. It will include history prior to colonization, beyond and to the present. A look at women’s roles in US Society and the intersection of class, culture and ethnicity in shaping women’s historical experiences across time. The course will examine the transformations and continuities in women’s lives as well as the political, social, economic and cultural factors that inspired, infused or inhibited women’s changing roles. This class also explores the ways in which race, class and ethnicity have operated to unite and divide disparate groups of women. Satisfies a Humanities distribution requirement. Fulfills H and D in LS Core. Three hours a week.

WGS 3360  
Fieldwork in the American Southwest: Classroom without Walls  1-4 cr.  
This course consists of a 7-10 day fieldtrip to the desert southwest—one of the most culturally and geographically diverse areas in the world. We will meet once a week to prepare for our trip. Readings about New Mexico and the southwest will be available online. Our classroom will be the big sky, the diverse landscape and people. We will visit and stay at Native American pueblos, Dine’ (Navajo) Nation, and a working ranch. We will visit nature centers, galleries, cultural centers, and historic archeological sites. Students will learn by doing from a variety of Native American, Chicana/o and Anglo southwestern writers, artists, storytellers, activists, cowgirls and cowboys, and environmentalists. Students will try their hand at creating art, jewelry, writing, and/or doing some archeological or environmental work. Throughout the trip you will learn about diverse cultures and their relationship to the land and the sacred. This course may be repeated for credit. Additional fee for trip covers all of your expenses including airfare, lodging, food, transportation, and honorarium for artists and story-tellers, guides, fees at pueblos and nature and cultural centers. It does not cover alcohol or souvenirs. Partial scholarships may be available. Contact the WGS department chair for more information. Satisfies a Humanities or a Social Science distribution requirement. Fulfills D and X in LS Core.
WGS 3420  
**Gender, Race and the Media**  
4 cr.  
In this hands-on course we will examine theories of gender, race, class, ethnicity and sexuality in mainstream and independent media. We will study who controls the media, whose story is told, and from what perspective. A focus will be on the historical and current impact racial and gender stereotypes in the media have on individuals and communities. We will examine how oppressed groups worldwide are portrayed in mainstream media and how they are using the media to tell their own stories. We will learn how various audiences interpret the media differently. Throughout the course we will address issues of social inequality in the media and forms of resistance and explore alternative media, global media, media literacy and media democracy. Finally, students will put theory into practice and create group videos. **Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement and D in LS Core. Three hours a week.**

WGS 3630  
**"Changing Woman:" The Reality and Myths of Native American Women**  
4 cr.  
Changing Woman is the most important deity of the Navajo (Dine') people. She personifies the earth and the cyclical path of the seasons. During a young girl's rite of passage ceremony (Kinaalda), she is evoked as the "ideal woman" and symbolizes the change into adulthood and subsequent female empowerment. This acceptance of female change and empowerment is a dynamic characteristic in Native American culture and one aspect that will be studied in this in-depth look at the reality and myth of the Native American woman. Our focus examines the historical and contemporary reality illuminating the real lives of North American Indigenous women and debunks some stereotypical myths. We will explore how gender is constructed in tribal societies and examine various matrilineal cultures. You will learn to understand and appreciate the significance of oral traditions and storytelling that is the fabric of Indigenous communities and you will be introduced to different worldviews examining such concepts as circular time, "walking in beauty", and the Fifth World. A variety of mediums will be used in this exploration including feminist theory, poetry, artwork, personal narrative and film. This course satisfies a Humanities distribution requirement. **Fulfills D in LS Core. Three hours a week.**

WGS 3660  
**Southwestern Women in the U.S.**  
4 cr.  
This course on Southwest Studies will examine the great diversity of women in the Southwest from ranching women and cowgirls to Native American artists and Hispanic and Chicana writers and activists. The desert landscape has inspired and enchanted countless artists and writers. We will explore the writing, art, activism and traditional practices that define the culture and the region. We will look at the importance of the land in shaping visions, art, and architecture as well as the economic forces and struggles that shape the people. The women that we will study encounter the sacred and speak of environmental and other visions for the future. **Fulfills D in LS Core. Three hours a week.**

WGS 3710  
**Gender and the Law**  
4 cr.  
This course will begin with an introduction to constitutional law and develop into an intimate study of the inner workings of the Supreme Court and its major decisions affecting gender. Such topics as marriage and divorce, pornography, the right to privacy, as well as sex discrimination cases involving Title IX and transgender issues, will be discussed and evaluated through an historical and legal framework. Debate and discussion regarding the historical evolution of these legal issues and their current trends will be emphasized. **Satisfies a Social Science distribution requirement. Fulfills a SOSC requirement and D in LS Core. Three hours a week.**

WGS 3720  
**Gender, Immigration and the Law**  
4 cr.  
This course will examine the intersection of immigration, gender, and the legal system in the United States. Through a careful analysis of the influence of sex, race, ethnicity, and gender on the experience of migration and movement, students will develop an understanding of the state of immigration law and politics. Students will be immersed in the work of immigration studies pioneers, exploring the social, cultural, and political issues that surround modern immigration. Federal legislation and administrative policy will be discussed in conjunction with current trends of immigration. In addition to examining the lives of others, students will trace their families' origins and craft the story of their ancestors to create a full picture of immigration in the United States. **Satisfies a Social Science distribution requirement. Three hours a week.**

WGS 3830  
**Gender and Global Health**  
4 cr.  
This course will explore the issues surrounding the achievement of health equality around the world, focusing on the intersection of gender, race, class, and location in determining health and well being for global citizens. Using gender-based approach to study, students will examine the status of global health in a variety of areas including: access to
care, HIV/AIDS, violence against women, human trafficking, reproductive health, and aging. Throughout the course, students will discover the challenges faced in ensuring global health care equality and analyze the response of non-governmental organizations (NGO's), local governments, and the health care community in addressing these challenges. Satisfies a Social science distribution Requirement. Fulfills D in LS Core. Three hours a week.

WGS 4100
Gender Studies 4 cr.
This interdisciplinary course will explore major issues, theories, and activism around the issue of gender including an analysis of gender stereotypes in the mass media. We will look at how gender identities are constructed, contested and mapped on the body. Topics will include transgender, transsexual, intersex politics, identity and representation, the new masculinity studies, queer theory, hate crimes and what does feminism have to do with gender politics. And as always we will ask what is a woman and what is a man and how these identities have shifted and changed in various cultures throughout history and what it means politically. Fulfills D in LS Core. Three hours a week.

WGS 4800
Directed Study 4 cr.
In lieu of a formal course, qualified upper-class students may, with the approval of the director and the instructor, substitute an intensive program of reading and research under the direction of a member of the program. Such research and reading will focus on local, national, and/or transnational issues related to women, gender and sex. Prerequisite: Consent of the director and the member of the program under whose supervision the Directed Study will be conducted.

WGS 4850
Internship in Women’s and Gender Studies 4 cr.
The Internship in Women’s and Gender Studies is a semester long opportunity for students to combine practical experience with an in-depth academic theoretical analysis. Students will be expected to spend a number of hours per week in the field working in a setting where they experience firsthand issues related to women’s and gender studies. Such work may be individual or group based. Students will arrange with the supervisor at their site an agreed upon work schedule, specific responsibilities, and tasks expected to be accomplished by the student over the course of the semester. All parties will sign a Memorandum of Understanding document. In addition to the responsibilities assumed as part of their placement, students must fulfill the academic component of the internship which requires periodic meetings with the internship director to discuss internship experiences and also requires that the student complete a research paper on a topic related to the internship experience. Past internships have included work with adolescent girls who are substance abusers, work with victims of domestic violence, recording oral histories of ranching women and cowgirls in the southwest, political internships at the statehouse, working with LGBT youth, working in a feminist publishing house, and creating and implementing Diversity programs in a local high school. Prerequisite: Approval of the program chair and the internship director. Fulfills X in LS Core.

WGS 4990
Senior Seminar 4 cr.
This is the capstone seminar for Women’s Studies Minors. Students will embark on a semester long project which brings together their work and interest on women and gender. The seminar will provide feedback and aid students in their semester long journey and projects. For Advanced Women’s Studies Minors and self-designed interdepartmental WGS Majors only.

Department of World Languages and Cultures
School of Liberal Arts

Faculty:
Chair (2013-2014): Associate Professor of Italian, Cinzia DiGiulio
Professor of Spanish McGovern
Associate Professor of French Pressman
Assistant Professor of Spanish Sáenz de Viguera Erkiaga

A highly valued asset in today’s global workplace, second language study provides students with opportunities and experiences that are not available to individuals who are proficient in only one language. Gaining competency in a second language exposes students to systems of
thought and expression different from their own, introducing them to new ideas, customs, habits, and values. In so doing, second language study helps fulfill one of the core components of the mission/vision of Merrimack College, which calls for students to develop global awareness through knowledge and experience of diverse cultures. Moreover, in the process of acquiring a second language, students develop the ability and sensitivity to see their own set of cultural norms from an entirely new perspective, thus broadening their view of the world and appreciation of differences. Language study also fosters the understanding of grammar structures in one’s native language, improves oral and written skills, and affords a deeper awareness of the dynamics of communicative exchanges.

The Department of World Languages and Cultures offers a variety of courses and programs that help language students at all levels (from absolute beginners to heritage speakers) strengthen their linguistic skills, expand their understanding of the world, and connect different disciplines together. Our faculty is trained to provide students with a unique set of international and interdisciplinary cultural opportunities designed to broaden their cultural horizons, enhance their intellectual flexibility, and increase their adaptability in the context of an ever-changing global workplace.

The Department of World Languages and Cultures currently offers majors in French, Italian Studies, Romance Languages, and Spanish. Minors can be taken in French, Italian, Italian Studies and Spanish. At least half of the major and minor course requirements must be taken at Merrimack College, including at least one upper-level course upon return from a study abroad program.

**Study Abroad.** The department is actively involved in a variety of short- and long-term study abroad programs available to our students, and serves as a center for advice and assistance to students who wish to study abroad. Majors will be encouraged to spend one semester or more of foreign study in a country where the target language is spoken. The choice of study abroad program and the choice of courses to be taken there will be approved beforehand by the student's advisor in the WLC department.

**Teacher of Foreign Languages.** Students interested in preparing for a career as a teacher of French, Italian or Spanish at the secondary and middle school level have the following two options: they may major in French, Spanish, Italian Studies, or Romance Languages and pass the Massachusetts Test for Educator Licensure (MTEL) to obtain a 5-year preliminary license to teach the target language. Alternatively, they may double major in French or Spanish and Education to obtain an Initial License.

Elementary Teachers can easily double major in French, Spanish, Italian Studies and Romance Languages combined with an Elementary Education major. They will not need to take the MTEL in French, Italian or Spanish.

**Please Note:** Although the Department of World Languages and Cultures offers some upper-level culture courses that are taught in English, students majoring in French, Romance Languages, and Spanish should be aware that only one course taught in English may be counted as fulfilling a requirement in their major. Majors wishing to take such a course will need the consent of the instructor, as written assignments for the class and weekly meetings with the instructor to discuss the material, both in the target language, will be required.

**Major in French.** The French major requires completing a minimum of 30 credits, consisting of a minimum of 8 courses with at least 6 beyond FRE 2020.
Courses beyond FRE 2020:
FRE 3010 Composition and Culture
FRE 3020 Conversation and Culture
FRE 3030 French Cinema I
FRE 3040(W) Five Centuries of French Civilization in Films
FRE 3050 Actualités Françaises
FRE 3110 Survey of French Literature I
FRE 3120 Survey of French Literature II
FRE 3130 Studies in Modern French Literature I
FRE 3140 Studies in Modern French Literature II
FRE 3510 French Civilization I
FRE 3520 French Civilization II
FRE 4900 Directed Study

Interdisciplinary Major in Italian Studies. The Italian Studies major requires completing a minimum of 34 credits consisting of a minimum of 9 courses. The major is comprised of 6 core courses with an ITA designation and 3 elective courses. Students must also complete a Capstone Project designed to integrate their studies. This project will be done in connection with the last Italian culture course that students take in the program. Contact the Italian professor if you have any questions about becoming an Italian Studies major.

Requirements for the Italian Studies Major
I. Core Courses: 6 courses (minimum 22 credits) in Italian Language and Culture; at least one course must be at the 3000 level or above.

1. Italian Language
   Students must take two Italian language courses at the intermediate level or beyond. Students will be placed in the appropriate level. The Introductory Italian sequence (ITA 1110 and ITA 1120) will not be counted as part of the major. Only the following courses may be used to fulfill the language requirement in the major:
   ITA 2010 Intermediate Italian I
   ITA 2020 Intermediate Italian II
   ITA 3010 Composition & Culture
   ITA 3020 Conversation & Culture
   ITA 3050 Attualità Italiana

2. Italian Culture
   Students must take 4 Italian Culture courses chosen from among the following. Courses in the Italian Culture category are drawn from a group of ITA courses which share a common focus on Italian cultural topics and texts. In keeping with common practice among Italian Studies programs, some Italian Culture courses are offered in Italian and some are offered in English:
   ITA 2530 Italian Women Writers
   ITA 2550 Italian Americans and Film
   ITA 2560(W) The Italian Southern Question in Literature and Film
   ITA 2570 Italian Culture through Film I
   ITA 2580 Italian Culture through Film II
   ITA 3010 Composition & Culture
   ITA 3020 Conversation & Culture
   ITA 3050 Attualità Italiana
ITA 4900 Directed Study

II. Elective Courses: Three courses to be chosen from the following, with no more than two courses from the same department. At least two of these courses must be from departments within the School of Liberal Arts.

- ENG 3860 Italian American Women Writers
- FAA 2620 Classical Art
- FAA 2640 First Light: The Beginnings of Modernism in Western Art
- FAA 2650 Artists, Princes, and Popes: From Renaissance to Reformation
- FAA 2660 The Art of the Baroque: European Art of the 17th and 18th Cent.
- FAA 3650 The World of Michelangelo
- HIS 1119 The European Experience: Antiquity to the Reformation
- HIS 1120 The European Experience: Early Modern to the Present
- HIS 3350 Ancient History
- HIS 3360 Medieval Civilization
- HIS 3370 Renaissance, Reformation and Exploration
- HIS 3410 Twentieth-Century Europe
- PHL 2200 History of Ancient Philosophy
- PHL 2330 History of Medieval Philosophy
- PHL 2350 Philosophy of Augustine
- RTS 2425 Pellegrinaggio in Italia
- COM 4850 Communication Studies Internship (approval of Italian Studies Dir required)
- ECO 3306 International Economics
- POL 1500 Comparative Politics
- POL 2510 International Politics
- POL 2581 Political Thought: Plato to Machiavelli
- POL 2582 Political Thought: Machiavelli to Marx
- FIN 4406 International Financial Management
- MGT 3357 International Management
- MKT 3320 Global Marketing

Major in Romance Languages. This major combines two Romance Languages with a total of 9 courses (minimum 34 credits). Students must take at least 22 credits beyond 1120 in the principal language (French, Italian or Spanish), and 12 credits beyond 1110 in the secondary language (French, Italian, or Spanish). Romance Language majors are required to take the intermediate (2010, 2020) sequence of the language they studied in high school in their freshman year and to begin the study of the second language by the first semester of their sophomore year.

Major in Spanish. The Spanish major requires completing a minimum of 30 credits, consisting of a minimum of 8 courses with at least 6 beyond SPA 2020.

Core courses. Spanish majors and minors are required to take SPA 3200 (Introduction to Advanced Studies) after they take SPA 3010 or 3020 and before they proceed to upper level courses. Depending on whether the course is being taught in the Spring or the Fall, Spanish majors and minors may be allowed to take an upper level course before taking SPA 3200. Courses beyond SPA 2020:

- SPA 3010 Composition and Culture
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPA 3020</td>
<td>Conversation and Culture</td>
</tr>
<tr>
<td>SPA 3050</td>
<td>Actualidad Española</td>
</tr>
<tr>
<td>SPA 3060</td>
<td>Actualidad Latinoamericana</td>
</tr>
<tr>
<td>SPA 3200</td>
<td>Introduction to Advanced Studies</td>
</tr>
<tr>
<td>SPA 3310</td>
<td>Latinos in the U.S.: Literature and Service Learning</td>
</tr>
<tr>
<td>SPA 3510</td>
<td>Culture and Civilization of Spain and the Hispanic World (in English)</td>
</tr>
<tr>
<td>SPA 3520</td>
<td>Culture and Civilization of Spain and the Hispanic World (in Spanish)</td>
</tr>
<tr>
<td>SPA 3610</td>
<td>Race, Literature and Culture</td>
</tr>
<tr>
<td>SPA 3620</td>
<td>Gender, Literature and Culture</td>
</tr>
<tr>
<td>SPA 3630</td>
<td>Studies in Popular Culture</td>
</tr>
<tr>
<td>SPA 3700</td>
<td>Special Topics</td>
</tr>
<tr>
<td>SPA 3750</td>
<td>Crossing Borders (Conivencia)</td>
</tr>
<tr>
<td>SPA 4050</td>
<td>Literature(s)/Culture(s) of Resistance</td>
</tr>
<tr>
<td>SPA 4060(W)</td>
<td>Film and Literature of Contemporary Spain and Latin America</td>
</tr>
<tr>
<td>SPA 4070</td>
<td>Short Fiction of Spanish Speaking World</td>
</tr>
<tr>
<td>SPA 4080</td>
<td>Hispanic Literature in Translation</td>
</tr>
<tr>
<td>SPA 4900</td>
<td>Directed Study</td>
</tr>
</tbody>
</table>

**Major GPA.** The GPA for the World Languages and Cultures major will be the average of all courses taken within the department.

**Minor in World Languages and Cultures**
A minor in a world language (French, Italian, or Spanish) requires a minimum of 18 credits consisting of a minimum of 5 courses.

**Minor in Italian Studies**
An interdisciplinary minor in Italian Studies requires a minimum of 18 credits consisting of a minimum of 5 courses. The minor consists of one year of the Italian language (for example, ITA 1110 and ITA 1120), plus a combination of 3 language and/or culture courses.

**Spanish Placement Test**
All students who wish to register in a Spanish class must take the Merrimack College Spanish Placement Test before doing so. The test is available via Blackboard, and students can only take it once.

**FRE 1110 Introductory French I**
4 cr.
This course is offered for absolute beginners only. This course is not open to heritage speakers or students with any prior study of French. Oral-aural proficiency is acquired through speaking and role playing in class plus audio and visual practice outside of class, including internet drills from the Super Site that accompanies the book. Students learn basic strategies for reading and writing in the language. Prerequisite: Placed at this level by Placement Test or no French classes on high school transcript. Fulfills FL in LS Core. Three hours a week plus films and other cultural activities outside the classroom.

**FRE 1120 Introductory French II**
4 cr.
This course is offered for students with little or no background in French. This course is not open to heritage speakers. Oral-aural proficiency is acquired through speaking and role playing in class plus audio and visual practice outside of class, including internet drills from the Super Site that accompanies the book. Students learn basic strategies for reading and writing in the language. Prerequisite: placed at this level by Placement Test or FRE 1110 or permission of the instructor. Fulfills FL in LS Core. Three hours a week plus films and other cultural activities outside the classroom.
FRE 2010
Intermediate French I 4 cr.
An intermediate level course with an emphasis on the study of grammar. Readings will consist of short texts from French and Francophone culture, literature, and civilization, along with articles of contemporary relevance. Prerequisite: placed at this level by Placement Test or FRE 1120 or equivalent or permission of the instructor. The intermediate language sequence (2010, 2020) satisfies BOTH Humanities distribution requirements. Fulfills FL in LS Core. Three hours a week plus films and other cultural activities outside the classroom.

FRE 2020
Intermediate French II 4 cr.
A continuation of the intermediate course with an emphasis on the study of grammar. Readings will consist of short texts from French and Francophone literature and civilization, along with articles of contemporary relevance. Prerequisite: placed at this level by Placement Test or FRE 2010 or equivalent or permission of the instructor. The intermediate language sequence (2010, 2020) satisfies BOTH Humanities distribution requirements. Fulfills FL in LS Core. Three hours a week plus films and other cultural activities outside the classroom.

FRE 3010
Composition & Culture 4 cr.
An advanced study of the most important grammatical structure of French, and practice of these structures in the context of the skill areas of listening, speaking, reading, writing, and cultural competence. Students will also watch short films and will answer questions on the cultural aspects of the films. Prerequisite: placed at this level by Placement Test or FRE 2020 or equivalent or consent of the instructor. Satisfies a Humanities distribution requirement. Fulfills FL in LS Core. Three hours a week plus films and other cultural activities outside the classroom.

FRE 3020
Conversation and Culture 4 cr.
This course is focused on the development of students’ confidence in their command of French, and their engagement with a variety of materials drawn from the internet or contemporary media. Through these materials and their own research, students will develop a personal connection to a French-speaking country. Class work will focus around larger topics: society, history, politics, food, music, literature, film, and culture. Prerequisite: placed at this level by Placement Test or FRE 2020 or equivalent or consent of the instructor. Satisfies a Humanities distribution requirement. Fulfills FL in LS Core. Three hours a week plus films and other cultural activities outside the classroom.

FRE 3030
French Cinema 4 cr.
This course is offered for students who wish to continue to develop their advanced language skills. There will be a study of French language and culture through films. Emphasis will be on building vocabulary, improving conversational and written skills, comprehension, and literary analysis. Prerequisite: none. Satisfies a Humanities distribution requirement. Fulfills AL or FL in LS Core. Three hours a week.

FRE 3040(W)
Five Centuries of French Civilization in Films 4 cr.
This course is offered for students who wish to continue to develop their advanced French language skills. There will be a selection of five films, each representing a century of French civilization and culture from the 17th century to the present. Students will be reminded of all the important events in history, literature, culture, and art; then, they will discuss how the films illustrate these events. Emphasis will be on vocabulary building, improving conversational and written skills, reading comprehension, and literary analysis. Prerequisite: none. Satisfies a Humanities distribution or the Writing intensive requirement. Fulfills W in the LS Core and AL or FL in the LS Core. Three hours a week.

FRE 3050
Actualités Françaises 4 cr.
This course covers main events in France today. Students will learn about contemporary French society, its geography, education system, political events, religion and culture. Students will also watch short documentaries in order to know contemporary issues and interests of France and French speaking nations. Appropriate background readings, lectures, and videotaped interviews in French will integrate up-to-the-minute readings with the broad historical, social and cultural backgrounds of the topics in question. Prerequisite: placed at this level by Placement Test or FRE 2020 or equivalent or consent of the instructor. Recommended as a cultural course for international business students. Satisfies a Humanities distribution requirement. Fulfills FL in LS Core. Three hours a week plus films and other cultural activities outside the classroom.
FRE 3110/FRE 3120
Survey of French Literature I and II  
4 cr.
A chronological survey of French literature. The first semester covers French literature from the Middle Ages to the 18th century. The second semester covers French literature from the 19th century to the present. An overview of the main currents of French literature through a reading of representative texts of each period will provide a general knowledge of the literary history of France. Oral and written reports. Either semester may be taken independently. Prerequisite: FRE 3010 or 3020 or equivalent or consent of the instructor. Satisfy a Humanities distribution requirement. Fulfills FL or AL in LS Core. Three hours a week, one semester each.

FRE 3130/FRE 3140
Studies in Modern French Literature I and II  
4 cr.
A study of major themes or genres in 20th century French or Francophone literature through a reading of representative texts in the original language. Texts and topics may vary from year to year. Prerequisite: FRE 3010 or 3020 or equivalent or consent of the instructor. Either semester may be taken independently. Satisfy a Humanities distribution requirement. Fulfills AL or FL in LS Core. Three hours a week, one semester each.

FRE 3510/FRE 3520
France and Its Civilization I and II  
4 cr.
A history of French civilization from its beginning to the present. The course will deal with the geography and history of France; the people, their manners and customs, their political, social and economic life; and their culture as reflected in the arts, sciences, philosophy, literature, music and education. Prerequisite: FRE 3010 or 3020 or equivalent or consent of the instructor. Either semester may be taken independently. Satisfy a Humanities distribution requirement. Fulfills FL in LS Core. Three hours a week, one semester each.

FRE 4890
Directed Independent Study  
4 cr.
Exceptionally qualified upper-level students may take a course under the direction of a member of the department. Prerequisite: permission of the instructor and the department chair. Satisfies a Humanities distribution requirement.

ITA 1110
Introductory Italian I  
4 cr.
This course is offered for absolute beginners only. This course is not open to heritage speakers or students with any prior study of Italian. Oral-aural proficiency is acquired through speaking and role playing in class plus audio and visual practice outside of class, including internet drills from the Super Site that accompanies the book. Students learn basic strategies for reading and writing in the language. Prerequisite: no Italian classes on high school transcript. Fulfills FL in LS Core. Three hours a week plus films and other cultural activities outside the classroom.

ITA 1120
Introductory Italian II  
4 cr.
This course is offered for students with little or no background in Italian. This course is not open to heritage speakers. Oral-aural proficiency is acquired through speaking and role playing in class plus audio and visual practice outside of class, including internet drills from the Super Site that accompanies the book. Students learn basic strategies for reading and writing in the language. Prerequisite: ITA 1110 or equivalent or consent of the instructor. Fulfills FL in LS Core. Three hours a week plus films and other cultural activities outside the classroom.

ITA 2010
Intermediate Italian I  
4 cr.
An intermediate level course with an emphasis on the study of grammar. Readings will consist of short texts from Italian literature and civilization, along with articles of contemporary relevance. Prerequisite: ITA 1120 or equivalent or consent of the instructor. The intermediate language sequence (2010, 2020) satisfies BOTH Humanities distribution requirements. Fulfills FL in LS Core. Three hours a week plus films and other cultural activities outside the classroom.

ITA 2020
Intermediate Italian II  
4 cr.
A continuation of the intermediate course with an emphasis on the study of grammar. Readings will consist of short texts from Italian literature and civilization, along with articles of contemporary relevance. Prerequisite: ITA 2010 or equivalent or consent of the instructor. The intermediate language sequence (2010, 2020) satisfies BOTH Humanities distribution requirements. Fulfills FL in LS Core. Three hours a week plus films and other cultural activities outside the classroom.
ITA 2530
Italian Women Writers 4 cr.
This course will address the development of female discourse in novels written by 20th century Italian women, from the works of Nobel Prize winner Grazia Deledda to contemporary author Susanna Tamaro. Class discussions, presentations, and writing assignments will examine themes such as motherhood, female childhood and adolescence, gender roles, and relationships. Taught in English. No prerequisite. Satisfies a Humanities distribution requirement. Fullfills AL and D in LS Core. Three hours a week.

ITA 2550
Italian-Americans and Film 4 cr.
From the premise that the visual image is a most powerful tool in the creation and structuring of collective systems of values, this course focuses on the cinematic representation of Italian-Americans in the works of major American and Italian-American directors from the silent era to the present. In addition, it provides a historical account of the Italian-American experience of male and female immigrants. Taught in English. No prerequisite. Satisfies a Humanities distribution requirement. Fullfills AL in LS Core. Two hours a week, plus weekly film screenings lab.

ITA 2560(W)
The Italian Southern Question in Literature and Film 4 cr.
A voyage through Southern Italy using literature and film, with a particular attention to the so-called “Southern Question.” Readings from such writers as Carlo Levi, Ignazio Silone, Elio Vittorini, M. G. Cattulphelli, and Giuseppe Tomasi di Lampedusa. Taught in English. No prerequisite. Satisfies the Writing intensive requirement or a Humanities distribution requirement. Fullfills AL, D, and W in LS Core. Two hours a week, plus weekly film screenings lab.

ITA 2570/ITA2580
Italian Culture through Film I and II 4 cr.
A survey of Italian films as textual, cultural, and historical artifacts. Analysis of such movements as Neorealism, commedia all’italiana, and new Italian cinema through the work of De Sica, Rossellini, Germi, Benigni, Taviani, and others. Taught in English. No prerequisite. Either semester may be taken independently. Satisfies a Humanities distribution requirement. Fullfills AL in LS Core. Two hours a week, plus weekly film screenings lab.

ITA 3010
Composition & Culture 4 cr.
An advanced study of the most important grammatical structure of Italian, and practice of these structures in the context of the skill areas of listening, speaking, reading, writing and cultural competence. Prerequisite: ITA 2020 or equivalent. Recommended as a cultural course for qualified international business students. Satisfies a Humanities distribution requirement. Fullfills AL in LS Core. Three hours a week, plus films and other cultural activities outside the classroom.

ITA 3020
Conversation and Culture 4 cr.
This course develops students’ confidence in their command of Italian by engaging them with a variety of materials drawn from the internet or contemporary media. Through these materials and their own research, students also develop a personal connection to a specific area or region of Italy. Class work focus around larger topics: society, history, politics, food, music, literature, film, and culture. Prerequisite: ITA 2020 or equivalent permission of the instructor. Recommended as a cultural course for qualified international business students. Satisfies a Humanities distribution requirement. Fullfills AL in LS Core. Three hours a week plus films and other cultural activities outside the classroom.

ITA 3050
Attualità Italiana 4 cr.
This course covers main events in Italy today. Students will learn about contemporary Italian society, its geography, education system, political events, religion, and culture. Students will also watch short documentaries in order to know contemporary issues and interests of the Italian people. Appropriate background readings, lectures, and videotaped interviews in Italian will integrate up-to-the-minute readings with the broad historical, social and cultural backgrounds of the topics in question. Prerequisite: ITA 2020 or equivalent. Recommended as a cultural course for qualified international business students. Satisfies a Humanities distribution requirement. Fullfills FL in LS Core. Three hours a week, plus films and other cultural activities outside the classroom.
ITA 4900
Directed Independent Study 4 cr.
Exceptionally qualified upper-level students may take a course under the direction of a member of the department. Prerequisite: permission of the instructor and the chair of World Languages and Cultures. Satisfies a Humanities distribution requirement.

SPA 1110
Introductory Spanish I 4 cr.
This course is offered for absolute beginners only. This course is not open to heritage speakers or students with any prior study of Spanish. Oral-aural Proficiency is acquired through speaking and role playing in class plus audio and visual practice outside of class, including mandatory language lab. Students learn basic strategies for reading and writing in the language. Prerequisite: Placed at this level by the Placement Test or no Spanish classes on high school transcript. Fulfills FL in LS Core. Three hours a week and interactive aural/oral audio visual activities outside the classroom.

SPA 1120
Introductory Spanish II 4 cr.
This course is offered for students with little or no background in Spanish. This course is not open to heritage speakers. Oral-aural Proficiency is acquired through speaking and role playing in class plus audio and visual practice outside of class, including mandatory language lab. Students learn basic strategies for reading and writing in the language. Prerequisite: placed at this level by Placement Test or SPA 1110 or equivalent or permission of the instructor. Fulfills FL in LS Core. Three hours a week and interactive aural/oral audio visual activities outside the classroom.

SPA 2010
Intermediate Spanish I 4 cr.
An intermediate level course with an emphasis on the study of grammar. Readings will consist of short texts from Hispanic literature and civilization, along with articles of contemporary relevance. Most instruction conducted in the target language. Prerequisite: placed at this level by Placement Test or SPA 2020 or equivalent or the permission of the instructor. The intermediate language sequence (2010, 2020) satisfies BOTH Humanities distribution requirements. Fulfills FL in LS Core. Three hours a week and interactive aural/oral audio visual activities outside the classroom.

SPA 2020
Intermediate Spanish II 4 cr.
A continuation of the intermediate course with an emphasis on the in-depth study of grammar. Readings will consist of short texts from Hispanic literature and civilization, along with articles of contemporary relevance. All instruction in Spanish. Prerequisite: placed at this level by Placement Test or SPA 2010 or equivalent or the permission of the instructor. The intermediate language sequence (2010, 2020) satisfies BOTH Humanities distribution requirements. Fulfills FL in LS Core. Three hours a week and interactive aural/oral audio visual activities outside the classroom.

SPA 3010
Composition & Culture 4 cr.
This course is offered for students who are not native Spanish speakers. An advanced study of the most important grammatical structures of Spanish, and extensive practice of these structures in the context of the skill areas of listening, speaking, reading, writing, and cultural competence. Prerequisite: placed at this level by Placement Test or SPA 2020 or equivalent or permission of the instructor. Satisfies a Humanities distribution requirement. Fulfills FL in LS Core. Three hours a week and 1 hour of a conversation component a week.

SPA 3020
Conversation and Culture 4 cr.
This course is focused on the development of students' confidence in their command of Spanish, and their engagement with a variety of materials drawn from the internet or contemporary media. Through these materials and their own research, students will develop a personal connection to a Spanish-speaking country. Class work will focus around larger topics: society, history, politics, food, music, literature, film and culture. Prerequisite: placed at this level by Placement Test or SPA 2020 or equivalent or permission of the instructor. Satisfies a Humanities distribution requirement. Fulfills FL in LS Core. Three hours a week and 1 hour of a conversation component a week.

SPA 3050
Actualidad Española 4 cr.
This course covers main events in Spain today. Reading, analysis and discussion in Spanish of recent articles from Spanish newspapers and periodicals on the most pressing issues facing Spain today and on the views of the Spanish people regarding important topics of world interest. Prerequisite: placed at this level by Placement Test or SPA 2020.
or equivalent or permission of the instructor. Recommended as a cultural course for qualified international business students. Satisfies a Humanities distribution requirement. Fulfills FL in LS Core. Three hours a week.

SPA 3060
Atualidad Latinoamericana 4 cr.
This course covers main events in Latin America today. Reading, discussion and analysis Spanish of recent articles from Spanish-language newspapers and periodicals on the most pressing issues facing the score of nations comprising Latin America. Prerequisite: placed at this level by Placement Test or SPA 2020 or equivalent or permission of the instructor. Recommended as a cultural course for qualified international business students. Satisfies a Humanities distribution requirement. Fulfills FL in LS Core. Three hours a week.

SPA 3200
Introduction to Advanced Studies 4 cr.
The purpose of this course is to prepare students to transition from the intermediate courses to the cultural and literary analysis and discussion of the Advanced level courses. Theoretical texts in English will explain basic concepts that will later apply to cultural products from the Spanish-speaking world, such as literature, music, film, comics and journalism. Prerequisite: SPA 3010 or SPA 3020 or permission of the instructor. Fulfills FL and D in LS Core. Three hours a week and an out of class cultural engagement requirement.

SPA 3310
Latinos in the US: Culture and Service Learning 4 cr.
This course will present Latino culture in the US through a variety of media such as literature, comic art, film, poetry and music. Drawing from cultural studies, sociology, and history, this class will create a framework that will allow us to understand and analyze such phenomena as transnational spaces and hybrid identities and border cultures. A service-learning component will allow students to have a positive impact in local communities, while at the same time developing their own relationship with and learning from the Latino community around Merrimack College. Prerequisite: SPA 3200, or permission of the instructor. Fulfills X and D in LS Core and FL or AL in the LS Core. Three hours a week, community service and an out of class cultural engagement requirement.

SPA 3510
Culture and Civilization of Spain and the Hispanic World 4 cr.
This course examines Spain and the cultural heritage of Latin America and its people as descendants of Indians, blacks, and Europeans in the New World. It will become clear that Latin America has a multifaceted cultural heritage ranging from the indigenous people of Mesoamerica to the European presence—iberian, and through Iberia Mediterranean, Roman, Greek, and also Arab and Jewish—to the singular and suffering black African presence. Taught in English. No prerequisite. Satisfies a Humanities distribution requirement. Fulfills D in LS Core. Three hours a week plus films and other cultural activities outside the classroom.

SPA 3520
Culture and Civilization of Spain and the Hispanic World 4 cr.
This course examines Spain and the cultural heritage of Latin America and its people as descendants of Indians, blacks, and Europeans in the New World. It will become clear that Latin America has a multifaceted cultural heritage ranging from the indigenous people of Mesoamerica to the European presence—iberian, and through Iberia Mediterranean, Roman, Greek, and also Arab and Jewish—to the singular and suffering black African presence. Prerequisite: SPA 3200 or permission of the instructor. Satisfies a Humanities distribution requirement. Fulfills FL and D in LS Core. Three hours a week plus films and other cultural activities outside the classroom.

SPA 3610
Race, Literature and Culture 4 cr.
Through the exploration of literature, history, music, film, and contemporary media, this course will explore questions of race in Spain and Latin America. Through the analysis and discussion of discourses on race (in fiction, as well as in factual, historical or anthropological texts), students will understand the history of the relations between different races in the Spanish-speaking world, as well as the relationship between race and: nation-creation, class, empire, immigration, and social inequalities. This is a topic-centered course which might focus on one specific country or historical period. Prerequisite: SPA 3200 or permission of the instructor. Satisfies a Humanities distribution requirement. Fulfills D in the LS Core and fulfills AL or FL in the LS Core. Three hours a week and an out of class cultural engagement requirement.

SPA 3620
Gender, Literature, and Culture 4 cr.
This course will explore the complexities of Hispanic societies and cultures, considering gender, sexuality, in addition to other topics. The course will be structured around topics that may include feminist movements, the construction
and performance of gender, the theory and practice of women’s writing and sexual identities as they relate to representations in literature and culture. This course will present materials from established authors such as Ana María Matute, Carmen Martín Gaite, Lourdes Ortiz, Isabel Allende and Angeles Mastretta. Prerequisite: SPA 3200 or permission of the instructor. Satisfies a Humanities distribution requirement. Fulfills D in the LS Core and fulfills AL or FL in LS Core. Three hours a week and an out of class cultural engagement requirement.

SPA 3630
Studies in Popular Culture in Latin America and Spain 4 cr.
This course will present relevant topics from the perspective of how they are constructed in Latin American and Spanish popular culture. Significant current as well as historical events and trends will be discussed and analyzed through their representation in cartoons, film, music, TV, journalism, and popular fiction. The class will develop analytical and theoretical tools to study mass and popular culture. Prerequisite: SPA 3200 or permission of the instructor. Satisfies a Humanities distribution requirement. Fulfills D in the LS Core and fulfills AL or FL in LS Core. Three hours a week and an out of class cultural engagement requirement.

SPA 3700
Special Topics 4 cr.
This course will allow students to focus on one specific topic from the perspective of the world that speaks Spanish: a certain genre (poetry, drama, and fiction), historical event or period, and/or an issue relevant to our current global society will be the focus of the course. The topic will be discussed and developed through a wide variety of cultural artifacts (literary texts, historical documents, visual arts, media, film, and music). The course will change its contents on a regular basis in order to present topics relevant to the Humanities or current events. SPA 3200 or permission of the instructor. Satisfies a Humanities distribution requirement. Three hours a week and an out of class cultural engagement requirement.

SPA 3750
Crossing Borders (Convivencia) 4 cr.
A study-travel course throughout Spain and Morocco to examine “la convivencia” (co-existence) of Jews, Christians, and Muslims in Medieval Spain (711-1492). Students explore the sites, history, and art of these three religious groups, and learn how they understood one another and interacted. By visiting places such as the Jewish quarters and synagogues, the Muslim mosques and tea houses, and the walled Christian cities, we observe how these diverse flavors still intermingle in modern Spain and Morocco. Included are visits to the Alhambra, Mezquita, Giralda, Casablanca, Fez, and many more historical and cultural sites. Lectures given during the Spring semester. Travel takes place after Commencement. Taught in English. No prerequisite. Open to all students, including business and science and engineering majors. Students may receive Religious and Theological Studies credit with special permission. Satisfies a Humanities distribution requirement. Fulfills X in LS Core.

SPA 4050
Literature(s)/Culture(s) of Resistance 4 cr.
This course will deal with literary and cultural expressions of resistance and dissent drawn from the Spanish-speaking world. The course will be structured around topics (indigenous resistance, testimonial works, or geopolitical areas such as dictatorship and post-dictatorship in Argentina, Chile, or Spain). It will present a wide array of materials to understand the historical and social context in which a literary or cultural act of resistance is staged. Prerequisite: SPA 3200 or permission of the instructor. Satisfies a Humanities distribution requirement. Fulfills D in the LS Core and fulfills AL or FL in LS Core. Three hours a week plus films and other cultural activities outside the classroom.

SPA 4060(W)
Film and Literature of Contemporary Spain and Latin America 4 cr.
A study of the Spanish and Latin American culture as viewed through its various symbols and myths, highlighted in texts and films of the 20th century. Students will learn about major cultural events and will also see daily culture in a wide variety of settings. A connection with the world of the Supernatural in Latin America will also be touched upon, as the nature/culture dichotomy and the world of the unconscious will be explored. Class discussions, written essays, exams and oral presentations in Spanish. Prerequisite: SPA 3200 or permission of the instructor. Satisfies the Writing intensive requirement or a Humanities distribution requirement. Fulfills W in the LS Core and fulfills AL or FL in LS Core. Three hours a week plus films and other cultural activities outside the classroom.

SPA 4070(W)
Short Fiction of Spanish Speaking World 4 cr.
Exploration and analysis of serious contemporary fiction (short stories, novellas, short novels) of major writers. As these texts are sometimes a challenge to readers whose native language is not Spanish, considerable time will be devoted to development of strategies in reading for comprehension and content. The instructor will discuss the situation in the modern period of the nation of the writer under discussion. Prerequisite: SPA 3200 or permission of
the instructor. Satisfies the Writing intensive requirement and a Humanities distribution requirement. Fulfills W in the LS Core and fulfills AL or FL in LS Core. Three hours a week.

SPA 4080  
Hispanic Literature in Translation 4 cr.  
This course is for students, who have not necessarily studied the Spanish language or literatures, to discover Latin American and Spanish Peninsular authors who have captivated a broad international audience in the Twentieth and Twenty first centuries. Possible authors whose texts will be discussed: Jorge Luis Borges, Juan Rulfo, Carols Ruiz Zafon, Isabel Allende, Angeles Mastretta, Carmen Martin Gaite, and Gabriel García Márquez. Taught in English. No prerequisite. Satisfies a Humanities distribution requirement. Fulfills AL in LS Core. Three hours a week and an out of class cultural engagement requirement.

SPA 4900  
Directed Independent Study 4 cr.  
Exceptionally qualified upper-level students may take a course under the direction of a member of the department. Prerequisite: permission of the instructor and the department chair. Satisfies a Humanities distribution requirement.

WLC 4000  
Telling Stories: Exploring and Integrating the Study Abroad Experience 4 cr.  
This capstone course will guide students to reflect upon and incorporate their study abroad experience into the classroom. In this course, students will investigate what it means to be a global citizen. Students will be expected to draw from their past experiences as well as current events in their study abroad host country. As a means of integrating their experience into the life at Merrimack and in the U.S., students will be provided a framework that will help them revisit career plans and their life goals. We will address such issues as: study abroad and its influence on your life after Merrimack, skills learned abroad, international careers, and what it means to be a global citizen. Prerequisite: must have enrolled in Study Abroad Program. Three hours a week and additional out of class activities to be determined by instructor.
In accordance with its mission, Merrimack College seeks to provide its students with the greatest opportunities possible for the development of their intellectual, social, cultural, and spiritual lives. To this end, the college complements its academic programs with an array of academic and co-curricular resources, services, and opportunities. Those that are more directly related to the College’s academic programs are described immediately below under Academic Enrichment Services. Others, more concerned with the broader dimensions of student life and development, are described in the section of the catalog devoted to Student Life. And still others, devoted to the development of both internal and external community, are included in the section on Community Support: Internal and External.

Academic Enrichment

Academic Enrichment Services
www.merrimack.edu (Click on Academics>Academic Resources & Services)
978-837-5278

The resources, services, and opportunities described in this section include the Writing and Mathematics Centers, The Center for Academic Enrichment, and various other programs which serve students by working with them to enhance their mastery of the intellectual skills needed in college.

All three Centers are conveniently located on the third floor of the McQuade Library.

The Center for Academic Enrichment
Diane E. Shaw, M.S., Director of the Center for Academic Enrichment

Whatever your current level of academic achievement, The Center for Academic Enrichment provides a wide range of opportunities to students wishing to enhance their academic performance. Students taking advantage of these opportunities will develop a stronger foundation in academic skills, understanding of college policy, and self-advocacy that they will need for effective learning through their college years and after graduation. The Center for Academic Enrichment conducts proactive assessments of student needs, and works to be responsive to students at every level of academic achievement. The Center also offers workshops, programs, individual and group meetings to all students on a variety of topics including time management, preparing for tests, study skills, and conducting research. Additional areas of academic service include those of the First Year Academic Counselor, the ADA Academic Coordinator for students with disabilities, the Academic Counselor for COMPASS, and the Academic Counselor for International Students, whose native language is not English. The Center for Academic Enrichment is located on the third floor of the McQuade Library. Please contact 978-837-5278 for assistance.

The First Year Academic Counselor
Sara Quagliaroli, First Year Academic Counselor

The First Year Academic Counselor is responsible for developing and promoting a first-year environment that is conducive to the academic success and personal development of first-year students, through outreach, academic counseling, training, and other related programs.
The First Year Academic Counselor helps students access the tools needed for success in college and beyond. Consultations often involve time-management, tutoring, note-taking, and making referrals to appropriate services/offices on campus. Appointment and walk-in services are available. Sara Quagliaroli’s office is located in Room 324 in McQuade Library and she can be reached at 978-837-3528.

**Academic Counselor for International Students**

Maura Shaffer, M.Ed., Academic Counselor for International Students

The Academic Counselor for International Students provides the college’s international students with the programming, the academic counseling and advising, the advocacy, and the referrals and intercessions they need to succeed academically. The Academic Counselor for International Students also works with the Office of International Programs in planning and coordinating programs throughout the semester. The Office of the Academic Counselor for International Students is located in Room 301 on the third floor of the McQuade Library. Mrs. Shaffer can be reached at 978-837-5261.

**Academic Support Services for Students with Disabilities**

Elaine DiVincenzo, M.Ed., ADA Academic Coordinator

The ADA Office embraces the College’s mission to enlighten minds, engage hearts and empower lives.

ADA provides equal access to higher education for students with diagnosed disabilities as defined by Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990 (ADA), and the ADA Amendments Act of 2008 (ADAAA).

Students who are interested in receiving services must:

1. Contact the ADA Office
2. Submit Disability Documentation

The ADA Academic Coordinator will review disability documentation and develop a Semester Accommodation Plan with each student. Accommodations must be directly linked to functional limitations determined by a comprehensive review of documentation. Reasonable accommodations which provide equal access to education must not interfere with academic/technical standards or essential course requirements.

Students without documentation who are interested in receiving services should contact the ADA Office. The ADA Office can provide information with regard to accessing disability documentation.

Located on the third floor of the McQuade Library in the Center for Academic Enrichment, the ADA Office is open during regular college hours. Students who are interested in receiving accommodations or who have questions about documentation guidelines are encouraged to contact Elaine DiVincenzo @978-837-5140 or via email Elaine.divincenzo@merrimack.edu.

Merrimack College does not offer a separate program for students with disabilities. Students with disabilities are encouraged to participate in college programs and extracurricular activities.
If a student requires specialized services, the ADA Office will provide referrals to outside organizations.

**Academic Counselor for COMPASS**
Jennifer Evans, M.Ed., Academic Counselor for Compass

The Academic Counselor for Compass provides first year students enrolled in the Compass program with the support they need to achieve a successful academic transition from high school into college. As part of the Center for Academic Enrichment, the Academic Counselor administers workshops, academic counseling, advising, and referrals for the program. By working directly with students and collaborating with all relevant members of the college community, the Academic Counselor for Compass oversees a holistically designed approach to student success. The office of the Academic Counselor for Compass is located in Room 322 on the third floor of the McQuade library. Jennifer Evans can be reached at 978-837-5039.

**The Writing Center**
Kathleen Shine Cain, Ph.D., Director/Professor of Writing, Department of Communication Arts & Sciences
Kathryn Nielsen-Dube, M.A., Associate Director/ ESL Writing Specialist

The Writing Center is a vibrant learning community where writers at all levels can work with peer tutors from across the disciplines, professional tutors, and writing faculty. Help with developing ideas, drafting, organizing, editing, and proofreading is available in the center on a drop-in basis. The center is helpful to students with a range of different learning styles and from a number of different language backgrounds.

The Writing Center also houses the Writing Fellows Program, which places peer tutors in classrooms throughout the college. Fellows are familiar with the disciplinary writing conventions of the course, and often with the particular standards of the instructor. Fellows consult with faculty as they develop writing assignments, meet with students as they draft and revise assignments, and serve as liaisons between students and faculty in clarifying requirements and standards.

The Writing Center offers a collection of reference materials and computers for student use in conducting Internet research, strengthening writing ability, and developing an understanding of the writing process.

Upon faculty recommendation, students with strong writing and interpersonal skills can apply for a position in the Writing Center. In addition to working with student writers, peer tutors also compose Writing Center promotional materials and writing guides, assist area schools in developing tutoring programs, and present at regional, national, and international conferences.

Located on the third floor of the McQuade Library (room 320), the Writing Center is open for drop-in hours during the day and evening and by appointment with Writing Fellows.

**The Mathematics Center**
Patricia Strazdins, M.S., Director of the Mathematics Center

The Mathematics Center is a unique and valuable resource for Merrimack College students of all majors, providing a central location where students can collaborate with tutors and with one another to become better learners of mathematics. The immediate goal of Math Center tutors is to assist students in enhancing their knowledge and understanding of topics covered in their mathematics and mathematics-related courses and to promote self-confidence in mathematics; the long-term goal is to extend this self-confidence to self-sufficiency in applying a scholarly mathematical approach in all problem-solving situations.
The Math Center is a dynamic environment where students can drop in at no cost and with no prior appointment. The Center is always staffed by a Professional Tutor who has a graduate degree in mathematics and by Peer Tutors who are certified by the College Reading and Learning Association.

The Math Center is a great place to study and learn on one’s own or with other students, to share common interests, to discuss graduate school and mathematics-related professions with faculty and staff, to serve the Merrimack College community as a Peer Tutor, and more! The Mathematics Center is located on the third floor of the McQuade Library. Please consult the College website for operating hours and staffing schedules.

The Division of Mission and Student Affairs

Rev. Raymond F. Dlugos, O.S.A., Ph.D., Vice President of Mission and Student Affairs
Bev Lavallee, MS.F., Administrative Assistant

The Division of Mission and Student Affairs ensures that the Catholic and Augustinian Values upon which the College is founded are well integrated into the co-curricular lives of our students. Operating under the Vice President for Mission and Student Affairs, the offices, centers, and departments of this division of the College strive to deepen and enrich the classroom experience of our students through the practiced values of friendship, service, leadership, and self-awareness. It is through these efforts that the Augustinian ideals of finding God in conversation and dialogue, service and love, community and the common good find practical expression. The primary mission of the Division of Mission and Student Affairs is to provide the environment and guidance that will allow students adapt creatively to new realities and experiences, discover the value of knowing others different than oneself, discover and develop maturity in all aspects of their humanity, and engage the outside world in collaboration and service for the good of all.

The Office of Experiential Learning
Joseph T. Kelley, Ph.D., Dean of Experiential Learning

The Office for Experiential Learning provides support services and assessment instruments to faculty and student life professionals who develop intentional learning programs for students through supervised, guided experience outside the classroom. The O’Brien Center for Student Success, International Programs, Service Learning, and Jewish-Christian-Muslim Relations are part of the Office for Experiential Learning.

The O’Brien Center For Student Success
Heather Maietta, Ed.D., Director

Career Services. The O’Brien Center for Student Success provides career assistance to all undergraduate and graduate students at the College. Programs and services available to students include career education and individual coaching focusing on self-assessment, career planning, industry and job search techniques, mock interviews, and resume and cover letter writing.

All students are provided with their own accounts to access our web-based recruiting system: ADVANTAGE in their first year at Merrimack. On-campus jobs, leadership position and part time positions are posted in Advantage as well as internships, co-ops and full time positions for upper class students and alumni.
Internships and Cooperative Education. Students in all majors are encouraged to participate in one or more internships and/or co-op experiences during their academic careers. Co-op or cooperative education is a paid full-time work experience during the semester or summer. Students on co-op are not enrolled in classes during the co-op term. Internships are either paid or unpaid and for credit or not for credit. Internships may occur during the school year or during the summers. In some majors student will alternate full-time, paid work related to their major or career goals, with full-time school starting in their junior year while other students will work part time during the school year and full time in the summer. Our graduate students also have the option to participate in a co-op or internship while enrolled in our program.

Students who participate in internships and co-ops gain career focus, confidence in their abilities, an understanding of workplace conduct and ethics, state of the art skills, and contacts for permanent employment. Internship and co-op work experiences help students integrate classroom theory with practical applications.

Annually the office sponsors targeted panels, networking nights, and career events designed for students looking for internships, co-op and full time positions, as well as those looking to boost contacts or industry knowledge. On-campus recruiting programs bring employers to campus specifically because of their interest in Merrimack students. In class presentations, branding, networking and connecting with alumni are critical elements in a students’ career path and the office acts as a conduit for these connections. The office is open daily and in the evenings by appointment.

The Office of International Programs
Lauren Bent, Ed.D., Director

The Office of International Programs (OIP), located in Sakowich, Room 340, provides support to Merrimack College students who study abroad as well as international students who study at Merrimack College.

Study Abroad: Study abroad is recommended for students in all majors in order to expand their understanding of themselves, the world, and critical global issues. Merrimack College offers a variety of semester, full-year, and short-term study abroad programs, some of which include an optional internship and/or service-learning component. Students interested in a semester or full-year program should begin planning at least one year prior to departure. For additional information and a current list of approved study abroad programs, please visit: www.merrimack.edu/studyabroad.

International Student Support Services: Every year students from all over the world study at Merrimack College. The Office of International Programs coordinates a customized orientation for international students and supports international students with visa and immigration services, social security cards, and Massachusetts drivers' licenses. The Office serves as a liaison between Merrimack College, the U.S. government, and any foreign government concerning an international student studying at the College. It is the student's responsibility to remain compliant with their Merrimack I-20 and report any address, status, or academic major change to this office. The Office, in cooperation with the Academic Counselor for International Students, offers many programs to optimize to the academic, professional, social, personal, and cultural integration into the College and the United States.
The Stevens Service Learning Center
Mary McHugh, M.A., Executive Director of Stevens Service Learning Center

Service Learning is a form of experiential learning that brings issues and problems involving the community into classes in an intentional and pedagogical way. The Stevens Service Learning Center was established in 1998 with the assistance of a grant from the Stevens Foundation. Since its inception, over 4,000 students have participated in some form of Service Learning in over 75 sites throughout the Merrimack Valley. The Stevens Service Learning Center challenges students to become active participants in their own learning by engaging in service as part of their College classroom experience. The Center brings together members of the College and agencies in the Merrimack Valley and beyond to provide meaningful volunteer opportunities which give students the ability to connect their real world experience to academic learning and meet unmet community needs. Service assignments differ from class to class and from professor to professor. On average, individual students perform 15-20 hours of service during a semester and receive some form of class credit.

The Center sponsors two after school programs in Lawrence that focus on middle school students: the Merrimack Academic Partnership Program (MAP) a mentoring/tutoring program and the Lawrence Math and Science Partnership Program (LMSP) a hands on math and science enrichment program. Students are invited to visit the office to learn more about these programs and other volunteer opportunities.

The Office of Campus Life
Donna Swartwout, Ph.D., Dean of Campus Life
Rev. James A. Wenzel, O.S.A., D.Min., Coordinator of Augustinian Values

The Dean of Campus Life oversees Residence Life, Community Standards/Student Conduct, New Student Orientation, Student Involvement and Hamel Health & Counseling Services. The office is an advocate for students in all areas of campus life. We encourage students to become active members of the Merrimack community. Make it your Merrimack by playing intramurals, becoming an Orientation Leader or Resident Advisor, join a club, create a club, play in the Pep Band or sing with Mackapella, join MPB and plan the spring concert, go on an alternative spring break trip, hang out in Augie’s Pub with friends; the opportunities are endless! The Dean’s office is a place to ask questions, and find help if you need it, and be challenged to become engaged in the life of the College.

Community Standards
Allison Gill, M.Ed., Assistant Dean of Campus Life

Before all else the students, faculty, staff and administration of Merrimack College form an Augustinian community that supports and challenges its members in the pursuit of Truth. We declare and celebrate our common purpose, and commit ourselves:

to serious study, generous service and courageous leadership
to academic integrity and personal growth
to civilized discourse in the exchange of ideas
to friendship, diversity, and mutual respect
to primacy of conscience and the spiritual life
to responsibility for the common good, and
to pride in our schools and ourselves.
It is the responsibility of the College to maintain an environment that is consistent with its mission and respectful of the rights of all individuals within the College community. In addition to this obligation, the College affirms that all members of this community are freely united by this agreement in the pursuit of scholarship and intellectual growth. By reason of this contract, both the College and the students accept responsibility toward each other within this community. Consequently, it is necessary to establish procedures to ensure the preservation of this community and its goals, and to respond promptly and accurately to actions that are contrary to these values and ideals.

The Merrimack College Student Conduct System is directed to this end as it seeks to impart the values and ideals of this community as well as habits of conduct. When student conduct adversely impacts the College community, the educational program or the community standards of the College, the case will be processed within the student conduct system and sanctions commensurate with the offense will be applied.

Behavior that is in violation of local, state or federal law will also be responded to in accordance with this system. In these cases, the College reserves the right to take action independent of that which may occur in a court of law and does not provide protection from prosecution by law enforcement agencies.

**New Student Orientation**

The New Student Orientation program begins with two overnight sessions in June, of which students should attend one. This program is designed for all new incoming first-time freshmen and transfer students entering with less than 15 credits. June Orientation is designed to prepare students for success in all aspects of Merrimack College life with a focus on their academic, social, and co-curricular development. An academic advising session is included in which new students will meet with a faculty member within their chosen major and be given registration material and their class schedule. Family orientation is also offered on day one of each orientation session and is highly recommended.

The second component of orientation is held prior to the start of classes in the fall. We require that all new students participate in the Fall Orientation program (first years and transfers.) The schedule begins with Move-in Day and includes programs on academic and campus life with evening social events. A service component, called MerrimAction, is a reflection of our Catholic and Augustinian tradition and an experience that has been designed to provide new students the opportunity to perform meaningful service as a part of their new campus community.

Mid-Year transfer students are also offered a day long Orientation in January prior to the start of classes. This program is for transfer students and their families and includes: advising, registration, a campus resource session and campus tours.

**Student Involvement**

John Gallagher, M.Ed., Director of Student Involvement
Allison Stinson, M.Ed., Associate Director of Student Involvement
Rose Dolan, M.Ed., Assistant Director of Student Involvement for Programming
Matthew Gordon, M.P.A., Assistant Director of Student Involvement for Intramurals and Recreation
The Office of Student Involvement coordinates the efforts of over forty student organizations to ensure a diverse and exciting campus activities program. These student-governed organizations include creative and performing arts clubs, co-curricular organizations, fraternities and sororities, service organizations, student publications, and special interest clubs. In addition, this office enables students to produce and sponsor late night and weekend programming and supports intramural teams and recreational activities of all kinds. In all of its efforts, the Office of Student Involvement focuses on developing student leadership and encouraging students to get involved and accept responsibility for the design and presentation of their own activities program.

The Office of Student Involvement encourages and enables students to make the best use of the 150 hours each week spent outside of the classroom. Its programs help students to meet new people, create new friendships, develop leadership skills, enhance their resumes, and most of all, have fun.

*Intramurals and Recreational Activities* are offered during both the fall and spring semester. They are organized and based on the participation and interest of the students.

As the voice of students the *Student Government Association* seeks to ensure that students' needs and concerns are addressed by faculty, administration and the College community. SGA conducts its business through a system of standing committees and the Executive Board. Through this structure, as well as through its open forums (MACK Meetings), the goal of SGA is to encourage students to have a positive influence upon their community.

**The Office of Residence Life**

Sara Hicks, M.A., Director of Residence Life  
Sally Bertolino, M.A., Assistant Director of Residence Life  
Dan Fleming, M.Ed., Assistant Director of Residence Life  
Amanda Unis, B.A., Coordinator of Housing and Residential Services  
Jessica Looney, M.Ed., Area Coordinator  
William Galloway, M.B.A., Area Coordinator  
Beth Solomon, M.Ed., Resident Director  
Jazmin Averbuck, B.A., Resident Director

St. Augustine believed you learn the most while living in community with others. Merrimack students living on or off campus have opportunities to learn about themselves, learn from others, and develop lifelong friendships.

Students live in a variety of settings, ranging from traditional residence halls, townhouses and apartments. Each environment provides residents with the opportunity to grow personally and as a community. Members of the Residence Life Staff are present to help students navigate through this experience, and to see that it is as fulfilling as possible. Social, educational, and spiritual programs are designed to connect students to each other and provide a venue for learning outside of the classroom. The department also oversees student room selection and placement, and works with residents to address conflict with each other should it arise. The Residence Life staff works closely with other offices and departments on campus and are able to serve as a resource to all students.
Counseling and Health Services, Hamel Health Center
Suzanne M. Slattery, Ph.D., Director

Counseling Staff:
Erin Hitzel, LICSW, Staff Counselor
Nic Wildes, LMHC, Staff Counselor

Health Services Staff:
Diane Griesbach, NP, Assistant Director of Health Services
Stephanie Callahan, RN, Staff Nurse
Linda Sorrenti, RN, Staff Nurse

Consulting Physicians:
Anthony Turiano, MD
Tracy Harris, MD
Deborah Turiano, MD

The Hamel Health Center is an integrated counseling and health center that provides services to all Merrimack students. Services are conducted by licensed professionals and are confidential. Our approach is compassionate, thoughtful and respectful. We offer both appointments and walk-in services. We also provide consultation to students, parents, faculty and staff who may have concerns about the well-being of a student.

Counseling Services: The counseling staff consists of a licensed psychologist, a licensed social worker and a licensed mental health counselor who have years of experience working with college students. Counseling services are confidential and include crisis intervention, short-term counseling, consultation, assessment and referral. Common reasons that college students seek services include stress, depression, anxiety, anger management, eating and/or body image concerns, relationship problems, sexual assault and intimate partner violence, and substance abuse. Students access counseling services by calling x5441 or dropping in to the office to request immediate care or to make an appointment. After hours crisis phone counseling is also available to students by speaking with a Residential Life Professional Staff member or by calling Police Services at x5911 and asking to speak with the counselor on call.

Health Services: The health services staff consists of a nurse practitioner, two registered nurses, and consulting physicians. Students may make an appointment by calling x5441 or dropping in to the office to make an appointment. Walk in services are also available. All students must complete a Health Form in order to utilize the health service. Health forms are provided to all entering students and are also accessible at the office and on the college website. For medical treatment when the office is closed, students may use off-campus services including Doctor's Express, Merrimack Medical and Walk-In Center, and Pentucket Medical Express Care. In the event of an emergency, students should contact Merrimack Police Services at x 5911 who can assist by calling for an ambulance. The Emergency Rooms at Holy Family and Lawrence General Hospitals provide 24-hour medical care.

The Office of Mission and Ministry

The Office of Mission and Ministry takes a leadership role in calling forth the spiritual development of our students. Although securely grounded in the Catholic and Augustinian Tradition, we seek to provide valuable resources for all students, faculty, and staff regardless of faith tradition or religious affiliation. The following departments make up the Office of Mission and Ministry.
Campus Ministry at Merrimack College is committed to meeting students at all points in their relationship with God and faith. Our faith/spiritual life enrichment includes retreats, liturgy, preparation for reception of sacraments, interfaith prayer, service opportunities, and forums for discussing Catholic theology and practice. We invite all members of the Merrimack community to explore the bridges we build between faith and the realities of our society and the world community. People of all faiths are welcome to celebrate with us, and are invited to all programs and events of Campus Ministry.

Campus Ministry facilitates the worship and sacramental life of the campus. Mass is celebrated on Sundays, Weekdays, and Special Occasions. Students, faculty, and staff are welcome to serve as Lectors, Eucharistic Ministers, Cantors, and Ministers of Music. Programs to help those interested in becoming Catholics or completing the sacraments of initiation (Baptism, Eucharist, and Confirmation) are offered.

The Sacrament of Reconciliation is offered seasonally and always upon request.

Students and Alumni are welcome to celebrate the Sacrament of Marriage in the Collegiate Church for Christ the Teacher.

A series of retreats and service opportunities to deepen one’s relationship with God and others are offered to facilitate the spiritual development of Merrimack students. These retreats include M.O.R.E (Merrimack Out Reach Experience), the Intercollegiate Retreat with students from other campuses, and the Boston Urban Retreat that combines service to the poor with prayerful reflection in faith.

Our service programs encourage students to experience the reality of poverty first-hand, and make a positive impact in the lives of people. Students, Faculty, and Staff are able to join in a variety of weekly, monthly, and one time service opportunities through MerrimAction. Service trips to both domestic and international sites are organized during Fall, Winter, Spring, and Summer breaks. All of these programs encourage students to explore, question and grow in spirituality so as to integrate faith and daily life.

In keeping with our Catholic Augustinian tradition, we pursue issues of social justice and peace exploring the causes of poverty and oppression and trying to make the world a better place because of a God who loves us all.

Whatever spiritual path you are following, we welcome you to the warmth of our faith community. We offer guidance and support to help you as your journey continues.

The Center for Augustinian Study and Legacy

The Center for Augustinian Study and Legacy at Merrimack College has a twofold mission. It ensures that the College will continue to draw on the intellectual and spiritual legacy of St.
Augustine and of the Augustinian Order. Included among the activities of the Center are an annual study-travel pilgrimage to Augustinian Italy, symposia that allow the College Community to converse with one another about our mission and Augustinian heritage, and lectures from prominent scholars.

The Center also provides opportunities for members of the College and visiting scholars to access, research and explore the works of St. Augustine and his continuing influence on thought and culture.

The Center for the Study of Jewish-Christian-Muslim Relations
Aldebran Longabaugh-Burg, B.A., Assistant Director

The work of interfaith education is the Mission of Merrimack College’s Center for the Study of Jewish-Christian-Muslim Relations. As its name denotes, the Center engages in interfaith education principally around the history and common life of members of the three Abrahamic religions. However, we also seek to engage all women and men who strive to be faithful to the human vocation, who strive to live consequential lives, lives of creativity, joy, kindness, compassion and forgiveness; women and men in religious communities other than the Abrahamic religions and women and men of humane secular values.

The Center seeks to increase understanding of Judaism, Christianity and Islam in relation to one another in similarity and difference while exposing their underlying common moral commitments and theological conviction, enhance feelings of appreciation for people and practices in religious communities other than our own, and to call forth a shared commitment from all people to the service of the poor through direct action motivated by study and appreciation of the moral passion for justice and for peace at the heart of Judaism, Christianity and Islam.

Community Support: Internal and External

Community Support

Fundamental to the mission of Merrimack College is a commitment to reach out to internal and external constituencies that form the Merrimack College community. To that end, a number of centers, offices, services, and programs are essential and include the following: The McQuade Library, Information Technology Center and Services, Media Instructional Services Center and Merrimack College Cable Television MCTV 10, the Telecommunications Office, The Rogers Center for the Arts, and the Merrimack College Office for Community Partnerships

McQuade Library
978-837-5215

McQuade Library is an evolving center for learning, study and research. Rich in traditional print materials, media, and digital resources, it provides work spaces for groups as well as quiet corners for solitary study. Special collections in Education Resources and Augustinian Studies provide research support in those areas, and Merrimack ScholarWorks (http://scholarworks.merrimack.edu) offers access to the college’s digital archive. Skilled and dedicated staff members are ready to assist students with anything from a simple article request to a full-scale research project, facilitating use of the broad-ranging collections both physical and virtual. Librarians collaborate with faculty to provide Information Literacy workshops and
customized web guides to support their coursework. McQuade Library is also the site of the Media Center, Information Technology Services, Academic Enrichment Services, the Writing Center, the Mathematics Center, and the Study Center.

Library information and access to materials is available via the library's homepage at [www.merrimack.edu/library](http://www.merrimack.edu/library). McQuade's memberships in NOBLE (North of Boston Library Exchange) and OCLC WorldCat, an international collection of libraries, allow students to borrow materials worldwide.

In addition to a traditional print collection, a wide variety of electronic resources including ebooks, journal literature, images and datasets are available. These resources can be accessed from off-campus with a valid MACKcard college ID.

**Media Center**
978-837-5377

The primary mission of the Media Center is to support and assist the learning process by providing the highest quality technology and instruction, technical support, and collaboration opportunities as well as access to technology for production and presentation. The Media Center provides a creative learning environment and instructional support through which faculty and students can become visually literate independent developers and/or users of new media to support teaching, scholarship and community. Information about hours and services can be found at the center's website: ([http://www.merrimack.edu/library/media_center.php](http://www.merrimack.edu/library/media_center.php)).

McQuade also offers a bestsellers collection, popular magazines, and DVD's for recreational interests. A café, pleasant study areas, seminar rooms and a 190-seat auditorium further enhance the library as a center of activity and learning.

For further information about library services and policies please refer to the library web site or speak with a library staff person.

**Telecommunications Office (Also an Information Technology Service)**
Patricia Druid, Director of Telecommunications
McQuade Library, 2nd Floor

The Merrimack College Telecommunications Office is pleased to provide telephone services to the Merrimack College campus community to include faculty, staff and resident's halls. Voice mailboxes are available for students upon request. The Telecommunications Office is also your point of contact for the RAVE ALERT emergency notification system ([www.getrave.com](http://www.getrave.com)). For more information about telephone services, please call 978-837-5200 or email druidp@merrimack.edu.

**The Rogers Center For The Arts**
Front Desk 978-837-5367
Box Office 978-837-5355

The Rogers Center for the Arts at Merrimack College, a 600 seat state of the art theater, encourages artistic excellence and expression and integrates an appreciation for the performing arts into the lives of our students and neighbors. At the Rogers Center, the campus community can join together in exploring the human drama in educational and enjoyable ways. A series of concerts, exhibitions, films, and lectures sponsored by the College complements student and faculty work in the arts. Programs presented represent a wide variety of performing arts disciplines and cultural experiences.

The McCoy Art Gallery, located in the Rogers Center, offers a regular program of local, national, and international exhibitions during the academic year. These shows present the
works of many kinds of artists, sometimes in solo formats and sometimes in thematic groups. Artists regularly present lectures about their work and often conduct workshops for the community. In addition, the McQuade Library Art Gallery offers month-long exhibitions of student art.

The Rogers Center for the Arts selects cultural and artistic programs for their educational and co-curricular impact and for the opportunity to provide for intellectual exchange. Attention is also given to cultural and ethnic diversity throughout the programming.

**Merrimack Arts:** The Merrimack College Concert Choir gives students the opportunity to perform choral music of all styles and periods. The Concert Choir frequently performs at many types of events at the college, and rehearses in the Rogers Center throughout the year, as well as off campus events. It also sponsors an annual road tour.

**The On-Stagers Dramatic Society** is a student organization that produces two theatrical productions each year in the spring and the fall and performs in the Roger’s Center.

**The Merrimack College Jazz Band,** comprised of students, faculty and staff perform in the Rogers Center each spring. The concert is open to all members of the community.

**The Stevens Theater** in Cushing Hall, an intimate 100-seat theater, is used by students and faculty for a number of events including fully staged plays and other performances.
ADMISSION AND FINANCIAL AID

Admission Policy

Because many more students apply for entrance than can be accommodated, admission to Merrimack College is competitive. Candidates for admission must be graduates of an approved secondary school and must satisfy the entrance requirements specified on the following pages. In addition to the application, candidates must submit to the college an official transcript of all secondary work including first quarter senior grades and at least one reference or recommendation from an appropriate school official. Test results from the Scholastic Aptitude Test (SAT) of the College Board or the American College Testing Program (ACT) are optional. On the basis of these criteria, the Admission Committee determines the academic strength of candidates in relation to the course of studies for which they have applied.

Merrimack College admits students of any race, creed, color, handicap or disability, and national or ethnic origin to all the rights, privileges, programs, and activities generally accorded or made available to students. It does not discriminate on the basis of race, religion, color, gender, handicap or disability, age, sexual orientation, national ancestry or ethnic origin or any other lawfully protected categories in administration of its educational policies, admission policies, scholarship and loan programs, and athletic and other school-administered programs.

Admission Requirements

The subject requirements listed below are expressed in terms of secondary school units. A unit represents one academic year of study.

<table>
<thead>
<tr>
<th>Business Administration, Humanities, and Social Sciences</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>4</td>
</tr>
<tr>
<td>History, Government and Social Sciences</td>
<td>3</td>
</tr>
<tr>
<td>*Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Science (Lab)</td>
<td>2</td>
</tr>
<tr>
<td>Electives</td>
<td>5</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Health Science, Biology, Chemistry, Computer Science, Engineering, Mathematics, Physics, and Sports Medicine</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>4</td>
</tr>
<tr>
<td>History, Government and Social Sciences</td>
<td>3</td>
</tr>
<tr>
<td>*Mathematics</td>
<td>4</td>
</tr>
<tr>
<td>*Science (Lab)</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>2</td>
</tr>
</tbody>
</table>

* * Mathematics subject matter must be sequential through Algebra II. An advanced Mathematics course is required of all Science and Engineering applicants. Prospective Engineering students must have three high school units in the sciences with one of the units being in Physics.

Applications for admission as freshmen should be submitted before the following dates.

Fall Term:
Early Decision: November 15
Early Action: November 15
Regular Decision: February 15

Spring Term: January 21

The Admission Committee seeks to notify applicants for admission as freshman students about the admission decision between March 15 and April 15 for the fall term and between December 1 and January 25 for the spring term. The Admission Office only accepts freshman applications from the Common Application. Additional information concerning the Common Application is available by contacting the Office of Admission directly. Information requests are also accepted by electronic mail at the following address: admission@merrimack.edu and in the admission section of the College’s web site. The web address is: www.merrimack.edu. The admission fax number is 978-837-5133.

Early Decision
Merrimack College offers an Early Decision Program for students who wish a decision prior to December 25. The deadline for submitting an application under Early Decision is November 15 of their senior year. Students applying under early decision should be aware that this is a binding program and if accepted the student must enroll at Merrimack College.

Candidates granted an offer of admission under this plan will signify their intention to attend Merrimack College under the Early Decision Program by submitting a $500 deposit to the Office of Admission.

Early Action
Merrimack College offers an Early Action Program for students who wish a decision prior to December 25 and the deadline for submitting an application under Early Action is November 15 of their senior year. Students applying early action should be aware that this is a non-binding program.

Candidates granted an offer of admission under this plan will signify their intention to attend Merrimack College under the Early Action Program by submitting a $500 deposit to the Office of Admission by May 1.

Pre-Secondary School Graduation Acceptance Plan
Students may be considered for admission after completing their junior year of their secondary school if they have achieved a consistent and superior academic record. Candidates applying under this plan must be recommended by their high school principal or director of guidance. General application procedures and deadlines are the same as for seniors. Students must meet all high school graduation requirements as well as the Merrimack College general admission requirements (except in the number of academic courses). An interview will be required for students applying under this plan. If you believe you qualify for this plan, please notify the Admission Office at 978-837-5100.

Deferral of Admission
Merrimack College offers the option for students to defer the offer for admission for up to one full year. The request for deferral must be submitted in writing to the Office of Admission. The letter must state the actual dates the student is requesting deferment for admission. A $500 deposit is required of the freshman candidate to defer enrollment. A $500 deposit is required of the Transfer candidate to defer enrollment. The student will be required to submit an intent to enroll form at least 30 days prior toreactivating their admission status. If the freshman
candidate elects to take college courses during this period, reapplication as a transfer candidate will be determined by the Director of Transfer Admission.

Refund of Deposit
Deposits for students entering for the fall semester are refundable until May 1 only. After May 1 deposits are non-refundable. Students have until May 1 to accept the offer of admission.

Admission Requirements for GED Candidates
Individuals without a high school diploma who wish to pursue post-secondary education may be admitted to Merrimack College. Candidates for admission must successfully complete the General Educational Development tests (GED) and submit the Official Report of Test Results with their completed application. Test results from the Scholastic Aptitude Tests (SAT) of the College Entrance Examination Board or the American College Testing Program (ACT) are optional. Candidates who submit their GED test scores are required to follow the same admission procedures as those required of graduating seniors and high school graduates.

Home School Candidates
Merrimack College welcomes applications from students who have chosen homeschooling. In addition to completing the standard admission application, we require that students forward to the Office of Admission the following materials:
- State certificate of completion, or a high school diploma, or the GED
- List of coursework or transcript
- Test results of SAT, SAT II or ACT are optional
- Admission Interview (highly recommended)
- Essay
- Two letters of recommendation (one from a parent/teacher and one from a person outside the home - e.g., tutor, employer, minister, priest, etc.) Each candidate will be assessed on an individual basis for college readiness and academic strength.

Change of Status on Admission Applications
Any change of status on applications must be forwarded to the Office of Admission by the student in writing. Change of major, housing status or other changes will be made only upon written receipt of the request unless otherwise authorized and documented by a member of the admission staff. Internal requests for status change will be made only after the student has forwarded the appropriate documentation to the Office of Admission. Final approval of the request will be determined by the Dean of Admissions.

Air Force Reserve Officer Training Corps (ROTC)
Air Force ROTC is a leadership development program that ultimately produces second lieutenants for the United States Air Force. Air Force ROTC is designed to run concurrent with a student’s degree curriculum. Students do not go on to active duty until after they graduate from college, with a four year degree. Although the environment is somewhat fraternal, promoting military structure and culture, we are not a club or activity, but rather, a bona fide academic program, through which scholarships are available.

Merrimack College students may enroll in Air Force ROTC courses at UMass Lowell, through a cross-town agreement between the two schools. The Air Force ROTC program qualifies men and women for a commission as a Second Lieutenant in the United States Air Force. Two-year, three-year and four-year programs, as well as scholarships, are available. Details, including information on how to enroll Air Force ROTC credited class and lab, can be obtained calling Air Force ROTC Detachment 345, UMass Lowell, at 978-934-2252 or via email afrotc345@uml.edu. Detachment 345’s local web site is www.uml.edu/Dept/AFROTC. Air Force
ROTC national web site is www.afrotc.com. Registration for ROTC courses is done via NECCUM cross-registration. Please visit the Merrimack College Registrars Office for a NECCUM cross-registration form.

International Baccalaureate (IB)
College credit for international baccalaureate exams are subject to review. An official IB examination report is required for consideration. High Level exams with a score of 5 or better will be reviewed for credit.

College Level Examination Program (CLEP).
Course credit may be granted through the CLEP program, in which students can take an equivalency examination in an academic area instead of a course offered by the college in that area. The examinations are offered by the College Entrance Examination Board and are available in most academic disciplines. Like the Advanced Placement Tests, the CLEP examinations are usually offered to replace courses at the introductory level. CLEP examinations should be taken prior to the start of the student's junior year, but no later than the start of the student's senior year. Students seeking further information about the program should be directed to the department chair of the appropriate discipline and/or to the College Registrar. A transfer applicant to the college who has taken CLEP exams is required to have official CLEP score report sent to Merrimack College (code #3525) for potential transfer credit.

Military Training
Merrimack College awards academic credit for military training based on American Council on Education (ACE) recommendations.

Advanced Placement (AP)
As a participant in the Advanced Placement Program of the College Board, Merrimack College will grant credit to students who present examination scores of at least 3 on Advanced Placement tests offered by the Educational Testing Service. Students who have taken the test should have their official scores sent directly from the Educational Testing Service (ETS) in Princeton, New Jersey, to the Dean of Admissions at Merrimack College (Merrimack College code number: 3525) prior to June 1st. It should be noted that chairs of each academic department establish the number of Merrimack College credits and the advanced placement level for successful students under the Advanced Placement Program.

College Level Courses/Dual Enrollment
Students who elect to take college level courses during high school may have those courses evaluated for transfer of college credit. The student is required to forward to the Merrimack College Office of Admission an official college transcript. It is also necessary for evaluation of such courses, that the student submits a course catalog and/or course syllabi offering course descriptions. With a grade of "C" or better, three credit and four credit courses that are similar in content and scope to courses offered at Merrimack College will be evaluated by a department chairperson for transfer of college credit. "C-" grades are not accepted in transfer.

Transfer Admission
Students wishing to transfer from another accredited college or university may be considered for admission to Merrimack College. We define a transfer student as any student who has earned a high school diploma or GED and has completed one or more college-level courses. The transfer applicant must follow these guidelines:
1. Documents needed:
   A. Completed transfer application and essay,
B. Official college transcript from each college attended. International transfer applicants must submit post secondary records which are original or certified copies of original documents. These must be translated into English.
C. College catalog/course descriptions from each college attended. Course descriptions are needed in order to evaluate and determine appropriate transfer credit. International students are required to submit college catalog/course descriptions translated into English.
D. One letter of recommendation from a current professor or advisor or an employer.
E. High school/secondary school transcript is required if applicant has less than one year of college coursework, less than 30 college credits, OR if the applicant has not completed any math courses on the college level. Test results of SAT or ACT are optional.
F. A test of English proficiency is required of the applicant for whom English is not his/her native language. An official score report of either TOEFL (Test of English as a Foreign Language) or IELTS (International English Language Testing System) is required.

2. The applicant must be in good academic standing, with a cumulative grade quality point average of at least a 2.5 on a 4.0 scale. The student must not be under disciplinary censure and eligible to return to the institution he/she previously attended.

3. Transfer of course credits:
A. Transfer credit will be granted for courses having a grade of “C” or better from each institution(s). “C-” grades are not accepted in transfer. The institution(s) must hold accreditation from a major regional accrediting association. These courses also must meet the requirements of the curriculum selected by the applicant and be comparable in content and scope to courses offered by Merrimack College.
B. If a student has an earned Associate’s degree from a two-year college and meets admissions requirements, all courses and credits will be accepted in transfer.
C. Credit for coursework taken 10 years or more prior to admission is subject to review to determine exactly how the courses will transfer in.
D. Internships, cooperative education, courses taken pass/fail, and remedial or developmental courses do not transfer.
E. Transfer credit Advanced Placement (AP) and/or College Level Examination Program (CLEP) examinations will be determined provided the “official” examination score report/s are forwarded directly to Merrimack College (Merrimack School code number: 3525).
F. The grades from other institutions do not enter into the computation of quality grade point average at Merrimack College.
G. All credits to be transferred must be identified at the time of application for transfer admission to Merrimack. Merrimack College reserves the right to deny credit for coursework taken by the student prior to admission if it is identified and presented after transfer.
H. All acceptances for those transfer applicants currently enrolled at other institutions are made with the condition that courses will be completed successfully. Final and official transcripts of all completed courses must be forwarded to the Office of Admission.

4. A transfer credit evaluation of transferable courses is prepared and forwarded to the student at the time of acceptance. In some instances, the student may be asked to submit more detailed course descriptions or syllabi than that which appears in the
catalog of the prior institution(s). Final determination of transferability of courses is made by the Registrar’s Office at Merrimack College in conjunction with the appropriate academic departments.

5. Students who transfer from other institutions must complete at least 48 credits at Merrimack College. Please refer to the Merrimack College catalog sections: “Requirements for Bachelor’s Degree” and “Residence Requirements” for more detailed information.

6. Applications for admission for transfer students should be submitted by the following deadlines:

   - **Fall Term:** August 1
   - **Spring Term:** December 1

   For fall admission (classes beginning in September) decisions will be sent out on a rolling basis from Mid-March until August. For spring admission (classes beginning in January) admission decisions will be sent out on a rolling basis starting in November until early January.

Community College Articulation Agreements

Merrimack College has entered into a set of “Transfer Articulation Agreements” with several of the Massachusetts community colleges. Please contact the Director of Transfer Admission in the office of Admission at Merrimack College for more detailed information about these agreements.

International Students

Merrimack College welcomes applications from all qualified international students. An international student is a student who is neither a citizen of nor has permanent residency status in the United States of America. Such students, according to the Immigration and Naturalization Service, “must have successfully completed a course of study equivalent to that normally required of an American applicant seeking admission to the school at the same level.”

Applicants whose native language is not English must demonstrate proficiency in English by achieving a minimum score of 75 and with no single subset score lower than 16 on the Test of English as a Foreign Language (TOEFL) or a minimum score of 6.0 on the International English Language Testing System (IELTS), with no band below a 5.0. A test of English proficiency is required of the applicant for whom English is not his/her native language. An official score report of either TOEFL or IELTS is required. Appropriate official transcripts, or certified copies of academic records and their English translations validated by an official public translator, must be forwarded to the Office of Admission. If the international student has completed college/university level coursework, official transcripts (translated into English) for all such coursework is required.

As part of the application process, a Certification of Finances must be completed which certifies that sufficient funds are on deposit/available to meet the cost of one year of academic study. A Certificate of Eligibility (form I-20A) will be issued to the student after the student has been accepted and has paid the required non-refundable tuition deposit.

The completed admission application should be received by the following dates:

<table>
<thead>
<tr>
<th></th>
<th>Freshmen</th>
<th>Transfers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall Term:</strong></td>
<td>August 1</td>
<td>August 1</td>
</tr>
<tr>
<td><strong>Spring Term:</strong></td>
<td>December 15</td>
<td>December 15</td>
</tr>
</tbody>
</table>

The Senior Citizen Program

The Merrimack College Senior Citizen Program allows any student 62 years of age or older having a high school diploma or a general equivalency diploma to audit
credit courses or to take them for credit, on a space-available basis, at no charge. A total of five courses may be taken for credit and an unlimited number may be audited under this policy. Courses taken for credit may serve to meet the requirements for the college’s associate’s and bachelor’s degrees if and when the student matriculates.

**COURSE LIMITATIONS:**
A student may register for no more than 32 credits before applying to the school.

**Financial Aid**

Merrimack College is committed to assisting students in achieving their educational goals. Institutional, federal and state aid is available to full-time, undergraduate students demonstrating eligibility according to Merrimack’s application procedures and funding policies. Merrimack College believes the primary responsibility for a student’s education belongs to the individual and his or her parent(s). However, the College recognizes that meeting the cost of a private education is a financial challenge for many students and families. Therefore we have established a substantial program for financial aid designed to provide assistance to deserving students who desire to study at Merrimack.

**Application Information**
All students who wish to apply for financial aid should file the Free Application for Federal Student Aid (FAFSA) online at [www.fafsa.gov](http://www.fafsa.gov).
High School students applying for Fall 2013 enrollment should apply by February 15.
Transfer students applying for Fall 2013 enrollment should file by April 30.
Transfer students applying for Spring 2014 enrollment should file by December 1.
Current students must file the FAFSA renewal prior to April 1 and meet Merrimack's standards for satisfactory academic progress for financial aid. The Merrimack College Federal School Code is 002120 and must be included on your FAFSA.

**Eligibility for Federal Financial Aid**
To apply for federal financial aid at Merrimack a student must:
- file the Free Application for Federal Student Aid (FAFSA);
- be a citizen of the United States, a permanent resident, or eligible non-citizen;
- enroll in an degree-granting program of study;
- have received their high school diploma or GED;
- be registered with Selective Service, if required;
- not be convicted of a drug-related crime in the last year;
- not be in default from previous student loans;
- make satisfactory academic progress toward the completion of his or her course of study. The complete schedule of the College’s statement on Satisfactory Academic Progress follows and is also available upon request from the Office of Financial Aid.

**Satisfactory Academic Progress Standards**
In order to receive, or continue to receive any financial aid from the above programs, or receive funds from programs which require satisfactory academic progress, a student must comply with the standards listed in the College Catalog, Student Handbook, or other financial aid publications. In accordance with federal regulations, Merrimack College has adopted the following statement of Satisfactory Academic Progress standards which students must meet in order to maintain eligibility for financial aid from the federal and state programs.
Qualitative Standards: Satisfactory Academic Progress requires a cumulative GPA of 2.0 or better by the end of your second academic year, or after four semesters of coursework.

Quantitative Standards: Students must successfully earn 67% of their cumulative attempted credits. In addition, you will not be eligible to receive federal financial aid once you have attempted more than 150% of the normal credits required for your degree. For full-time students this means the student must complete their degree within 6 years.

Note:
- All transfer and summer credits are calculated toward the satisfactory academic progress standard whether taken at Merrimack College or any other institution.
- Grades of F, W (other than medical), unofficial withdrawal or N are considered attempted, but not earned credits.
- Students can repeat courses as many times as required to pass the course. However, if a student wishes to repeat a course to improve their grade, they can only receive aid for courses repeated one time.

Review of Satisfactory Academic Progress
Satisfactory Academic Progress for federal and state financial aid will be reviewed at the end of each Spring semester. If the cumulative grade point average falls below the minimum standard and/or the student falls behind in earned credits, the student will be notified by the Office of Financial Aid, and may appeal in writing by completing the required process below. Once the appeal is received, the Office of Financial Aid will notify student of future eligibility.

The review of Satisfactory Academic Progress for financial aid purposes is based on a student’s entire academic record, even if the student did not receive financial aid during previous semesters of enrollment.

Appeal
Students who do not meet the minimum Satisfactory Academic Progress requirements for financial aid have the opportunity to appeal when special circumstances exist. Conditions when a student may appeal include death of a relative, injury or illness of the student, or other extenuating circumstances. In order to appeal, a student must submit a completed Satisfactory Academic Progress appeal form, including personal statement and supporting documentation. In addition, the student must meet with his/her academic advisor to develop an academic plan, outlining the steps required to meet Satisfactory Academic Progress standards.

If a student’s appeal is approved, they will be placed on financial aid probation, and will continue to receive financial aid while on probation. At the end of this probation period, the student’s academic record will be reviewed to evaluate progress and determine continued eligibility.

Denied appeals will result in the student being ineligible for financial aid until minimum Satisfactory Academic Progress standards are met.

Appeals will be granted only one time during your enrollment at Merrimack. Exceptions may be made in certain circumstances.

After an appeal is granted, if the student fails to meet the terms outlined in their academic plan, he or she will become ineligible for financial aid until the minimum standards for Satisfactory Academic Progress are met. All courses, including summer and transfer courses, are calculated
toward Satisfactory Academic Progress whether they are taken at Merrimack College or any other institution.

Re-Establishing Financial Aid Eligibility

A student may regain financial aid eligibility by successfully meeting the College's SAP policy requirements or successfully meeting the requirements of an established academic plan.

**TYPES OF AID**

**GRANTS**

Grants are gift aid which does not have to be repaid.

ATHLETIC SCHOLARSHIP: Recipients are selected by the Merrimack Department of Athletics. All questions regarding this type of aid should be directed to the Coach and the Assistant Athletic Director of Compliance.

ENDOWED/RESTRICTED SCHOLARSHIPS: A number of individuals, foundations and corporations have donated money to establish nearly 250 endowed/restricted scholarships to Merrimack College. These scholarships vary in character and purpose. Some support study in a particular field, others provide assistance to students from designated geographic areas.

All are based on merit, leadership capability and financial need. Endowment Scholarship awards will be made during the academic year by the Office of Financial Aid. Scholarships designated for entering students do not require a separate application.

If you are selected as a recipient, you will be notified of the award name and to whom a letter of thanks must be addressed. Your acceptance of these funds implies permission for the College to publicize the award.

FAMILY SCHOLARSHIP: If two children are enrolled at Merrimack College in a full-time, day degree program, each child receives a 10% reduction in tuition. Three children receive 13 1/3% and four children receive 15% (reduction is taken after institutional aid is applied).

FEDERAL PELL GRANT: Pell Grants are awarded to students who have filed the FAFSA and whose Expected Family Contribution falls within federal guidelines. Award amounts for full-time students in 2013-2014 expect to range from $650 to $5,645 per year, pending federal funding.

FEDERAL SUPPLEMENTAL EDUCATIONAL OPPORTUNITY GRANT: Supplemental Educational Opportunity Grants are awarded on a very limited basis first to Pell Grant recipients, pending federal funding. We have a limited amount of SEOG funds, so not all Pell Grant recipients will receive SEOG funds.

GILBERT GRANT: Gilbert Grants are one-year grants made available by the Commonwealth of Massachusetts to eligible Massachusetts residents. Awards are determined annually pending state funding.

MASSGRANT: Massachusetts provides educational grants to qualified students who have completed the FAFSA. Eligibility is based on residency, financial need according to the
Expected Family Contribution (EFC) and enrollment status. For the 2012-2013 academic year, the MASSGrant awards ranged from $300 to $1,600. The MASSGrant is not automatically renewed as students must file the FAFSA before May 1 to determine eligibility.

If you have received state notification you may deduct the state scholarship from your bill only with the understanding that you are responsible for any balance due if the state subsequently adjusts or cancels your award.

MERIT SCHOLARSHIPS: Scholarships are renewable for 4 years or eight semesters as long as the student maintains good academic standing as defined in the Merrimack College catalog.

MERRIMACK NEED-BASED GRANT: In order to qualify for need-based aid, a student must file the FAFSA and demonstrate financial need. The award amount in subsequent years will be determined by the demonstrated level of financial need.

STATE GRANTS: Your state agency will notify you directly of your tentative award. Your state will also notify Merrimack once they have confirmed your award for the academic year. States which have reciprocal agreements with the Commonwealth are: Connecticut, Maine, Maryland, New Hampshire, Pennsylvania, Rhode Island, Vermont and the District of Columbia. Available funding each year is determined by your state. If you have received state notification, you may deduct the state scholarship from your bill only with the understanding that you are responsible for any balance due if the state subsequently adjusts or cancels your award.

TRANSFER SCHOLARSHIPS: Transfer scholarships are renewable as long as the student maintains good academic standing as defined in the Merrimack College catalog. The number of semesters for which the scholarship is renewed is determined by the total transfer credits accepted upon admission, and the number of semesters that remain to meet the required credits for graduation.

TUITION EXCHANGE: This is a scholarship based on parental employment at another participating institution. For additional information, contact the Tuition Exchange liaison at your college.

LOANS

FEDERAL PERKINS LOAN: The Federal Perkins loan may be available to students with financial need. Loan amounts range from $500 to $5,500 per year. These loans require no principal or interest payments while the student is pursuing a degree. Ordinarily, a repayment period of ten years is permitted at an interest rate of 5% on the unpaid balance beginning nine months after graduation. Funding is limited, and is not guaranteed for renewal.

MASSACHUSETTS NO INTEREST LOAN: The Massachusetts No Interest Loan Program is a state funded, no interest, deferred loan offered to qualified Massachusetts residents. Repayment does not begin until six months after graduation. Loan amounts range from $1,000 to $4,000 per year. Students must file the FAFSA and have an EFC range of $0 to $15,000. Funding is limited, and is not guaranteed for renewal.

FEDERAL DIRECT LOAN PROGRAMS
Federal Direct Stafford Loan Program provides loan funds to students to help pay college costs. This is a student loan; therefore the student is responsible for repayment. Repayment begins six months after the student graduates or stops attending half-time.
This loan is available to students who have filed the FAFSA and meet the eligibility requirements for federal aid. Students are eligible for either a need-based Subsidized Stafford Loan (the government pays the interest while the student is in school) or a non need-based Unsubsidized Stafford Loan (interest is the responsibility of the borrower) or a combination of both.

Interest accrues on the Unsubsidized Loan while the student is in school. The student may pay the interest while in school or capitalize it and pay it along with the principal upon leaving school. The 2013-2014 interest rate for the Subsidized and Unsubsidized Stafford Loan will be 6.8% (unless there is a legislative change).

The federal government deducts an origination fee from the gross loan amount before forwarding the proceeds to the school. This means the amount that is disbursed to your account will be less than the amount you were awarded in your financial aid award letter. For 2012-2013, this fee was 1.0%. The fee for 2013-2014 is expected to increase, but has not been confirmed at the time of this publication.

New Stafford Loan borrowers must complete both the Entrance Counseling and Master Promissory Note (MPN) at www.studentloans.gov. The College will not disburse the loan to the student's account until both the electronic MPN and Entrance Counseling notifications have been received by the College.

The maximum yearly amount that a student may borrow depends on the number of earned credits. See below.

| Status: Earned credits: | Maximum annual Student loan limits Base Subsidized/Unsubsidized Additional Unsubsidized |
|------------------------|----------------------------------------|-----------------------------------|-----------------|
| Freshman 0 to 27       | $3,500                                 | $2,000                            |
| Sophomore 28 to 59     | $4,500                                 | $2,000                            |
| Junior 60 to 91        | $5,500                                 | $2,000                            |
| Senior 92+             | $5,500                                 | $2,000                            |

**STUDENT EMPLOYMENT**

There are two types of work programs administered by the College.

1. Federal Work Study is a federally subsidized part-time employment program. Jobs are available on or off campus.
2. College Employment is an on-campus, part-time employment program funded by the College.

Paychecks are issued bi-weekly via direct deposit, therefore the award amount is not deducted from the tuition account. Jobs and employment announcements will be posted on the Student Employment web site. Jobs for the 2013-2014 academic year are listed on the Advantage website once the semester begins.

**SUPPLEMENTAL LOAN OPTIONS**

There are some other opportunities for families to meet their tuition obligation.
FEDERAL DIRECT PARENT PLUS LOAN for Undergraduate Students

The PLUS loan is available to creditworthy parents of dependent undergraduate students. Parents may borrow up to the full cost of education less any financial aid. The first step in applying for a PLUS loan is to be sure that the student for whom a PLUS loan is being processed has filed the FAFSA. A completed FAFSA is required for all Parent PLUS applications.

The 2013-2014 interest rate for the PLUS loan is 7.9% fixed. An origination fee is deducted from the loan before the funds are sent to the College. For 2012-2013, this fee was 4.0%. The fee for 2013-2014 is expected to increase, but has not yet been confirmed at the time of this publication. Repayment begins 60 days after final disbursement and is based on a 10-year repayment. The borrower may also contact the loan servicer to make interest-only payments, or defer payments completely until the student is no longer enrolled in school at least half time.

Parents may apply for the PLUS loan and complete their Master Promissory Note (MPN) online at www.studentloans.gov. A completed MPN must be on file before funds will be disbursed to the College.

PRIVATE/ALTERNATIVE LOAN OPTIONS

Students may apply for a private/alternative loan with a credit-worthy co-borrower up to the annual cost of attendance less any financial aid received. Loans vary in interest rates, fees and repayment options. Repayment of interest usually begins immediately, with some lenders offering deferment options.

A list of lenders students commonly use is available at www.merrimack.edu/aid. Students are not obligated to borrow from this list of lenders, and may apply for a loan with any lender of their choice. Students are notified of loan approval directly from their lender. Once approved, the loan is sent to the College for certification and funds will disburse after the add/drop period has expired.

PAYMENT PLANS

Merrimack College is pleased to offer an interest free monthly payment plan through Tuition Management Systems. Instead of a semester payment, this plan enables you to pay on a monthly basis. You have the option of spreading your payments over 10 months. This plan is available to you for an annual enrollment fee of $80 through www.afford.com. In addition, Education Payment Life Insurance covering the balance of your payment plan amount is also included.

AWARD POLICIES

1. All federal and state awards are subject to government funding.

2. If your FAFSA is selected for verification, you may be required to complete the 2013-2014 verification worksheet and provide the requested documentation, which may include federal tax transcripts and W2s.

3. If the student withdraws from any course or courses after the drop/add period or otherwise decreases his/her course load, withdraws from the College or changes housing status, the package may be adjusted.
4. As noted on the financial aid award letter one half of the institution and government aid is credited to your account each semester. Please be advised that work study is not deducted from your tuition.

5. Financial aid, including merit and need-based grants, can be used for study abroad costs approved by and administered through Merrimack.

6. In order to receive federal and state aid, students must maintain satisfactory academic progress as defined above.

7. Merrimack scholarships and grants are awarded for full-time undergraduate enrollment. Awards are renewed for four years or eight semesters providing the recipient is enrolled fulltime and maintains good academic standing as defined above. Students who are in their final semester of their program and do not require full-time enrollment, may be exempt from this requirement.

8. Receipt of outside scholarships may affect the aid package. Outside awards are first used to meet financial need not already met by the aid package. If a student's financial need is met, the outside scholarship may affect his/her eligibility for a subsidized loan.

9. Students must enroll at least half-time to retain eligibility for federal loans. Undergraduate half-time status is classified as 8 or more credit hours. Graduate half-time status is classified as 4 or more credit hours.

10. Students who are enrolled in a Merrimack sponsored Study Abroad program are considered enrolled full-time for the purpose of Title IV federal aid, state aid, and institutional aid.

11. Merrimack College reserves the right to correct any errors in notification of awards.

**Fees and Expenses (2013-14)**

**NOTE: Fees and expenses apply to the 2013-14 academic year only.**

The full-time day tuition rate will be charged to all students who meet the following enrollment criteria:

- All day degree students enrolling in 12 or more credit hours, in any combination of day and professional studies courses, up to the maximum hours allowed.*

- All day degree students enrolling in 12 or more credit hours through a combination of Merrimack College and NECCUM day division courses.

- All other students enrolling in 12 or more credit hours in a combination of day and professional studies courses.

*A credit overload fee will apply when a student exceeds 19 credit hours. When a semester and professional studies terms overlap, the total credit hours for both periods will count toward full-time tuition.

For information on Professional Studies courses, please refer to the Professional Studies website at http://www.merrimack.edu/admissions/professional/
Full-time Day Tuition (12 or more credit hours) $33,685.00
Part-time Day Tuition (less than 12 credit hours per semester) $1,205.00

Room and Board
- Residence hall fee (double, triple, & quad) and full meal plan per year $12,150.00
- Single room fee and full meal plan per year $13,625.00
- Student apartments room fee and full meal plan optional per year $14,045.00
- Student apartments room fee and 5 meal plan optional per year $10,705.00

Eligibility for On-Campus Housing

Housing for returning students is secured during the spring semester via a room selection process. Returning students will be issued a computer-generated random selection time as part of this process. It is important to note that factors such as previous housing assignment, assignment to a plus one room, difficulties with roommates, academic standing, participation in special activities and other factors are not considered when generating room selection times.

All students living in College sponsored housing (both on and off campus) are required to participate in one of the College meal plans listed below:
1. Option 19: three meals per day, Monday through Friday, with brunch and dinner on weekends, 50.00 in “bonus points” per semester;
2. Option 13 plus: any 13 meals per week, plus 8 “bonus meals” and $150.00 in “bonus points” per semester;
3. Option 9 plus: any 9 meals per week, plus 6 “bonus meals” and $200.00 in “bonus points” per semester.

The Option 5 meal plan is only available to on campus apartment residents and commuting students at a cost of $1,760 per year. The Option 5 plan includes 5 meals per week and $150.00 in “bonus points” per semester.

Other Fees and Expenses
- Credit overload fee $1,205.00
- Auditing fee, per credit hour $225.00
- Comprehensive fee full-time, per semester $700.00
- Comprehensive fee part-time 9-11 credit hours, per semester $525.00
- Comprehensive fee part-time 1-8 credit hours, per semester $175.00
- Student health insurance, per year, unless waived $1,520.00
- Study abroad fee, per semester (Fall) $750.00
- Study abroad fee, per semester (Spring) $800.00

The above figures represent tuition, room, board and other fees for the 2013-14 academic year only. The College reserves the right to change any of the above charges at its own discretion without prior notice. Additional charges may be applicable for specific areas of study. The above figures do not include the cost of books, travel, and personal expenses.

Books and Supplies
Students will be required to purchase their own textbooks and classroom supplies. Available through the campus bookstore, they will cost an estimated $1,000 per year.
Reservation Deposits
All incoming students who have received an offer of acceptance from the Office of Admissions must validate their intention to attend Merrimack College by making this reservation deposit to Merrimack College by May 1 for the fall semester. This deposit will be credited toward payment of the fall semester’s tuition bill. In the case of withdrawal prior to May 1 for the fall semester, the deposit will be refunded. In the case of withdrawal after this date, the entire deposit is forfeited to the College. Failure to make the required payment as specified will result in cancellation of the student’s place in class. The reservation deposit for incoming students is $500.00.

All returning students must pay an annual reservation deposit to validate their intention to return to Merrimack College. The amount is credited to the subsequent spring semester account of the student. It will be credited against commuter charges if the student changes from resident status and submits written notification of the status change to the Office of Resident Life and the Student Accounts Office by May 1 for the fall semester and November 30 for the spring semester. In the case of withdrawal from the College, it will be refunded if the student follows proper withdrawal procedures by May 1 for the fall semester and November 30 for the spring semester. The reservation deposit for resident students is $500.00. The reservation deposit for commuting students is $300.00.

Dormitory Damage Deposit
All resident students must pay a $100.00 damage deposit, which is charged each fall semester, and credited at the end of each spring semester. The deposit is refundable upon graduation or withdrawal, less any charges against the student.

Payment, Withdrawals and Refunds
Remittances should be made payable to Merrimack College. No student will be allowed to attend classes until all charges are paid in full. It is the student’s responsibility to monitor the account on-line to ensure that all outstanding balances are paid in full. No student will be allowed to receive a degree, certificate or official transcript of credits until financial accounts with the College have been satisfactorily settled.

Notice of withdrawal must be given in writing to the Registrar’s Office. Resident students must also notify the Director of Residence Life, in writing. Oral notice is not sufficient.

Refunds of tuition, room or board are made according to the following schedule:
- Prior to the end of the first week – Full refund
- Prior to the end of the second week -50% refund
- Prior to the end of the third week – 25% refund
- After the third week – no refund

For the refund policy for winter intersession and summer courses, please refer to the Graduate and Professional Studies web page.

Merrimack College complies with the refund policies as outlined in the Higher Education Amendments of 1998. The refund calculation for the return of Title IV funds with completion of less than or equal to sixty percent of the semester will be the lesser of:

Total Title IV Aid X % of Uncompleted Semester = Unearned Aid
Or
Total Institutional Costs X % of Uncompleted Semester = Unearned Costs

The College will refund the credit of the lesser of Unearned Aid or Unearned Costs to the Title IV programs in the following order:

- Federal Stafford Unsubsidized Loan
- Federal Stafford Subsidized Loan
- Federal Perkins Loan
- Federal PLUS Loan
- Federal Pell Grant
- Federal SEOG

If more than sixty percent of the semester is completed, no Title IV funds will be returned
Faculty

Jack Adams, Associate Professor, Department of Electrical Engineering; B.S., M.S., Ph.D., University of Massachusetts.

Taesoo Ahn, Assistant Professor, Department of Sport Management; B.A., Korea University; M.A., Ohio University; Ph.D., Florida State University.

Brittnie Aiello, Assistant Professor, Department of Criminology; B.A., Eckerd College; M.A., Ph.D., University of Massachusetts, Amherst.

Mark J. Allman, Associate Professor, Chair, Department of Religious and Theological Studies; B.A., State University of New York at Albany; M.A., Catholic University of America; Ph.D., Loyola University.

Jack Amariglio, Professor, Department of Economics; B.A., City College of New York; Ph.D., University of Massachusetts.

Abdullatif Bagegni, Associate Professor, Co-Chair, Department of Electrical Engineering; B.S., University of Tripoli; Ph.D., University of Missouri-Columbia.

Brandy Benedict, Assistant Professor, Department of Mathematics; B.A., Occidental College; M.S., Ph.D., North Carolina State University.

Charlotte A. Berkes, Assistant Professor, Department of Biology; Health Professions Advisor; B.S., Pennsylvania State University; Ph.D., University of Washington.

Gavril K. Bilev, Assistant Professor, Department of Political Science; B.A., Whittier College; Ph.D., Brown University.

Mark J. Birnbaum, Professor, Department of Biology; B.S., M.S., University of Maryland; Ph.D., University of North Carolina.

Hillary J. Blakeley, Assistant Professor, Department of Psychology; B.A., Wheaton College; M.A., Ph.D., Baylor University.

William J. Bowhers, Associate Professor, Department of Electrical Engineering; B.S., Villanova University; M.S., Boston University.

Michael J. Bradley, Professor, Department of Mathematics; A.B., Merrimack College; M.S., Ph.D., University of Notre Dame.

Geraldine S. Branca, Professor, Department of English; B.A., Seton Hill College; M.A., Ph.D., University of Illinois.

Deborah H. Burns, Associate Professor, Chair, Department of Communication Arts and Sciences; B.A., Ph.D., University of Rhode Island.

Dan W. Butin, Dean & Associate Professor, School of Education; B.S., Massachusetts Institute of Technology; M.A., St. John’s College; Ph.D., University of Virginia.

Kathleen Shine Cain, Professor, Department of Communication Arts and Sciences; Director of the Writing Center; B.A., Merrimack College; M.A., Villanova University; Ph.D., Marquette University.

Franco Capaldi, Associate Professor, Department of Civil and Mechanical Engineering; B.S., Brown University; M.S., Ph.D., Massachusetts Institute of Technology.

Evangelos N. Charos, Professor, Department of Economics; B.S., M.A., Ph.D., University of New Hampshire.

Ming Chen, Associate Professor, Co-Chair, Department of Electrical Engineering; B.S., M.S., Michigan State University.

Charles Comegys, Clejek Chair of Business and Associate Professor, Department of Marketing; B.S., Wilkes University; M.B.A., California State University; C.A.G.S., Northeastern University; Ph.D., Boston College.

John J. Condon, Associate Professor, Chair, Department of History; B.A., Loyola College in Maryland; M.A., Ph.D., University of Minnesota.
Mark Cordano, Associate Professor, Department of Management; Dean of Girard School of Business; B.A., Cornell University; M.B.A., Indiana University; Ph.D., University of Pittsburgh.

Monica R. Cowart, Associate Professor, Department of Philosophy; B.A., Illinois Wesleyan University; Ph.D., University of Wisconsin-Madison.

John R. Dalphin, Professor, Department of Sociology; A.B., College of the Holy Cross; M.A., Ph.D., University of Massachusetts.

Carol Ann Dalto, Associate Professor, Chair, Department of Psychology; B.A., Rider College; M.S., Ph.D., University of Massachusetts.

Michael DeCesare, Associate Professor, Chair, Department of Sociology; B.A., University of Connecticut; M.S., Southern Connecticut State University; Ph.D., University of Massachusetts, Amherst.

Richard DelGaudio, Fabbricatore Chair of Business and Professor, Department of Accounting; B.S., M.B.A., Northeastern University; C.P.A., Massachusetts.

Cinzia DiGiulio, Associate Professor, Chair, Department of World Languages and Cultures; B.A., Universita Cattolica di Milano; M.A., Purdue University; Ph.D., University of North Carolina, Chapel Hill.

Elaine M. Donovan, Associate Professor, Department of Economics; B.A., University of Massachusetts; M.A., Ph.D., University of Houston.

Raymond P. Dorney, Associate Professor, Department of Sociology; B.A., University of Massachusetts; M.A., Ph.D., Boston University.


Audrey Falk, Assistant Professor, School of Education; B.S., B.A., Boston University; M.Ed., Harvard University; Ed.D., Boston University.

Anthony L. Fernandez, Associate Professor, Department of Chemistry and Biochemistry; B.A., Ph.D., Boston University.

Kevin E. Finn, Associate Professor, Department of Health Sciences; B.S., Merrimack College; M.S., Ed.D., University of Massachusetts, Lowell.

Julie Fitzmaurice, Associate Professor, Department of Marketing; Associate Dean, Girard Schools of Business; B.A., Brandeis University; M.B.A., Georgetown University; M.A., Yale University; Ph.D., University of Connecticut.

Kathleen A. FitzPatrick, Associate Professor, Department of Health Sciences; B.A., Lawrence University; Ph.D., University of Wisconsin.

Jimmy Franco, Assistant Professor, Department of Chemistry and Biochemistry; B.S., Beloit College; Ph.D., University of California.

Brian J. Frasier, Assistant Professor, School of Education; B.S., Tufts University; M.Ed., M.S., Ed.D., University of Massachusetts, Lowell.

Anne Pfitzner Gatling, Assistant Professor, School of Education; B.S. McKendree University; M.Ed., Harvard University; Ph.D., Boston College.

Steven A. Gildea, Associate Professor, Department of Visual and Performing Arts; B.A., University of Wisconsin; B.F.A., Massachusetts College of Art; M.F.A., University of Illinois.

Jaimie I. Grinnell, Associate Professor, Department of Management; B.S., University of Maine; M.B.A., University of Southern Maine; Ph.D., University of Massachusetts.

Joanne Gurry, Assistant Professor, School of Education; B.A., Boston College; M.A., University of Massachusetts; Ed.D., Boston University.

Laura Hall-Seelig, Assistant Professor, Department of Mathematics; B.S., B.A., Bryn Mawr College; Ph.D., University of Massachusetts, Amherst.

S. Bruce Han, Professor, Chair, Department of Management; B.S., M. Eng., Cornell University; M.B.A., University of Michigan; Ph.D., University of Rhode Island.
Donald T. Hanson, Associate Professor, Chair, Department of Accounting; B.S., University of Maine; M.B.A., Northeastern University; C.P.A. Massachusetts.

Christina Hardway, Assistant Professor, Department of Psychology; B.A., University of Chicago; M.A., University of Michigan.

Karen E. Hayden, Associate Professor, Department of Criminology; B.A., M.A., University of New Hampshire; Ph.D., Northeastern University.

George Heffernan, Professor, Department of Philosophy; B.A., M.A., Catholic University of America; Ph.D., University of Cologne.

Birgid Hopkins, Director of Sports Medicine, Department of Health Sciences; B.S., Salem State College; M.S., Florida International University.

Laura M. Hsu, Assistant Professor, School of Education; B.A., University of California, Berkeley; Ed.M, Ed.D., Harvard University.

Matthew Isbell, Assistant Professor, Department of Communication Arts and Sciences; B.A., Michigan State University- East Lansing; M.A., University of Montana-Missoula; Ph.D., University of Texas at Austin.

Sirkwoo Jin, Assistant Professor, Department of Management; B.A., M.A., Seoul National University; Ph.D., University of Maryland.

Kerry L. Johnson, Associate Professor, Department of English; Associate Dean of Liberal Arts, B.A., University of Michigan; Ph.D., University of Iowa.

James Kaklamanos, Assistant Professor, Department of Civil and Mechanical Engineering; B.S.C.E., M.S., Ph.D., Tufts University.

Marguerite P. Kane, Associate Professor, Department of Political Science; A.B., Merrimack College; M.A., University of Massachusetts.

David I. Kapelner, Associate Professor, Department of Management; B.A., University of Connecticut; M.A., Tufts University; M.B.A., New York University; J.D., Suffolk University. Attorney of Massachusetts.

Warren A. Kay, Associate Professor, Department of Religious and Theological Studies; B.A., M.A., Villanova University; B.D., Baptistische Theologische Hochschule (Switzerland); Dr. Theol., University of Zurich.

Joseph T. Kelley, Associate Professor, Department of Religious and Theological Studies; Dean of Experiential Education; B.A., Villanova University; S.T.B., M.A., The Catholic University of America; D.Min., Andover-Newton Theological School; Ph.D., Boston University.

Robert D. Keohan, Associate Professor, Department of English; B.S. in B.A., Merrimack College; M.S. in Journalism, M.A., Boston University.

Boualem Kezim, Associate Professor, Department of Management; B.S., University of Algiers, Algeria; Ph.D., Boston University.

Anthony J. Laramie, Professor, Chair, Department of Economics; B.S., New Hampshire College; Ph.D., Clark University.

Janine M. LeBlanc-Straceski, Associate Professor, Department of Biology; Director, Center for Biotechnology and Biomedical Sciences; B.A., Tufts University; Ph.D., Wesleyan University.

Arthur O'Brien Paydoux, Professor, Chair, Department of Philosophy; Coordinator, Humanities Program; A.B., Tufts University; Ph.D., University of Notre Dame.

He Li, Professor, Department of Political Science; B.A., Hebei University (Baoding, China); M.A., Chinese Academy of Social Sciences; Ph.D., University of Texas at Austin.

Ellen L. Longsworth, Professor, Department of Visual and Performing Arts; B.A., Mount Holyoke College; M.A., University of Chicago; Ph.D., Boston University.

Craig W. Looney, Associate Professor, Chair, Department of Physics; B.S., Gonzaga University; A.M., Ph.D., Washington University.
Jonathan Lyon, Associate Professor, Chair, Department of Biology; B.A., Beloit College; Ph.D., Pennsylvania State University.

Gordene MacKenzie, Associate Professor, Chair, Department of Women’s and Gender Studies; B.A., Ph.D., University of New Mexico.

R. David MacLaren, Associate Professor, Department of Biology; B.S., University of Maine at Farmington; Ph.D., Indiana University.

Mary Kay Mahoney, Professor, Department of English; B.A., College of St. Rose; M.A., Boston College; Ph.D., University of Kansas.

Deborah Margolis, Associate Professor, School of Education, Chair, Department of Education; B.A., Barnard College; Ed.M., Harvard University; Ph.D., Boston College.

Susan Marine, Assistant Professor, School of Education; B.A., Transylvania University; M.A., Bowling Green State University; Ph.D., Boston College.

Michael F. Mascolo, Professor, Department of Psychology; B.A., Southern Connecticut State College; Ph.D., State University of New York at Albany.

Russell K. Mayer, Associate Professor, Department of Political Science; Vice-Provost; B.A., Wesleyan University; Ph.D., University of Michigan.

Lynn Ann McGovern, Professor, Department of World Languages and Cultures; B.A., Boston College; M.A., Middlebury College; Ph.D., University of Virginia.

Cynthia B. McGowan, Professor, Department of Chemistry; Vice-Provost; B.A., Russell Sage College; M.S., Ph.D., Brandeis University.

Kyle McInnis, Professor, Chair, Department of Health Sciences; B.S., University of Massachusetts Lowell; M.S., Springfield College; Sc.D., Boston University.

Krista B. McQueeney, Assistant Professor, Department of Criminology; B.A., Wellesley College; M.A., Ph.D. University of North Carolina, Chapel Hill.

Ellen McWhorter, Assistant Professor, Department of English; B.A., Bucknell University; M.A., Ph.D., University of Illinois.

Lisa N. Michaud, Assistant Professor, Department of Computer Science; B.A., Williams College; M.S., Ph.D., University of Delaware.

Josephine S. Modica-Napolitano, Professor, Department of Biology; Provost and Vice President for Academic Affairs; B.S., University of Massachusetts; Ph.D., Tufts University.

Donald A. Nelson, Associate Professor, Department of Accounting; B.S., M.B.A., University of Massachusetts; C.P.A., Massachusetts.

George Negler, Assistant Professor, Department of Accounting; B.S., Bentley College; M.A., Assumption College; M.B.A., D.B.A., Boston University; C.P.A., Massachusetts.

Mary G. Noonan, Associate Professor, Interim Dean of Science and Engineering, Department of Computer Science; A.B., Merrimack College; M.S., University of Massachusetts Lowell.

Rebecca Sachs Norris, Associate Professor, Department of Religious and Theological Studies; B.A., Clark University; Ph.D., Boston University.

Padraic O’Hare, Professor, Department of Religious and Theological Studies; B.A., Saint Francis College; M.A., Fordham University; M.A., Manhattan College; Ed.D., Union Theological Seminary-Columbia University.

Jane D. Parent, Associate Professor, Department of Management; B.S., State University of New York Albany; M.B.A., University of Southern Maine; Ph.D., University of Massachusetts Amherst.

Susan E. Pariseau, Professor, Department of Management; B.S., M.B.A., University of Rhode Island; Ph.D., University of Massachusetts Amherst.

Richard J. Piatt, OSA, Assistant Professor, Department of Visual and Performing Arts; A.B., Lafayette College; M.A., Villanova University; M.Div.,Washington Theological Union.
Marie A. Plasse, Professor, Department of English; B.A., American International College; M.A., Ph.D., Boston University.

Kevin M. Plunkett, Associate Professor, Department of English; B.A., Northeastern University; M.A., Ph.D., University of Rhode Island.

Clarisse A. Poirier, Associate Professor, Department of History; A.B., Merrimack College; M.A., Ph.D., Boston University.

Vance Poteat, Associate Professor, Chair, Department of Computer Science; B.S., University of North Carolina; M.S., Rutgers's University.

Sylvie Pressman, Associate Professor, Department of World Languages and Cultures; B.A., M.A., Université Besançon; Ph.D., University of Paris, Sorbonne.

Laura Moore Pruett, Assistant Professor, Department of Visual and Performing Arts; B.A., Millsaps College; M.M., Ph.D., University of Denver.

Elliott H. Puretz, Associate Professor, Department of Accounting; B.A., Loyola College; M.B.A., Boston University; C.P.A., Massachusetts.

Frances A. Quinn, CFP®, ChFC®, Associate Professor, Chair, Department of Finance; B.S., Northeastern University; M.S., M.B.A., Bentley College; C.A.M.S., Babson College.

Sandra Raponi, Assistant Professor, Department of Philosophy; B.S., LL.B./J.D., Ph.D., University of Toronto.

David E. Raymond, Professor, Department of Visual and Performing Arts, Director of the Fine Arts Gallery; A.B., Catholic University.

Carol Reichenthal, Professor, Department of Psychology; A.B., City College of the City University of New York; M.A., Ph.D., State University of New York at Buffalo.

Catherine Rich-Duval, PCM, Associate Professor, Chair, Department of Marketing and International Business; B.S., Boston College; M.B.A., Suffolk University; C.A.M.S., Babson College.

Angeli (Diane) Rigos, Associate Professor, Chair, Department of Chemistry and Biochemistry; B.A., Cornell University; Ph.D., Massachusetts Institute of Technology.

Terry Robertson, Assistant Professor, School of Education; B.S., University of New Hampshire; M.Ed., Boston University; Ed.D., University of Massachusetts, Lowell.

Anthony M. Roselli, Associate Professor, School of Education; B.S., M.A., C.A.G.S., Ed.D., Boston University.

Michael J. Rossi, Professor, Department of Communication Arts and Sciences; B.A., Merrimack College; M.A., Ph.D., University of Illinois.

Dana Rowland, Associate Professor, Department of Mathematics; B.A., University of Notre Dame; Ph.D., Stanford University.

Norma G. Rueda, Professor, Department of Mathematics; B.S., Universidad Nacional del Sur; M.S., Ph.D., The Florida State University.

Luis Sáenz de Viguera Erkiaga, Assistant Professor, Department of World Languages and Cultures; B.A., Universidad de Deusto-Filosofía y Letras; M.A., University of Massachusetts; Ph.D., Duke University.

Michael St. Vincent, Associate Professor, Department of Mathematics; B.S., Northeastern University; M.S., New York University; Ph.D., Northeastern University.

Rose-Mary Sargent, Professor, Department of Philosophy; B.A., Merrimack College; M.A., Ph.D., University of Notre Dame.

Steven D. Scherwatzky, Professor, Chair, Department of English; B.A., Boston College; M.A., Ph.D., Rutgers University.

Patricia Sendall, Professor, Department of Management; Vice-Provost; B.S., Rowan University; M.B.A., St. Joseph's University; C.A.M.S., Babson College; Ph.D., Nova Southeastern University.

Raymond J. Shaw, Associate Professor, Department of Psychology; Director of General Education; B.S., Georgetown University; M.A., Ph.D., University of Toronto.
Xiaorong Shen, Associate Professor, Co-Chair, Department of Mathematics; B.S., Shanghai Normal University, China; M.S., Ph.D., Iowa State University.

Sally Shockro, Assistant Professor, Department of History, B.A., Brandeis University; Ph.D., Boston College.

Kathleen Sills, Associate Professor, Chair, Department of Visual and Performing Arts; B.S., Northwestern University; M.A., Lesley College; Ph.D., Tufts University.

Ana Silva, Assistant Professor, Department of Finance; B.S., Universidad Complutense de Madrid; M.B.A., Madrid Business School-University of Houston; Ph.D., University of Houston.

Carol Sokolowski, Associate Professor and Co-chair, Department of Mathematics; B.S., Fitchburg State College; M.S., University of Lowell; Ed.D., Boston University.

Gary Spring, Professor, Chair, Department of Civil and Mechanical Engineering; Associate Dean of Science and Engineering; B.S., M.S., Ph.D., University of Massachusetts Amherst.

Joseph R. Stasio, Jr., PCM, Associate Professor, Department of Marketing; B.S., Salem State College; M.B.A., A.P.C., Suffolk University.

James E. Stewart, Associate Professor, Department of Management; B.S., University of Massachusetts; M.B.A., Golden Gate University.

Michael J. Stroud, Assistant Professor, Department of Psychology; B.S., University of California Santa Barbara; M.A., California State University Chico; Ph.D., University of Massachusetts Amherst.

Christopher Stuetze, Assistant Professor, Department of Computer Science; B.A. Wheaton College; Ph.D., Rensselaer Polytechnic Institute.

Kathleen C. Swallow, Professor, Department of Chemistry and Biochemistry; B.S., University of Richmond; Ph.D., Massachusetts Institute of Technology.

Daniel J. Tambasco, Associate Professor, Department of Physics; B.S., Union College; M.S., Ph.D., University of Iowa.

Stephen M. Theberge, Associate Professor, Department of Chemistry and Biochemistry; B.S., University of New Hampshire; Ph.D., University of Delaware.

Kathleen A. Tiemann, Professor, Department of Sociology; Dean of the School of Liberal Arts; B.A., Grand Valley State University; M.A., Ph.D., Western Michigan University.

Andrew C. Tollison, Assistant Professor, Department of Communication Arts and Sciences; B.S., M.S., University of Tennessee; Ph.D., University of Texas at Austin.

Charles F. Tontar, Associate Professor, Department of Economics; B.S.F.S., Georgetown University; M.A., New School for Social Research.

Jacob S. Turner, Assistant Professor, Department of Communication Arts and Sciences; B.A., Virginia Polytechnic Institute and State University; M.A., University of Delaware; Ph.D., Bowling Green State University.

Paul A. Vatalaro, Associate Professor, Department of English; B.S., Suffolk University; M.A., University of Maine (Orono); Ph.D., State University of New York at Binghamton.

Marc Veletzos, Assistant Professor, Department of Civil and Mechanical Engineering; B.S., M.S., Ph.D., University of California, San Diego.

Susan M. Vorderer, Associate Professor, Department of History; B.A., Tufts University; M.A., Ph.D., Boston College.

Marcia L. Walsh, Associate Professor, Department of Health Sciences; B.S., Stonehill College; Ph.D., University of Rhode Island.

Elaine Ward, Assistant Professor, School of Education; B.A., M.Ed., Ed.D., University of Massachusetts, Boston.

Harry Wessel, Associate Professor, Chair, Department of Political Science; B.A., University of Maryland, Baltimore County; M.A., Ph.D., State University of New York at Buffalo.
David L. Westerling, Associate Professor, Department of Civil and Mechanical Engineering; B.S.C.E., University of Massachusetts; M.S.C.E., Ph.D., Worcester Polytechnic Institute.

Douglas P. White, Professor, Department of Physics; B.S., Bates College, M.S., Ph.D., University of Connecticut.

William Wians, Professor, Department of Philosophy; Director of the Honors Program; B.A., University of Toledo; Ph.D., University of Notre Dame.

Zi Yan, Assistant Professor, Department of Health Sciences; B.S. Beijing Normal University; M.Ed., Bowling Green State University; M.P.H. Oregon State University; Ph.D., Oregon State University.

Professors Emeriti

Gerald M. Barry, A.B., College of the Holy Cross; M.A., Boston College; M.Ed., Harvard University. Professor Emeritus of Education.

J. Samuel Bitler, B.S., Case Western Reserve University; M.S., Ph.D., University of Michigan. Professor Emeritus of Electrical Engineering.

Albert A. Brenner, A.B., Merrimack College; M.F.A., Yale University. Professor Emeritus of Fine Arts.

Brenda B. Brown, B.A., City College of New York; M.Ed., Atlanta University; Ed.D., Harvard University. Professor Emeritus of Education.

J. Nicholas Buehler, A.B., Wittenburg University; M.S., University of Lowell; Ph.D., Duke University. Professor Emeritus of Psychology and Computer Science.

James J. Corbett, B.S., College of the Holy Cross; M.B.A., Suffolk University; M.O.E., University of New Hampshire; Ed.D., Boston University. Professor Emeritus of Marketing.

J. David Davis, A.B., Champlain College; M.S., University of Vermont; Ph.D., Lowell Technological Institute. Professor Emeritus of Chemistry.

Anthony DeLuzio, B.S., Northeastern University; M.S., Massachusetts Institute of Technology; P.E., Massachusetts. Professor Emeritus of Civil Engineering.

John B. DeVelis, A.B., M.A., Ph.D., Boston University; M.S.F., Bentley College. Professor Emeritus of Physics.

Kevin F. Dwyer, O.S.A., B.A., M.A., Villanova University; M.A., Augustinian College; Dr.A.Ed. (h.c.), Merrimack College. Professor Emeritus of Religious & Theological Studies.

Peter A. Ford, A.B., Providence College; M.A. History, M.A. Medieval Studies, Ph.D., University of Notre Dame. Professor Emeritus of History.

Lawrence J. Gillooly, A.B., Boston College; M.A., State University of Iowa. Professor Emeritus of Modern Languages.

Marcel H. Gregoire, A.B., Merrimack College; M.S., Colorado State University; Ph.D., University of Vermont. Professor Emeritus of Biology.

Francis E. Griggs, Jr., B.C.E., M.S. (Management), M.C.E., Dr. Engr., Rensselaer Polytechnic Institute; P.E., Massachusetts, New Hampshire, New York; Registered Land Surveyor, Massachusetts. Professor Emeritus of Civil Engineering.

Yvonne Burgess Hansen, B.S., University of Utah; M.A., University of Chicago; Ph.D., University of Utah. Professor Emeritus of Sociology and Criminology.

Thomas P. Hogan, B.S.C., University of Iowa; M.A., Boston College. Professor Emeritus of Economics.

George J. Hoynacki, B.A., Marquette University; M.Ed., Harvard University; Ph.D., University of Minnesota, Minneapolis. Professor Emeritus of Religious Studies.
Elaine C. Huber, A.B., Edgecliff College; M.A., Loyola University; M.Div., Jesuit School of Theology, Berkeley; Ph.D., Graduate Theological Union at Berkeley. **Professor Emeritus of Religious Studies.**

Larry Kelts, B.S., Cornell University; M.S., Southeastern Massachusetts University; Ph.D. University of New Hampshire. **Professor Emeritus of Biology.**

David M. Knepper, A.B., Blackburn College; M.S., Illinois State University; Ph.D., University of Virginia. **Professor Emeritus of History.**

Stephen A. Leone, B.S., Boston College; Ph.D., University of New Hampshire. **Professor Emeritus of Chemistry.**

Vincent J. Lonardo, B.S., Northeastern University; M.B.A., Boston University. **Professor Emeritus of Accounting and Finance.**

Lawrence J. Looney, A.B., Merrimack College; M.A., Boston College. **Professor Emeritus of Economics.**

Curtis H. Martin, A.B., Harvard University; M.A., Ph.D., Fletcher School of Law and Diplomacy, Tufts University. **Professor Emeritus of Political Science.**

Gerald N. Matross, A.B., State University of New York at Buffalo; M.A., Ph.D., University of Kansas. **Professor Emeritus of Philosophy.**

Ronald M. McCarthy, A.B., University of Massachusetts; M.A., Boston College; Ph.D., Brandeis University. **Professor Emeritus of Sociology.**

Herbert H. Meyer, Licentiate, College of St. John Berchmans, Germany; A.B. SS Cordis Jesu College, Germany; M.A., Loyola University; Ph.D., Boston University. **Professor Emeritus of Philosophy.**

Ennis J. Montella, A.B., M.A., Boston College. **Professor Emeritus of Mathematics and Computer Science.**

Raymond E. Ozimkoski, B.S., M.S., Fordham University. **Professor Emeritus of Mathematics and Computer Science.**

Ronald M. Pike, B.S., M.S., University of New Hampshire; Ph.D., Massachusetts Institute of Technology. **Professor Emeritus of Chemistry.**

William E. Russell, A.B., Boston College; M.Ed., Boston University. **Professor Emeritus of Education.**

David F. Sears, B.Mus., M.Mus., Peabody Conservatory of Music; D.M.A., Boston University. **Professor Emeritus of Fine Arts.**

Mono Mohan Singh, B.Sc., M.Sc., Gauhati University; Ph.D., Leningrad Institute of Technology. **Professor Emeritus of Chemistry.**

Sr. Claire M. Thornton, C.S.C., B.A., Notre Dame College; M.Ed., Lesley College; Ph.D., Boston College. **Professor Emeritus of Education.**

Vincent Turano, B.C.E., M.S., Ph.D., Syracuse University; J.D., New England School of Law; P.E., Massachusetts. **Professor Emeritus of Civil Engineering.**

John J. Warren, A.B., LaSalette Seminary; M.A., Boston College; Ph.D., Laval University. **Professor Emeritus of Philosophy.**

George W. Wermers, A.B., Merrimack College; M.S., Boston College; Ph.D., University of Minnesota. **Professor Emeritus of Biology.**
### INDEX

<table>
<thead>
<tr>
<th>Academic Board</th>
<th>31</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Dismissal</td>
<td>30</td>
</tr>
<tr>
<td>Academic Enrichment Services</td>
<td>268</td>
</tr>
<tr>
<td>Academic Forgiveness Policy</td>
<td>32</td>
</tr>
<tr>
<td>Academic Honors</td>
<td>31</td>
</tr>
<tr>
<td>Academic Integrity</td>
<td>25</td>
</tr>
<tr>
<td>Academic Misconduct</td>
<td>25</td>
</tr>
<tr>
<td>Academic Probation</td>
<td>30</td>
</tr>
<tr>
<td>Academic Programs</td>
<td>14, 42</td>
</tr>
<tr>
<td>Academic Requirements and Policies</td>
<td>13</td>
</tr>
<tr>
<td>Academic Status</td>
<td>28</td>
</tr>
<tr>
<td>Academic Support</td>
<td>268</td>
</tr>
<tr>
<td>Academic Suspension</td>
<td>30</td>
</tr>
<tr>
<td>Accelerated Academic Progress</td>
<td>22</td>
</tr>
<tr>
<td>Accounting</td>
<td>47</td>
</tr>
<tr>
<td>Accreditations and Membership</td>
<td>10</td>
</tr>
<tr>
<td>Adding and Dropping Courses</td>
<td>26</td>
</tr>
<tr>
<td>Admissions</td>
<td>281</td>
</tr>
<tr>
<td>Advanced Placement (AP)</td>
<td>22, 284</td>
</tr>
<tr>
<td>Air Force Reserve Officer Training Corps (ROTC)</td>
<td>283</td>
</tr>
<tr>
<td>Campus Visit</td>
<td>2</td>
</tr>
<tr>
<td>College Level Examination Program (CLEP)</td>
<td>23, 284</td>
</tr>
<tr>
<td>Community College Articulation Agreements</td>
<td>286</td>
</tr>
<tr>
<td>Deferral Of Admission</td>
<td>282</td>
</tr>
<tr>
<td>Early Action</td>
<td>282</td>
</tr>
<tr>
<td>Early Decision</td>
<td>282</td>
</tr>
<tr>
<td>GED Candidates</td>
<td>283</td>
</tr>
<tr>
<td>Home School Candidates</td>
<td>283</td>
</tr>
<tr>
<td>International Baccalaureate (IB)</td>
<td>23</td>
</tr>
<tr>
<td>International Students</td>
<td>286</td>
</tr>
<tr>
<td>Military Training</td>
<td>284</td>
</tr>
<tr>
<td>Policy</td>
<td>281</td>
</tr>
<tr>
<td>Requirements</td>
<td>281</td>
</tr>
<tr>
<td>Transfer Admission</td>
<td>284</td>
</tr>
<tr>
<td>American University Washington Semester</td>
<td>22</td>
</tr>
<tr>
<td>Animation</td>
<td>237</td>
</tr>
<tr>
<td>Art and Art History Major</td>
<td>234</td>
</tr>
<tr>
<td>Athletic Training</td>
<td>138</td>
</tr>
<tr>
<td>Attendance Policy</td>
<td>25</td>
</tr>
<tr>
<td>Auditors</td>
<td>27</td>
</tr>
<tr>
<td>Augustinians</td>
<td>7</td>
</tr>
<tr>
<td>Augustinian Study and Legacy</td>
<td>277</td>
</tr>
</tbody>
</table>
Bachelor's Degree Requirements

Biochemistry 60
Biology 49
Business Administration 56

Calendar 11
Campus Life 273
Campus Ministry Center 276
Career Services 271
Center for Academic Enrichment 268
Center for the Study of Jewish Christian Muslim Relations 278
Chemistry and Biochemistry 60
Civil and Mechanical Engineering 66
Classification 29
College Level Examination Program (CLEP) 23, 284
Co-major 15
Commencement Participation Policy 33
Communication Arts and Sciences 77
Community College Articulation Agreements 286
Community Standards 273
Community Support 278
Computer Science 88, 90
Continuing Courses 28
Continuing Studies 40
Cooperative Education 271
Core Curriculum in Liberal Studies 17
Counseling and Health Services 275
Credit By Departmental Examination 23
Criminology 95
Cross Registration (NECCUM) 22
Cum laude 33
Cumulative Quality Point Average 28

Dean's List 33
Degree Requirements 13, 16
Departmental Honors 33
Deposits 294, 295
Digital Design Major 234
Directories
   Faculty 297
   Professor Emeriti 303
Dismissal 30
Distribution Requirements 20
Double Degree Program 15
Double Major 15
Dropping and Adding Courses 26

Economics 99
Education 103
Electrical Engineering 112
English 120
Environmental Studies and Sustainability 130

Faculty 297
Failure 27
Fees and Expenses 293
Final Examinations 26
Finance 133
Financial Aid 287
First Year Academic Counselor 268
Foreign Language Achievement Testing Service (FLATS) 23
Francis E. Girard School of Business and International Commerce 38
French 257
Full-time Status 29

General Education Requirements 17
Grade Policies 27
Grade Reports 25
Graduation Honors 33

Health Sciences Major 143
Health Sciences 136
Health Services 275
History 154
History of the College 6
Honors Program 46
Human Development 160
Humanities 163

Incomplete Grades 27
Information Technology 90
Information Technology Center and Services 279
Institutional Requirements 19
Internships 271
International Baccalaureate 234
International Business 164
International and Intercultural Students 269
International Programs 272
Intramural and Recreational Activities 275
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Italian Studies</td>
<td>165</td>
</tr>
<tr>
<td>Jazz Band</td>
<td>280</td>
</tr>
<tr>
<td>Jewish, Christian, Muslim Relations, Center for the Study of</td>
<td>278</td>
</tr>
<tr>
<td>Law, Ethics and Society</td>
<td>168</td>
</tr>
<tr>
<td>Learning Disabilities Services</td>
<td>269</td>
</tr>
<tr>
<td>Leave of Absence Policy</td>
<td>29</td>
</tr>
<tr>
<td>Letter Grade Definitions</td>
<td>27</td>
</tr>
<tr>
<td>Library</td>
<td>278</td>
</tr>
<tr>
<td>Magna cum Laude</td>
<td>33</td>
</tr>
<tr>
<td>Majors and Concentrations</td>
<td>43</td>
</tr>
<tr>
<td>Major Degree Programs</td>
<td>16</td>
</tr>
<tr>
<td>Declaring or Changing Majors</td>
<td></td>
</tr>
<tr>
<td>Management</td>
<td>170</td>
</tr>
<tr>
<td>Marketing</td>
<td>173</td>
</tr>
<tr>
<td>Master of Education</td>
<td>40</td>
</tr>
<tr>
<td>Mathematics</td>
<td>177</td>
</tr>
<tr>
<td>Mathematics Center</td>
<td>270</td>
</tr>
<tr>
<td>McQuade Library</td>
<td>278</td>
</tr>
<tr>
<td>MCTV10</td>
<td>278</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>66</td>
</tr>
<tr>
<td>Media Instructional Services Center</td>
<td>279</td>
</tr>
<tr>
<td>Medical Leave</td>
<td>30</td>
</tr>
<tr>
<td>Merrimack Arts</td>
<td>280</td>
</tr>
<tr>
<td>Military Training</td>
<td>284</td>
</tr>
<tr>
<td>Minors</td>
<td>44</td>
</tr>
<tr>
<td>Declaration or Changing Minors</td>
<td>16</td>
</tr>
<tr>
<td>Misconduct (Academic)</td>
<td>25</td>
</tr>
<tr>
<td>Mission and Ministry</td>
<td>276</td>
</tr>
<tr>
<td>Mission and Student Affairs</td>
<td>271</td>
</tr>
<tr>
<td>Mission and Vision</td>
<td>6</td>
</tr>
<tr>
<td>NECCUM Cross Registration</td>
<td>22</td>
</tr>
<tr>
<td>New Student Orientation</td>
<td>274</td>
</tr>
<tr>
<td>Non-Discrimination</td>
<td>2</td>
</tr>
<tr>
<td>Numerical Requirements</td>
<td>14</td>
</tr>
<tr>
<td>Off Campus Studies</td>
<td>21</td>
</tr>
<tr>
<td>On-Stagers Dramatic Society</td>
<td>280</td>
</tr>
<tr>
<td>Open Electives</td>
<td>15</td>
</tr>
<tr>
<td>Optional Academic Programs and Activities</td>
<td>21</td>
</tr>
<tr>
<td>Overview of Majors, Minors, and Concentrations</td>
<td>42</td>
</tr>
<tr>
<td>Topic</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Part-time Status</td>
<td>29</td>
</tr>
<tr>
<td>Pass/Fail</td>
<td>24</td>
</tr>
<tr>
<td>Payment Obligations</td>
<td>295</td>
</tr>
<tr>
<td>Philosophy</td>
<td>182</td>
</tr>
<tr>
<td>Physics</td>
<td>190</td>
</tr>
<tr>
<td>Plagiarism</td>
<td>25</td>
</tr>
<tr>
<td>Political Science</td>
<td>194</td>
</tr>
<tr>
<td>Pre-dental</td>
<td>51</td>
</tr>
<tr>
<td>Pre-Law Minor</td>
<td>197</td>
</tr>
<tr>
<td>Pre-medical</td>
<td>51</td>
</tr>
<tr>
<td>Presidential Scholar</td>
<td>33</td>
</tr>
<tr>
<td>Probation (Academic)</td>
<td>30</td>
</tr>
<tr>
<td>Psychology</td>
<td>204</td>
</tr>
<tr>
<td>Quality Point Average</td>
<td>28</td>
</tr>
<tr>
<td>Quality Points</td>
<td>28</td>
</tr>
<tr>
<td>Readmission</td>
<td>31</td>
</tr>
<tr>
<td>Records(Educational/Student)</td>
<td>2</td>
</tr>
<tr>
<td>Refunds</td>
<td>295</td>
</tr>
<tr>
<td>Religious and Theological Studies</td>
<td>210</td>
</tr>
<tr>
<td>Repeated Courses</td>
<td>25</td>
</tr>
<tr>
<td>Requirements for Bachelor's Degree</td>
<td>13</td>
</tr>
<tr>
<td>Residence Life</td>
<td>275</td>
</tr>
<tr>
<td>Residence Requirements</td>
<td>14</td>
</tr>
<tr>
<td>Resources and Services</td>
<td>268</td>
</tr>
<tr>
<td>Rogers Center For The Arts</td>
<td>279</td>
</tr>
<tr>
<td>Romance Language Major</td>
<td>259</td>
</tr>
<tr>
<td>Room and Board</td>
<td>293</td>
</tr>
<tr>
<td>ROTC</td>
<td>283</td>
</tr>
<tr>
<td>Scholastic Standing</td>
<td>16</td>
</tr>
<tr>
<td>School of Education</td>
<td>39</td>
</tr>
<tr>
<td>School of Liberal Arts</td>
<td>35</td>
</tr>
<tr>
<td>School of Science and Engineering</td>
<td>37</td>
</tr>
<tr>
<td>Second Degree</td>
<td>15</td>
</tr>
<tr>
<td>Self-Designed Major</td>
<td>221</td>
</tr>
<tr>
<td>Self-Designed Minor</td>
<td>222</td>
</tr>
<tr>
<td>Senior Citizen Program</td>
<td>286</td>
</tr>
<tr>
<td>Sociology</td>
<td>224</td>
</tr>
<tr>
<td>Spanish</td>
<td>259</td>
</tr>
<tr>
<td>Special Degree Program</td>
<td>221</td>
</tr>
<tr>
<td>Sport Management</td>
<td>230</td>
</tr>
<tr>
<td>Sports Medicine Major</td>
<td>147</td>
</tr>
<tr>
<td>Statement of Community Standards</td>
<td>273</td>
</tr>
<tr>
<td>Topic</td>
<td>Page</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>STEM Education</td>
<td>231</td>
</tr>
<tr>
<td>Stevens Service Learning Center</td>
<td>272</td>
</tr>
<tr>
<td>Stevens Theater</td>
<td>280</td>
</tr>
<tr>
<td>Student Government</td>
<td>275</td>
</tr>
<tr>
<td>Student Involvement</td>
<td>274</td>
</tr>
<tr>
<td>Students with Disabilities</td>
<td>269</td>
</tr>
<tr>
<td>Study Abroad</td>
<td>21</td>
</tr>
<tr>
<td>Summa cum laude</td>
<td>33</td>
</tr>
<tr>
<td>Suspension (Academic)</td>
<td>30</td>
</tr>
<tr>
<td>Teacher Preparation Programs</td>
<td>39, 103</td>
</tr>
<tr>
<td>Telecommunications Office</td>
<td>279</td>
</tr>
<tr>
<td>Telephone Numbers</td>
<td>2</td>
</tr>
<tr>
<td>Transfer Credits</td>
<td>21</td>
</tr>
<tr>
<td>Tuition</td>
<td>293</td>
</tr>
<tr>
<td>Visual and Performing Arts</td>
<td>233</td>
</tr>
<tr>
<td>Visual Storytelling</td>
<td>247</td>
</tr>
<tr>
<td>Withdrawal from Courses</td>
<td>26, 27</td>
</tr>
<tr>
<td>Withdrawal from the College</td>
<td>29</td>
</tr>
<tr>
<td>Withdrawals and Refunds</td>
<td>295</td>
</tr>
<tr>
<td>Women’s and Gender Studies</td>
<td>248</td>
</tr>
<tr>
<td>World Languages and Cultures</td>
<td>256</td>
</tr>
<tr>
<td>French</td>
<td>257</td>
</tr>
<tr>
<td>Italian Studies</td>
<td>258</td>
</tr>
<tr>
<td>Romance Languages</td>
<td>259</td>
</tr>
<tr>
<td>Spanish</td>
<td>259</td>
</tr>
<tr>
<td>Writing</td>
<td>79</td>
</tr>
<tr>
<td>Writing Center</td>
<td>270</td>
</tr>
</tbody>
</table>