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Residential Programs' Catalog

Welcome to Norwich University!

I am pleased you have chosen to join the Norwich family. Norwich holds a distinctive place in the landscape of higher education: Its mission is defined by timeless values, and its

programs reflect our proud history. Few schools will challenge you as much as Norwich; fewer yet will offer you the academic and leadership experience you need to achieve distinction in a competitive world.

As we celebrate our bicentennial this year, we do so grounded in a legacy of educational innovation, proud of our graduates' achievements, and committed to forging leaders who will go on to serve our great nation and the global community. As a member of the Norwich community, know that you have become part of something very old, very deep, and very proud.

Yours in Service,

Dr. Mark C. Anarumo
Colonel, USAF (Ret.)
President

Vision, Mission, Guiding Values

Founded in 1819

Norwich University was the first private military college in the United States. Here the idea of the "citizen soldier" developed, a guiding philosophy that later became the impetus for the creation of the Reserve Officer Training Corps (ROTC). Norwich was the first private college or university to offer engineering. Norwich was also the first school to offer military training to women, in 1974, preceding the armed service academies by two years.

The Vision for Norwich University

Norwich University will be a learning community, American in character yet global in perspective; engaged in personal and intellectual transformation, and dedicated to knowledge, mutual respect, creativity, and service.

The Mission of Norwich University

To give our youth an education that shall be American in its character – to enable them to act as well as to think – to execute as well as to conceive – "to tolerate all opinions when reason is left free to combat them" – to make moral, patriotic, efficient, and useful citizens, and to qualify them for all those high responsibilities resting upon a citizen in this free republic.

Statement of Guiding Values

Norwich University was founded in 1819 by Captain Alden Partridge, US Army, and is the oldest private military college in the country. Norwich University is a diversified academic institution that educates traditional age students in a Corps of Cadets or as civilians, and adult students. Norwich identifies the following as our guiding values:

1. We are men and women of honor and integrity. We shall not tolerate those who lie, cheat, or steal.
2. We are dedicated to learning, emphasizing teamwork, leadership, creativity, and critical thinking.
3. We accept the right to diverse points of view as a cornerstone of our democracy.
4. We encourage service to nation and others before self.
5. We stress being physically fit, and drug-free.
6. We live the Norwich motto, "I will try!" — meaning perseverance in the face of adversity.
7. We stress self-discipline, personal responsibility, and respect for law.
8. We hold in highest esteem our people and reputation.

Two Lifestyles. One University

Norwich University is unique among institutions of higher education. No other university combines a military tradition of nearly two centuries, a broad range of undergraduate degree programs, and innovative on-line graduate programs. Since 1993, Cadets and civilian students have shared the same campus at Norwich University, creating a college culture set apart from the usual in the nation. While students in The Corps of Cadets participate in intense military training, all of our students benefit from a distinctive and structured learning environment that promotes academic success as well as leadership development. Our students choose Norwich because it is the best "fit" for them. Students from both lifestyles choose Norwich for similar reasons - rigorous academics, a robust athletic program, a variety of extracurricular activities, and a safe environment.

For the majority of the day, students in both lifestyles are completely integrated. All of our students attend the same classes, play on the same athletic teams and are involved in the same clubs and extracurricular activities. Although Cadets and civilian students have separate residences; a walk through the library, the dining hall or the gymnasium will show all of our students living, learning, working and playing together without regard for the lifestyle choice each student has made.

Diversity

Norwich students have come from 50 states and numerous foreign countries. The university's minority enrollment is consistently one of the largest representations by percentage of any Vermont college or university.

Opportunity at Norwich

The student-to-faculty ratio is low and the vast majority of our faculty holds terminal degrees. The University offers students 33 undergraduate academic majors and a Master of Architecture that follows the completion of a four-year Bachelor of Science in Architectural Studies for its on-campus students. Norwich also offers online Master degrees as well as degree-completion Bachelor's programs through the College of Graduate and Continuing Studies.

Equal Opportunity

Norwich University is committed to providing equal opportunity in education and employment to qualified persons. The University admits students without regard to race, color, religion, national or ethnic origin, age, sexual orientation, or qualified disability and does not discriminate in the administration of its educational and other admissions policies, scholarship and loan programs, employment practices, athletic and other university administered programs.

Implementation of this policy shall be in compliance with Title VI and Title VII of the Civil Rights Act of 1964; Title IX of the Education Amendments of 1992; the Equal Pay Act of 1963; Age Discrimination in Employment Act of 1967; Section 504 of the Rehabilitation Act of 1973; the Vermont Fair Employment Practices Act; the American with Disabilities Act of 1990; and other pertinent federal and state non discrimination laws and statutes. Contact Title IX Coordinator, 802-485-2144, with questions, compliance concerns, or discrimination complaints regarding gender equity. Contact the Director of Human Resources, 802-485-2075, with questions, compliance concerns, or discrimination complaints regarding gender equity.

Accreditations and Force of Publication Statement

University Accreditation

Norwich University is accredited by New England Commission of Higher Education. Inquiries regarding the accreditation status by the Commission should be directed to the administrative staff of the institution. Individuals may also contact:

New England Commission of Higher Education (https://www.neche.org/)
3 Burlington Woods Drive, Suite 100
Burlington, MA 01803-4514
(781) 425-7785
Online Inquiries (https://www.neche.org/contact/)

Program Accreditation

College of Liberal Arts:
The Education Teacher Licensure program--available in secondary and elementary tracks--are accepted for teaching licenses in Vermont and several other New England and Middle Atlantic states where the State of Vermont has interstate licensure agreements.

College of Professional Schools:

- The B.S. in Nursing major is accredited by the Commission on Collegiate Nursing Education (CCNE) (http://www.aacn.nche.edu/ccne-accreditation/accredited-programs/) One Dupont Circle, NW, Suite 530, Washington, DC 20036, (202)-887-8476 and approved by the Vermont State Board of Nursing, Office of Professional Regulations, 89 Main Street 3rd Floor, Montpelier, VT 05520-2482, (802) 828-2396.
- The Civil Engineering, Electrical & Computer Engineering, and Mechanical Engineering programs are accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET).
- The Bachelor of Science in Construction Management is accredited by the Applied Science Accreditation Commissions (ASAC) of ABET
  - Additionally, the University is a member of the American Society for Engineering Education (ASEE).
- The B.S in Accounting and B.S. in Management majors are accredited by the Accreditation Council for Business Schools and Programs (ACBSP)
- The Master of Architecture major is accredited by the National Architecture Accreditation Board (NAAB).
- The B.S. in Engineering major is designed to be accredited by the Engineering Accreditation Commission (EAC) of ABET. 415 N. Charles Street, Baltimore, MD, 21201, 1.410.347.7700.
- Norwich University is one of very few academic institutions to be designated as both a Center of Academic Excellence in Cyber Defense Education (https://www.nsa.gov/resources/educators/centers-academic-excellence/cyber-defense/) since 2001, by the National Security Agency of the United States of America) and a Center of Digital Forensics Academic Excellence (http://www.dc3.mil/) (since 2012, by the Defense Cyber Crime Center of the United States Air Force Office of Special Operations).

College of Science & Math:

- The Physical Education Teacher Licensure program--available in secondary and elementary tracks--is accepted for teaching licenses in Vermont and several other New England and Middle Atlantic states where the State of Vermont has interstate licensure agreements.
- The Athletic Training Program is accredited by The Commission on Accreditation of Athletic Training Education (CAATE).

College of Graduate & Continuing Studies:

- The Master of Business Administration program is accredited by the Accreditation Council for Business Schools and Programs (ACBSP)
  - The Master of Business Administration, Project Management concentration is accredited by the Project Management Institute Global Accreditation Center for Project Management Education Programs (GAC)
- The Master of Science in Nursing Administration programs are accredited by the the Commission on Collegiate Nursing Education (CCNE) and the Vermont State Board of Nursing (VSBN). .
- The Master of Science in Nursing Education program is approved by the Vermont State Board of Nursing and accredited by the Commission on Collegiate Nursing Education (CCNE).
- The Master of Business Administration degree is accredited by the Project Management Institute.

Force of Publication

The statements set forth in this catalog are for informational purposes only and should not be construed as the basis of a contract between a student and Norwich University.

While the provisions of this catalog will ordinarily be applied as stated, Norwich University reserves the right to change any provision listed in this catalog, including but not limited to, academic requirements for graduation and schedules for course offerings; without actual notice to individual students. Every effort will be made to keep students advised of any such changes. Information on changes will be made available in the Academic Colleges and the Registrar's Office.

It is especially important that students note it is their responsibility to keep themselves apprised of current graduation requirements for their particular degree, major, and minor degree program(s). Degree Audits are available electronically through BannerWeb to help students stay current with degree/major/minor requirements.

This catalog is prepared to enable prospective and enrolled students, and others, to learn about Norwich University. It is also intended to explain policies, requirements, regulations and procedures in a manner that will help the student progress through the University. Faculty, advisers and staff at the Norwich University will provide assistance, but ultimately the responsibility for compliance rests with the student.

Academic Calendar

Fall 2020

Date	Activity
August 14	Session A Last Day to Add
August 30	Session A Last Day to Drop (No record)
August 31	Full Term Begins
August 31	Session A Begins
September 1	Convocation (Full term seated afternoon classes suspended)
September 7	Labor Day (campus closed)
September 8	Full Term Last Day to Add
September 8	Full Term Last Day to Drop (No record)
October 1	Full Term Spring and Summer Graduation Application Due

October 9	Session B Last Day to Add
October 11	Session A Last Day to Drop with "W"
October 12	Full Term Incomplete Grade Due
October 12	Full Term Spring Schedule Posted (tentitive)
October 12	Full Term Mid-Term Grades Open
October 19	Full Term Mid-Term Grades Due
October 19	Full Term Spring Advising Begins
October 24	Session A Ends
October 25	Session B Last Day to Drop
October 26	Session B Begins
October 29	Session A Grades Due
November 2	Full Term Last day to Drop with "W"
November 26-29	Full Term only Thanksgiving Break (no classes)
November 30	Full Term transition to Online Classes
December 6	Session B Last day to Drop with "W"
December 10	Full Term Reading Day (traditional on-campus UG, no classes)
December 11	Full Term Final Exams Begin
December 15	Full Term Final Exams End, Last Day of the Semester
December 18	Grades Due Full Semester
December 19	Session B Ends
December 23	Grades Due Session B

Spring 2021

Date	Activity
December 23	Session A Last Day to Add
January 10	Session A Last Day to Drop (No record)
January 11	Session A Begins
January 11	Full Term Begins
January 18	Full Term Last Day to Add
January 18	Full Term Last Day to Drop (No record)
January 18	MLK (Full Term seated afternoon classes suspended)
February 19	Session B Last Day to Add
February 21	Session A Last Day to Drop with "W"
February 22	Full Term Fall Schedule Posted (tentative)
February 22	Full Term Mid-Term Grades Open
March 1	Full Term Fall Graduation Application Due
March 1	Full Term Incomplete Grade Due
March 1	Full Term Mid-Term Grades Due
March 1	Full Term Fall Advising Begins
March 6	Session A Ends
March 6-14	Full Term ONLY Spring Break (no classes)
March 7	Session B Last Day to Drop
March 8	Session B Begins
March 11	Session A Grades Due
March 22	Full Term Last day to Drop with "W"
April 18	Session B Last day to Drop with "W"
April 24	Full Term Reading Day (no classes)
April 25	Full Term Final Exams Begin
April 29	Full Term Senior Grades Due
April 30	Full Term Final Exams End
May 1	Full Term Take home final exams due
May 1	Session B Ends, Last Day of the Semester
May 1	Main Campus Commencement
May 2	Commissioning
May 4	Full Term Grades Due
May 6	Session B Grades Due

Degrees/Majors/Minors/Concentrations

Students may not use Graduate Level credits (courses numbered above 499) to meet Undergraduate requirements, this includes transfer credits. Graduate credits must be beyond those required for the baccalaureate degree, and cannot count toward the baccalaureate degree. (See also Advanced Standing)

Students must be in Good Academic Standing to be awarded a degree.

All requirements for all degrees, majors, minors, concentrations must be completed prior to the degree being posted.

Statute of Catalog Limitations

Undergraduate students must satisfy the degree requirements of a catalog year that is within ten years of their graduation year.

Undergraduate

Norwich University awards the following undergraduate degrees: Bachelor of Arts, Bachelor of Science, Bachelor of Interdisciplinary Studies. Degree candidates are subject to the degree/major requirements of the catalog year which they have declared.

Undergraduate Degree Requirements

Summary of a degree requirement for the Bachelor of Arts, Bachelor of Science, Bachelor of Interdisciplinary Studies.

- Achieve a minimum of 120 total undergraduate credits; courses numbered 100-499 (See also advanced standing.)
- Earn a minimum cumulative grade point average of 2.0
- Complete a minimum of 30 credits from Norwich University
- Complete the requirements for a Bachelor of Science, Bachelor of Arts or Bachelor of Interdisciplinary Studies
- Complete the General Education Curriculum
- Complete at least one major

Double counting credits
Unless specifically stated otherwise, students may use the same course to satisfy more than one requirement with one degree. If one or more courses satisfy requirements for more than one major and/or minor program, additional credits are not required; however, students must earn the minimum number of credits for the degree, major or minor.

Bachelor of Science (BS)

The Bachelor of Science is a degree credential to include General Education requirements and a minimum of 30 credits toward a declared major. BS degrees are awarded with majors in Accounting, Architecture

Studies, Athletic Training, Biology, Biochemistry, Chemistry, Civil Engineering, Communications, Computer Science, Computer Security & Information Assurance, Construction Management, Criminal Justice, Design Arts, Education, Electrical & Computer Engineering, Engineering, Environmental Science, Exercise Science, Geology, Health Sciences, International Business, Management, Mathematics, Mechanical Engineering, Neuroscience, Nursing, Physical Education, Physics, and Psychology. Degree Completion majors include Business Administration, Criminal Justice, Cyber Security, Data Analytics, National Security Studies, and Strategic Studies and Defense Analysis.

Bachelor of Arts (BA)

The Bachelor of Arts is a degree credential to include General Education requirements, Bachelor of Arts supplement requirements and a minimum of 30 credits toward a declared major. BA degrees are awarded with majors in Criminal Justice, English, History, International Studies, Political Science, Psychology, Spanish, and Studies in War & Peace.

Bachelor of Interdisciplinary Studies (BIS)
The Bachelor of Interdisciplinary Studies degree includes General Education requirements and Core Domains.

Graduate

Norwich University awards the following graduate degrees: Master of Accounting (MAC), Master of Architecture (MARC), Master of Arts in History (MAH), Master of Arts in Military History (MMH), Master of Arts in Diplomacy (MDY), Master of Arts in International Relations (MIR), Master of Business Administration (MBA), Master of Civil Engineering (MCE), Master of Public Administration (MPA), Master of Science in Criminal Justice (MSCJ), Master of Science in Leadership (MSL), Master of Science in Cyber Security (MSCY), Master of Science in Nursing (MSN), Master of Science in Business Analytics (MSBA), Master of Science in Information Systems (MSIS), Master of Arts in
Strategic Studies (MASS). Degree candidates are subject to the degree/major requirements of the class catalog year to which they have declared.

Graduate Degree Requirements:

- Complete at least 30 credit hours of course work as prescribed by the program of admission.
- Complete at least two-thirds of the required degree credits at Norwich University.
- Earn a cumulative GPA of 3.0 or above.
- Earn no more than six credits at the C/C+ grade level.
- Attend the required on-campus Residency Conference (not required for MARC degree).

Earning Two Degrees

Undergraduate

A student may elect to fulfill the requirements of the BA, BS and BIS degrees in different majors and be awarded separate degrees. For example, a student may earn a BA in Psychology and a BS in Computer Science. The General Education requirements for the University may be met once; all major and BA requirements must be met. The student will be awarded a separate diploma for each degree and all earned degrees are listed on the official transcript.

Graduate

A student may earn more than one master's degree through the College of Graduate and Continuing Studies in two different programs. For example, a student may earn an MBA and an MPA. However, a minimum of 45 graduate credits is required to be awarded multiple master's degrees (MBA, MPA, MSL, etc.). The student will be awarded a separate diploma for each degree and all earned degrees are listed on the official transcript.

Advanced Standing: Undergraduate and Graduate Courses Taken Simultaneously

Courses taken at the undergraduate level may not be used toward any graduate degree requirements. For those programs offering advanced standing opportunities (simultaneous undergraduate and graduate coursework) each program will state which courses can be applied to the undergraduate degree while also fulfilling the master's program requirements. Graduate credits may be applied to fulfill a maximum of 25% (30 credits) of an undergraduate degree. At least 30 credits of the graduate program must be unique hours to the graduate program; e.g. for a master's degree requiring 45 credits, 15 credits may be applied to an undergraduate degree.

An undergraduate student who is not on a master's degree track may be granted permission to enroll into a maximum of 6 credits which can be applied toward the undergraduate degree. The student must gain permission to enroll into a graduate course from the Program Director. To apply the credits to the undergraduate degree, the student will follow the Course Substitution policy.

Diploma and Transcript

- Apostilled diplomas include a letter of authenticity, are notarized and are considered official documents for international students. A request for duplicate diploma is available on the Registrar's website.
- Military College of Vermont (MCV) diplomas are awarded to Cadets who have met requirements set by the Commandant as published in the Corps of Cadets & ROTC (p. 152) section of the catalog.
- Transcripts are the official student record of all courses enrolled in and the grades earned.
  - Undergraduate transcripts are printed with degree, major, minor, concentration, Latin honor. Also, Dean's List honors and Academic Standing are listed for each term enrolled.
  - Graduate transcripts are printed with degree, major, and concentration

Majors

The major is the field of academic specialization within a degree. It is defined as the departmental requirements of:

- A set of required courses, outlined in the curriculum
- At least two courses at the 300-400 level.
- Interdisciplinary majors must include courses from more than one related academic discipline

Declaration of Major

Students must meet requirements, as determined by the Department Chair/School Director, to be accepted into the desired major. To declare a major, minor, concentration, a student will submit a signed Field of Study Declaration form available on the my.norwich.edu website to the Registrar's Office.

Change of Major

To change a major, minor, concentration or add additional programs, a student will submit a signed Field of Study Declaration form available on the my.norwich.edu website to the Registrar's Office.

Earning Two or More Undergraduate Majors

Students may elect to fulfill the requirements for two or more majors and be awarded a multiple-major degree. For example, a student may earn a BS in Engineering and Management or BA in History and Spanish.
When the majors are different degrees, refer to the Two Degrees policy statement.

- A student may not earn both a major and a minor in the same field of specialization.
- All requirements for each major must be completed prior to the degree award.

- One diploma is awarded for both majors when under the same degree credential.
- Each major is listed on the official transcript.

Dismissal from a Major

School Directors/Department Chairs have the authority to dismiss a student from a major for academic deficiency or unsatisfactory performance in a clinical program or an internship, practicum or program. The action is retained in the student record. The student will be classified as undeclared until a new major is declared. (See also Declaration of a Major)

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- Accounting Major (p. 40)
- Actuarial Mathematics Concentration--Mathematics Major (p. 112)
- Architecture (graduate) Major (p. 43)
- Architectural Studies (undergraduate) Major (p. 45)
- Athletic Training Major (p. 49)
- Biology Major (p. 51)
- Biochemistry Major (p.)
- Chemistry & Biochemistry Major (p. 53)
- Climate Science Concentration--Environmental Science Major (p. 90)
- Communications Major (p. 57)
- Computer Information Systems Concentration--Management Major (p. 108)
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- English Major (p. 87)
- Environmental Science Majors (p. 90)
  - Environmental Biology Concentration--Environmental Science Major
  - Environmental Chemistry Concentration--Environmental Science Major
  - Climate Change
  - Environmental Engineering Concentration--Environmental Science Major
  - Environmental Geology Concentration--Environmental Science Major
  - Green Design
  - Environmental Law & Protection Concentration--Environmental Science Major
  - Environmental Policy & Management Concentration--Environmental Science Major
  - Environmental Writing Concentration--Environmental Science Major
- Exercise Science Major (p. 92)
- Financial Economics Concentration-Management Major (p. 108)
- Forensics Concentration--Computer Security & Information Assurance Major (p. 62)
- Green Design Concentration--Environmental Science Major (p. 90)
- Geology Major (p. 95)
- Health Sciences Major (p. 98)
- History Major (p. 101)
- Information Assurance Management--Computer Security & Information Assurance Major (p. 62)
- International Business Major (p. 103)
- International Studies Major (p. 105)
- Leadership Concentration--Management Major (p. 108)
- Management Major (p. 108)
  - Computer Information Systems Concentration--Management Major
  - Financial Economics Concentration--Management Major
  - Leadership Concentration--Management Major
  - Marketing Concentration--Management Major
  - Sports Management--Concentration--Management Major
- Marketing Concentration--Management Major (p. 108)

Mathematics Majors

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- Actuarial Science Concentration--Mathematics Major (p. 112)
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- Sports Management Concentration--Management Major (p. 108)
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- Writing Concentration--English Major (p. 142)
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Minors

A minor is an approved course of study consisting of at least 18 credits of coursework. Most minors are designed by departments that offer majors, but some disciplines in which no major is offered may offer a minor. To declare a minor or minors, a student will submit a signed Field of Study Declaration form available on the my.norwich.edu website to the Registrar's Office.

- At least one-third of the required hours in a minor must be done as coursework at Norwich University.
- At least 18 credits must earn a grade of C or higher.
- A student may not earn both a major and a minor in the same field of specialization.
- Minor requirements must be earned prior to the degree being awarded.

- A minor is not listed on a diploma.
- A minor is listed on the official transcript.

Dismissal from a Minor

A School Director/Department Chair has the authority to dismiss a student from a minor for academic deficiency or unsatisfactory performance in a clinical program or an internship, practicum or program. The action is retained in the student record.

Minor	Major/Concentration Prohibited
Accounting	Accounting major
Architecture	Architecture Studies major
Biology	Biology major
Business Administration	Accounting major, Management major
Chemistry	Biochemistry major, Chemistry major
Chinese	Chinese major
Coaching	Coaching concentration
Communications	Communications major
Computer Crime & Forensics	Forensics concentration
Construction Management	Construction Management major
Criminal Justice	Criminal Justice major
Computer Science	Computer Science major, Computer Security & Information Assurance major
Cross-Cultural Psychology	Psychology major
Economics	Financial Economics concentration
Engineering Management	Construction Management, Engineering Management major
Engineering Science	Civil Engineering major, Engineering major, Electical & Computer Engineering major, Mechancial Engineering major
Engineering Psychology	Psychology major
English	English major
Finance	Financial Economics concentration
Forensic Psychology	Psychology major
Geology	Geology major, Environmental Science major with Environmental Geology concentration
Health	Health concentration
History	History major, Studies of War & Peace major
Information Assurance	Computer Science major, Computer Security & Information Assurance major
International Business	International Business, Management
Leadership	Leadership concentration
Marketing	Marketing concentration
Mathematics	Mathematics major
Neuroscience	Neuroscience concentration
Physics	Physics major
Political Psychology	Psychology major
Political Science	Political Science major, Studies of War & Peace major
Psychology	Psychology major
Spanish	Spanish major
Sports Management	Sports Management concentration
Writing	Writing concentration

Concentrations

A concentration is offered within a major. Generally, a set of course requirements will focus on one's major curriculum in a specialized area. The major will include within its requirements when a concentration is required or an optional addition. To declare concentration or concentrations, a student will submit a signed Field of Study Declaration form to the Registrar's Office available on the my.norwich.edu website.

- At least half of the concentration must be taken at Norwich University.
- Concentration requirements must be earned prior to the degree being awarded.
- A concentration is not listed on a diploma.
- A concentration is listed on the official transcript.

- A concentration will not be awarded after a Bachelor's or Master's Degree has been awarded.

Earning Two or More Graduate Concentrations
A student may elect to fulfill the requirements for two or more concentrations. Such action requires the approval of the Program Director. For example, a student may earn an MS in Leadership with a Public Sector Leadership concentration as well as an Organizational Leadership concentration. To declare a major, minor, concentration, a student will submit a signed Field of Study Declaration form to the Registrar's Office available on the my.norwich.edu website.

- All concentrations must be from the same graduate program. If concentrations are from different programs, then the student must apply for two degrees.
- A minimum of 42 graduate credits is required to be awarded a multiple-concentration degree.
- One diploma is awarded for all concentrations.
- A concentration is not printed on a diploma
- A concentration is listed on the official transcript.
-

Certificates

An Academic or Professional certificate certifies that a person has received specific education and therefore is considered competent in a certain specific skill area. An Academic certificate may be awarded for completion of an approved set of credit-bearing courses at the undergraduate or graduate level. A Professional certificate may be awarded for a conference, a course, a seminar, or a designated set of courses or seminars focused on a specific topic or theme which students may study separately from, or in addition to, their degree requirements. The specific number of credits required for certificates vary by the individual certification program. Admission into a certificate program does not guarantee admission into a degree program. Certificates are not awarded retroactively.

Graduate Certificate:

- Bachelor degree required for admission to graduate certificate offerings
- Minimum 12 graduate (500 level or higher) credits
- Courses used to fulfill certificate requirements must have grades of B or higher

Graduate Professional Certificate:

- Bachelor degree required for admission to graduate certificate offerings
- No minimum graduate (500 level or higher) credits
- Courses used to fulfill certificate requirements must have grades of B or higher

Undergraduate Academic Certificate:

- No previous degree requirement
- Minimum 12 undergraduate credits
- Courses used to fulfill certificate requirements must have grades of C or higher

Undergraduate Professional Certificate:

- No previous degree requirement
- 0-36 credits
- Courses used to fulfill certificate requirements must have grades of C or higher

Completion Certificate:

- 0 credits (minimum four contact hours)
- Awarded for participation in a short-term conference, course, set of courses, seminars or other learning event developed around a specific topic or area of knowledge for which degree credit is not awarded.
- Students enrolled in a Certificate of Completion program are classified as non-matriculating students.

Earning Two or More Certificates

- Students may elect to fulfill the requirements for multiple certificates and be awarded all certificates.
- Students may receive an Academic Undergraduate certificate for completion of an approved minor or concentration that is pursued within a bachelor's degree program
- A student may apply credits earned as a certificate toward another major, minor, or concentration.
- Students are awarded separate diplomas for each certificate.
- Academic certificates are listed on the official transcript.

Military Studies Certificate--Aerospace Science (p. 116)

Military Studies Certificate--Army (http://catalog.norwich.edu/residentialprogramscatalog/collegeofnationalservices/certarmy/)

Military Studies Certificate--Naval Science (p. 118)

General Education

Norwich University General Education Goals are designed to provide students with the intellectual tools to experience, explore and master new topics throughout a period of life-long learning. To this end, at least forty credit hours in every major must be dedicated to basic literacy in English, mathematics, humanities, social sciences, and science outside the area of major concentration. Required 100 level courses in English, language, and mathematics should be completed by the end of the sophomore year. If a student fails to meet this requirement, he/she must enroll for these courses first semester junior year.

Students may not combine catalogs to meet graduation requirements; the catalog used must be the same for the requirements of majors, minors and General Education.

Goal 1 Critical Reading, Writing & Research

Students will write with clarity and precision, and read with comprehension. They will exercise the skills of independent inquiry, that is, to find, analyze, synthesize, and critically evaluate information in the respective discipline.

This objective will be reinforced by critical reading, writing, and research throughout the curriculum, and culminate in a capstone course in each major. Wherever graded written work is required, part of the grade must be used to evaluate clarity and precision, and to reinforce the writing mechanics learned.

Outcomes: Students will be able to

- Construct a clear thesis supported by evidence from primary and secondary sources
- Develop knowledge of linguistic structures, including grammar, punctuation, and spelling, through practice in compoisng and revising
- Demonstrate conventions for structure, paragraphing, tone, and mechanics
- Apply appropriate citation styles

Courses that meet Goal 1:

EN 101	Composition and Literature I	3
EN 102	Composition and Literature II	3
COMM 301	Business & ProfessionalWriting (CGCS)	3
COMM 302	Data Analysis and Writing (CGCS)	3
SOCI 401	Culture and Anthropology (CGCS)	6

Goal 2 Mathematics & Quantitative Reasoning

Students will achieve an understanding of mathematical and quantitative reasoning and its place in today's world. They should understand how to construct mathematical models as a means of formulating problems and be able to apply appropriate logical, quantitative, and technological methods to solve problems. Students must complete two mathematics courses.

Outcomes: Students will be able to

- Organize, analyze, and interpret quantitative information
- Select and apply a mathematical model, including the appropriate quantitative methods and/or technology, to find a solution to a problem motivated by a real-world situation
- Communicate mathematical reasoning clearly and coherently

Courses that meet Goal 2:

MA 101	Mathematics: A Liberal Art	3
MA 102	Mathematics: A Liberal Art	3
MA 107	Precalculus Mathematics	4
MA 108	Applied Calculus	4
MA 121	Calculus I	4
MA 122	Calculus II	4
MA 161	Mathematics for Elementary School Teachers II	3
MA 212	Finite Mathematics	3
MA 220	Geometry in Action	3
MA 232	Elementary Statistics	3
MA 236	Statistical Methods in Health Sciences	3
MA 240	Introduction to Number Theory and Cryptology	3
MA 306	Discrete Mathematics	3
MA 318	Cryptology	3
MA 360	Teaching Mathematics at the Elementary - Middle School Level	3
MATH 232	Elementary Statistics (CGCS)	3

Goal 3 Human Expression in Literature, History, Arts & Humanities

Students will possess a knowledge of, and appreciation for, the variety of human expression found in cultures and civilizations of the United States and the world. This will be achieved by requiring students to take one course in history, one course in literature, and one course in arts and humanities. A course that is listed in multiple categories will fulfill one or the other criteria, not both.

Outcomes: Students will be able to

- Demonstrate a working knowledge of the vocabulary and methods in the discipline of the course
- Locate, assess, and utilize primary and secondary sources
- Demonstrate knowledge and understanding of the variety of human expression
- Demonstrate a working knowledge of the relevant discipline's authors and texts, philosophical issues, historical processes and contingencies, or recognized creative works within their geographical, cultural, and/or historical contexts

Courses that meet Goal 3:

Literature Courses

EN 199	Pilot Course in English at the Lower Level	3-6
EN 210	Modern Short Story	3
EN 220	Children's Literature	3
EN 222	Introduction to World Literatures	3
EN 225	Survey of British Literature I	3
EN 226	Survey of British Literature II	3
EN 227	Survey of American Literature I	3
EN 228	Survey of American Literature II	3
EN 239	Introduction to Theater	3
EN 244	The Literature of Leadership	3
EN 245	Science Fiction Literature	3
EN 250	Crime in Literature	3
EN 251	Literature of the Sea	3
EN 253	Approaches to Shakespeare	3
EN 270	Military Literature	3
EN 272	Veterans' Literature and Writing	3
EN 282	Literary Methods	3
EN 292	American Roots	3
EN 299	Pilot Course in English at the Lower Level	3
EN 322	Topics in World Literatures	3
EN 350	History of the English Language	3
EN 370	Topics in British Literature	3
EN 373	Major Author	3
EN 390	Topics in American Literature	3
EN 399	Pilot Course in English at the Upper Level	3
EN 420	Thematic Seminar-Literature	3
EN 425	Directed Study In Literature	3
ENGL 250	Crime in Literature (CGCS)	3
ENGL 270	Military Literature (CGCS)	3
FR 350EN	Topics Course in English	3
GR 322	Survey of German Lit I: From the Beginnings to 1848	3
GR 324	Survey of German Literature II: 1848 to 1945	3
GR 326	Survey of German Literature III: 1945 to the Present	3
SP 318	Spanish American Short Stories	3
SP 321	Introduction to the Literature of Spain I	3
SP 322	Introduction to the Literature of Spain II	3
SP 327	Spanish-American Literature I	3
SP 328	Hispano-American Literature II	3
SP 354EN	El narco	3

History Courses

HI 108	The History of Civilization II	3
HI 121	American History Survey I	3
HI 122	American History Survey II	3
HI 201	Ancient Greece and Rome	3
HI 202	The Middle Ages: Europe 500 - 1500	3
HI 211	Early East Asian Civilizations	3
HI 212	Modern East Asian Civilizations	3
HI 214	History of the Middle East	3
HI 218	Survey of Sub-Sahara Africa	3
HI 228	Norwich University History	3
HI 230	Civil War Staff Ride	3
HI 235	Military History I	3
HI 236	Military History II	3
HI 260	Topics in History	3
HIST 210	History of US Constitution (CGCS)	3
HIST 310	Historical Studies (CGCS)	3
HIST 402	Israeli-Palestinian Conflict (CGCS)	3
HIST 411	History of Diplomacy I (CGCS)	3
HIST 412	History of Diplomacy II (CGCS)	3
HIST 425	AmericanForeignPolicy 20thCent (CGCS)	3
HIST 430	The Cold War Revisited: The Sullivan Seminar (CGCS)	3

Arts/Humanities Courses

CM 109	Introduction to Mass Media	3
CM 261	Interpersonal Communications	3
CM 335	Television Criticism	3
CM 436	Communications Law and Ethics	3
COMM 312	Intercultural Communication (CGCS)	3
CN 205	Intermediate Chinese I	3
CN 206	Intermediate Chinese II	3
CN 301	Advanced Chinese I	3
EN 115	Advanced Academic English II	3
EN 199	Pilot Course in English at the Lower Level	3-6
EN 203	Advanced Composition	3
EN 210	Modern Short Story	3
EN 220	Children's Literature	3
EN 222	Introduction to World Literatures	3
EN 225	Survey of British Literature I	3
EN 226	Survey of British Literature II	3
EN 227	Survey of American Literature I	3
EN 228	Survey of American Literature II	3
EN 239	Introduction to Theater	3
EN 244	The Literature of Leadership	3
EN 245	Science Fiction Literature	3
EN 250	Crime in Literature	3
EN 251	Literature of the Sea	3
EN 253	Approaches to Shakespeare	3
EN 270	Military Literature	3
EN 272	Veterans' Literature and Writing	3
EN 274	Introduction to Creative Writing	3
EN 276	Environmental Writing	3
EN 278	Writing for the Web	3
EN 282	Literary Methods	3
EN 292	American Roots	3
EN 299	Pilot Course in English at the Lower Level	3
EN 307	The History of the Motion Picture	3
EN 308	The Motion Picture Director	3
EN 310	The Art of the Motion Picture	3
EN 311	American Film Comedy	3
EN 322	Topics in World Literatures	3
EN 350	History of the English Language	3
EN 362	Rhetorical Criticism	3
EN 364	Intermediate Creative Writing	3
EN 370	Topics in British Literature	3
EN 373	Major Author	3
EN 390	Topics in American Literature	3
EN 399	Pilot Course in English at the Upper Level	3
EN 420	Thematic Seminar-Literature	3
EN 425	Directed Study In Literature	3
FA 201	History/Theory of Architecture I	3
FA 202	History/Theory of Architecture II	3
FA 221	History of Visual Arts I: Prehistoric to 1350	3
FA 222	History of Visual Arts II: 1350 to the Modern Era	3
FA 240	History of American Art	3
FA 250	Topics in Art	3
FA 260	Art Appreciation	3
FA 308	History/Theory of Artchitectural III	3
FR 205	Intermediate French I	3
FR 206	Intermediate French II	3
FR 250	Topics Course	3
FR 250EN	Topics Course in English	3
FR 311	Advanced French I	3
FR 312	Advanced French II	3
FR 350	Topics Course	3
FR 350EN	Topics Course in English	3
GR 205	Intermediate German I	3
GR 206	Intermediate German II	3
GR 250	Topics Course	3
GR 250EN	Topics Course in English	3
GR 322	Survey of German Lit I: From the Beginnings to 1848	3
GR 324	Survey of German Literature II: 1848 to 1945	3
GR 326	Survey of German Literature III: 1945 to the Present	3
GR 350	Topics Course	3
GR 350EN	Topics Course in English	3
ID 223	Topics in Interdisciplinary Humanities	3
ID 299	Pilot Course	3
MU 101	Music Appreciation	3
MU 271	History of Jazz	3
PH 110	Think! Intro to Philosophy	3
PH 215	Survey of Ethics	3
PH 218	Global History of Philosophy	3
PH 220	Comparative Religion	3
PH 230	Logic	3
PH 301	Topics in Philosophy	3
PH 322	Money, Meaning and Morality	3
PH 323	Environmental Ethics	3
PH 324	Criminal Justice Ethics	3
PH 340	Philosophy of Non-Violence	3
PH 350	Medical Ethics	3
PH 360	Philosophy of Science	3
PH 400	Reading and Research	3
PHLS 205	Critical Thinking (CGCS)	3
RELG 300	Comparative Religion (CGCS)	3
SA 103	Introduction to Drawing	3
SA 104	Introduction to Visual Design	3
SA 105	Introduction to Painting	3
SA 106	Introduction to Printmaking	3
SA 107	Introduction to Photography	3
SA 111	Foundations of Art and Architecture I	3
SA 112	Foundations of Art and Architecture II	3
SA 200	Intermediate Studio	3
SA 205	Water Media	3
SA 210	The Portrait	3
SOCI 220	Cultural Issues & CJ System (CGCS)	3
SOCI 335	Intro to Cultural Competence (CGCS)	3
SOCI 406	Area Studies (CGCS)	6
SP 205	Intermediate Spanish I	3
SP 206	Intermediate Spanish II	3
SP 250	Topics Course	3
SP 250EN	Topics Course in English	3
SP 301	Advanced Spanish I	3
SP 318	Spanish American Short Stories	3
SP 321	Introduction to the Literature of Spain I	3
SP 322	Introduction to the Literature of Spain II	3
SP 327	Spanish-American Literature I	3
SP 328	Hispano-American Literature II	3
SP 350	Topics Course	3
SP 350EN	Topics Course in English	3
SP 352EN	La guerrilla	3
SP 354EN	El narco	3
SP 356	Cinema of Spain	3

Goal 4 Natural Sciences

Students will gain a basic level of literacy in current scientific knowledge and theories and develop an appreciation for the natural world, in part through

classroom and hands-on experiences by completing two science courses; at least one course must be a 4-credit laboratory science course. This will expose students to the scientific method and provide the critical thinking skills, necessary to make intelligent, well informed decisions. The College of Graduate and Continuing Studies will complete two courses; a laboratory is not required.

Outcomes: Students will be able to

- Demonstrate an understanding of the process involved in applying the scientific method (gathering data, analysis, and interpretation)
- Apply basic scientific knowledge and logic in evaluating the strengths and weaknesses of an argument
- Apply basic scientific knowledge and logic in the decision-making process
- Display a basic understanding of one or more fundamental scientific systems or theories

Courses that meet Goal 4:

BI 101	Principles of Biology I	4
BI 102	Principles of Biology II	4
BI 122	Concepts in Biology	4
BI 205	Ecology	4
CH 100	Introduction to Forensic Science	4
CH 101	Introduction to General Chemistry	4
CH 102	Introduction to Organic and Biochemistry	4
CH 103	General Chemistry I	4
CH 104	General Chemistry II	4
GL 110	Introduction to Geology	4
GL 111	Oceanography	4
GL 156	Introduction to Earth Evolution	4
ID 110	Ecology and Geology of the Connecticut River Valley	4
INTD 320	The Scientific Method: Understanding the Results of Quantitative Research (CGCS)	6
PS 107	Solar System Astronomy	4
PS 108	Stellar and Galactic Astronomy	4
PS 201	General Physics I	4
PS 202	General Physics II	4
PS 211	University Physics I	4
PS 212	University Physics II	4
SCIE 202	Science, Technology and Procedures in Forensic Investigations (CGCS)	3
SCIE 301	Environmental Science (CGCS)	3
SCIE 310	Scien Basis of Sustainability (CGCS)	3

Goal 5 Individual, Society & Social Structures

Students will demonstrate an understanding of the patterns of human behavior and social structures, their related opportunities, problems, and issues. This will be accomplished by completing one course in criminal justice, economics, political science, psychology, or sociology.

Outcomes: Students will be able to

- Identify factors that shape human behavior
- Discuss factors that shape social structures
- Articulate how the factors, determinants, and dynamics found in human behavior and social structures present problems or opportunities

Courses that meet Goal 5:

COMM 312	Intercultural Communication (CGCS)	3
CJ 101	Introduction to Criminal Justice	3
CRMJ 201	Foundations Criminal Justice (CGCS)	3
CRMJ 303	The Study of Crime (CGCS)	3
EC 106	The Structure and Operation of the World Economy	3
EC 201	Principles of Economics (Macro)	3
EC 202	Principles of Economics (Micro)	3
ECON 310	Socio-Economic Studies (CGCS)	3
ECON 401	Economic Studies (CGCS)	6
PO 105	American Politics	3
PO 106	Introduction to Public Policy and Administration	3
PO 202	Introduction to Comparative Politics	3
PO 215	International Relations	3
POLS 302	National Security Policy (CGCS)	3
POLS 306	Comparative Politics (CGCS)	3
POLS 316	Domestic Terrorism (CGCS)	3
POLS 318	International Terrorism (CGCS)	3
PY 211	Introduction to Psychology	3
PY 240	Introduction to Social Psychology	3
SO 201	Introduction to Sociology	3
SO 212	Cultural Anthropology	3
SO 214	Racial and Cultural Minorities	3
SO 216	Sociology of Health, Wellness & Medicine	3
SO 218	Intro to Cultural Competence	3
SOCI 209	Methods of Social Science Research (CGCS)	3
SOCI 220	Cultural Issues & CJ System (CGCS)	3
SOCI 322	Drugs and Gangs (CGCS)	3
SOCI 330	Military Sociology (CGCS)	3
SSDA 315	Insurgency and Conflict (CGCS)	6
SSDA 325	Law of Armed Conflict and Legal Basis for Use of Force (CGCS)	3

Goal 6 Ethics

Students must be able to think critically and make ethical decisions. Critical thinking begins with integration of course work from all general education areas and culminates in the capstone course in each major. Ethical decision-making begins with adherence to the honor code. Students must be able to recognize ethical issues and articulate ethical decisions. This will be achieved taking one course that includes the requirement that students deal with ethical ambiguities and articulate ethical decisions.

Outcomes: Students will be able to

- Identify major ethical, conceptual, and factual issues and stakeholders
- Articulate ethical principles and whether they concur or are in conflict with one another
- Present an argument supporting a position, relying on relevant ethical principle(s), anticipating possible counter-arguments and consequences

Course that meet Goal 6:

AP 436	Project Delivery and Documentation	4
CM 436	Communications Law and Ethics	3
EG 450	Professional Issues	3
INTD 200	The Partridge Seminar (CGCS)	3
MG 341	Business Law I	3
NS 422	Leadership and Ethics	3
NTSS 400	Natl Security Studies Capstone (CGCS)	6
PE 355	Coaching:Leadership in Sports	3
PH 110	Think! Intro to Philosophy	3
PH 215	Survey of Ethics	3
PH 218	Global History of Philosophy	3
PH 220	Comparative Religion	3
PH 322	Money, Meaning and Morality	3
PH 323	Environmental Ethics	3
PH 324	Criminal Justice Ethics	3
PH 340	Philosophy of Non-Violence	3
PH 350	Medical Ethics	3

PHLS 210	Ethics in the Modern World (CGCS)	3
PHLS 324	Criminal Justice Ethics (CGCS)	3
PY 360	History and Systems of Psychology	3
SSDA 400	The Capstone Project (CGCS)	6

Goal 7 Capstone Experience

Students must develop a sound foundation in an area of major concentration by meeting curriculum requirements specified for each program in the catalog. Integration of reading, writing, speaking, and critical thinking skills within the area of expertise culminates in a capstone course in each major. This General Education Requirement is to be taken in residence, at Norwich. A matriculated student who takes this course off-campus must seek permission from the department chair/director.

Outcomes: Students will be able to:

- Demonstrate an understanding of the field by undertaking the capstone project(s) to address one or more questions and/or problems in the discipline.
- Incorporate major scholarship of the field to synthesize a solution to question(s) and/or problem(s) within the norms of the discipline.
- Write effectively in accordance with the standards of the discipline.
- Successfully defend finds from the capstone project(s) in a presentation.

Course that meet Goal 7:

AP 412	Architectural Design VI	5
BI 401	Senior Seminar	3
CE 480	Senior Design Project II	3
CH 413	Chemistry Seminar (AND)	1
CH 422	Chemical Synthesis and Examination II	3
CJ 410	Senior Seminar	3
CM 407	Senior Communications Seminar	3
CN 415	Senior Seminar	3
CS 420	Computer Science capstone I (AND)	3
CS 421	Computer Science capstone II	3
CRMJ 400	Capstone	6
CSIS 400	Computer Science and Information Systems Capstone	6
CYBR 400	Cyber Capstone	6
ED 425	Student Teaching	12
ED 432	Curriculum & Methods of Instruction Capstone	4
EE 491	Electrical System Design I	3
EM 480	Senior Design Project II	3
EN 450	Senior Seminar	3
ES 440	Research Project in Environmental Science	3
FA 401	Introduction to Research Methods for Architecture	3
GL 440	Research Project in Geology	3
HE 450	Evidence - Based Healthcare	3
HI 430	Capstone Seminar in United States History	3
HI 431	Capstone Seminar in Modern European History	3
HI 432	Capstone Seminar in Pre-Modern History	3
HI 433	Seminar in Non-Western History	3
HI 491	Honors in History II	3
IA 456	Cyber Defense Practicum	3
IN 410	Seminar in International Studies	3
INTD 400	Capstone	6
MA 411	Senior Seminars	3
ME 467	Mechanical Engineering Design I	3
MG 449	Administrative Policy and Strategy	3
MNGT 400	Management Capstone	6
NR 441	Nursing Capstone	4
NTSS 400	Natl Security Studies Capstone	6
PE 406	Readings in Physical Education	3
PO 410	Capstone Seminar in Political Science	3
PO 491	Honors in Political Science	3
PS 474	Senior Laboratory II	3
PY 401	Senior Seminar	3
SP 415	Seminar: Topics in Spanish Literature and Culture	3
SSDA 400	The Capstone Project	6

Goal 8 Leadership

Students must develop leadership knowledge skills through one course with emphasis on leadership. Such a course will ensure that students will acquire, demonstrate, and reflect upon leadership concepts and components.

Outcomes: Students will be able to

- Acquire and utilize the concepts of leadership
- Demonstrate awareness of various dimensions of leadership
- Reflect upon the experience of trying to achieve a shared goal in collaborative work

Course that meets Goal 8:

AS 311	Air Force Leadership Studies	3
AS 312	Air Force Leadership Studies	3
EN 244	The Literature of Leadership	3
LD 101	Norwich Principles of Leadership Mastery	1
MNGT 315	Leadership (CGCS)	3
MS 312	Military Science III	3
MS 411	Military Science IV	3
NR 321	Nursing Leadership	3
NS 221	Leadership and Management	3
NS 331	Evolution of Warfare	3
NS 435	Fundamentals of Maneuver Warfare	3
PY 210	Psychology of Leadership	3

Bachelor of Arts Supplement

BA Requirements:

1. Knowledge of a modern language demonstrated by completing two courses (for beginning language instruction, 4 credits per course, otherwise 3 credits per course), consistent with the student's score on the Foreign Language Placement Test (FLPT), taught in the target language by the Department of Modern Languages.
   - The FLPT is used for placement into Norwich language courses only. No credit is awarded based on the student's score on this test.
   - Modern Language coursework transferred from an accredited institution may be substituted for Norwich courses, to satisfy this requirement.
1. A minimum of two 3-credit Intercultural Knowledge and Competence courses. The courses meeting this requirement emphasize a comparative approach that involves multiple perspectives regarding one or more cultural differences (ethnicity, gender, race, religion, sexuality, disability studies, etc.) within the United States or across multiple societies.
   - Courses satisfying this requirement must be taken from OUTSIDE the major program, meaning the course must have a subject different from the courses in the student's designated primary major program.

Intercultural Knowledge and Competence Courses:

CJ 421	Comparative Criminal Justice Systems	3

CN (Chinese courses 205 or higher)		
EN 114	Advanced Academic English I	3
EN 115	Advanced Academic English II	3
EN 222	Introduction to World Literatures	3
EN 226	Survey of British Literature II	3
EN 227	Survey of American Literature I	3
EN 228	Survey of American Literature II	3
EN 239	Introduction to Theater	3
EN 292	American Roots	3
EN 322	Topics in World Literatures	3
EN 350	History of the English Language	3
FR (French courses 205 or higher)		
GR (German courses 205 or higher)		
HI 107	The History of Civilization I	3
HI 108	The History of Civilization II	3
HI 201	Ancient Greece and Rome	3
HI 202	The Middle Ages: Europe 500 - 1500	3
HI 211	Early East Asian Civilizations	3
HI 212	Modern East Asian Civilizations	3
HI 214	History of the Middle East	3
HI 218	Survey of Sub-Sahara Africa	3
ML (Modern Language 200 or higher)		
PH 110	Think! Intro to Philosophy	3
PH 218 Global History of Philosophy		
PH 220	Comparative Religion	3
PO 348	Asian Politics	3
PY 236	Cross-Cultural Psychology	3
SP (Spanish courses 205 or higher)		
SO 212	Cultural Anthropology	3
SO 214	Racial and Cultural Minorities	3
SO 300	Topics in Sociology	3

Academic Policies

Academic Policies affect all students. If a student believes s/he has an extenuating circumstance for why a policy should be waived s/he must submit an Academic Petition available on the Registrar's SharePoint site, to the College Dean of the course or College Dean of the major. A decision made by the College Dean that is not satisfactory to the student will then appeal to the Committee on Academic Standards and Degrees (CASD) completing an appeal form available on the Registrar's SharePoint site. In instances where the College Dean is not the final authority, the petition will be routed to CASD. Curricular waivers or substitutions are to be directed to the Department Chair while General Education and Bachelor of Arts Supplement petition requests will be reviewed by CASD.

Academic Dishonesty, The Honor Code & The Academic Integrity Committee

Academic Dishonesty

Academic Dishonesty is any behavior intended to promote or enhance a student's academic standing within the University by dishonest means. Acts of academic dishonesty are offenses against established standards of the academic community and the University's honor code. All suspected acts of academic dishonesty are initially subject to review by the Academic Integrity Committee.

Acts of academic dishonesty include, but are not limited to, the following:

- Submitting work done by another as your own.
- Submitting your own academic work for credit more than once, whether in whole or in part, in the same course or different courses without the approval of the instructor who is responsible for assigning credit to the work.
- Giving or receiving unauthorized aid on any assignment or examination.
- Altering any University form, record, or document, or forging the signature of any University instructor or official.
- Interfering with, or attempting to interfere with, the access of others to the University computer system, or any part thereof, copying computer files, diskettes, programs, software, or manuals without proper authority, or tampering in any way with the integrity of the University computer system.
- Interfering with, or attempting to interfere with, the fair and equal access of others to the use of the University libraries or other academic resources
- Exercising plagiarism, which is the use of words, ideas, concepts, or work of another, without proper acknowledgment.
  - The direct quotation of the words of another must be set off in quotation marks and acknowledged in a footnote or other acceptable form of citation. The use of paraphrased material, or the ideas, concepts, or work of another must also be acknowledged in a footnote or other acceptable form of citation. Acknowledging sources used in the preparation of an assignment solely in a bibliography does not constitute an acceptable acknowledgment of the words, ideas, concepts, or work of another used in the assignment. In any case where a student is found to have used plagiarized material, an academic penalty will be assessed.

All suspected acts of academic dishonesty have to be reported promptly to the Chair of Academic Integrity Committee (AIC). Upon receipt of the report, the Chair of AIC will communicate with the student to review the charge.

- If the student accepts the charge upon review, the Chair of AIC will authorize the maximum academic penalty. By accepting the charges, the student forfeits the right to appeal this decision. The case will be referred to the Honor Committee for review as an Honor Code violation.
- If the student contests the charge of academic dishonesty, the case will be heard by the Academic Integrity Committee.
- The Chair of AIC has the discretion to recommend the review of the case by the Committee even if the student accepts the charges.

The Honor Code

In addition to being the oldest private military college in the United States, Norwich University has maintained a reputation for developing leaders of high principle. In keeping with this tradition, University President Major General Ernest N. Harmon, USA (Ret.) in 1951 laid the foundation for a formalized Honor Code at Norwich by commissioning a nationwide study of collegiate honor systems to be conducted by Commandant of Cadets Major General Oscar R. Cauldwell, USMC. Elements of the Honor Codes of West Point, Annapolis, and Williams College were used to form the foundation of the Norwich University Honor Code. The President, Commandant, members of the Senior Honor Society, and other leaders of the Corps of Cadets formulated the structure to administer and maintain an honor code, and with the full support of the Corps of Cadets, the Norwich University Honor Code was officially implemented in the fall of 1951.

The Norwich University Honor Code is based on the principles that a student will not evade the truth, deceive, or tolerate those who do. Stated in even simpler terms, the Honor Code requires that every student conduct himself or herself at all times in a completely honest and forthright manner. The fundamental nature of these principles

precludes the necessity of legislating detailed regulations to govern conduct in matters of honor, since a student is either honest or not.

It is assumed that all students will abide by the Honor Code. Instructors may require students to write and sign either of the following statements, or such other words as shall convey the same or similar meaning, as part of any assignment submitted for academic credit: “I have neither given nor received unauthorized aid on this assignment.” Signed/“I certify that this is my own original work, prepared for this assignment only, without any form of unauthorized aid.”

Failure to write and/or sign any pledge will not excuse any student from a violation of these regulations.

The Academic Integrity Committee (AIC)

AIC is comprised of members of the faculty and chaired by the Provost’s designee. The AIC is responsible to the Faculty Senate for the implementation of University regulations involving violations of academic integrity.

The Procedures of the Academic Integrity Committee describing the procedures of hearings will be provided to all students charged with academic dishonesty in advance. Hearings of the AIC are held jointly with the Honor Committee. At the hearing, the AIC will review all available facts and authorize an appropriate academic penalty if its review confirms that an act of academic dishonesty occurred. If the student is found guilty of academic dishonesty, the hearing is continued by the Honor Committee for review as an Honor Code violation. Decisions of the Academic Integrity Committee may be appealed to the Provost.

Academic Forgiveness

Students returning to Norwich whose academic record is below Good Standing at Norwich may submit an academic petition requesting Academic Forgiveness for up to two semesters (Fall, Spring, or Summer) if the following requirements are met:

- Have not yet earned a previous baccalaureate degree.
- Academic Forgiveness is requested in the term readmitted.
- A minimum of three years have lapsed between when the time the student attended Norwich and the date of the submitted petition.

Students must submit an academic petition form and a signed, written letter explaining why Academic Forgiveness should be awarded; the letter must identify the courses, within two previous terms, to be Forgiven.

- All Forgiven courses, within the two terms, regardless of grade earned, will no longer count toward fulfilling major/minor/graduation requirements.

When Academic Forgiveness has been granted, the student’s transcript will be annotated to indicate the courses Forgiven. The previous earned grades and credits will still show on the transcript to reflect the true academic history of the student; however, grade points will be removed so that prior grades are excluded from the computation of the student’s official cumulative GPA.

Academic Forgiveness may have impact on Financial Aid, students should contact the Student Financial Planning office to understand their specific situation.

Students can request Academic Forgiveness only one time in their undergraduate academic career at Norwich.

Academic Honors

President’s List Recipients
Full-time undergraduate students, who earned a semester grade point average of 4.0 and had no failures in the previous Fall or Spring semester are awarded President’s List honors. These students cannot have any pending Incomplete (I) grades. President’s List honors are noted on the official transcript each term earned.

University Scholars
Full-time undergraduate students, who earned a current cumulative grade point average (GPA) of no less than 3.60 for a previous academic year. These students cannot have any pending Incomplete (I) grades. University Scholars are recognized at a Fall Convocation ceremony.

Dean’s List Recipients
Full-time undergraduate students, who earned a semester grade point average of at least 3.40 and had no failures in the previous Fall or Spring semester are awarded Dean's List honors. These students cannot have any pending Incomplete (I) grades. Dean's List honors are noted on the official transcript each term earned.

Distinguished Academic Merit
Corps of Cadets members receive a star and civilian students receive a pin for the semester during which the student is recognized on the President’s or Dean's List honors.

Latin Honors
Latin Honors are calculated using only Norwich University credits (there are no honors for Graduate students).

- Summa Cum Laude honors = cumulative GPA of 3.8 to 4.0
- Magna Cum Laude honors = cumulative GPA of 3.6 to 3.79
- Cum Laude honors = cumulative GPA of 3.4 to 3.59

Latin Honors for Commencement exercises are determined using the grades earned through the second to the last semester prior to graduation date. The transcript will include the Latin Honor calculated at the time of degree completion.

Academic Standing, Class Levels, Re-Admission

Academic Standing, as determined by the Registrar's office, is separate from Satisfactory Academic Progress (SAP) (p. 154), as determined by the Financial Planning Office.

Categories of Students for This Policy:

1. Undergraduate Residential Program Students On-Campus (referred to as *Residential Program*)
2. Graduate Residential Program Students On-Campus (referred to as Graduate)
3. CGCS Undergraduate Degree-Completion On-line Students (referred to as *Degree-Completion*)
4. CGCS Graduate On-line Students (referred to as Graduate)

UNDERGRADUATE STUDENTS

Academic Standing is determined by the Registrar at the end of each term after all grades have been entered for the respective that term.

Good Academic Standing

1. To be eligible to enroll for classes, without restrictions, a student must be in Good Academic Standing. Students who have been placed on Academic Probation or Academic Suspension are not considered to be in Good Academic Standing. Suspended students are eligible to enroll for classes only after Readmission has been approved.
   - Summer Programs are an exception to this rule; see the Summer Programs section below.
2. To maintain Good Standing:

   Degree-seeking *Residential Program* students must maintain the minimum cumulative GPA, shown in the second column below, for the credit range shown in the first column. The first column

represents the sum of Norwich *attempted* credits, PLUS credits accepted in transfer

(1) Total of Credits (attempted plus transferred)	(2) Minimum Accumulative Grade Point Average Required for Enrollment in Good Standing
0-17	1.60
18-34	1.80
35+	2.00

- Degree-seeking *Degree-Completion* students must maintain a minimum cumulative 2.0 GPA.

Academic Probation

1. Students are placed on Academic Probation when their cumulative GPA falls below the minimum cumulative GPA required for Good Standing. The registrar's office sends an email notice (copied to the student's advisor) to students placed on Academic Probation within two weeks after all grades have been entered for that term.
2. Being placed on Probation warns students their academic progress is in jeopardy and places restrictions and conditions on their enrollment. Students placed on Academic Probation are allowed to register for classes for the subsequent term, with the conditions listed below:

***Residential Program* students**:

- Must complete an assigned Academic Probation Contract with the Academic Achievement Center (AAC) as a condition of enrollment. The student must sign this contract by the end of the add/drop period. Failure to sign an Academic Probation Contract by the end of the add/drop period may lead to Academic Suspension.
- Restricted to 14 credits, plus one ROTC course, per semester.
- Should repeat courses where grades of C-, or below, were previously earned. (when possible)
- Will not participate in extracurricular activities, such as varsity or club athletics or special interest clubs
- Will not hold rank in the Corps of Cadets or hold additional Corps responsibilities

***Degree-Completion* students:**

- Restricted to 12 credits per trimester.
- May repeat courses in which grades of C- or below were previously earned.

3. Students on Academic Probation are eligible to participate in limited Civic Engagement activities as approved by the AAC counselor and academic field trips and other appropriate academic activities scheduled as part of course requirements, including limited Civic Engagement activities, as approved by the AAC counselor.

4. Students who fail to adhere to the conditions of their enrollment while on Probation may be administratively Suspended prior to the conclusion of the semester. This means the students will be withdrawn from all classes.

Academic Suspension

- ***Residential Program students*** are placed on Academic Suspension after one semester on Probation, unless they either achieve Good Standing or earn a semester GPA of 2.0 or higher, while on Probation
- ***Degree-Completion* students** must raise their cumulative GPA to the minimum required within 12 additional credits, from the part-of-term or session in which they were placed on Probation, or they will be Suspended from their program.

  When a student is Academically Suspended, the registrar will dis-enroll the student from any pending courses.

***Residential Program* students** who have been Academically Suspended and have returned themselves to Good Standing by completing Summer classes at Norwich University may, provided there are no financial or disciplinary barriers, return to the University. These students are not required to submit a Readmission Application unless there has been a lapse in enrollment.

***Residential Program* students** who are Academically Suspended, and who did not achieve Good Standing during a Summer Session, or whose enrollment has lapsed, may apply for Readmission after one full semester (summer is not considered a full semester for *Residential Program* students) of separation. Suspended students who wish to be readmitted must

1. Submit an Academic Suspension Readmission Application to the Registrar. The application should present information supporting the premise the student will be successful if readmitted. The re-admission decision of the CASD is based on evidence the student can academically succeed.
2. If a student's Academic Suspension Readmission Application is denied, the student may request an appeal following the standard appeal procedures. The application (and accompanying documents) must be submitted before 1630 ten working days before the first day of the semester in which the student wishes to be readmitted.

***Degree-completion* students** who are Academically Suspended, may apply for readmission after one full trimester by submitting a letter to their Program Manager.

Summer Programs for *Residential Program* Students Only

- Summer Programs sessions do not count as semesters on Probation. This means:
  - Students are not Academically Suspended following Summer, regardless of grades earned
  - Students who move from Good Standing to Probation following Summer classes are on Probation for the coming Fall Semester
  - Students who entered Summer School on Academic Probation, but did not earn the minimum cumulative GPA listed above, will remain on Probation for the coming Fall Semester
  - Students who entered Summer School on Academic Probation and earned the minimum cumulative GPA for Good Standing are in Good Standing for the coming Fall Semester

GRADUATE STUDENTS

To be eligible to enroll for classes, without restrictions, a Graduate student must be in Good Academic Standing. Graduate Students who have been placed on Academic Probation or Academic Suspension are not considered to be in Good Academic Standing. Graduate Students placed on Academic Warning have no restrictions. Suspended students are eligible to enroll for classes only after approved readmission.

To maintain Good Standing, degree-seeking Graduate students must maintain a grade point average of 3.0 and may not earn more than six (6) credits of C/C+ grades.

Students in Good Standing are allowed to register without restriction.

Academic Warning

Graduate students earning a grade of C or C+ in any course/seminar, regardless of the credit value of that seminar/course, and whose overall GPA is 3.0, or higher, will be placed on Academic Warning as notice that an additional grade of C or C+ will necessitate Academic Suspension. Once placed on Academic Warning, students will maintain this status, if no other C or C+ grades are earned, until graduation, and will receive an Academic Warning letter at the end of each grading period.

Academic Probation

Graduate Students who fail to earn the cumulative grade point average for Good Standing at the end of a semester are enrolled for the following semester on Academic Probation. Students have one full semester to improve his or her cumulative GPA to a 3.0. If the cumulative GPA falls below 3.0 in the final semester, additional courses/ seminars, or repeat courses/seminars will be required for graduation.

Academic Suspension

1. Graduate Students who fail to achieve the cumulative grade point average for Good Standing within one full semester of being placed on probation, or who have accumulated more than six credits worth of C/C + grades, shall be Academically Suspended from the University.
2. Graduate students placed on Academic Suspension and enrolled in future classes will be dropped from these classes by the Registrar's Office.
3. Graduate Students who are Academically Suspended may apply for Readmission after one full semester of separation has been completed.

GRADE CHANGES AFTER ACADEMIC STANDING POSTED (for all students)

Grade changes entered for courses in the previous term affect Academic Standing for the previous term; but, no student will be Academically Suspended at mid-semester due to a grade change.

CLASS LEVELS

All students are assigned a class year level when admitted, or readmitted. Updating of the class year will occur as Norwich credits are earned and transfer credits posted. Classification is based on the chart below.

Class Year	First Semester Earned Credits	Second Semester Earned Credits
Freshman	0 - 12: F1	13 - 26: F2
Sophomore	27 - 41: S1	42 - 56: S2
Junior	57 - 72: J1	73 - 88: J2
Senior	89 - 103: R1	104+: R2

Graduate Class Levels

0 - 11 earned credits: G1
12 - 23 earned credits: G2
24 - 25 earned credits: G3
36+ earned credits: G4

Readmission for Residential Program Students

Whenever possible, Readmission Applications should be processed by the Registrar's Office within two weeks. If there is a hold on the application from the Bursar's Office, the Registrar's Office will notify the student of that hold and allow a two-week extension for resolution. If at the end of the two week period the Bursar's hold is not resolved further processing of the Readmission Application will cease; the student will need to submit a new Readmission Application if the hold is not cleared.

Readmission Process

Readmission Applications are accepted up to 4:30 p.m. ten working days prior to the first day of classes. Readmission Applications are routed to several offices for review. If the students has not received a notice prior the last day to register for classes, the student cannot enroll in classes without successfully petitioning the Committee on Academic Standards & Degrees (CASD) requesting to enroll late for the respective semester.

A Readmission Application is required for any student who meets one of the identified criteria and are subject to approval or denial.

1. A student who stopped attending Norwich University for at least one semester
2. A student who has been Academically Suspended
3. A student who has been Suspended for discipline

A Readmission Application for a student in Good Standing is reviewed by the Bursar's Office, Financial Aid, either the Commandant for Corps students or the Dean of Students for civilian students. A Readmission from Academic Suspension Application will additionally be reviewed by the advisor, major department chair, the major department dean, the Academic Achievement Center with a final decision by CASD.

Readmission after non-attendance for Summer Session:
For a student who wishes to take summer courses, not as a degree seeking readmitted student, will contact the director for the Summer@Norwich. Granted permission to enroll is only good for the summer session requested.

Readmission after Academic Suspension:
Students who are Academically Suspended at the close of a Spring or Fall semester may either:

- Petition for Readmission while Academically Suspended either immediately in the subsequent Spring or Fall term, or after the required one-semester period of separation
- Encouraged to attend Summer@Norwich to attempt to improve their cumulative GPA to Good Standing

Readmission Following Disciplinary Suspension Corps Students:
Corps of Cadet students suspended for disciplinary reasons must:

- The Commandant's Office reviews the student's application, supporting documentation and the disciplinary record and makes a determination on Readmission to the Corps.
- If Readmission to the Corps is approved, the Readmission Application will move forward for processing.
- If Readmission to the Corps is denied, the Registrar's Office will forward the application to the Dean of Students for Readmission as a civilian student and if the Dean of Students approves Readmission as a civilian student, the student will need to accept this condition for the Readmission Application to be processed

Readmission Following Disciplinary Suspension Civilian Students:
Civilian students suspended or dismissed for disciplinary reasons must:

- The Dean of Students will review the Readmission Application and any supporting documents, as well as the student's disciplinary record, and make a recommendation to move the Readmission Application forward for processing.

Readmission Following Disciplinary Dismissal:
If a student is Disciplinary Dismissed and barred from Readmission, any Readmission Applications will be denied without further review.

Readmission Processing:
The readmission applicant must indicate, on the Readmission Application, what catalog year they wish to return under. The catalog year must be within ten years of the student's expected graduation date and is subject to approval by the School Director/Department Chair of the student's major. If the student does not indicate a catalog year, the catalog year they were previously enrolled in will be used so long as it is within ten years from the student's expected graduation date. If the student's previous catalog year is not within ten years of the student's expected graduation date, the catalog year during which the student is readmitted is used.

- For majors where admission to the program is required the School Director/Department Chair will review the readmission request.
- An approved readmitted student will enter to the same class level as they left unless additional credits are transferred to Norwich University.
- Upon determination on the Readmission Application, the Registrar's Office will email notification to the student.

Student Actions upon Readmission Approval:
A readmitted student must follow all instructions in the Readmission Approval notice which include:

- Contact an academic advisor to discuss registration
- Register before the end of the add/drop period
- When applicable, contact housing to secure housing: Civilian Housing Contact: Sean O'Reilly, housing@norwich.edu; Corps Maj. Michael Davis, mdavis8@norwich.edu
- If the student cannot access Banner Web, or Norwich email account, contact the help desk at helpdesk@norwich.edu
- A student Readmitted after Academic Suspension, and is not in Good Standing will be enrolled under Academic Probation
- A signed Academic Contract Such with the Academic Achievement Center must be signed by end of the add/drop period.

Americans with Disabilities Act (ADA)

Section 504 of the Rehabilitation Act of 1973 and/or the Americans with Disabilities Act provides:

- That no student may be excluded from any program or any course solely on the basis of disability;
- That modifications in degree or course requirements may be necessary to meet the requirements of some disabled students;
- That auxiliary aides, such as tape recorders, must be permitted in the classroom when they are required to ensure the full participation of disabled students;
- That alternate testing and evaluation methods for measuring student achievement will be necessary for students with impaired sensory, manual, or speaking skills (except where those are skills being measured);
- That classes may have to be relocated to permit access for students with mobility impairments;
- That special teaching equipment or devices used in the classroom (and in some cases teaching techniques that rely upon the sight, hearing, or mobility of students) may require adaptation in individual cases; and
- That it is discriminatory to counsel disabled students toward more restrictive careers than non disabled students unless such counsel is based on strict licensing or certification requirements in a profession.

Admission & Transition:
Norwich University will not discriminate against any applicant, who is otherwise qualified, solely on the basis of disability. No inquiry will be made regarding any possible disabling condition until after the admission decision has been made and the applicant informed of acceptance or rejection.

Physical Standard:
Because of the physical training component of the Corps of Cadets program, a physical examination is required for all students admitted to that program. A physical examination is also required of any student participating in intercollegiate sports. Students must meet certain standards of physical ability to participate in these programs. In addition, all students admitted to Norwich University will receive a standard form requesting information about diagnosed disabilities which may have an impact on functioning in the college setting.

Note: Disability disclosure on the University form is purely voluntary; the form must be returned to the University, regardless.

Documentation Procedure:
Any student who has identified him/herself as having a disability shall submit the following as written documentation in order for accommodations to be made. As appropriate to the type and severity of the disability, written documentation must include: A comprehensive neurological, medical, psychological or educational report by an appropriate licensed medical or educational specialist. This report must contain:

- Date of evaluation and/or date of original diagnosis and diagnostic statement identifying the disability with a medical or DSM-V code (learning disability reports may be no more than five years old; AD/HD reports, no more than three).
- Explanation of diagnostic criteria and/or evaluation measures used with all test scores included;
- Explanation of current/future functional impact of the condition;
- Services, accommodations, treatment, medication, and/or assistive devices currently in use or prescribed;
- Credentials of diagnosing professional(s) [all reports must be on standard-size letterhead, signed by the evaluator(s)].

Requests for Accommodation:
When information is received relating to a disability, which may directly affect the academic, psychological or environmental lifestyle of the student, the appropriate university departments or individuals (e.g. Counseling, Commandant's office, Dean of Students, Infirmary, faculty) can be contacted to coordinate the necessary accommodation only after the student's permission is secured. The following is the procedure.

1. Information will go to the AAC's Coordinator of Accessibility Services for review. If documentation is not sufficient, the student will be referred for further evaluation/verification.
2. The Coordinator will determine student eligibility. If the student chooses, an educational profile may be developed listing suggestions for classroom accommodations. (NOTE: The student must formally register with the AAC before accommodations can be arranged.)
3. The Coordinator at the signed request of the student will send the course professors and/or academic advisor a copy of the educational profile. The student must then meet with these individuals to assist with developing a plan for the execution of accommodations pertinent to each distinct course; this should be done within the first two weeks of classes with or without direct consultation with the AAC Coordinator. A written contract can be agreed upon, signed by both parties and sent to the Academic Achievement Center for placement in the student's file.
4. Decisions about specific adjustments to the Educational Profile can be made only in consultation with the student and further diagnostic information;

the Coordinator may then revise the list of legal accommodations included in the student's profile. (NOTE: All accommodations must be based on comprehensive, written diagnostic information from a qualified professional. They cannot be based solely on school programming reports (IEPs), notes or short letters, conversations or informal observations.)

5. Degree requirements will not be waived for students with disabilities, but course substitutions may be petitioned for in extreme circumstances where accommodations alone have been demonstrated as insufficient to serve the needs of an otherwise qualified student with a disability.

Confidentiality:
The material provided by the student or by professionals who have been involved in the student's diagnosis or treatment will be treated as confidential information. Access will be granted only to those involved in the process described above, and only to the extent that it contributes to developing an individual educational plan for the student. Information will be shared with others only with the written permission of the student.

Appeal:

Any student dissatisfied with the adjustments made to accommodate a disability will have the right to appeal. The appeal process will be as follows:

1. A written statement will be sent by the student to the Director of Human Resources, the University ADA/504 Coordinator: This statement should include all the relevant information and should request clear remedial action.
2. Based on this statement, the Coordinator will either:
   a. Reactivate the individual planning process, or determine that the plan as developed is appropriate.
   b. Reject the appeal; it may be resubmitted to the Committee on Academic Standing and Degrees (CASD).
3. CASD will conduct an informal hearing on the issue, and either changes the individual plan or sustains the original decision.
4. The final level of appeal will be the University Provost or a designee. This decision will be final.

Credits, Equivalencies

Award of Credit

- Credits and grade points shall be awarded only for those University courses for which a student is properly registered.
- Credits, not grade points, for approved courses taken by a Norwich student at other accredited institutions may be transferred, subject to the residence requirement and transfer course policy.
- Federal regulation defines a credit hour as an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalence that reasonably approximates
  a. Not less than – one hour of classroom, or direct faculty instruction, and a minimum of two hours of out of class student work each week, for approximately fifteen weeks for one semester, or the equivalent amount of work over a different amount of time; or
  b. At least an equivalent amount of work as required in paragraph (1) above for other academic activities as established by the institution including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours.
- Whether the delivery of the course is traditional, hybrid, or distance learning, each credit hour awarded should represent approximately 45 hours of student effort.

Norwich ensures that courses and programs offered for credit off-campus, through distance or through continuing education, evenings or weekends are consistent with the educational objectives of the institution. This maintains the same academic standards as courses and programs offered on campus. Programs offered through Distance Learning receive sufficient support for instructional and student services. Online students have ready access to support for using appropriate learning resources.

Students enrolled in Distance Learning courses, and/or Hybrid courses have sufficient opportunities to interact with faculty regarding course content and related academic matters. Norwich has procedures that establish students who register for a Distance Learning or Hybrid course are the same students who participate in and complete the course requirements and receive academic credit.

Norwich defines an online, or Distance Learning course as one that is conducted entirely and exclusively via the course management system accessible from the Internet. The online format is the primary method to deliver the course materials. Communication and interaction occur online between faculty and students. All assessment of student work is conducted online.

Norwich defines a Hybrid course as a course that combines 30% to 70% traditional, face-to-face weekly class time with online, out-of-class course work. Hybrid instructors determine what instructional activities are offered online or face-to-face depending on the learning goals, course objectives, content, and available resources.

- Hybrid classes are designated with a code of HB preceding the section designation in the Class Schedule.
- For students to be VA certified for Hybrid courses, the course must meet face-to-face at least once every other week.

Credits for Graduation

- Graduation requirements are measured in courses and credits. Courses and credits required for graduation are specified within each Major or Minor Curriculum Map.
- Major and minor curriculum maps are structured to deepen NU graduates' knowledge in their chosen field of study. Free electives are designed to broaden student knowledge to meet specific career goals. A Free Elective is any course taken that is not specifically required by the major or minor field of study. Any non-ROTC course can be used as a Free Elective. A maximum of ***six ROTC credits can be used toward Free Electives***. A student will receive the equivalent of one three-credit course to fulfill published credit or course requirements as a Free Elective in a Major or Minor when one or two credit courses in the same discipline are combined. A student is limited to one such course, except for ROTC courses.
- See also Degree Requirements (p. 5).

Requests for Course Equivalency or Exemption

1. To waive a prerequisite course requirement students must present the adviser's affirmative recommendation to the course's department chair for approval. The basis for such a waiver will be the student's demonstrated knowledge in the area concerned.
2. To waive a degree course requirement on the basis of an exemption, examination, or other documented extra-institutional learning; the Major department chair will request an academic petition to the student record. When waived credits short the major credit hour requirement or the overall degree credit hour requirement, free electives are necessary to fulfill credit hour requirements. Petitions are applied to the student record, weekly on Friday.
3. To obtain credits and grade points for a course on the basis of an equivalency examination, a student must present the affirmative recommendations of the

major and course department chair and the academic adviser. Second-semester seniors are not eligible for an equivalency examination unless an Academic Petition is approved not later than one week after mid-semester grades are due. The repeat grade policy does not apply to credits earned by way of an equivalency examination.

4. Course equivalency by examination is treated as transfer credit and is subject to the limits described below. If the examination is for credits and grade points, a grade will be assigned and appropriate grade points awarded, unless the Pass/Fail option is selected prior to the administering of the examination.
    - Examinations for course equivalency, or exemption given at Norwich University, will be given only if a nationally validated examination covering the same subject matter is not available.
    - Before administering an exemption or an equivalency examination, Department Chairs/Directors should determine whether the student wishes to waive the course requirement, or wishes to obtain credits and grade points for the course.
        - An examination for waiver should be designed to test the student's general knowledge and competency in the tested area.
        - An examination for credits and grade points should be typical of a final examination that covers content for the entire course. Where appropriate, term papers, projects, etc. may also be required.
        - An exemption, or equivalency examination, for laboratory courses may require demonstrated laboratory proficiency.
    - An extra tuition charge may be assessed by the Bursar's office for examinations.
    - Credits, not grade points, are to be awarded when evidence that the minimum required grade has been achieved on a nationally validated examination, such as, Advanced Placement, CLEP, International Baccalaureate (https://www.norwich.edu/registrar/transfer-credit/?start=9) examinations.

Course Exams

Examinations include tests, quizzes, graded exercises or laboratory work, hour examinations, and final examinations. Faculty members are expected to be present at examinations to answer questions and maintain order. Examinations, except for quizzes, must be announced at least one week in advance.

Attendance at scheduled examinations is mandatory. A student absent without proper authority from a scheduled examination should be given a zero and is not entitled to a make-up.

Academic departments may make available to students files of previous examinations for use in preparation.

One-hour Examinations in Multi-Section Courses:

- The use of examinations which are equivalent both quantitatively and qualitatively, but different, is encouraged.
- The same examination may be given to multiple sections, when approved by the Department Chair/ School Director, if identical tests are administered at two consecutive periods in the same day. A student should not be permitted to leave the classroom before the end of the first period.

Common-hour Examinations:

- Concurrent identical testing of several sections of a multi-section course (Common-Hour Examination) is permitted.
- A student unable to take a common-hour examination because of an excused absence must be given an opportunity to make-up the examination at a time to be determined by both the course instructor and the student.

Final Examinations:
A culminating assessment shall be administered in every course. For final examinations the following policy applies:

- College Deans shall provide the Registrar with a list of course sections requiring rooms to be scheduled for final examinations.
- A final examination will be administered in every course unless its omission has been approved by the College Dean.
- In-class final examinations are normally expected to be no more than 2.5 hours in length.
- If a substitute procedure is used for the final examination, it will apply to all students in that course section.
- All final exams will be completed during the regular final exam period. Final exams are scheduled by the Registrar according to the Final Examination Scheduling policy.
- In a course that requires a final examination, the examination will count no more than fifty percent of the course grade. At the beginning of a course, instructors will inform students of the weight of the final examination and the method of grading in the course on the course syllabus.
- Intercollegiate, extracurricular, and intramural activities will not be scheduled during a final examination period or during the Reading Period which precedes it.

Special Final Examination For Seniors:

- Seniors who, at the end of the second semester, receive a final grade of "F' in a course as the result of exceptional circumstances surrounding the final examination may petition the Committee on Academic Standing and Degrees for a reexamination.
- A record of marginal or failing performance in the course prior to the final examination may cause a petition for reexamination to be denied.

Three Final Examinations In One Day
Students who have three final examinations scheduled on the same day may complete an exception form to have one of the three rescheduled to another date. The form is to be submitted to the Dean's Office prior to the last week of the semester.

Rescheduling Final Exams
Students may request that a final be rescheduled by submitting an exception form to the College Dean with an explanation of the reason for rescheduling and supporting documentation including the recommendation of the course instructor and course Department Chair or School Director. The selection of the examination to be rescheduled and the time of its administration will be the result of coordination between the student and professor(s).

Grades

Minimum Grade Standards

Minimum grade standards are established for various curricula requirements. Refer to the major section of the catalog.

Attempted Credits

For any course that is registered beyond the last day to drop a course without a record, all credits are considered attempted regardless of the final grade assignment (see also Quality Points and Satisfactory Academic Progress for Financial Aid).

Quality Points

Grade values are as follows: grade of A= 4.0; A-= 3.7; B += 3.3; B= 3.0; B-= 2.7; C+= 2.3; C= 2.0; C-= 1.7; D+= 1.3; D= 1.0; D-=0.7; F, FN, WF= 0.0. Grades of AU, I, P, NG, U, S and W do not calculate into the grade point average. Graduate programs will not award grades of B-, C-, or D +/-.

A grade of FN and WF both represents a failing grade. Th FN is typically awarded when a student did not submit enough assignments to have a full evaluation of work to earn a higher grade. Financial Aid is required to review grades of F, FN, WF, and W to ensure the student maintained academic participation throughout the duration of the course. (See also Course Withdraw and Financial Aid policies)

Point Average

The cumulative grade point average is derived by dividing the total number of graded hours for which a student has officially registered into the total number of quality points earned. The average is never rounded although truncated to the tenths or hundredths. The semester grade point average is calculated in the same way. A course taken after the student record is marked as graduated will not calculate into the point average. The course(s) grade points will be calculated separately.

Repeat Course Grade

A student is permitted to repeat a course before graduation; the cumulative point average will reflect only the highest course grade (marked as “I” Include on the transcript), although all grades will remain on the transcript (marked as “E” Exclude on the transcript). The course must be repeated for the same number of credit hours at Norwich University. A course repeated more than once will be treated as a separate course with no replacement of a previous grade. Repeated courses where credit was earned will not accumulate additional hours towards graduation unless the course is designed to be a repeatable course. A student who gains permission to repeat a course as a transient (non-Norwich course) student must meet the transfer course policy. The transfer grade will not be calculated into the student’s grade point average (indicated with an A Include in GPA but exclude credit hours on the transcript).

Pass/Fail Option (P/F)

A student may choose one course per semester in the sophomore, junior, and senior years in which to exercise a Pass/Fail option. Courses chosen under this option must be free electives. Courses that satisfy University requirements, or are specifically listed courses in the student’s major, or require a minimum grade of C, or are restricted electives, other than free electives, may not be taken as Pass/Fail. To receive a P grade, the student’s work in the designated course must be of at least D- quality. A failing grade of F will be entered on the student’s academic record and will be included in all grade point computations, if the student's work was below D- quality. P grades earn credit, but are not be included in grade point computations. A student requesting the Pass/Fail option shall complete and submit a Pass/Fail Grading Request form to the Registrar’s Office prior to the course Add/Drop deadline.

Incomplete Grades (I)

A student may request an Incomplete grade when extenuating circumstances interferes with completing the course at the end of the semester or term. An Incomplete grade may not be assigned for simple failure to submit required work or not attending class, regular leave, or detached service. Extenuating circumstances should be recognized when due to University-authorized absence caused by illness, emergency or deployment. Such a student must have completed at least 60% of the course content at the level that demonstrates student’s ability to complete the outstanding work at a satisfactory level. An Incomplete grade is only assigned at the end of the semester. The I-Grade is assigned by the Registrar office upon the receipt of the approved Incomplete Grade Form/ Contract.
The deadline for completing the work shall be no later than:
For residential programs:

- Monday of the eighth week of Spring semester for Fall Incomplete grades
- Monday of the eighth week of Fall semester for Spring and Summer Incomplete grades

For online programs:

- Up to but not exceeding, 90 days from the end of the course.

An exception to the dates listed above is given to the students who are deployed. See the Military Accommodation Policy for deployment-related circumstances.

Once the student has submitted the outstanding work, the faculty must request the change of the grade. If faculty do not request the change of the grade prior to the deadlines listed above, the Registrar’s Office will record the final grade provided by the instructor on the Incomplete Grade Form/Contract.

An Incomplete grade is not considered to be satisfactory for the purposes of fulfilling the pre-requisite for the subsequent course. The grade of I is excluded from the computation of total credits and grade point averages (See also President’s and Dean’s List and/or academic achievement policies).

Grading Practices Notification For Students

Course syllabi must designate the method of grading in the course and of the weight that is attached to all course requirements.

Grade Reporting By the Faculty

Faculty enter grades for all campus-based courses twice during the semester. In addition, mid-semester grades are entered on, or before, Monday of the eighth week of Fall and Spring semesters, in accordance with the Academic Calendar. In the rare case where sufficient course evaluation is not available for the reporting of a grade at mid-semester, the grade of “NG” (no grade) is entered. Mid-semester grades are not entered on the permanent record, and are reported for the sole purpose of assisting students in assessing their academic status at mid-semester.
Final grades are entered at the conclusion of the semester. These grades are posted on the permanent academic record. Final grades must be entered within seventy-two hours after the last day of final examinations. Spring Semester grades for graduating Seniors must be entered in less than seventy-two hours. The time for submittal of these grades will be as directed by the Registrar’s Office. Faculty will maintain course grade records for a minimum of one year. Faculty leaving the employment of the University will submit these grade records to their respective department chair or school director.

Grade Notification

After grades have been entered, students may view their grades in Banner Web. After a period of about one week the students will be able to review their grades and current GPA on their Academic Transcript. The University does

not mail grades or provide grades over the phone in compliance with Data Privacy (FERPA) policy.

Academic Warning at Mid-Semester

Traditional based programs will provide an academic warning notice to a student who is failing two or more courses at mid-semester. Freshmen, who receive this notice must report to the Academic Achievement Center.

Grade Change/Appeal

Course grades are calculated and assigned by the instructor who teaches the course according to the grading criteria in the course syllabus. Once a student's final course grade has been officially recorded by the Registrar, the grade may be changed if, and only if, (1) a new grade has been determined under the Norwich University Student Grade Appeal Policy, or (2) a grade of Incomplete is replaced with a letter grade as specified in the current Norwich University catalog, or (3) an error in computing or in recording the grade has been identified by the instructor and has been verified by the instructor and the Department Chair.

Grade Appeals
Grade appeals are reserved for final course grades only and not for individual assignment grades within a course. Requests for change of final grade must be made within 120 days after the final grade was awarded.

1. All final-grade appeals must begin with a written request from the student to the instructor.
2. If resolution is not achieved with the instructor, the written grade appeal may be filed with the department chair, school director or program manager or program director.
3. Failing resolution at the respective chair/program manager/director level, the student may appeal in writing to the Dean of the College in which the course resides.
4. The appeal of Dean's decision can be made to CASD in a form of Academic Petition accompanied by all supporting documents

Course Audit

A student wanting to attend a class but not wishing to receive a grade of credit for the course may register as an auditor. A student must declare the auditor status in a course by the "Last Day to Add Classes." This date is announced in the Academic Calendar. The degree of class participation acceptable or required shall be determined between the student and instructor and listed on the audit form, available on the SharePoint Registrar website. The completed audit form will remain on file in the Office of the Registrar. The class audited shall be noted on the transcript, and the instructor will award the grade of "AU" when the performance requirements outlined on the audit form are fulfilled, and the grade of "U" when the student fails to meet the requirements. A "Credit by Challenge Examination" is not permitted after taking a class for audit credit. An audited course carries no attempted hours and may not be used toward degree requirements (see also Tuition and Fees).

Family Educational Rights and Privacy Act (FERPA, Data Privacy)

The Family Educational Rights and Privacy Act of 1974 (FERPA) as amended

Sets forth requirements regarding the privacy of student records. Specifically, FERPA governs:

- The disclosure of education records maintained by an educational institution; and
- Access to these records
- Notification by the institution to students of their FERPA rights

Further information can be found on the US Department of Education Family Policy Compliance Office website at http://www2.ed.gov/policy/gen/guid/fpco/index.html

Education Records: Records, handwritten or in any media, (including conduct records) that are directly related to a student and maintained by Norwich University, or by a party acting for the institution.

Records NOT protected by FERPA include:

- records of instructional, administrative, and educational personnel which are the sole possession of the maker and are not accessible or revealed to any individual except a temporary substitute
- records maintained by Norwich University security/law enforcement unit which are the sole possession of the unit
- records of employment which relate exclusively to individuals in their capacity as employees (records of students employed by Norwich University as a result of their status as students are education records, e.g. work-study)
- records created, or maintained by a physician, psychiatrist or other recognized professional acting in his or her professional capacity (including counseling and health records)
- alumni records which contain information about a student after s/he is no longer in attendance at Norwich University and which do not relate to the person as a student.

Student: A person, who attends a Norwich University credit or non-credit course, regardless of age.

Directory Information

Norwich University considers the following Directory Information and may release this information without the written consent of the student.

- Full Name
- Major or Program
- Most recent educational institution attended
- Full or Part-Time Status
- Home Town
- Photographs
- Lifestyle (civilian or military)
- Norwich Mailbox Number
- Anticipated Graduation Date
- Email Address, University assigned
- Athletic Achievements
- Athlete Height & Weight
- Class Level (Fr., So., Jr., Sr., Gr.)
- Participation in Official Recognized Activities & Sports
- Withdrawal Date
- Dates/Terms Enrolled
- Degrees/Certificates Awarded & Date Conferred
- Awards and Honors Including Cadet Promotions
- Graduation Status

The Solomon Amendment

This law requires universities to release the information listed below regarding enrolled students, 17 or older, to the military for recruitment purposes. A student may restrict this disclosure to the military only by restricting all disclosure of Directory Information.

- Name
- Date and Place of Birth
- Degrees Received

- Address
- Telephone Listings
- Levels of Education
- Academic Majors
- Most recent educational institution enrolled in by the student

Student Restriction of Directory & Non-Directory Information

A Student may submit a "FERPA Hold" form to the Registrar's Office to prevent directory and non-directory information from release. When a FERPA Hold is active, no information regarding this student will be released to any person or published in publications (this includes the Commencement program and Dean's list). This form is valid until it is rescinded in writing by the student.

Student Release of Non-Directory Information

A student may authorize the release of non-directory information to anyone they so choose by electronically entering the person's name and relationship to the student via the electronic Enrollment Verification form. The authorization is valid until rescinded in writing by the student. In most cases, the Registrar's Office will release non-directory information.

Disclosure of Non-Directory Information

Upon request, Norwich University may disclose education records, without consent, to officials of another institution that a student seeks or intends to enroll, or where the student is already enrolled so long as the disclosure is for the purposes related to the student's enrollment or transfer.

Norwich University may disclose non-directory information from a student's education record, without the student's written consent, to school officials who have a legitimate educational interest in the records, or to certain other individuals or organizations, as specified below. The release of information to those described below does not constitute authorization to those individuals or organizations to share that information with a third party without the student's written consent. The Registrar shall decide the legitimacy of requests for permissible disclosures of student information.

A school official is:

- A person, organization, or company who is employed by, contracting with, or properly authorized by Norwich University, to perform administrative, supervisory, academic, research, or support functions for the University.
- This definition includes, but is not limited to:
  - law enforcement personnel
  - health staff
  - certain appropriate students
  - field supervisors
  - contractors, such as attorneys, auditors, or collection agents
  - those properly authorized to serve as official board or committee members; or
  - any others (such as volunteers) properly authorized to assist another school official in performing his or her professional responsibilities for Norwich University.
- A school official must abide by all applicable policies and procedures regarding confidentiality of education records.

A school official has a legitimate educational interest if:

- The official needs to review an education record to fulfill his or her professional responsibility. Those professional responsibilities may include, but are not limited to:
  - Performing a task that is specified in his/her position description or by a contract agreement
  - Performing a task related to a student's education
  - Performing a task related to the academic or behavioral conduct of a student
  - Conducting research that benefits students and/or the University.

Other permissible recipients of such disclosures are:

- The US Department of Education, the Comptroller General, state or local educational authorities
- Organizations conducting certain studies for, or on behalf of Norwich UniversityOrganizations conducting research for educational agencies or institutions for developing, validating or administering predictive tests; administering student aid programs; and improving instruction.
- Accrediting organizations
- Comply with a judicial order or lawfully issued subpoena, including ex parte orders under the US Patriot Act.
- Appropriate parties in a health or safety emergency
- A victim of a crime of violence or nonforcible sex offense when the information is related to the final results of the disciplinary proceeding conducted by Norwich University
- Those who seek sex offender registry information from those required to register as sex offenders under state or federal law
- Officials at other institutions in which the student has already enrolled or seeks to enroll in
- International sponsors
- State and local officials to whom information is specifically required to be reported by a state law as permitted by FERPA.
- Records may be released to parents in a health or safety emergency; where the student has been found in violation of Norwich's code of conduct relating to the use of alcohol or a controlled substance if the student is under the age of 21, or submission of evidence that the parent(s) declare the student as a dependent on their most recent Federal Income Tax form.

Valid Subpoenas

If the Registrar is served with a valid subpoena requesting student information, the Registrar *must* comply with the request. Before doing so, the Registrar shall attempt to notify the student of the subpoena in advance of compliance so the student may seek protective action, unless the disclosure is in compliance with a subpoena issued by an agency that has ordered the contents of the subpoena, or the information furnished in response to the subpoena, not be disclosed.

Deceased Students

Information on deceased students *may* be made available to survivors or third parties via a request to the Registrar. An individual student's rights under FERPA are no longer valid upon death of that student.

Record of Request for Disclosure

Norwich University must maintain a record of each request, with the exceptions listed below, for access to, and disclosure of, personally identifiable information from education records. The record of each request for access and each disclosure must contain the name of the parties who have requested or receive information and the legitimate interest the parties had in requesting or obtaining the information.

A record *does not have to be kept* if the request was made by or disclosure was made to:

- An eligible student
- A school official who has been determined to have a legitimate educational interest
- A party with written consent from the eligible student
- A party seeking directory information only
- A student serving on an official committee or assisting another school official

Thus requests for, or disclosure of education record information without a student's written consent, which Norwich University is *required to record,* would include, but is not limited to:

- Disclosure to the parent (either custodial or noncustodial) of an eligible student
- Disclosure in response to a lawfully issued court order or subpoena
- Disclosure for external research purposes where individual students have been identified
- Disclosure in response to an emergency

These records must be maintained with the education records of the student as long as the records are maintained by Norwich University.

Student Right Under FERPA

FERPA affords students certain rights with respect to their education records. These rights include:

- The right to inspect and review educational records; requests will be complied with no later than 45 days from the date of the student's written request, which is to be directed to the Registrar's Office. Students do not have the right to receive a copy of their record unless failure to do so would prevent them from inspecting and reviewing their record, such as when the student no longer lives within commuting distance. The Registrar may arrange for these students to inspect the requested records at a college or university located closer to the student.
- The right to request the amendment of education records, which the student believes are inaccurate, misleading or ' otherwise in violation of the student's rights of privacy. If the Registrar does not agree with the student's request to amend his/her education records, the student may submit a written request to the Dean of Students Office asking for a formal hearing on his/her request. The Dean shall make the final decision regarding the student's request. If the student disagrees with the decision of the Dean, he/she may submit a written statement which will be placed in his/her official record commenting on the disputed information.
- The right to give or to withhold consent to disclosure of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent;
- The right to file with the US Department of Education a complaint regarding Norwich University's compliance with the requirements of FERPA;
- Records relating to individuals who apply for admission but are not admitted or do not enroll are not protected by FERPA; and
- The right to receive notification of rights granted by FERPA.

Student Notification

1. New and continuing students are notified of their FERPA rights prior to each semester through either, orientation, the electronic Enrollment Verification process, or an annual FERPA announcement.
2. New on-line students are notified of their FERPA rights through Orientation. Continuing on-line students are emailed an annual notice.
3. Students are further notified of FERPA rights on the Registrar's website http://www.norwich.edu/registrar/
4. Everyone can access Norwich's Student Data Privacy (FERPA) policy at http://www.norwich.edu/registrar/

The Office of the Registrar is the primary contact for all student information inquiries. Elements of this policy may be listed within the student handbook, code of conduct, BannerWeb and the University Catalog.

English Language Accommodations & English Placement for International & Multilingual Students

Accommodations are available to support English language proficiency development. All non-native English speakers are normally eligible. Eligibility will customarily expire at the end of the first semester of accommodation but may be continued on a semester-to-semester basis. Eligibility, accommodations, and English placement are overseen by both the Coordinator for Multilingual Student Services at the Academic Achievement Center and the International and Multilingual Curriculum Coordinator for the Department of English and Communications.

Allowable Academic Accommodations

- Reasonable extensions of time on assignments if appropriate tutorial assistance is in process.
- Reasonable extensions of time for examinations, with or without a reader, that is administered by the AAC.
- Reduction of credit penalty for written errors consistent with developing language proficiency including misspellings, word usage, sentence structure, and punctuation, except in coursework where those skills are being assessed directly.
- Alternative assignments to support spoken language and class participation except where those skills are being assessed directly.
- Use of a recording device for course lectures and/or discussions to enhance listening comprehension.

Student Responsibilities
To apply for accommodations, the student must contact the Coordinator for Multilingual Student Services at the Academic Achievement Center. Each semester, students must process an accommodations request form and a release form to authorize the AAC to send the eligibility letter to all necessary course faculty.

Placement of Multilingual Students into Academic English Elective Courses
The Department of English and Communications offers elective classes to support academic English proficiency. Interested students may register for them in consultation with their advisers. Some incoming students are preregistered for an elective Academic English language course and co-enrolled in EN 101 Composition and Literature, which is a required course. Preregistered students may drop or withdraw from the Academic English language course.

Incoming multilingual students are preregistered based on the section scores of academic English proficiency tests. Because participation in university courses requires advanced-level proficiency in a variety of language skills, students will be preregistered if their TOEFL (or equivalent) section scores fall in the "low," "intermediate," or "fair" ranges. If a student has no English proficiency test scores, placement is based on other records accepted by the Norwich University Department of Admissions.

The levels of the TOEFL section scores can be viewed here: https://www.ets.org/toefl/ibt/scores/understand/

Exceptions
Exceptions may occur in special circumstances involving international inter-institutional agreements with partner universities, new pathway programs and/or other international agreements that would warrant exceptions.

All such exceptions must be codified in a Memorandum of Understanding (MOU) among participating parties and have appropriate approvals in accordance with the agreement. Any MOU must be executed through the International Center, after consultation with the International and Multilingual Curriculum Coordinator and the Coordinator of Multilingual Student Services regarding exceptions set forth in any MOU.

Graduation/Conferral of Degree

Graduation/Conferral of Degree
Graduation is the completion of all degree requirements as recorded on the official transcript. Commencement is the ceremony that celebrates the completion of a degree. Participation in the commencement ceremony does not imply that a student officially graduated. The diploma is a commemoration of achievement. Official certification of the degree is made only through the official transcript or through the certification service of the National Student Clearinghouse (NSC).

Conferral, also known as degree completion, is evaluated on a rolling basis and once completion is certified, the completion date will be recorded on the student record. Diplomas are distributed three times per year. There is one commencement ceremony at the conclusion of the full Spring Semester for campus-based programs and the summer session for CGCS programs. Coursework deadlines are August 25, December 22 and the last day of the semester prior to commencement exercises. For further information on the required outstanding coursework and diploma distribution, please contact the Office of the Registrar. The degree award date is posted using the last day of final exams for Fall semester, the day of Commencement for Spring semester, and the last day of the last Summer Session for Summer. No degree shall be conferred, or diploma awarded, until the Registrar's Office verifies all degree requirements are met.

The Registrar, in conjunction with the President and the approval of the Board of Trustees, awards degrees. An act deemed by the University as egregious can result in the act of revoking a conferred degree or the conferral of a degree.

Graduation Application
Student will submit a Graduation Application to the Registrar's Office. The May and Summer Semester graduation application is due October 1 and for Fall Semester the graduation application is due March 1. A student with an expected graduation date for December, May, or August (or other summer session) and who missed the deadline for submitting a Graduation Application will have a hold placed on his/her registration record.

Diploma
The Diploma is printed with the degree, major, and, when applicable, Latin Honor. The printed student name will come from the Graduation Application. Most often, this is the student's legal name; however, an alternate name may be given. The University reserves the right to deny a non-legal name. For an eligible student, the Military College of Vermont (MCV) designation will be included on the diploma.

Commencement
A student who is within two courses of meeting graduation requirements and applies to graduate for Summer Semester will be permitted to walk in Commencement. A student is not permitted to participate in commencement until all University bills are paid, or arrangement for payment are made to the satisfaction of the Chief Financial Officer. Participation may also be revoked when the student has pending disciplinary action to be cleared by the Provost, and when applicable in conjunction with the Vice President for Student Affairs.

Latin Honors (refer to Academic Honors)

Posthumous Degree

A request for a posthumous degree is initiated by a person, associated with the deceased, to the Registrar. This is usually a family member, but the academic department of the student can initiate it in accordance to the wishes/support of the family. The request must be approved by the Department Chair/ School Director, the College Dean, and Provost.

Undergraduate degree:

- At the time of death, the student was enrolled in courses required for completion of the degree and nearing completion of work required for award of the degree.
- The student was in good academic standing and successfully progressing toward completion of requirements for the degree to be awarded.

Graduate degree:

- At the time of death, the graduate student was nearing successful completion of the work required for the degree.
- The student was in good standing.

If the posthumous degree is approved, the Registrar shall notify the College Dean who will notify the family to inquire if a family member wishes to attend Commencement Exercises to receive the posthumous degree.

- If family wishes to attend Commencement, the Dean will inform them to contact the Registrar.
- The Registrar will provide instructions to the family on how they will receive the degree at Commencement.

The posthumous degree will be so noted after the deceased student's name in the Commencement Program. The Registrar shall note, but not post, the degree to the deceased student's official transcript with the notation; "Degree Awarded Posthumously". The Registrar shall ensure that grades of W (withdrawn) are entered for all courses the deceased was enrolled in at the time of his/ her death.

Leave of Absence

Military Leave/Late Arrival

This policy is designed to be flexible to allow students to complete as much academic coursework as possible. The Bursar's Office reviews and determines if military orders are applicable for any refunds associated with this policy.

Leave Before End of Term

Students requesting to leave classes, based on a military activation or deployment, must submit a copy of their military orders confirming the date of activation/ deployment was during an academic term.

This section of the policy is for:

1. Students serving in the military, who are notified after the first day of the term in which they are currently enrolled, they have been activated or deployed to a combat zone, or in direct support of or proximity to a combat zone, or:
2. Students who are a member of the National Guard or reserve forces of the United States and who have been ordered to state military service or federal service or duty.
3. Students, who are spouses of an activated, or deployed military member, and have a dependent child.

Students, who meet the requirements listed above, have options listed below when leaving prior to the end of a term, in which they are currently enrolled. Although students may request Incomplete grades or grade earned; the decision is made by the instructor of the course.

1. Request a Total Withdrawal from all classes and receive a full refund of tuition and mandatory fees.

2. Make arrangements with instructors to complete some or all courses:
   - Request instructors to assign Incomplete grades.
     - On-campus students have until the end of the next term to complete the incomplete work. Students enrolled in the College of Graduate & Continuing Studies (CGCS) are allowed 90 days from the end of the term to complete incomplete work.
     - Students will agree to a study plan outlining how the work will be completed.
     - Student's registration for courses receiving an Incomplete will remain intact and tuition and mandatory fees assessed in full.
   - Request courses for which arrangements cannot be made for Incomplete grades, to be Withdrawn (W grade on transcript). A refund of tuition and mandatory fees will be granted for Withdrawn courses if the student drops below full-time. Room and board will be refunded on a per-day basis.
   - Request a grade assigned at the time of leave, if 80% of the course days (on-campus students), or 60% of seminar days (CGCS), have been completed, and the instructor believes the cumulative grade represents sufficient knowledge of the material for the course or seminar.
3. On-campus students may be granted Military Leave for the period away from Norwich University, regardless of Academic Standing at the time of departure.
4. Upon return, students submit a Readmission Application to the Registrar's Office; the Registrar's Office shall notify the student s/he has been readmitted regardless of Academic Standing since readmission is automatic in this situation.
5. Waiver of readmission fee.

Upon future re-matriculation to Norwich University, students are charged tuition and fees at the rate in force at the time of re-matriculation.

Late Start of a Term (On-Campus Students Only)

Students requesting a late start, based on a military activation or deployment, must submit a copy of their military orders confirming the date of release was during an academic term to the Center for Student Success.

This section of the policy is for:

1. Students who return from active duty in the military (state or federal), National Guard or reserve forces of the United States.
2. Students, who are spouses of a military member, and have a dependent child.

Students who meet the requirements listed above are allowed the following when arriving not more than 7 calendar days from the first day of a term:

1. Late fees will not be charged to the student or spouse.
2. The Center for Student Success will send an email notice to the following, notifying the first day to attend classes for the respective term:
   - Dean of Students/Commandant
   - Bursar's Office
   - Financial Aid Office
   - Advisor
   - Faculty for all classes in which the veteran student, or spouse, is currently enrolled
3. Faculty will make every attempt to accommodate students for whom this policy applies.
4. Students are responsible for completing all course requirements (including any portion missed).

Leave for Physical or Psychological Health Reasons

Leave, for Physical or Psychological Health Reasons, is intended to allow students sufficient time away from campus to complete a sustained recovery which makes possible a successful return to Norwich. Upon the recommendation of the NU Student Health Center, NU Counseling and Psychological Services Center, or a student's physician or therapist, the Dean of Students or Commandant of Cadets may grant students an Emergency Leave. The Commandant or Dean of Students Office advises students during the exit process about plans to address their medical condition while on an Emergency Leave, and determines whether the student is ready to make a successful return to NU. Students may request an Emergency Leave regardless of academic standing.

Academic Impact
Students who are granted a Leave have options to manage the academic impact of this decision, particularly when it occurs prior to the end of a term in which they are currently enrolled. In addition to a Total Withdrawal from all courses, students may seek Incomplete grades or "Time of Leave" grades. The decision to grant Incomplete grades or "Time of Leave" grades is made by each course instructor. Students may also request withdrawals from individual courses. To withdraw beyond the withdrawal deadline an Academic Petition is required but is allowed no matter how late in the semester the Emergency Leave is approved.

Financial Impact

- Tuition and Student Fees: Tuition and Student Fees are refunded according to the NU Bursar's Office Refund Policy for Withdrawals available on the Bursar's website.
- Room and Board: Room and Board costs are refunded according to the policy, which states that "Room and Board refunds for students withdrawing from school will be subject to pro-rata charges for the days a student resided on campus."
- Financial Aid: Eligibility for an Emergency Leave does not change the fact that the student may be ceasing all academic activities after the start of an enrollment term. When students cease enrollment after the start of a term, their financial aid eligibility is adjusted based on the type of aid and the length of time enrolled. Also, students are reminded that if they are not enrolled for six or more months, their student loans may enter repayment based on Federal requirements regardless of their Emergency Leave approval.

Federal Student Aid Programs: Students retain a total amount of aid representing the same percentage of time enrolled during the term of withdraw. For example, if the student was enrolled for 17% of the calendar days in the term, they retain 17% of their total Federal Student Aid Program funding. Once the total amount to be retained is determined, NU will return any excess Federal Student Aid Program funding that had been disbursed toward the student's billing charges to the US Department of Education. NU is required to reduce loan eligibility prior to making any reduction to gift aid programs such as the Federal Pell Grant program.

Norwich University Scholarships and Grants: Students retain a total Norwich award amount representing the percentage of charges that the students will remain responsible to pay after they cease to be enrolled for the term. For example, if the student will remain responsible for 40% of their charges based on their last academic activity date, they will retain 40% of their Norwich University Scholarship and Grant amount. For additional information, visit the Student Financial Planning Office.

Leave Exit Process

Students seeking a Leave must contact either the Commandants Office [if a Cadet] or the Dean of Students Office [if a civilian] to indicate their intention to secure a

Leave. They must then meet with either the NU Student Health Center or the NU Counseling Center [hereinafter referred to as the "appropriate NU Health Service"] to present the health issues of concern which support the Leave request. The appropriate NU Health Service will submit a recommendation supporting or denying the Leave request to the Commandant's Office or Dean of Students Office, which is responsible for granting an Emergency Leave in consultation with the Risk Assessment Team. If a Leave request is granted, the Risk Assessment Team will establish individualized treatment requirements for students which are intended to help them become academically and personally ready to resume attendance at NU. These requirements will be given to students before they leave campus in an "exit" letter from the Commandants or Dean of Students Office. The Commandants or Dean of Students Office will also send a cover letter as notification of a Leave approval to the Registrar, Bursar, Center for Student Success and Student Financial Planning Offices for the student's file there. If a Leave request is denied, students can appeal this decision to the Senior Vice President of Student Affairs.

Once students' Leave request has been granted, their academic options are the following:

1. Request a Withdrawal from all classes and receive a refund of tuition and mandatory fees as discussed in the "Financial Impact" Section of the Leave Policy.
   a. Students taking a Total Withdrawal must initiate the withdrawal process with the Center for Student Success.
   b. Students will receive W grades in all classes regardless of the date withdrawn prior to the end of the semester.
   c. Students' record will be inactivated in Banner by the Registrar's Office.
2. Make arrangements with instructors to complete some or all courses in the two following ways:
   a. Request that instructors assign Incomplete grades.
      i. Students must complete the leave procedure for departing campus with the Center for Student Success.
      ii. Students on Leave receiving Incomplete grades remain in active status in Banner until the end of the current semester, at which point the Registrar's Office will inactivate them.
      iii. Students on Leave receiving Incomplete grades must comply with stated NU policy for completion of coursework.
   b. Request that instructors assign a Time of Leave grade, if 80% of the course days have been completed, and the instructor believes the cumulative grade represents sufficient knowledge of the material for the course.
      i. Students must complete the leave procedure for departing campus with the Center for Student Success.
      ii. Students on Emergency Leave receiving Time of Leave grades remain on active status in Banner until the end of the current semester, at which point the Registrar's Office will inactivate them.

Some students may choose to mix these academic options and Withdraw, receive Incomplete grades, or seek Time of Leave grades for individual currently enrolled courses.

Readmission from Leave
The Leave readmission process is to ensure that students are sufficiently recovered to return to campus. Policies governing readmission address the University's need to be confident that students will be safe upon return to campus; that students' health will allow them to work autonomously and up to potential without disruption or undue strain on others; and that students can adequately monitor their own health. The procedures also provide a review of the ongoing supports which students may need when back on campus (e.g. medications, continued psychotherapy appointments, and/or continued medical appointments).

Application for Readmission
To apply for readmission from Leave, students must submit a completed Readmission Application to the Registrar's Office according to NU Readmission Policy. Students must also submit, at the same time, appropriate supporting documentation for return from a Leave to be reviewed by the Commandant's Office or Dean of Student.

The Commandant or Dean of Students will review the appropriate supporting documentation submitted by the student for return from a Leave. In consultation with the appropriate NU Health Service and the Risk Assessment Team, the Commandant or Dean of Students will determine whether the student has met the Return From Leave requirements established in his/her "exit" letter.

If there is uncertainty whether a student has met the return from Leave requirements, on-campus interviews may be arranged with the appropriate NU Health Service. The appropriate NU Health Service would then transmit a recommendation concerning the student's readiness for Return From Leave to either the Commandant or the Dean of Students, who would review its recommendation in consultation with the Risk Assessment Team to determine the students' ability to return. If a student's request to return from a Leave is denied after this review, the Commandant or Dean of Students will communicate this decision to the student. Students can appeal this denial to the Senior Vice President of Student Affairs.

Once the return from Leave review process has been completed and approval for Return From Leave granted, the Registrar's Office will be notified the student's readmission process can proceed. Students will be notified by the Registrar's Office whether they have been fully readmitted or denied. Students can appeal this denial to the appropriate NU office(s).

Academic Petitions

Right of Petition and Appeal

- All academic petitions (https://norwich0.sharepoint.com/sites/registrar/Forms%20Students%20Only/Forms/AllItems.aspx) are to be submitted to the Registrar's Office for action by the Committee on Academic Standing & Degrees (CASD) prior to 12:00 noon on Wednesdays to be reviewed at CASD meetings on Thursdays.
- At a minimum, the petition must include a clear written statement attached by the student of the request, the student's signature, and the recommendations of the individuals who are identified by role, on the petition form. Required signatures must be on the petition form and on all attachments.
- If the petition is for a waiver to Academic Policies, the student must specify the issues to be considered by the CASD to determine if a policy waiver should be granted. Any petition that lacks justification will not be considered. The submission of a petition does not guarantee approval. Students will be notified via email, results of a petition appeal.
- Additional recommendations required -- if reference is made in the petition by the student to any Norwich University official, (because of an alleged action or statement by that official which is germane to the petition) that official (faculty member or administrator) must provide a recommendation.
- CASD considers petitions on a case-by-case basis on the merit of the request.
- Petition requests that are denied by the CASD may be appealed, within ten business days of receipt of CASD action, to the Provost. The Provost's decision is final.

Grievance Procedure

Students who are dissatisfied with some aspect of the conduct of a course are encouraged to seek a resolution of the problem.

- The first step toward resolution is a discussion with the course instructor.
- If no mutually agreeable solution is reached, the student must next take the matter to the faculty member's Department Chair/Director.
- If the Department Chair/Director is unable to resolve the problem, the student should present a written request for relief to the instructor's College Dean. The statement should include a full description of the problem and a request for a specific action.
- The Dean will discuss the matter with both the student and the faculty member and will attempt to find a satisfactory resolution of the problem.
- If the issue is not resolved to the student's satisfaction, the student may request that the Dean forward the student's written request and the Dean's written determination to the Provost for final review.
- The Provost will analyze the material, arrange additional discussion as necessary, and resolve the issue.

Registration (Add, Drop, Withdraw, Waitlisting, Attendance)

An individual student is responsible for registering into a course for each semester and managing their degree completion requirements. Registration dates are available on the Academic Calendar website. A student with an account hold is not permitted to register until the hold has been rectified. Registration is determined by the student's class level - see Student Class Level, which is based on hours passed. Registration is opened by a student's class level.

A student has the ability to add and drop courses via Banner Web within policy statements. Official dates are listed within the Academic Calendar on the University Website. Each undergraduate student within a campus-based program is assigned a registration pin, provided to the student by the academic advisor, to complete a course add/drop or course withdraw transaction. A student identified as needing additional intervention prior to registration by the Academic Achievement Center or the advisor may be placed on a Registration Hold status. When a Registration Hold is imposed, the individual imposing such action will notify the student including how to rectify the status. If the Registration hold is not resolved by the end of Add period, the student may not be permitted to enroll. For any course registration, course add, drop or withdrawal, refer to the billing policies posted from the Bursar's Office.

To receive credit, a student must register for any course to be pursued during a semester; otherwise, there is no official record of the course.

Course Add

A student is permitted to add a course up to six business days from the start of the first day of class. For a course offered in a compressed term (i.e. part-of-term, eight-week session, five-week session, etc.) refer to the posted Academic Calendar on the University Website. A student may complete an Academic Petition to late add but no later than the last day of the regularly-scheduled classes, with approval from the course instructor, the advisor, chair of the department and Dean.

Course Drop/Course Withdraw

Dropping or withdrawing from a course is the student's responsibility. A course that is dropped within six business days of the start of the semester will earn no academic record. For a course that is offered in a compressed term, refer to the posted dates on the University Website. If a student wishes to drop a course beyond the course drop deadline, which is referred to as a "course withdraw", the student will earn a grade of "W" recorded on the student's official transcript. A student is permitted to withdraw from a course prior to 60% of the semester; the specific date differs for each semester and is calculated based on the posted first day of class. Dates are posted on the University Website.

After the posted deadline to withdraw from a course with a "W" the student is allowed to withdraw with a grade of "WF". "WF" grade is recorded and calculated into the student's official transcript (see also course quality points). A Course Add/Drop/Withdrawal form must be submitted to the Office of the Registrar. A student has a right to appeal the grade of "WF" through the Academic Petition policy when circumstances surrounding the withdrawal request are beyond their control.

Course Drop - Administrative

Dropping or withdrawing from a course is the student's responsibility. However, to meet federal student aid guidelines, a student who is enrolled in a course and is reported as never attended within the Add/Drop period will be Administratively dropped from any or all courses.

The Associate Provost for Academic Affairs or Vice President of Student Affairs may administratively withdraw a student for behavior or when a student shows indifference to studies.

Course Drop/Withdrawal - Last Course

A student is not permitted to drop or withdraw from the last course for any semester or term of enrollment. To drop or withdraw from the last course, a student must meet with the Center for Student Success. The Center for Student Success will determine if the course drop results in a Withdrawal from the University or if the student wishes to continue in the immediate following (summer excluded) semester. The final course drop will be communicated to the Office of the Registrar who will update the student record according to the outcome with the Center for Student Success and will follow the Course Drop and Course Withdrawal deadline policy.

Course Levels

Course descriptions are located within the Course Descriptions section of this catalog. The level of a course is indicated by its number. If the course has a pre-requisite, co-requisite or a restriction, the Course Description will include this information along with the typical semesters the course is offered.

Course Offerings

The times and days for class sessions and the rooms in which they are held are listed in the Schedule of Courses located in Banner Web. When limited numbers of students enroll in an elective course, or if unforeseen difficulties arise, the University reserves the right to remove the course from the schedule without further notice. Demand for certain courses or staff conditions may also necessitate a change in the typical sequence.

Course Override

When a student wishes to enroll into a course but is unable to register due to one or more of the reasons below, the student may contact the instructor of record, the department chair or director with a request to consider an override. The department chair or director, in consultation with the instructor, is under no obligation to approve the override request.

- The course is full.
- The course requires instructor, department, or instructional location approval.
- The course has prerequisites (e.g., another course is to be taken first) or corequisite (e.g., courses are to be taken at the same time).

- The course is linked to another course (e.g., a laboratory).
- The course is only open to majors or a specific program, etc.
- The course is open only to students in a specific class or level (e.g., sophomore status,undergraduate, graduate).

Time Conflict - If a student wishes to enroll in two courses that are offered at the same time or at overlapping times, the student must request a Time Conflict Override. The form must be completed by instructors in both courses and submitted to the designated administrator and the Office of the Registrar for processing. The Time Conflict Course Contract is available in the Office of the Registrar or on the Registrar's website.

Course Waiting List

A course section that has met the seat limit may offer a course waiting list. A student may add the course as a Waiting List (WL) status via Banner Web. When or if the waitlisted seat becomes available, the student will receive an email notification stating the student must take action on the waitlisted seat within 24 hours. Should the student not register within 24 hours, the course will be administratively dropped from the waiting list. The next student will be notified. Waiting lists are cleared/erased the start of the semester or after the Course Add period. A College Dean may override a student with a higher waiting list number when they have determined there is a higher priority to enroll. See also Withdrawing from the University.

Course Load

A typical course load for students in campus-based programs ranges between 15-18 credit hours per semester. For a student to graduate in four years, an average of 15 credit hours per semester is needed. Please review a sample curriculum map for a specific degree to determine the number of credits needed. Full-time status begins at 12 credit hours per semester. A student is permitted to register for a maximum of 22 credit hours (19 academic credits plus up to 3 ROTC credits) without special permission; excluding MU 260 (see also Tuition and Fees section for credit hour charges published on the Bursar's website (https://www.norwich.edu/bursar/)). Hours beyond the registration limit might be approved under limited circumstances through an Academic Petition (Registrar's Office SharePoint website).

To receive credit, a student must register for any course to be pursued during a semester; otherwise, there is no official record of the course.

Internships

A student must register for an internship during the designated registration period for a fall or spring semesters and by 1 May for summer internships. Departmental or School permission is required for an internship. Enrollment for internships will not occur unless the faculty member has received written confirmation from the field supervisor that internship arrangements are complete. Internships will be scheduled to coincide with the opening and closing dates of the semester of internship enrollment. Summer internships will coincide with the beginning and ending dates of the appropriate summer session.

Independent Study

To support a course registration for an independent study, the affirmative recommendation of the student's academic advisor and the course Department Chair/ School Director must be present on an Independent Study form (https://norwich0.sharepoint.com/sites/registrar/Forms%20Students%20Only/Forms/AllItems.aspx).

Academic Participation

Face to face modality- participation may be associated with such actions such as, but not limited to, in-person class attendance, submission of a graded assignment or a test (in person or via Learning Management System, LMS), email discussion of an academic topic with the instructor.

Online modality - academic participation includes activities such as posting to a discussion board, submitting a homework assignment, engaging in an email conversation about the class and/or assignments, participating in a conference call regarding course materials or group study/ projects, and completing an exam.

Activities that do not constitute participation include logging in to the LMS classroom, emailing the professor about grades, counseling related to academic progress in the course or program, communicating via email with the student services, financial planning, bursar, or other university staff.

Student Course Attendance in Face-to-Face Modality

A student is expected to be on time for each scheduled class and laboratory, when applicable. A student must comply with the syllabus provided by the faculty. The syllabus will clearly state the course attendance policy. Unless stated otherwise, the University has adopted that the maximum number of permitted absences (excused or unexcused) is twice the number of times the course meets per week. Faculty may allow a student with a course passing grade to exceed the maximum number of permitted absences beyond the limit outlined in the syllabus.

Course Absence

If a student does not participate in an academic activity for at most 14 **consecutive** calendar days while school is in session, after the course add period, the faculty will notify the Center for Student Success via an online reporting system (Navigate/EAB), or as appropriate by the College. The notification will include the date of the student's last academic activity. The Center for Student Success will reach out to the student to discuss challenges and counsel the student to resume attendance or consider a course drop. A student may be subject to financial aid re-payment, based on the date of the last academic participation when a failing grade or course drop/withdraw is initiated.

Student Course Excused Absences

The following are considered excused absences, by the Provost, who is the authority on academic policy:

- documented debilitating illness.
- emergency leave, as approved by the Commandant or Dean of Students.
- single-day course field trips, military obligations for students contracted for commissions in the US military and other military obligations beyond the student's control, varsity athletic contests, and regimental band appearances.

For these types of excused absences, a student is required to submit a formal notice of the expected absence to each instructor at least six calendar days in advance. The course Faculty may deny an excused absence for a student currently earning a D+ if they believe that the absences will be a serious detriment to the student. The Faculty member must promptly notify the student and the coach, group, faculty member or appropriate official causing the absence, of their denial.

Faculty will, in conjunction with the student, schedule a make-up exam or a make-up lab, or other appropriate work in lieu thereof, for the student with the excused absences. The student is responsible for all missed coursework.

Cancellation of Class Meeting

A class is canceled if a faculty member is not present ten minutes after the scheduled beginning of a class. The class will select one class member to report the cancellation to the Department Chair/School Director of the appropriate academic department/school or the Dean of the College.

Student Course Discipline

The faculty member shall have jurisdiction over the classroom and shall take measures to maintain discipline in conformity with the regulations of the University.

Transfer Credit, Extra Institutional Learning

Transfer Credit

1. Eligible credit must be earned from a college or university accredited by an accrediting commission which is recognized by the Council on Higher Education Accreditation (CHEA). International universities must be recognized according to its country's regulations. The posting of transfer credit for approved courses will be completed by the Registrar's Office upon the receipt of an official transcript. An official transcript is one that corresponds with the credit granting institution's definition of "official" and is received directly from that institution by the Norwich Admissions or Registrar's office. When a course description is not sufficient, a syllabus may be requested. The threshold of majority match in course outcomes will be used to determine course equivalence (1:1) otherwise an elective will be assigned.
2. Grade quality points are not awarded or calculated into a Norwich cumulative grade point average. All courses will be evaluated for potential transfer. Each course grade earned is held to the University's grade rules for the degree and program requirements. A transfer course is identified with the grade of "T" followed by the respective grade earned at the institution, e.g. "TB-," so that the course is applied following program requirements.
3. A student who has earned a bachelor's degree, or an associate of arts or associate of science degree from a regionally, or nationally accredited institution recognized by the Council for Higher Education Accreditation (CHEA) or the Department of Education will have the General Education course requirements considered to be satisfied. In some instances, a General Education course may also fulfill a major requirement; however, courses outside of the General Education requirement remain a requirement.
4. A transfer course that is not a one to one equivalent is assigned elective credit at the appropriate level; i.e. a 100-level will be noted as 100 level, a 200-level will be noted as 200 level, etc.
5. All credit hours earned will be assigned for transfer. When a transfer course has fewer credits than an equivalent Norwich course, the course may transfer (as equivalent) if outcomes have been met for the Norwich course but only the credit hours earned are applied.
6. A transfer student must meet residency requirements to be eligible for a degree.
7. When a student's transfer credit hour exceeds transfer limitations, additional course requirements will be arranged between the Advisor or the Department Chair and the student to ensure that the student meets the residency requirement.
8. Quarter credit hours or units will be converted to semester credits. A quarter credit is divided by 1.5.

Transient Student (NU student taking a course at another institution)

A degree-seeking student who wishes to earn credit at another accredited institution (refer to Transfer Policy) must have written approval from their academic advisor in the form of the signed Transfer Credit. To determine course transferability, the subject Department Chair/ Program Director will review the course when the course is not articulated. Once the Transfer Credit Form is completed and submitted, the Office of the Registrar will approve the contract. A course taken off campus is held to the Transfer Policy and program grade rules. A student must also meet residency requirements; e.g. hours earned at Norwich University.

International Study

Degree seeking students who are interested in studying outside of the United States will follow the Transient Student Policy and follow the Transfer Credit policy. For a program offered through a Norwich study abroad program should contact the International Center for information on application procedures. Upon coursework completion, the student must provide an official transcript of the coursework completed. When a transcript cannot be obtained in English, the student must submit the transcript through a National Association of Credential Evaluation Services (NACES) approved agency. The University reserves the right to accept or reject transcripts and to ask for additional information if deemed necessary.

Articulation Agreements

Articulation agreements are unified agreements between Norwich University and partner organization. A student who transfers to Norwich under an Articulation agreement shall follow transfer regulations according to the specific articulation agreement.

Transfer Credit Appeal

If a student wishes to appeal a transfer credit decision, s/he may submit a copy of the syllabus from the course in question to the Office of the Registrar no later than 90 days from the date of the transfer evaluation. Appeals will go to, and may be granted by the program designee and amended on the student's record. When cases of unusual or extenuating circumstances occur, a student may appeal the transfer credit decision beyond the 90-day limit.

Advanced Placement (AP)

Norwich recognizes the value and purpose of certain college-level courses offered to superior students in many secondary schools through the Advanced Placement Program of the College Entrance Examination Board. To be eligible for advanced standing and/or actual college credit, the entering first-year students must have completed a college-level Advanced Placement course in high school and achieved a satisfactory score on the Advanced Placement Test for that subject. All decisions regarding standing and credit are made by the Registrar. Scores vary by course subject, see the Norwich University Registrar website for course listing.

Advanced Standing/Credit BTEC/Cambridge International

Advanced Diploma Level 3 and BTEC National Diploma will be reviewed for advanced standing and/or academic credit of up to 30 semester hours, when the subject matter is deemed acceptable. A-Level courses with a C or higher are recognized for college credit of up to 30 semester hours of credit. AS-Level courses with a C or higher are recognized for college credit of up to 15 semester hours of credit.

College-Level Examination Program(CLEP)

Norwich awards credit for Subject Examinations of the College Level Examination Program. Scores vary by course subject, see the Norwich University Registrar website for course listing.

International Baccalaureate Organization Program (IB)

Norwich awards advanced standing credit for specified standard and higher level examinations. Additional information is available on the website. See the Norwich University Registrar website for course listing.

Military Credit

Norwich University will review any previous military experience and training for possible university credit. The same transfer rules apply to these courses. Determination of credit is based on the American Council on Education (ACE) guidelines as published in The Guide to the Evaluation of Military Experiences in the Armed Services.

In addition to high school or college academic transcripts, applicants will need to submit a military transcript(s) or other additional documentation detailing training and education.

Military training, in accordance with the Guide to the Evaluation of Educational Experiences in the Armed Forces, published by the American Council on Education (ACE), may be accepted if it applies to courses required for the degree.

Norwich University complies with Veterans Administration regulations and guidelines as well as with the terms of the Memorandum of Understanding with the U.S. Department of Defense for the award of Tuition Assistance (TA) to active duty military students as they pertain to transfer credits.

Prior Learning Assessment

Norwich University defines “Prior Learning Assessment” as “learning accomplished by students through non-university courses or professional training in combination with professional or workplace experience in the application of the knowledge, skills, and abilities thus acquired.” The University acknowledges that a combination of training and professional experience sometimes equips students with some of the knowledge, skills, and abilities that they would acquire in a formal college-level classroom. Norwich therefore evaluates various types of training available to or completed by prospective degree completion students in order to determine if the outcomes and competencies of certain degree completion courses have already been met.

Articulation Agreements

Articulation agreements are unified agreements for on-campus and online programs. Students who transfer to Norwich under an Articulation agreement shall transfer courses according to the specific articulation agreement.

Residence Requirement

A student eligible to transfer coursework should review degree requirements in addition to major requirements that must be taken in residence, i.e. Norwich University.

Extra Institutional Learning

Extra Institutional Learning offers students with significant life and work experience the opportunity to earn university credit by demonstrating what they have learned outside the sponsorship of legally authorized and accredited post-secondary educational institutions. Extra Institutional Learning is education and experience acquired from work and life experiences, independent reading and study, and participation in formal courses sponsored by associations, business, government, industry, unions and the military. Extra institutional Learning is transcripted as transfer credit and is subject to the limits described in the Graduation Requirements (p. 25).

- At the completion of Basic Training, Advanced Individual Training (AIT), or One Station Unit Training (OSUT), students must request an official Joint Services Transcript (JST) be sent to the Registrar’s Office. Once the JST is received, courses MS 111 and 112 may be approved by the appropriate Professor of Military Science. If approved these two courses will be posted on the student’s transcript.
- Other military education/experience credit is transferred to Norwich based on the Transfer Credit Policy (p. 30)
- Credits, not grade points, for other Extra Institutional Learning, as recommended in nationally recognized guides and publications, may be awarded upon the positive recommendation of the appropriate Department Chair/School Director. Credits may be awarded in compliance with the evaluations provided by the American Council on Education, (ACE).
- College Level Exam Program (CLEP), and Advanced Placement (AP), International Baccalaureate (IB) and Defense Activity for Non-Traditional Education Support (DANTES) exam scores that are equivalent to Norwich courses (https://www.norwich.edu/registrar/transfer-credit/?start=9).

Further information in the Requests for Course Equivalency or Exemption (p. 19).

Challenge Exams

Challenge Exams may be provided by Norwich faculty upon student request and payment.

- Challenge Exams are given only if a nationally validated examination covering the same subject matter is not available.
- Students may request to have a Challenge Exam graded with a letter grade or Pass/Fail. This decision is made by the faculty administering the exam.
- Students must pay the Challenge Exam fee before an exam will be administered. The fee is not refunded if the Challenge Exam is failed.
- Challenge Exams should be typical of a final examination that covers the entire course content. Where appropriate, term papers, projects, etc. may also be required.
- A Challenge Exam for laboratory courses may require demonstrated laboratory proficiency.
- The repeat grade policy does not apply to credits earned via a Challenge Exam.
- Challenge Exams appear the same as other courses on the Norwich transcript.

Veterans Benefits

To facilitate the participation of veteran students and in accordance with the Veterans Benefits and Transition Act of 2018, title 38 U.S. C. sec 3579(e), Norwich University enacts the following policy:

Norwich University will permit any covered individual* to attend or participate in the course of education during the period beginning on the date on which the individual provides to the Norwich University School Certifying Official a certificate of eligibility of entitlement to educational assistance under chapter 31 or 33 (a "certificate of eligibility" can also include a "state of Benefits" obtained from the Department of Veterans Affairs' (VA) website-eBenefits, or a VAF 28-1905 form for chapter 31 authorization purposes) and ending on the earlier of the following dates:

1. The date on which payment form VA is made to the institution.
2. Ninety days after the date the institution certified tuition and fees following the receipt of the certificate of eligibility.

Norwich University will not impose any penalty, including the assessment of late fees, the denial of access to classes, libraries, or other institutional facilities, or the requirement that a covered individual borrows additional funds, on any covered individual because of the individual's inability to meet his or financial obligations to the institution due to the delayed disbursement funding from VA under chapter 31 or 33.

In addition, Norwich University requires that a covered individual:

1. Submit a certificate of edibility for entitlement to educational assistance no later than the first day of a course of education.
2. Students are required to pay any fee or payment not covered by the Student's VA benefit disbursement.

* Covered Individual is any individual who is entitled to educational assistance under chapter 31, Vocational Rehabilitation and Employment, or chapter 33, Post-9/11 GI Bill benefits.

College of Liberal Arts

Dean: Edward Kohn

The College of Liberal Arts is composed of the School of Justice Studies and Sociology; the Department of English and Communications; the Department of Modern Languages; the Department of History and Political Science; and the Department of Psychology and Education. In addition, the college is the administrative home of courses in philosophy and music.

Mission:
The mission of the College of Liberal Arts is to provide a comprehensive education that prepares students to think critically and creatively, to value and pursue inquiry, to gain knowledge, and to express themselves effectively in oral, written, and visual forms.

Through its Humanities programs the College seeks to bring students to a sophisticated understanding of the stories, histories, and ideologies that inform our collective and personal identities and perspectives, and of the languages that mediate them. Through its Social Sciences programs the College encourages students to engage and illuminate the complexities of social, cultural, and political interactions, past and present, and to seek empirical answers to the ambiguities of human cognition and behavior. Uniting both, the College asks students to develop cross-disciplinary understandings that recognize scholarly disciplines as they reflect a world of diversity and change. Through intellectual and professional application, students of the College of Liberal Arts are expected to examine and shape their own conceptions of themselves and their roles within communities beyond Norwich University, and develop the skills of thought and expression critical to any career.

Accreditations:
The Education Teacher Licensure program--available in secondary and elementary tracks--is accepted for teaching licenses in Vermont and several other New England and Middle Atlantic states where the State of Vermont has interstate licensure agreements.

Co-Curricular Activities:
Through its academic programs, the College of Liberal Arts sponsors publishing, broadcasting, and performance activities open to all students of the university. These include the student newspaper, *The Norwich Guidon*; the student-produced video news magazine, *Our American Journey*; the campus literary magazine, *Chameleon*; the student radio station, WNUB-FM; the campus theatrical troupe, The Pegasus Players; and such musical organizations as the Regimental Band, the Grenadiers (a rhythm and blues group), and the Campus Choraleers. These activities are described more fully in the General Information section of the university's catalog, under the headings Musical Activities, Publications, Radio Station, and Television Program. The college also houses two centers: the Peace and War Center, which offers opportunities for research, internships, and work with scholars and practitioners in the fields of war and peace, and the Center for Writing, which offers free one-to-one consulting, as well as small group workshops, to the Norwich community, using peer consultants, sophomores, juniors, and seniors from a wide range of disciplines who are trained to work with writers on a variety of writing projects—academic, creative, professional, digital—at all stages of the writing process.

School of Justice Studies & Sociology

Director: W. Travis Morris; Associate Director: Elizabeth Gurian

Faculty: Professors William Clements, Penny Shtull, Aimee Vieira; Associate Professors Elizabeth Gurian, Min Li, W. Travis Morris; Assistant Professors Matthew Fischer, Connie Hassett-Walker, Stephanie Maass, Robert VandenBerg; Lecturers Anne Buttimer, Ben Maniscalco. David Sem (Internship Coordinator)

Mission: The School of Justice Studies and Sociology provides its students with a liberal arts education, and prepares them to excel in the fields of criminal justice and applied sociology. This education emphasizes criminology, criminal law, social justice, and the criminal justice system. It cultivates a local and global commitment to the principles of justice, ethics, and public service.

Majors and Minors Offered:
The School of Justice Studies and Sociology offers a Bachelor of Arts degree with a major in:

- Criminal Justice (p. 68)
- Criminal Justice-Criminology Concentration (p. 70)
- Criminal Justice-Victimology Concentration

The School of Justice Studies and Sociology offers minors in:

- Computer Crime and Forensics (p. 59)
- Criminal Justice (p. 68)
- Criminology
- Sociolog (p. 137)y
- Transnational Crime (p. 141)

Program Certification:
The Criminal Justice program is certified by the Massachusetts Department of Higher Education for the Police Career Incentive Pay Program (PCIPP), established through the Quinn Bill.

Department of English & Communications

Chair: Lea Williams

English Mission:
The Norwich English program invites students to become strong writers, readers, and speakers; to explore and analyze language, genre, and form; to understand the structure and history of the English language; and to develop an awareness of individual, ethnic, gender, geographic, and cultural diversity through the study of literature, creative and rhetorical writing, and criticism. Our curriculum engages a range of texts across geographical boundaries, cultures, and traditions and encourages creative and critical thinking. We are committed to opportunities that cultivate freedom of expression, personal and professional fulfillment, intellectual development, collaboration, and social growth. Our course offerings include rhetoric and composition; British, American, and World Literatures; creative writing; public speaking; film; theater; and other media. We also offer minors in English and in writing.

The English program also supports:

- Pegasus Players, one of the oldest campus theatre troupes in the country, founded in 1927
- Sigma Tau Delta, the international English language, literature, and writing honor society
- Norwich University Writers Series, which brings creative writers to campus for readings and classroom visits
- Chameleon Literary Journal, Norwich's student literary and arts magazine in publication since 1961. PoemCampus, a month-long celebration that includes poet visits and student readings on campus
- The Peace and War Center Writers Series, which invites creative writers who explore the experiences of conflict and peace to campus.

Communications Mission:
To enhance students' writing skills in analytical, practical, and creative writing in the areas of journalism, broadcast writing, advertising, and radio production. To increase students' knowledge of the structure, history, and practices of the field of mass media, as well as provide them with the skills necessary to enter the current employment

market in the field. To increase students' awareness and appreciation of the aesthetic aspects of television production, radio production, and journalism. To enhance students' exploration of individual, gender, ethnic, and cultural diversity through the study of contemporary media.

The Department also supports the following:

- The Norwich Guidon, the bi-monthly official student newspaper of Norwich University, has earned thirty national awards since it was first published in 1922.
- WNUB-FM, the student radio station, has been in operation since 1967 when the University was granted a non-commercial educational FCC license.
- Our American Journey, the student-produced documentary series, has won more than 100 regional and national awards since 1989. This includes 12 national first place awards and the 1999 College Emmy award in for “Best Documentary.”

Majors & Minors Offered:
The Department of English and Communications offers a Bachelor of Science degree with a major in:

- Communications (p. 57)

The Department of English and Communications offers a Bachelor of Arts degree with a major in:

- English (p. 87)

The Department of English and Communications offers minors in:

- Communications (p. 59)
- English (p. 88)
- Philosophy (p. 126)
- Writing (p. 142)

Both the English major (p. 87) and the Communications major (p. 57) demand that students write and speak clearly and precisely about historical and contemporary ideas. They provide excellent preparation for many professions and occupations, including law, medicine, teaching, communications, business, government, and military service, as well as excellent preparation for post-graduate study in a variety of fields. In addition to these two majors, the department offers strong minors in English, Writing, Communications, and Philosophy, as well as course work in Music.

Department of History & Political Science

Chair: Steven Sodergren

Mission:
The Department of History and Political Science provides students with the tools necessary to function as responsible and productive members of their communities. Our graduates work with others and appreciate and respect different opinions and beliefs while also thinking independently and critically. The Department encourages the growth of self-discipline, intellectual ability, critical thinking, and the ability to express ideas with clarity and precision. Recognizing the importance of experiential learning, the Department of History and Political Science encourages its students to explore opportunities to learn outside the classroom.

Majors Offered:

- History (p. 101)
- Political Science (p. 131)
- International Studies (p. 105)
- Studies in War and Peace (p. 140)

Minors Offered:

- Asian Studies (p. 49)
- History (p. 101)
- Political Science (p. 131)

Each of these Bachelor of Arts degrees prepares students for a life and career after college by emphasizing skills related to critical thinking, effective written and oral communication, synthesizing and drawing conclusions from disparate data, and information literacy.

Special academic opportunities include working with faculty one-on-one on research projects during the summer, in independent studies during the academic year, and in a two-semester senior Honors program. The faculty in the department also encourage off-campus study, whether in the Washington, D.C. area or in another country.

Honors in History and Political Science
Students with a grade point average of 3.0 or higher, and who meet all university and departmental curricular requirements, and have grades averaging 3.2 or higher in courses in their major will be, at the end of their junior year, eligible to become candidates for the history or political science major with honors. Students who have not met these standards may be invited to candidacy by the department. Six credits will be assigned, normally three hours each semester. A successful defense of an honors paper must be conducted and a minimum grade of 3.5 must be earned for the student’s registration in an Honors Course to appear on the transcript. For further guidance, see the History and Political Science Department’s Honors Thesis Guidelines.

Pre-Law Training Faculty Advisor: Jason Jagemann
The Association of American Law Schools identifies the following as the major objectives to be sought in an undergraduate pre-law curriculum:

1. comprehension and expression in words;
2. critical understanding of the human institutions and values with which the law deals;
3. creative power in thinking.

These goals can best be approached with a curriculum where social sciences and English play the leading part. One of the leading American law schools advises college students preparing to study law: “The importance of history in a pre-legal program cannot be over emphasized”; and of political science: “This subject also is one with which the lawyer must be well-acquainted and it, too, is a natural college major for pre-law students.” Accounting (for which mathematics is a prerequisite) is also strongly recommended by law schools.

Department of Modern Languages

Chair: David Ward

Mission:
The Department of Modern Languages identifies as its mission foreign language education for the purposes of fostering an understanding and awareness of the international composition of the global community and of preparing students to serve effectively as US and world citizens and as leaders within that community. Thus conceived our departmental mission supports the University’s vision, specifically its declaration that “Norwich University will be a learning community, American in character *yet global in perspective;* engaged in personal and intellectual transformation, and dedicated to knowledge, mutual respect, creativity, and service.”

The department offers a variety of courses, conducted primarily in the language of instruction, in the following languages:

- American Sign Language
- Chinese
- French

- German
- Spanish

The faculty seek to impart, as well as produce, knowledge of these languages and the cultures, cultural texts, and literature created in these languages, as well as those of US Latinos. We strive to pursue our mission by providing the highest quality instruction, supporting study abroad, bringing to the University and local community cultural events that foster appreciation for diverse and rich modes of cultural expression, and pursuing original scholarship by our students and faculty. In recognition of the unique brand of Norwich as the nation's oldest private military college, we support the initiative of the national armed forces to prepare its future officers with competence in foreign languages, two of which—Chinese and French—are recognized by the Department of Defense as category A immediate investment strategic languages.

New students who have completed more than one year of instruction in a foreign language are required to take the Foreign Language Placement Test before they are enrolled in their first Norwich course in that language.

Credit earned in the Department of Modern Languages is sequential. Students may not obtain credit for language courses taken at a level lower than that for which they have already demonstrated proficiency. Students may choose to audit a lower-level course but may not receive credit for it. Students who have earned or transferred in Modern Language credits cannot subsequently earn or transfer in Modern Language credits for courses below the level previously earned or transferred.

Majors Offered:

- Spanish (p. 137)

Minors Offered:

- Chinese (p. 56)
- French (p. 95)
- German (p. 97)
- Spanish (p. 139)

Department of Psychology & Education

Chair: Kevin Fleming

Mission for Psychology:
The Psychology Program provides the student with a broad-based foundation in the discipline. Psychology is a scientific enterprise that attempts to articulate principles of human and animal behavior. These principles are formulated within the context of biological, socio-cultural, and environmental factors. Psychology is both a field of scientific inquiry and a professional activity: it shares its subject matter and its methods with the biological and social sciences, while simultaneously sharing some of the same concerns of the arts; namely, human motivation, emotion, aesthetic appreciation and experience, creativity, and the individual's relations to the world and humankind. Students pursuing a BA in Psychology at Norwich may explore the discipline from the experimental, personality/social, the developmental, and/or clinical perspectives. Upper-level practica, internships, or field placements that permit the student practical work experience in a special interest area are encouraged.

Mission for Education:
The Education majors provide essential course content and preparation in knowledge and performance standards set forth by the State of Vermont Agency of Education in their Core 2 Teaching Standards. The Education program is in line with the Interstate New Teacher Assessment and Support Consortium standards from which Vermont's Core Teaching Standards were adapted. Education programming also fulfills the endorsement standards outlined by the Vermont Agency of Education for each area of Education-related licensure that is offered at NU. Norwich University hopes to contribute to the important field of education by producing well-prepared, dynamic educators who will have a positive impact on their students.

Majors Offered:
Bachelor of Arts degree with majors in:

- Psychology (p. 133)
- Psychology with a Neuroscience concentration (p. 120)

Bachelor of Science degree with a major in:

- Education (Elementary or Secondary) (p. 74)

Minors Offered:

- Cross-Cultural Psychology (p. 136)
- Engineering Psychology (p. 136)
- Forensic Psychology (p. 136)
- Political Psychology (p. 136)
- Psychology (p. 136)
- Elementary Education (p. 77)
- Secondary Education (p. 77)

Accreditation/Licensure:
The Education Teacher Licensure program--available in secondary (Mathematics) and elementary tracks--are accepted for teaching licenses in Vermont and several other New England and Middle Atlantic states where the State of Vermont has interstate licensure agreements.

College of National Services

Dean: Colonel Matthew Smith

The College is comprised of the Departments of Army Military Science, Naval Science and Aerospace Science; each having a department chair and staff.

Corps of Cadets & ROTC Requirements **(**p. 152**)**

Army Military Science

Professor COL Joel D. Newsom , Assistant Professors, MAJ Charles Brink, MAJ Daniel Silver, CPT Eric Bowerman, CPT Chad Tierney, LTC DeAndre Garner, MSG John Diggles, CPT Zachary Kozimor, CPT Susan Redwine (Dartmouth Liaison Officer), CPT Wesley Trumbauer; Instructors, Mr. Sean Beebe, Mr. John Burns, SSG Travis Frisbey, SFC Daniel Helman, SFC Jesse Spear, SFC Christopher Nunez, SSG Dalton Brown, SFC Justin McCoy.

The program of Military Science (MS) attracts, motivates, and prepares selected students to serve as commissioned Officers in the U. S. Army total force, either on active duty or on reserve duty with the National Guard or Army Reserve. It provides an appreciation and understanding of the history and future efforts of land power in the defense of the United States. It develops the dynamic leadership required in the 21st century and complements the baccalaureate degree, in the chosen course of study.

The MS Leadership Laboratory is a weekly, two-hour period of practical instruction and an integral part of the Military Science curriculum (p. 205), enhancing leadership, physical fitness, and military skills training. Outside of the regular curriculum, there are three, Practical Military Training companies offering additional training and development:

- Mountain Cold Weather Company (MCW) traces its roots to post WWII when former members of the 10th Mountain Division saw the need to continue training soldiers in the concepts of mountain warfare and formed MCW at Norwich University. They become exceptionally proficient in climbing, rappelling, skiing, and snowshoeing, as well as tactical operations at elevation and/or in sub-zero temperatures. Commissioning Cadets who successfully complete

MCW training enter the Army knowing they bring highly valued skills that few of their peers possess. Norwich University's MCW enjoys a close relationship with the Army's Mountain Warfare School, located 47 miles north in Jericho, Vermont.

- Ranger Company Ranger Company: Combines light infantry tactics, techniques, and procedures; modern equipment; and austere learning environments; with camaraderie, mentorship, and coaching to develop the future Leaders of Norwich and the U.S. Army.
- Norwich Artillery Battery: Cadets develop leadership skills through rigorous training while employing various artillery pieces, such as the M1A1, 75mm Pack Howitzer, Sir W.C. Armstrong, and the Whitworth Salute Cannon.

The Army ROTC Basic Course provides military instruction required for entry for the Advanced Course. Cadets may attend Basic Camp held at Fort Knox during Cadet Summer Training (CST). To qualify for enrollment in the Army ROTC Advanced Course (MS 300/400) requires:

- 2.0 minimum cumulative GPA
- Physical requirements
- 2.0 minimum GPA in the Army ROTC Basic Course (MS 100 & MS 200)
- Demonstrated leadership potential

The Advanced Course requires completion of a thirty-day Advanced Camp in the summer, after the Junior year. Additional professional development opportunities include Army schools (Airborne, Air Assault, Mountain Warfare, etc.), Cultural Understanding Language Proficiency, and International study abroad (e.g. Project Global Officer). Cadets must also participate in a field training exercise in both fall and spring of every year in the ROTC program.

In addition to the Military Science courses, Cadets are required to complete a military history course: (HI 235 and HI 236 are the preferred courses, however, the following courses also meet the requirement;HI 121, HI 122, HI 214, HI 224, HI 326, HI 329, HI 332, HI 333, HI 334, HI 338, HI 339, HI 355, HI 372 and HI 373). The Army ROTC program is integrated with the Corps of Cadets. Membership in the Corps of Cadets is required to contract and pursue an Army ROTC commission.

Naval Science

Professor Col Scott E. Conway; Assistant Professors CDR , Philip D. Zarum Capt Matthew C. Hirsch, Capt Robert E. Denoyer, LT Joseph T. Walden, LT Francesco Calabrese, LT Connor T. Ferguson, SSgt Domenick J. Distano

To develop midshipmen morally, mentally and physically; to imbue them with the highest ideals of duty and loyalty; and to instill in them the core values of honor, courage and commitment in order to commission college graduates as naval officers who possess a basic professional background, are motivated toward careers in the naval service, and have a potential for future development in mind and character so as to assume the highest responsibilities of command, citizenship and government.

The primary goals of the Naval ROTC Program are to provide students:

- A strong sense of personal integrity, honor, and individual responsibility;
- Leadership training to successfully lead others under stressful and demanding conditions;
- An understanding of the fundamental concepts of naval science and a basic level of military aptitude;
- An academic background to successfully undertake demanding leadership and managerial positions;
- A high state of physical fitness for personal health and performance.

The Naval Science Leadership Laboratory is a weekly two-hour period during each academic semester. Emphasis is placed on non-academic professional training. The laboratory is intended for such topics as drill and ceremonies, leadership and ethics, physical fitness and swim testing, cruise preparation and evaluation, safety awareness, preparation for commissioning, personal finances, and applied exercises in naval ship systems, navigation, naval operations, naval administration, small unit infantry tactics, and military justice. Enrollment into Naval Science Laboratory is restricted to students contracted to U.S. Navy and U.S. Marine Corps.

In addition to the Naval Science courses, Cadets seeking a commission in the Navy or Marine Corps through the NROTC program must also successfully complete the academic courses listed below.

Requirement	Courses
Physical Science (6 credits required for Navy Advanced Standing students)	Any BI, CH, ES, GL, ID, PH or SM courses
Calculus (6 credits required for Navy Scholarship students)	MA 121, MA 122
Physics (8 credits required for Navy Scholarship students)	PS 211, PS 212
English (6 credits required for all Navy & Marine students)**	EN 101, EN 102, EN 201, EN 202, EN 203, EN 204, EN 210, EN 222 or any higher EN course
World Culture & Regional Study (3 credits required for all Navy Scholarship, Advanced Standing, Nurse students)***	CN 321, CN 322, GR 325, HI 211, HI 212, HI 214, HI 218, HI 224, HI 315*, HI 317*, HI 319*, HI 329, HI 345*, HI 361*, HI 363*, PO 202, PO 305, PO 310, PO 320, PO 340, PO 348, PO 405, SO 212
American History/ National Security Policy (3 credits required for all Navy & Marine students)****	CJ 330, CJ 430, EN 270, EN 272, HI 235, HI 236, HI 331*, HI 332*, HI 333*, HI 334*, HI 335*, HI 338*, HI 339*, HI 340*, HI 341*, HI 355*, HI 371*, HI 372*, HI 373*, PH 340, PO 105, PO 106, PO 215, PO 305*, PO 312*, PO 333*, PO 412*, PO 415*
Naval Sciences (Required for all Navy-Option ROTC Students)	NS 121, NS 122, NS 131, NS 221, NS 222, NS 321, NS 322, NS 421, NS 422

Naval Science (Required for all Marine-Option ROTC students)	NS 121, NS 122, NS 131, NS 221, NS 242, NS 331, NS 342, NS 342L, NS 435, NS 422

* Course can be taken with professor's approval. If a student is not majoring in that subject, they must meet with the professor prior to registration to receive permission.

** English courses total 6 credits and must concentrate on grammar and composition and require significant student writings.

*** World Culture & Regional Studies courses must have a cultural emphasis on regions of interest to the Navy. This requirement expands future officer corps' awareness, knowledge, and sensitivity to world cultures and peoples. Foreign language courses that do not provide instruction on culture are insufficient to meet this requirement.

****American History/National Security Policy courses shall focus on U.S. military history, world military history, U.S. National Security policy, or combinations of these topics.

Air Force Aerospace Science

Professor Col Matthew Smith; Assistant Professors: Lt Col Jason Clifford, Maj Jacob Hummel, Capt Bradley Lilly, Maj James Olsen, TSgt Justin Barnacascel; and SSgt Nathaniel Washington.

The Air Force ROTC program provides professional preparation for future Air and Space Force officers.

AFROTC is divided into two major programs: the General Military Course (GMC) and the Professional Officer Course (POC).

- The GMC is offered during the freshman and sophomore years; the course discusses the structure, doctrine, and function of the Air Force, communication skills and the historical role of air and space power.
- Admission to the POC is on a competitive basis. To enroll in the POC, students must pass the Air Force Officer Qualifying Test (AFOQT), and an Air Force physical examination, meet academic and physical fitness standards, successfully complete the AFROTC field training program, and be selected by a board of Air Force officers. The first year of the POC is leadership theory and practice, Air Force management theory and practice, and other aspects of being a professional officer. The second and final year of the POC addresses a broad range of civil/military relations, and the overall social and political context in which U.S. defense policy is formulated and affected.

Leadership Laboratory meets weekly for two hours throughout enrollment in Air Force ROTC. Instruction is conducted within the framework of an Air Force organization with a progression of experience designed to develop students' leadership potential. The cadet physical training program is an essential part of leadership laboratory and is mandatory for all cadets. A detailed introduction and orientation to life on an active Air or Space Force base occurs during a field encampment (field training) between the student's sophomore and junior years.

Air and Space Force Cadets who are awarded a scholarship must either choose one of the following technical majors or complete 24 credits of technical classes or complete four semesters for a foreign language.

Technical Majors:

- Architecture (Master's Program only)
- Biochemistry
- Chemistry
- Computer Science
- Engineering (any concentration)
- Math (any concentration)
- Physics

Certificates

- Military Studies Certificate--Aerospace Science (p. 116)
- Military Studies Certificate--Military Studies (http://catalog.norwich.edu/residentialprogramscatalog/collegeofnationalservices/certarmy/)
- Military Studies Certificate--Naval Science (p. 118)

Minor

Military Studies Naval Science Minor curriculum Map 2018-2019 Catalog

NS 221	Leadership and Management [c]	3
NS 422	Leadership and Ethics [c]	3
Complete 3 of the Following Courses:		
NS 122	Sea Power and Maritime Affairs [c]	3
NS 222	Navigation [c]	3
NS 321	Naval Ship Systems I [c]	3
NS 322	Naval Ship Systems II [c]	3
NS 331	Evolution of Warfare [c]	3
NS 342	Small Unit Leadership Skills (AND) [c]	2
NS 342L	Small Unit Leadership Skills Lab [c]	1
Complete 1 of the Following Courses:		
NS 421	Naval Operations and Seamanship [c]	3
NS 435	Fundamentals of Maneuver Warfare [c]	3
Total Cr.		18

[c] Grade of C or higher required.

College of Professional Schools

Dean: Aron Temkin

The College of Professional Schools covers a unique breadth of fields including accounting, management, computing, cyber defense, nursing, engineering, construction, and architecture. These programs are conducted by faculty in the School of Architecture and Art, the School of Business, the School of Cybersecurity, Data Science, and Computing, the David Crawford School of Engineering, and the School of Nursing.

Across these disciplines students and faculty are engaged in teaching and learning processes that combine strong conceptual foundations with hands-on practice. Our engaged spirit of service combines with a willingness to collaborate that is necessary for tackling real-world challenges. When this is combined with the leadership focus of the university, we position our students to engage the problems of our era and build the industries, systems, processes, machines and structures that are required of the next century.

Mission:
The College of Professional Schools is committed to educating students in the tradition of university founder Capt. Alden Partridge. By providing our students the means, motivation, confidence and empathy to engage the problems of today, we educate disciplined and innovative thinkers inspired to create the industries, systems, processes, machines and structures that solve the challenges of tomorrow.

Accreditation:
The College includes several accredited programs:

- The School of Architecture + Art offers a professional Master of Architecture degree accredited by the National Architecture Accreditation Board (NAAB).
- The School of Business offers Bachelors of Science in Management and Accounting accredited by the Accreditation Council for Business Schools and Programs (ACBSP).
- The David Crawford School of Engineering offers Bachelors of Science in Civil Engineering, Mechanical Engineering, and Electrical and Computer Engineering accredited by the Engineering Accreditation Commission (EAC) of ABET, and a Bachelor of Science in Construction Management accredited by the Applied Science Accreditation Commission (ASAC) of ABET.
- The School of Nursing offers a Bachelor of Science in Nursing accredited by the Commission on Collegiate Nursing Education (CCNE).
- The School of Cybersecurity, Data Science, and Computing offers a Bachelor of Science in Computer Science and in Computer Security & Information Assurance.
- Norwich University is one of very few academic institutions to be designated as both a Center of Academic Excellence in Cyber Defense Education (https://www.nsa.gov/resources/educators/centers-academic-excellence/cyber-defense/) since 2001, by the National Security Agency of the United States of America) and a Center of Digital Forensics Academic Excellence (http://www.dc3.mil/) (since 2012, by the Defense Cyber Crime Center of the United States Air Force Office of Special Operations).

School of Architecture + Art

Director: Cara Armstrong

Mission:
The School of Architecture + Art:

- Prepares students to excel in the field of Architecture
- Encourages students to explore the meaning of making and the making of meaning
- Reinforces students' ability to think creatively and independently
- Reflects the University's ideals to develop citizens with integrity, conviction and self-respect
- Helps create educated and motivated leaders with a commitment to helping their communities and the citizens of our larger world

Bachelor of Science, Major Offered:

- Architectural Studies (p. 45)
- Design Arts (p. 72)

Minors Offered:

- Architectural Studies (p. 45)
- Art History (p. 48)
- Art (p. 47)

Graduate Program Offered:

- Master of Architecture (p. 44)

Accreditation:
The Master of Architecture degree is accredited by the National Architectural Accrediting Board (NAAB).

In the United States, most state registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit U.S. professional degree programs in architecture, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted an 8-year or a 2-year term of accreditation, depending on the extent of its conformance with established educational standards. In 2017, the Norwich University School of Architecture + Art earned an 8-year term of accreditation, the most advanced term a school may be given. The School not only met all student performance criteria, but also "met with distinction" three criteria: History and Culture, Cultural Diversity and Social Equity, and Legal Responsibilities.

Doctor of Architecture and Master of Architecture degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree that, when earned sequentially, constitute an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree.

School of Business

Director: David Blythe

Mission:
The School of Business and Management provides a high-quality education that emphasizes technical competence, critical thinking, ethical practices, communication and other interpersonal skills that qualify and equip our students to pursue a variety of life pursuits.

Bachelor of Science Degree, Majors Offered:

- Accounting (p. 40)
- International Business (p. 103)
- Management (p. 108)

Concentrations in Majors:

- The Management major requires one of the following concentrations:
  - Leadership (p. 109)
  - Marketing (p. 109)
  - Financial Economics (p. 109)
  - Computer Information Systems (p. 109)
  - International Business (p. 104)
  - Sports Management (p. 109)

Minors Offered:

- Accounting (p. 42)
- Business Administration (p. 51)
- Economics (p. 73)
- Finance (p. 94)
- Entrepreneurship (p. 89)
- International Business (p. 105)
- Leadership (p. 107)
- Marketing (p. 111)
- Sports Management (p. 139)

Graduate Program Offered:

- The Master of Business Administration (MBA) (http://catalog.norwich.edu/onlineprogramscatalog/mastersdegrees/programsofstudy/masterofbusinessadministration/) degree is offered through the College of Graduate and Continuing Studies.

Accreditation:
Norwich University, through its School of Business & Management, is nationally accredited by the Accreditation Council for Business Schools and Programs (ACBSP) for the offering of the B.S. in Management and B.S. in Accounting. ACBSP promotes continuous improvement and recognizes excellence in the accreditation of business education programs around the world.

School of Cybersecurity, Data Science & Computing

Director: Michael Battig

Mission:

The School of Cybersecurity, Data Science, and Computing provides students an innovative, high-quality education preparing them to excel in their respective future careers, emphasizing:

- Technical competence
- Independent, critical thinking and creative problem solving
- Commitment to, and skills for, lifetime learning in a constantly-changing field
- Integrative experiences
- Ethical, professional conduct, and
- Leadership

Bachelor of Science Degree, Majors Offered:

- Computer Science (p. 60)
- Computer Security and Information Assurance (p. 62)

Concentrations in Majors:

- The Computer Security and Information Assurance major requires one of the following concentrations:
  - Forensics (p.)
  - Information Assurance Management (p.)

Minors Offered:

- Applied Data Science (p. 42)
- Computer Crime & Forensics (p. 59)
- Computer Science (p. 61)
- Information Assurance (p. 103)

Graduate Program Offered:

- The Master of Science in Cybersecurity (https://currentcatalog.norwich.edu/onlineprogramscatalog/mastersdegrees/programsofstudy/masterofsciencecybersecurity/) degree is offered through the College of Graduate and Continuing Studies.

Accreditation:
Norwich University is one of very few academic institutions to be designated as both a Center of Academic Excellence in Cyber Defense Education (https://www.nsa.gov/resources/educators/centers-academic-excellence/cyber-defense/) since 2001, by the National Security Agency of the United States of America) and a Center of Digital Forensics Academic Excellence (http://www.dc3.mil/) (since 2012, by the Defense Cyber Crime Center of the United States Air Force Office of Special Operations).

The David Crawford School of Engineering

Director: Karen Supan

Mission:
The David Crawford School of Engineering:

- Prepares students to excel as engineers
- Provides a broad, fundamental and practical engineering education
- Fosters creativity and critical thinking in problem solving
- Enables students to be leaders in their profession, community, nation and the world

Bachelor of Science Degree, Majors Offered:

- Civil Engineering (p. 80)
- Construction Management (p. 65)
- Electrical and Computer Engineering (p. 82)
- Engineering (p. 78)
- Mechanical Engineering (p. 84)

Minors Offered:

- Construction Management (p. 67)
- Engineering Science (p. 86)

Graduate Program Offered:

- The David Crawford School of Engineering offers the Master of Civil Engineering (MCE) (http://catalog.norwich.edu/onlineprogramscatalog/mastersdegrees/programsofstudy/masterofcivilengineering/) degree through the College of Graduate and Continuing Studies.

Accreditation:

- The Civil Engineering, Electrical and Computer Engineering, and Mechanical Engineering programs are accredited by the Engineering Accreditation Commission (EAC) of ABET.
- The B.S. in Construction Management is accredited by the Applied Science Accreditation Commission (ASAC) of ABET

School of Nursing

Director: Paulette Thabault

Mission:
The School of Nursing prepares students to be globally minded nurse leaders and scholars through innovative and diverse experiential education and research.

Bachelor of Science Degree, Major Offered:

- Nursing (p. 121)

Graduate Program Offered:

- The Master of Science in Nursing (MSN) (http://catalog.norwich.edu/onlineprogramscatalog/mastersdegrees/programsofstudy/masterofscienceinnursing/) is offered through the College of Graduate and Continuing Studies

Accreditation:

The BSN and MSN programs are accredited by the Commission on Collegiate Nursing Education (CCNE) (http://www.aacn.nche.edu/ccne-accreditation/accredited-programs/) One Dupont Circle, NW, Suite 530, Washington, DC 20036, (202)-887-8476.

The BSN and MSN programs are approved by the Vermont State Board of Nursing (https://sos.vermont.gov/nursing/), Office of Professional Regulations, 89 Main Street 3rd Floor, Montpelier, VT 05520-2482, (802) 828-2396.

College of Science and Mathematics

Dean and Professor of Chemistry Michael McGinnis
The College of Science and Mathematics is comprised of the Departments of Biology; Chemistry and Biochemistry; Earth and Environmental Science; Health & Human Performance; Mathematics; and Physics. Each department has its own chair.

Mission:

The College of Science and Mathematics provides high-quality academic degree programs in mathematics and in the physical, biological and life sciences for our majors. We also provide support courses in these areas to meet the needs of the University. To this end, the College provides the knowledge, experience and guidance in mathematics and the sciences in lecture, laboratory, and clinical settings to prepare students to pursue advanced study, successful careers, and to become responsible citizens in a democratic society.

Accreditations:

- The Physical Education Teacher Licensure program--available in secondary and elementary tracks--

is accepted for teaching licenses in Vermont and several other New England and Middle Atlantic states where the State of Vermont has interstate licensure agreements.
- The Athletic Training Program is accredited by The Commission on Accreditation of Athletic Training Education (CAATE).

Department of Biology

Department Chair: Associate Professor Megan Doczi

Mission:

Biology and Neuroscience curricula offer students the opportunity to study the structure and function of living systems, from the complexity of cellular components to whole organism dynamics to ecosystem design.

Majors Offered:

The Department of Biology offers the Bachelor of Science degree with majors in:

- Biology (p. 51)
- Biology--Pre-Medical/Pre-Dental track
- Neuroscience (p. 119)

Minors Offered:

- Biology (p. 53)
- Neuroscience (p. 120)

Department of Chemistry & Biochemistry

Department Chair: Lecturer Richard Milius

Our graduates are highly desired by industry and government employers for their laboratory skills, and are well qualified for admission to graduate and professional schools. The courses and labs required for these degrees assure that graduates are proficient in the fundamental principles of chemistry and prepared to apply these principles to specialized areas such as environmental, forensic, medicinal, and pharmaceutical chemistry.

Attainment of the Bachelor of Science in Chemistry requires at least 122 credits as does the Bachelor of Science in Biochemistry. Course work should conform to the following tables since many advanced chemistry courses have other courses as a prerequisite. All courses listed on the curriculum map are required, although the sequence varies somewhat for courses offered in alternate years. It is difficult for chemistry and biochemistry majors to schedule the required courses unless they follow the outline recommended paying special attention to the alternate year courses.

The progress of all students majoring in chemistry and biochemistry will be evaluated by the department at the end of the first and second years. Students receiving an unsatisfactory evaluation will be requested to change majors.

Mission:

The Department of Chemistry & Biochemistry provides students with an introduction to the scientific method, the correct and effective presentation of data, and develops students' critical thinking skills by allowing the analysis and the interpretation of experimental data.

Majors Offered:

- Chemistry (p. 53)
- Biochemistry (p. 53)

Minors Offered:

- Chemistry (p. 56)

Department of Earth & Environmental Sciences

Department Chair: Charles A. Dana Professor Richard Dunn

The Department of Earth and Environmental Sciences takes full advantage of Norwich University's location in the middle of the Green Mountain State, a location ideally situated for field studies of the natural environment. Our programs are guided by a philosophy that emphasizes "learning by doing," leading to degree programs designed with a focus on experiential learning. Our curricula are presented by faculty who are respected teachers as well as active researchers, most notably in New England, Europe, and the western U.S.

Mission:

- To provide a broad background in the physical sciences, with a strong focus on geology and environmental sciences and its pivotal role in understanding our environment.
- To prepare our graduates to enter graduate school for continuing education, or move into the workforce prepared to contribute as leaders addressing the many local and global issues facing society.

Majors Offered:

- Geology (p. 95)
- Environmental Science (p. 90)

Minors Offered:

- Geology (p. 97)

Department of Health & Human Performance

Department Chair: Professor Amy Welch

Mission:

The Department of Health & Human Performance prepares students for various healthcare professions through classroom and practical application of knowledge acquired.

Majors Offered:

- Athletic Training (p. 49)
- Exercise Science (p. 92)
- Health Sciences-Pre-Professional Track (p. 99)
- Health Sciences-Accelerated Master's in Athletic Training Track (p. 100)
- Physical Education (p. 126)-Teacher Education Concentration (p. 126)
- Physical Education-Recreation Management Concentration (p. 127)

Minors Offered:

- Health (p. 98)
- Coaching (p. 57)

Accreditation:

- The Athletic Training program is accredited by the Commission on Accreditation of Athletic Training Education (CAATE).
- The Physical Education Teacher Education preparation program is accredited by the Vermont Agency of Education Results-Oriented Program Approval (ROPA).

Department of Mathematics

Department Chair: Associate Professor Jeffrey Olson

Mission:

- Prepare mathematics majors for graduate work in mathematics or careers in computer science,

engineering, industry, business, actuary science, or teaching;
- Support the curricula in all disciplines, and
- Supply the students with the mathematics courses necessary to qualify for teacher licensure.

Majors Offered:

- Mathematics (p. 113)
- Mathematics-Actuarial Science Concentration (p. 114)
- Mathematics-Education Concentration (p. 115)

Department of Physics

Department Chair: Associate Professor Robert Knapik

Norwich University offers the Bachelor of Science in Physics (p. 129) to students desiring a strong education in the fundamentals of physics. Designed to provide a comprehensive undergraduate education, the program's curriculum includes astronomy, classical physics and quantum physics. Norwich students thrive with experiential learning. The Department therefore emphasizes laboratory work; all physics majors join in one of the on-going research endeavors of the physics faculty.

A successful physics major will be prepared for advanced study in a graduate school program or for employment in a research facility of industry or government.

Mission:

- The Department of Physics delivers an excellent academic program for physics majors, as well as high-quality support courses for programs requiring basic physics. Physics faculty provide students with lectures and laboratories that develop the analytical skills required of students for their majors, for successful careers, and for responsible citizenship.

Major Offered:

- Physics (p. 129)

Minor Offered:

- Physics (p. 130)

Accounting Curriculum Overview

Charles A. Dana Professor Michael Puddicombe; Professor D. William Jolley; Associate Professors David Blythe (Director), Nasim Hosein, Sethuram Soman and Thomas Yandow; Visiting Associate Professors Andrew Bargerstock and Peter Appleton; Lecturers James Rogler and Kris Rowley; Adjunct Instructors Daniel Alcorn, Joseph Bosley, Duncan Currier, Jon Dellapriscoli, Bruce Faulkner and Renato (Ron) Merolli.

Accounting is the language of business in that it captures, organizes, and presents financial information in a standardized way. The accounting program focuses on the process of analyzing, recording, communicating, and interpreting financial information about economic entities for the purpose of external and internal reporting and decision making. Our students integrate knowledge from other disciplines within the school: management, economics and computer information systems, to enter into organizations with both a functional and enterprise perspective.

Accreditation: The Accounting major is accredited by the Accreditation Council for Business Schools and Programs.

Goals:

Build a solid foundation of accounting concepts, skills, and practical applications to prepare yourself for a wide array of professional opportunities.

This major provides students with the ability to:

- Demonstrate knowledge of and application of accounting principles and procedures,
- Employ technology tools related to the area of accounting,
- Analyze alternatives to complex accounting problems,
- Utilize and integrate accounting information in business decision-making.

Outcomes:

- Able to prepare and interpret a set of general-purpose financial statements.
- Understand the external audit process including planning, risk assessment, evidence, audit procedures, and reporting, as well as its inherent limitations, all within the context of ethical behavior and legal liability.
- Able to prepare a comprehensive and complex personal income tax return using appropriate software.
- Possess an integrated understanding of the other major areas of business: management, economics, finance, marketing, etc.

Careers for this Major:

Accountants are employed in a wide variety of positions in public practice, business, industry, not-for-profits (hospitals, colleges and universities, charitable organizations, and voluntary health and welfare entities), education, and governmental units from the federal to the local level.

Accountants employed by public accounting firms may be employed as:

- Auditors
- Tax preparers, consultants, and planners
- Management consultants
- Forensic accountants

Accountants in business, industry, not-for-profit may be employed as:

- Financial accountants
- Managerial and cost accountants
- Tax accountants
- Financial and budget analysts
- Internal and EDP auditors

Accountants in government may be employed as:

- Tax auditors
- Regulatory compliance auditors
- Regulatory and contract analysts
- Budget analysts
- Law enforcement officers in cases of fraud or other white-collar crime

Professional Credentials:

Credentials are awarded based upon meeting specific educational, examination, and experiential requirements. Certified Public Accountants (CPA) are licensed by a state to provide accounting services to the public (see CPA requirements below). Accountants engaged in business, industry, or not-for-profit entities may obtain the Certified Management Accountant (CMA), Global Chartered, Management Accountant (CGMA), Certified Internal Auditor (CIA), or Certified Fraud Examiner (CFE) designations granted by professional associations for those fields.

CPA Requirements :
In addition to successfully completing the CPA examination, licensing requirements address specific educational, experiential, and/or residential requirements. See the requirements of the State Board of Accountancy or other licensing body for the correct state or the National Association of State Boards of Accountancy (https://nasba.org/stateboards/).

Generally, students are required to have completed 150 credits to be qualified to sit for the CPA examination. State educational requirements may be general or highly specific as to the number and nature of courses and credits required in accounting and in other business or business-related disciplines to meet that state's particular educational requirement for the exam; some states may even address the method and locations of course delivery.

Although the completion of the requirements of the Norwich University accounting major, either singly or in combination with a double major in management, provides a solid foundation in preparation for the CPA examination, it may not fully meet a particular state's requirements. In such cases, students are encouraged to complete graduate-level education in accounting, taxation, or business to fulfill the necessary requirements.

Major

Accounting (B.S.) – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
CS 120 Business Applications & Problem Solving Techniques	3		EC 106 The Structure and Operation of the World Economy [1]	3	
EN 101 Composition and Literature I	3		EN 102 Composition and Literature II	3	
MA 107 Precalculus Mathematics [2]	4		EN 112 Public Speaking	3	
MG 101 Introduction to Business [1]	3		MA 108 Applied Calculus (General Education Math)	4	
General Education Leadership (p. 9)	1-3		General Education Lab Science (p. 9)	4	
Fall Semester Total Cr.:	14-16		Spring Semester Total Cr.:	17	
SOPHOMORE					
Fall			**Spring**		
AC 205 Principles of Accounting-Financial [c]	4		AC 206 Principles of Accounting-Managerial [c]	4	
MA 212 Finite Mathematics (General Education Math)	3		EN 204 Professional and Technical Writing	3	
EC 201 Principles of Economics (Macro) (General Education Social Science)	3		EC 202 Principles of Economics (Micro)	3	
General Education History (p. 9)	3		QM 213 Business and Economic Statistics I	3	
General Education Lab Science (p. 9)	4		PH 322 Money, Meaning and Morality (General Education Ethics)	3	
Fall Semester Total Cr.:	17		Spring Semester Total Cr.:	16	
JUNIOR					
Fall			**Spring**		
AC 335 Intermediate Accounting I	3		AC 336 Intermediate Accounting II	3	
CS 300 Management Information Systems	3		AC 441 Cost Accounting	3	
FN 311 Corporate Finance	3		EC 310 Money and Banking	3	
MG 310 Production/Operations Management	3		MG 309 Management of Organizations	3	
MG 314 Marketing Management	3		General Education Arts & Humanities (p. 9)	3	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	15	

SENIOR					
Fall			**Spring**		
AC 442 Advanced Accounting	4		AC 419 Taxation I	3	
MG 319 International Dimensions of Business	3		AC 428 Auditing	3	
MG 341 Business Law I (General Education Ethics)	3		MG 346 Business Law II	3	
General Education Literature (p. 9)	3		MG 449 Administrative Policy and Strategy (General Education Capstone)	3	
Free Elective	3		Free Elective	3	
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	15	
TOTAL CREDITS FOR THIS MAJOR: 125-127					

c Grade of C or higher required.

1 Must be taken Freshman year. Upper-level students without credit for these courses will substitute with an Elective Course from a School of Business & Management subject area.

2 Requires math placement score of 2. Students with a score below 2 must complete required prerequisite math course(s). MA107 requirement may be waived and the credit hours replaced with a Free Elective credits with a math placement score of 3.

Minor

Accounting Minor 2020-2021 Catalog

Students seeking a minor in Accounting must obtain the approval of the School Director and must complete all of the six courses listed below, each with a grade of C or higher.

AC 205	Principles of Accounting-Financial	4
AC 206	Principles of Accounting-Managerial	4
AC 335	Intermediate Accounting I	3
AC 336	Intermediate Accounting II	3
Any two of the following courses (but not both MG 341 and FN 311):		**6-7**
MG 341	Business Law I	3
AC 419	Taxation I	3
AC 428	Auditing	3
AC 441	Cost Accounting	3
AC 442	Advanced Accounting	4
FN 311	Corporate Finance	3
Total Cr.		20-21

Applied Data Science

Professors Michael E. Battig, Michel E. Kabay and Huw Read; Associate Professors Matthew Bovee, Jeremy Hansen and Charles Snow; Assistant Professor Ahmed Abdeen Hamed; Lecturer Kris Rowley.

Demand for skills in data analysis, data science, data visualization, and machine learning now requires professionals in many disciplines to be data literate, and prepared with the knowledge and skills to understand and use foundational data science and data analytics methods and results. The multidisciplinary Applied Data Science minor addresses this demand with emphasis on hands-on application of foundational data science methods and appropriate use of the results for decision making.

Students wishing to pursue the minor must obtain the approval of the School Director and complete each of the required courses with a grade of C or higher.

Goals:

The goals of the minor are to:

- Develop in students broad competency and reasonable depth with fundamental applied data science knowledge, skills, and abilities.
- Provide students considerable exposure to hands-on application of foundational data science and data analytic methods, and
- Develop in students the ability to appropriately use the results of data science and data analytic methods for decision making

Outcomes:

Upon graduation successful students will competently demonstrate:

- Ability to analyze and address real-world problems, accounting for problem requirements and constraints
- Correct and appropriate implementation approaches to addressing real-world problems through use of Python code
- Basic understanding and competence in paradigms such as functional and sequential programming
- Basic mastery of the different development environments needed for data science.
- Use of data containers (e.g. “data frames”) for data collection, manipulation, formulation, summarization, visualization, and analytics to address problems or answer questions of focal interest to their discipline

- Use of Python programming and packages (such as NetworkX and Pandas) plus contemporary data-science algorithms to effect text retrieval, data mining, analyses, and data visualization, to derive insightful analytic results pertinent to a complex real-world problem
- Ability to summarize results from any of the above in a scholarly written format such as would be appropriate for a journal or conference publication.

Careers for this Minor:

Data literacy and analysis, and decision-making, are critical and applicable across all disciplines and sectors. This includes but is not limited to future professionals in business, healthcare, architecture, engineering, computer science, cybersecurity, criminal justice, mathematics, and more.

Minor

Applied Data Science Minor – Curriculum 2020-2021 Catalog

Approval of the School Director is required to declare this minor. Upper-level courses may have course prerequisites.

All courses must be a grade of C or higher.

CS 142 Intro to Python Programming	3
CS 280 Intro to Data Science	3
CS 290 Contemporary Data Visualization	3
CS 305 Advanced Data Science	3
CS 315 Intro to Data &Web Mining	3
CS 437 Machine Learning & Artificial Intelligence	3
Total Cr.	18

Architecture (graduate)

Charles A. Dana Professor David Woolf; Professors Arthur Schaller and Aron Temkin; Associate Professors Cara Armstrong, Wendy Cox, Eleanor D'Aponte, Matthew Lutz, Timothy Parker, Danny Sagan, Tolya Stonorov.

The School of Architecture + Art explores in many dimensions the meaning of making and the making of meaning. The School reinforces the student’s ability to think creatively and independently, reflecting the University’s ideals to develop citizens with integrity, conviction, and self-respect who are educated and motivated to be leaders in service to the community. The School of Architecture + Art offers a Bachelor of Science in Architectural Studies and a Master of Architecture (NAAB-accredited).

Norwich University’s School of Architecture + Art encourages creativity, critical thinking, independent learning, and the exploration of ideas through hands-on making. Our innovative approach to education integrates ongoing, experiential learning with traditional classroom learning. Students develop an understanding of community scale and have the skill set to engage in the development, design and construction of projects that enhance that way of life through their actions as professional architects.

Master of Architecture (M.Arch.) Degree Program Pathways

The graduate program challenges students to carve out their own path of study. We are committed to preparing our graduates to be critical thinkers, global citizens, and design-build leaders. Students progress through the program from 1-3 years depending on their educational backgrounds.

In most states and territories an accredited first professional degree, like the Master of Architecture, is a requirement for professional licensure.

Architecture I (Previous B.S./B.A. major in Architecture)

This pathway builds on a student’s undergraduate experience to provide the foundation for a career as a professional architect. This is a one-and-a-half-year program consisting of a summer internship, one academic year of graduate-level seminars and an individual, custom-designed thesis experience designed around a topic of the student’s choosing.

In the summer, students work as an intern in an architecture office (or in a design-related firm). Coursework is completed using distance-learning techniques, which permits students to work where they wish and encourages them to master digital communications technology, important to architectural practice.

Admission Requirements:

Students who are enrolled in the Architecture major at Norwich, may apply to the M.Arch. accelerated program at any time after their 7th semester. If they choose to graduate with the BS/AS and leave the university, they may apply to the program at a future date. Students from other universities should contact the Graduate Program Director for Admission Requirements and Deadlines.

Admission to the M.Arch. accelerated pathway is based on:

- minimum cumulative GPA of 2.50
- minimum GPA of 2.75 in all design studio courses
- Submission of a portfolio, conforming to the criteria in effect at the time of application, for review and approval by the architecture graduate admissions committee.

Students are provisionally accepted until they meet the graduation requirements for the BS/AS degree. Accepted students may defer their start of coursework for one year. Beyond the one-year deferral, they must reapply. Reapplications will be evaluated under the admission criteria in effect at the time of reapplication.

Architecture III (B.S./B.A. in a major other than Architecture)

For students who hold a baccalaureate degree in any field from an accredited college or university, the M.Arch. III provides a track for completion of the Master of Architecture in three years. Students with a pre-professional undergraduate architecture degree (e.g., B.S.A.S.), coursework taken in a NAAB-accredited program, or other architecture-related coursework may be eligible for transfer credit after evaluation of a portfolio submitted with the required application materials.

The curriculum follows a prescribed core of foundational courses, graduate-level seminars, a comprehensive studio, and an individual, custom-designed thesis experience designed around a topic of the student's choosing.

The Master of Architecture degree is a first professional degree and is required for licensure.

Admission Requirements:

Please contact the Graduate Program Director for Admission Requirements and deadlines.

Mission

The School of Architecture + Art honors its position within a teaching institution in its emphasis on service amidst ever-developing strengths in research. We nurture the study and practice of architecture as a great and noble pursuit, inherently interdisciplinary and requiring a balance of art and science, pragmatics and poetics, ecology and economy, social responsibility and personal artistic expression. Our curriculum promotes the notion of the "citizen-architect" in the spirit of Alden Partridge's ideal of the "citizen soldier."

The Master's degree in Architecture prepares students for the profession of architecture. The School emphasizes practical experience (through a practicum) as well as autonomy and rigor (through an architectural thesis and graduate seminars).

Goals:

Graduates of the Architecture Program will:

- Be respected and recognized for technical competence in the creation of solutions that balance sustainability, resiliency, societal and economic issues.
- Become successful architects with a range of capabilities including residential design, small and large institutional project design, civic projects and urban planning projects.
- Help their communities by advocating and implementing good design principles at a broad range of scales
- Communicate to both technical and non-technical audiences.
- Actively engage in continuing education throughout life.
- Be recognized for their leadership skills and their abilities to work with all people.

Outcomes:

Master's of Architecture students will:

- Gain a way of thinking, rooted in the iterative, test-and-learn approach to creativity and innovation.
- Learn to utilize techniques, skills, conventions, and modern digital and hand tools and techniques necessary for professional practice.
- Understand structural systems, heating and cooling systems, circulation systems, building systems, etc.
- Practice resilient and sustainable design.
- Learn materials and methods for construction.
- Prepare and deliver construction documents.
- Be trained in the ethics of the profession and learn to make ethical decisions.
- Function as a member of a multidisciplinary team and be able to assume leadership roles on the team.
- Understand and begin the process of architectural internship, training and registration necessary for the profession as well as the expectation for lifelong learning.

Careers for this Major:

- Private architectural firms
- Commercial, industrial, and retail design
- Facilities management
- Real estate and development
- Engineering
- Sales and manufacturing
- Government
- Industrial corporations
- Public and private institutions
- Academia

Accreditation:

M. Arch is a combined bachelor and master five-year professional degree accredited by the National Architectural Accrediting Board (NAAB), www.naab.org (http://www.naab.org/), 1101 Connecticut Ave NW #410, Washington, DC 20036, phone, 202-783-2007.

Major M.Arch. I

Master of Architecture - Curriculum Map 2020-2021 Catalog

Summer		**6**
AP 531	Architectural Internship	6
Fall		**14**
AP 525	Architectural Thesis Research	5
AP 5XX Architecture Elective		3
AP 5XX Architecture Elective		3
AP 558	Global Issues in Architecture	3
Spring		**14**
AP 526	Architectural Thesis	5
AP 533	Professional Practice	3
AP 5XX Architecture Elective		3
AP 5XX Architecture Elective		3
Total Cr.		34

Students must maintain a 3.0 cumulative average GPA in the Masters program.

Major M.Arch. III

First Year					
Fall	**Cr.**	**Spring**	**Cr.**		
AP 605 Analysis of Architectural Icons	3	AP 604 History & Theory of 20th-Century Architecture	3		
AP 611 Architectural Design I	5	AP 612 Architectural Design II	5		
AP 625 Introduction to Passive Environmental Design	3	AP 626 Materials, Design, and Construction	3		
AP 534 Architectural Seminar in Process	3	AP 627 Active Building Systems I	3		
Semester Total Credits	14	Semester Total Credits	14		
Second Year					
Fall	**Cr.**	**Spring**	**Cr.**	**Summer**	**Cr.**
AP 613 Architectural Design III	5	AP 614 Architectural Design IV	5	AP 531 Architectural Internship	6
AP 621 Site Development and Design	3	AP 636 Project Delivery and Documentation	4		
AP 632 Statics and Mechanics Materials	4	AP 630 Wood, Steel and Concrete Structures	4		
AP 500-Elective	3	AP 500-Elective	3		
Semester Total Credits	15	Semester Total Credits	16	Semester Total Credits	6
Third Year					
Fall	**Cr.**	**Spring**	**Cr.**		
AP 525 Architectural Thesis Research	5	AP 526 Architectural Thesis	5		
AP 533 Professional Practice	3	AP 558 Global Issues in Architecture	3		
AP 500-Elective	3	AP 500-Elective	3		
AP 500-Elective	3	AP 500-Elective	3		
Semester Total Credits	14	Semester Total Credits	14		
Total Credits For This Major: 93					

Architectural Studies (undergraduate)

Charles A. Dana Professor David Woolf; Professors Arthur Schaller and Aron Temkin; Associate Professors Cara Armstrong, Wendy Cox, Eleanor D'Aponte, Matthew Lutz, Timothy Parker, Danny Sagan and Tolya Stonorov.

Architecture is the art and science of the built environment: buildings, groups of buildings, communities, and their surroundings. As a profession, it is an art, science, and business with careers available in private firms, government, theater and film, industrial corporations, manufacturing, design, planning, public and private institutions, academia, and in architectural research.

The School of Architecture + Art fosters a natural and effective mentoring relationship between faculty and students. Courses take a balanced approach to both the art and science of architecture, embrace environmental sustainability and resiliency, and allows students to develop their own visions as designers.

The Architectural Studies major is a four-year pre-professional program that prepares students for the Norwich one-year (plus one summer), NAAB accredited Master of Architecture program. It is an introduction to the profession, where students learn vital technical, artistic, design, leadership and communication skills.

The architecture major will study in a studio environment that encourages creativity, critical thinking, independent learning, and the exploration of ideas through hands-on making. The studio environment in some ways resembles a large architectural office with 10 to 15 students assigned to one faculty member. The small size encourages both the exchange of ideas and intense effort. Studio encourages personal responsibility, teamwork, a sense of community, and a commitment to working on real-world problems. The integration of design build studios, as well as close collaboration between our technical courses and design studios, creates an education deeply rooted in practical solutions and technical invention. All students majoring in Architecture are required to spend a semester or summer studying abroad, which can most easily be accommodated at Norwich University's CityLab: Berlin, Germany.

Design+ Build (https://www.norwich.edu/cops/design-build-collaborative/): For over 20 years, students have been addressing the local community needs through the design and construction of full-scale projects. Since 2011, we have produced 8 different affordable housing prototypes for northern New England's climate, construction methods, and communities. In addition, we have designed and built a day-camp and classroom building, a passive solar recreational

facility, a mobile solar-powered geology lab, three outdoor classrooms, and a mobile classroom, design gallery, and resource center for the Vermont Chapter of the American Institute of Architects.

We offer our students the education necessary for the practice of architecture and art in their fullest sense: to design, make, and build in a way that embodies cultural meaning, employs technology wisely, and contributes to social and environmental justice. To this end, we seek to instill in students the core values of comprehensive knowledge, holistic awareness, continual innovation, active cooperation, and ethical responsibility through a balanced curriculum comprising observation, analysis, exploration, iteration, and synthesis, grappling throughout with abstract as well as concrete material, intellectual as well as hands-on experience.

We endeavor to contribute to the making of meaning and the meaning of making.

Goals:

Students (majors and minors) of the Architecture Program will:

- Be respected and recognized for technical competence in the creation of solutions that balance sustainability, resiliency, societal and economic issues.
- Acquire a range of capabilities that can be used at different scales of architecture projects, including residential design, small and large institutional project design, civic projects and urban planning projects.
- Help their communities by advocating and implementing good design principles at a broad range of scales.
- Communicate to both technical and non-technical audiences.
- Actively engage in continuing education throughout life.
- Be recognized for their leadership skills and their abilities to work with all people.

Outcomes:

Architecture majors and minors will:

- Gain a way of thinking, rooted in the iterative, test-and-learn approach to creativity and innovation.
- Learn to utilize techniques, skills, conventions, and modern digital and hand tools and techniques necessary for professional practice.
- Understand structural systems, heating and cooling systems, circulation systems, building systems, etc.
- Practice resilient and sustainable design.
- Learn materials and methods for construction.
- Prepare and deliver construction documents.
- Be trained in the ethics of the profession and learn to make ethical decisions.
- Function as a member of a multidisciplinary team and be able to assume leadership roles on the team.
- Understand and begin the process of architectural internship, training and registration necessary for the profession as well as the expectation for lifelong learning.

Careers for this Major:

- Private architectural firms
- Commercial, industrial, and retail design
- Facilities management
- Real estate and development
- Engineering
- Sales and manufacturing
- Government
- Industrial corporations
- Public and private institutions
- Academia

Accreditation:

Combined, the bachelor and master programs form a five-year professional degree accredited by the National Architectural Accrediting Board (NAAB), www.naab.org (http://www.naab.org), 1101 Connecticut Ave NW #410, Washington, DC 20036, phone, 202-783-2007.

Major

Architectural Studies (B.S.) – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
AP 111 Fundamentals of Architecture [3]	4		AP 118 Fundamentals of Architecture II [3]	4	
EN 101 Composition and Literature I	3		EN 102 Composition and Literature II	3	
HI 107 The History of Civilization I (General Education History)	3		HI 108 The History of Civilization II	3	

MA 107 Precalculus Mathematics (General Education Math)	4		MA 220 Geometry in Action (General Education Math)	3	
SA 111 Foundations of Art and Architecture I	3		SA 112 Foundations of Art and Architecture II	3	
Fall Semester Total Cr.:	17		Spring Semester Total Cr.:	16	
SOPHOMORE					
Fall			**Spring**		
AP 211 Architectural Design I [3]	5		AP 212 Architectural Design II [3]	5	
AP 225 Introduction to Passive Environmental Systems	3		AP 325 Materials, Construction, and Design	3	
FA 201 History/Theory of Architecture I (General Education Arts & Humanities)	3		FA 202 History/Theory of Architecture II	3	
PS 201 General Physics I (General Education Lab Science)	4		General Education Lab Science (p. 9)	4	
General Education Literature (p. 9)	3		Free Elective	3	
Fall Semester Total Cr.:	18		Spring Semester Total Cr.:	18	
JUNIOR					
Fall			**Spring**		
AP 311 Architectural Design III [3]	5		AP 312 Architectural Design IV [3]	5	
SO 2XX Sociology Transfer Elective (General Education Social Science) or 218 Intro to Cultural Competence	3		AP 328 Active Building Systems II	3	
FA 308 History/Theory of Artchitectural III	3		AP 222 Human Issues in Design	3	
GR 150 Topics Course (Free Elective)	3		CE 351 Statics and Mechanics of Materials	4	
AP Elective	3		Free Elective	3	
Fall Semester Total Cr.:	17		Spring Semester Total Cr.:	18	
SENIOR					
Fall			**Spring**		
AP 327 Active Building Systems I	3		AP 412 Architectural Design VI (Capstone) [3]	5	
AP 411 Architectural Design V [3]	5		AP 436 Project Delivery and Documentation (General Education Ethics)	4	
AP 221 Site Development and Design	3		CE 457 Wood, Steel, and Concrete Structures	4	
General Education Leadership (p. 9)	1-3		Free Elective	3	
AP Elective	3		FA 401 Introduction to Research Methods for Architecture	3	
Fall Semester Total Cr.:	15-17		Spring Semester Total Cr.:	19	
TOTAL CREDITS FOR THIS MAJOR: 138-140					

3 Students who earn a grade of D+ or lower for two sequential, numerical, or chronological design courses (including AP 111 & AP 118) must repeat these courses and earn a C- or higher in both to advance to the next design level.

4 May substitute course for a Minor elective.

* During the Junior Fall or Spring semester, students must study abroad (preferably at CITY-Lab Berlin).

Minor

Architectural Studies Minor 2020-2021 Catalog

- The minor in Architectural Studies is for students in other majors who are interested in studying the use and design of space for human work and habitation.
- A minor in Architectural Studies requires 20 credit hours, involving four designated courses and at least two others.
- All courses require a grade of C or higher.

AP 111	Fundamentals of Architecture	4
AP 118	Fundamentals of Architecture II	4
FA 201	History/Theory of Architecture I	3
FA 202	History/Theory of Architecture II	3
AP Elective		3
AP Elective		3
Total Cr.		20

Art

Professor Arthur Schaller, Associate Professor Jason Galligan-Baldwin, Lecturer Cara Armstrong

Norwich students in all disciplines have the opportunity to broaden their college experience by earning a minor degree in art. A Studio Art Minor helps students develop their own creative skills and understanding of art in the studio.

Goals:

1. Cultivate and extend an understanding and appreciation of art.
2. Assess the meaning and significance of the art to personal lives.
3. Offer a profound testimony to meaning and significance of the arts in a variety of ways:
    - Illuminate the ideas, values, beliefs, manners, and customs of an age
    - Inform how artists interpret and understand the visible world in which they live
    - Alert to moral and ethical perspectives which condition the artist's choice and treatment of subject matter.

Minor

Art Minor 2020-2021 Catalog

FA 260	Art Appreciation	3
or FA 222	History of Visual Arts II: 1350 to the Modern Era	
FA Elective		3
SA Elective (200-300 level)		3
SA Elective		3
SA Elective		3
SA Elective		3
Total Cr.		18

Art History

Associate Professors Wendy Cox, Eleanor D'Aponte and Timothy Parker; Lecturer Cara Armstrong.

Norwich students in all disciplines have the opportunity to broaden their college experience by earning a minor degree in art history. An Art History Minor helps students develop their awareness and knowledge of art as it has played a role in the formation and understanding of human culture.

Goals:

1. Cultivate and develop an understanding and appreciation of art as it has developed over time and across diverse cultures.

2. Assess the meaning and significance of artworks in relation to human culture in multiple ways, such as:
    - Art traditions as expressive of human identity.
    - Art production as embedded in economic and cultural systems.
    - Art practice as having technical, social, educational, and aesthetic dimensions.

3. Build research and writing skills pertinent to addressing art, including description and analysis is visual, formal, spatial, and material aspects of artworks.

The fine arts offer a profound testimony to meaning and significance of the arts to their own and function in a variety of ways: they illuminate the ideas, values, beliefs, manners, and customs of an age; they inform us of how artists interpret and understand the visible world in which they live; they alert us to moral and ethical perspectives which condition the artist's choice and treatment of the subject matter.

Courses in the Fine Arts (FA) explore the history of art, including why and what the artist creates; assess the changing nature and functions of art; probe the relationship of the artist to society; and examine the varied systems of beliefs and values that affect the discipline. All FA courses may be used towards fulfilling the Arts & Humanities General Education

Minor

Art History Minor 2020-2021 Catalog

All courses must be completed with a grade of C or higher.

Select one of the following two courses:

FA 201	History/Theory of Architecture I	3
or FA 221	History of Visual Arts I: Prehistoric to 1350	
FA 222	History of Visual Arts II: 1350 to the Modern Era	3
FA 250	Topics in Art [1]	3
FA 250 [1]		3
FA Elective [3]		3
SA 103	Introduction to Drawing	3
or SA 104	Introduction to Visual Design	
Total Cr.		18

1 FA 250 may be taken more than once, however the title and subject matter of the seminars must be different.

3 FA 201 and FA 221 may not both be taken for credit as there is significant overlap in the material covered in the two courses).

Asian Studies

Before beginning their Asian Studies minor, students are strongly encouraged to take one or more language courses in their Asian region of choice (at Norwich, at least one full semester of Beginning Chinese). Asian Studies are by nature interdisciplinary studies of non-Western culture(s). Language study is important to understanding different cultures as English in almost all cases is not the predominant spoken nor written language and the majority of written and archival materials on Asia are not available in English.

Minor

Asian Studies Minor 2020-2021 Catalog

The Asian Studies minor requires a minimum of 18 credits (6 courses) divided among three area studies components. Students must complete one (1) Introductory Asian Studies course, three (3) Cultural and Historical Studies courses, and two (2) Political, Economic, and Sociological Studies courses as listed below.

- Students majoring in History, International Studies, Political Science or Studies in War & Peace may use no more than two courses to apply to this minor and their major.
- Students majoring in Political Science or International Studies must complete both PO 202 and PO 215; all other majors must complete either PO 202 or PO 215 as a prerequisite to enrolling in a 300 level political science course.
- Students who minor in Chinese may take only one (1) Chinese language class to satisfy the three (3) course requirement for the Cultural and Historical Studies category.
- No more than two of the six courses may be transfer courses.

Introductory Asian Studies Courses (choose 1)		
HI 211	Early East Asian Civilizations	3
HI 212	Modern East Asian Civilizations	3
Cultural And Historical Studies (choose 3)		
CN 205	Intermediate Chinese I	3
CN 206	Intermediate Chinese II	3
OR		
CN 301	Advanced Chinese I	3
CN 302	Advanced Chinese II	3
OR		
CN 321	Chinese Literature, Culture and Society I 1911-1949	3
CN 322	Chinese Literature, Culture and Society II 1949-Present	3
FA 250	Topics in Art (Asian Topics)	3
HI 315	Modern China	3
HI 317	Modern Japan	3
HI 319	Colloquium in Chinese History	3
HI 362	Topics in Pre Modern History (Asian topics)	3
HI 363	Topics in Non-Western History	3
HI 371	Nation-Building	3
Political, Economic, and Sociological Studies (choose 2)		
IN 350	Topics in International Studies	3
PO 301	Special Topics in International Relations (Asian Studies)	3
PO 320	Topics in Area Studies (Asian topics)	3
PO 348	Asian Politics	3
SO 300	Topics in Sociology (Asian topics)	3
Total Cr.		18

Athletic Training

Assistant Professor Gregory Jancaitis, ATC (Program Director); Assistant Professor Janine Osterman, ATC (Clinical Coordinator); Lecturer Kate Harney, ATC

As of November 2019, the Commission on Accreditation of Athletic Training Education (CAATE) has granted approval for Norwich University to offer the Master of Athletic Training (MAT) degree. The Bachelor of Science in Athletic Training degree will be phased out as of the Spring 2022 semester and the MAT program will be offered starting the Fall 2022 semester. Students wishing to pursue the Master of Athletic Training degree may do so either as part of the accelerated BS-to-MAT program in 3+2 years, or two years as an external candidate.

To be considered for admission into the MAT program, the following criteria is required:

Accelerated 3+2 program: Completion of all undergraduate coursework (course numbers 100-499) by the start of graduate coursework with the exception of HE 439 to be taken spring of senior year; cumulative GPA of at least a 2.7. In addition, Norwich University Health Sciences students must complete prerequisite courses as described in the course catalog.

External 2 year program: Provide an official transcript from an accredited institution demonstrating successful completion of a bachelor's degree with a cumulative GPA of at least a 2.75. Completed the following college-level courses with a grade of at least a C+ in: 1 year Biology, 1 year Human Anatomy & Physiology; and 1 semester each in Statistics, Chemistry, Physics, Kinesiology/Biomechanics, Exercise Physiology, Introduction to Psychology (or equivalent), Motor Development, Nutrition.

The Master of Athletic Training Program is not available until Fall 2022.

The Master of Athletic Training uses a competency-based approach in both the classroom and clinical settings. Using a medical education model, athletic training students gain experience in a variety of educational domains to prepare them to serve as allied health care providers for the physically active population. Certified Athletic Trainers have specialized education in the prevention, evaluation, diagnosis, and treatment of injuries and illness affecting physically active populations. Educational content is based on cognitive (knowledge), psycho-motor (skills), and clinical proficiencies (professional, practice-oriented outcomes). The Athletic Training Program incorporates hands-on experience in various professional settings. The Athletic Training Program is accredited by the Commission on the Accreditation of Athletic Training Education (CAATE). Graduates are eligible to sit for the National Athletic Trainers' Association (NATA) Board of Certification (BOC) examination.

Goals:

- Students will be prepared to enter the field of Athletic Training upon graduation and successful completion of the Board of Certification (BOC) exam.
- Students will develop critical thinking skills necessary for clinical practice and leadership within the profession of athletic training.
- Students will be instructed in didactic, lab, and clinical settings in a manner that encourages the development of critical thinking skills, utilization of technology, and promotes a culture of lifelong learning.

Outcomes:

The measurements of the Athletic Training Program are:

- Passing the National Athletic Trainers Board of Certification National Examination.
- Full employment as an Athletic Trainer or enrollment in further educational programs within 6 months of degree completion.

Careers for this Major:

The following areas are opportunities where Certified Athletic Trainers are being employed.

- Colleges & Universities
- Hospital & Clinical Settings
- Occupational Health
- Military
- Performing Arts
- Physician Extender
- Professional Sports
- Public Safety
- Secondary Schools

Major

M.A.T. in Athletic Training Curriculum Map beginning Fall 2022. Until this time this degree is not offered.

Course	Cr.	Comp.	Course	Cr.	Comp.	Course	Cr.	Comp.
FIRST YEAR								
Fall			**Spring**			**Summer**		
HE 501 Athletic Training in Healthcare [1]	1		HE 507 Care of Orthopedic Injuries II [1]	4		HE 601 Medical Conditions in Athletic Training 1	3	
HE 502 Musculoskeletal Evaluation and Interventions [1]	4		HE 508 Therapeutic Interventions II [1]	4		HE 602 Medical Conditions in Athletic Training II	3	
HE 503 Clinical Experience in Athletic Training I [1]	2		HE 509 Clinical Experience in Athletic Training II [1]	3		HE 603 Clinical Experience in Athletic Training III	2	
HE 504 Advanced Emergency Management [1]	1		HE 510 Simulation in Athletic Training I [1]	1				
HE 505 Care of Orthopedic Injuries I [1]	4		HE 450 Evidence - Based Healthcare [3]	3				
HE 506 Therapeutic Interventions I [1]	3							
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	15		Summer Semester Total Cr.:	8	
SECOND YEAR								
Fall			**Spring**			**Summer**		
HE 605 Administration in Athletic Training	2		HE 608 Leadership and Professional Advancement	3				
HE 606 Injury and Disease Prevention	3		HE 609 Simulation in Athletic Training III	1				

HE 604 Clinical Experience in Athletic Training IV	5		HE 610 Clinical Experience V	3				
HE 607 Simulation in Athletic Training II	1		HE 611 Seminar in Athletic Training	3				
Fall Semester Total Cr.:	11		Spring Semester Total Cr.:	10		Summer Semester Total Cr.:		
TOTAL CREDITS FOR THIS MAJOR: 59								

1 Course may be used as Free Elective for the B.S. in Health Sciences.

2 Required for B.S. in Health Sciences; not considered a major requirement for the Master of Athletic Training.

3 HE 450 is *only* required of the Health Science undergraduate major.

Business Administration

Professor D. William Jolley; Associate Professors David Blythe Nasim Hosein, Sethuram Soman and Thomas Yandow; Visiting Associate Professors Andrew Bargerstock and Peter Appleton; Lecturers James Rogler and Kris Rowley; Adjunct Instructors Daniel Alcorn, Joseph Bosley, Duncan Currier, Jon Dellapriscoli, Bruce Faulkner.

Students who earn a Business Administration minor understand the relationships between marketing, quantitative theory, accounting, economic principles, and financial, human, and organizational management.

Minor

Business Administration Minor 2020-2021 Catalog

- Students with any major except Accounting or Management may pursue a minor in Business Administration.
- Students seeking a minor in Business Administration must obtain the approval of the School's Director.
- All 6 courses require a grade of C or higher.

AC 205	Principles of Accounting-Financial	4
EC 201	Principles of Economics (Macro)	3
EC 202	Principles of Economics (Micro)	3
MG 309	Management of Organizations	3
MG 314	Marketing Management	3
Choose one of the following courses:		**3-4**
AC 206	Principles of Accounting-Managerial	4
EC 106	The Structure and Operation of the World Economy	3
FN 311	Corporate Finance	3
CS 120	Business Applications & Problem Solving Techniques	3
MG 101	Introduction to Business	3
MG 319	International Dimensions of Business	3
MG 341	Business Law I	3
MG 351	Organizational Behavior	3
MG 408	Human Resources Management	3
Total Cr.		19-20

Biology

Charles A. Dana Professor Karen Hinkle; Professor Lauren Howard; Associate Professors Megan Doczi (Chair), Scott Page; Assistant Professors Allison Neal and Simon Pearish; Lecturers David Ebenstein (Lab Coordinator), Mary Beth Klinger-Lawrence and Virginia Kunkel.

A core curriculum of science, mathematics and English courses ensures development of appropriate analytical and communication skills. Rounding out the major, four free biology electives and seven free electives allow students to design their program to meet specific career goals and develop one or more minors and/or double majors. A special Pre-medical Committee oversees students on a Pre-medical/Pre-dental track (p. 132) and assists in the placement of these graduates.

Biology is the scientific discipline that investigates life in all of its forms. An appreciation of the complexity of structure and function requires the use of a variety of teaching tools, including the use of living and preserved organisms. Consequently, both living and preserved organisms will be ethically and humanely employed whenever appropriate to further student understanding and appreciation for life.

Mission:

Biology and Neuroscience curricula offer students the opportunity to study the structure and function of living systems, from the complexity of cellular components to whole organism dynamics to ecosystem design.

Goals:

- Prepare students for admission into graduate, medical, optometry, dentistry, and veterinary medical schools as well as entry into the workforce in various biology-related fields.

Outcomes:

- Graduates understand and have broad knowledge of the biological sciences including, but not limited to, botany, zoology, cell biology, genetics, evolution, and other laboratory-based sciences, as well as ecology and other field sciences.
- Graduates are prepared for successful employment in a profession in the field of biology, or for graduate or professional school.

Careers for these Majors:

- Graduate School: Medical, Optometry, Dentistry, Veterinary Medicine
- Environmental Science
- Biotechnology
- Healthcare
- Education
- Research and Development

Major

Biology (B.S.) – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
BI 101 Principles of Biology I (General Education Lab Science) [c]	4		BI 102 Principles of Biology II (General Education Lab Science) [c]	4	
CH 103 General Chemistry I	4		BI 203 Introduction to Scientific Method & Bioscientific Terminology [c]	1	
EN 101 Composition and Literature I	3		CH 104 General Chemistry II	4	
MA 107 Precalculus Mathematics (General Education Math)	4		EN 102 Composition and Literature II	3	
			MA 108 Applied Calculus (General Education Math) or 232 Elementary Statistics	3-4	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	15-16	
SOPHOMORE					
Fall			**Spring**		
BI 205 Ecology [c]	4		BI 226 Cell Biology [c]	4	
CH 225 Organic Chemistry I	4		CH 226 Organic Chemistry II	4	
General Education History (p. 9)	3		General Education Leadership (p. 9)	1-3	
General Education Literature (p. 9)	3		General Education Social Science (p. 9)	3	
			Free Elective	3	
Fall Semester Total Cr.:	14		Spring Semester Total Cr.:	15-17	
JUNIOR					
Fall			**Spring**		
BI 303 Genetics [c]	4		BI 395 Evolution [c]	4	
BI 300/400-Level Diversity Elective [c, d]	4		BI 300/400-Level Diversity Elective [c, d]	4	
PS 201 General Physics I	4		PS 202 General Physics II	4	
General Education Ethics (p. 9)	3		General Education Arts & Humanities (p. 9)	3	
Free Elective	3		Free Elective	3	
Fall Semester Total Cr.:	18		Spring Semester Total Cr.:	18	
SENIOR					
Fall			**Spring**		
BI 401 Senior Seminar (Capstone) [c]	3		BI 300/400-Level Elective [c]	4	
BI 300/400-Level Diversity Elective [c, d]	4		Free Elective/Biology 300/400-Level Diversity Elective [c, d]	3	
Free Elective/Biology 300/400-Level Diversity Elective [c, d]	3		Free Elective	3	
Free Elective	3		Free Elective	3	

Fall Semester Total Cr.:	13		Spring Semester Total Cr.:	13	
TOTAL CREDITS FOR THIS MAJOR: 121-124					

c Grade of C or higher required (does not apply for Free Electives)
d One Biology Elective must be a non-vertebrate Diversity (D) course: BI 316, BI 341, BI 351, BI 424, BI 426

Minor

Biology Minor 2020-2021 Catalog

Must earn a C or higher in all courses.

BI 101	Principles of Biology I	4
BI 102	Principles of Biology II	4
BI Elective (200 level or higher)		3-4
BI Elective (200 level or higher)		3-4
BI Elective (200 level or higher)		3-4
Bi Elective (200 level or higher)		3-4
Total Cr.		20-24

Chemistry & Biochemistry

Shinquin Program in Chemistry and Biochemistry

Professors Natalia Blank, and Michael McGinnis; Associate Professors Joseph Rizzolo, Seth Frisbie and Ethan Guth (Chair and Pre-Health Advisor); Assistant Professor Thomas Shell; Lecturers Marie Agan (Lab Coordinator), Sarah Gibbons, Anthony Rutkowski and Page Spiess

Our graduates are highly desired by industry and government employers for their laboratory skills, and are well qualified for admission to graduate and professional schools. The courses and labs required for these degrees assure that graduates are proficient in the fundamental principles of chemistry and prepared to apply these principles to specialized areas such as environmental, forensic, medicinal, and pharmaceutical chemistry.

Bachelor of Science Degree, Majors Offered:

- Chemistry (p. 55)
- Biochemistry (p. 54) (fulfills all pre-medical and pre-dental required courses)

Mission:

Within the mission of Norwich University and the College of Science and Mathematics, the mission of the Chemistry and Biochemistry Department is to offer laboratory-intensive courses that provide an understanding of the chemical and biochemical aspects of the physical environment and to prepare students majoring in the discipline for careers in chemistry and biochemistry related fields as well as for further educational opportunities.

The progress of all students majoring in chemistry and biochemistry will be evaluated by the department at the end of the first and second years. Students receiving an unsatisfactory evaluation will be requested to change majors.

Goals:

- Graduates will have a good understanding and broad knowledge of chemistry in all five areas of the discipline: analytical, biochemistry, inorganic, organic, and physical.
- Graduates will be capable of performing independently and competently in the laboratory.
- Graduates will be prepared for successful employment in a profession employing chemistry and will be prepared for graduate or professional school.

Outcomes:

- Chemistry and biochemistry majors will complete the ETS standardized chemistry major field exam and score on average in the 50th percentile or above.
- Chemistry and biochemistry majors will develop the ability to read the primary literature; to follow procedures found in the literature; to perform a variety of modern laboratory techniques and produce quality results, and to communicate results orally and in writing.
- Ninety percent of graduates who wish to pursue graduate or professional education will be accepted into programs; 100% of graduates desiring employment or commissioning directly from the undergraduate programs will be employed or commissioned within six months of graduation.

Careers for these Majors:

A degree in chemistry or biochemistry serves as an excellent foundation for careers both in and out of science. It can be of particular benefit to students interested in pursuing any of the following careers:

- Agricultural Chemist
- Air Pollution Monitor
- Bio-Analyst or DNA Analyst
- Biochemist
- Biomedical Engineer
- Biostatistician

- Brewmaster
- Clinical Chemist
- Crime Lab Assistant, Forensic Chemist,
- Dentist
- Doctor
- Epidemiologist
- Food and Drug Inspector, Food Safety Auditor
- Food Chemist or Food Scientist
- Laboratory Manager
- Medical Laboratory Technologist
- Patent Agent
- Pest Control Technician
- Petroleum Chemist
- Pharmaceutical Chemist
- Pharmacist, Pharmacologist
- Quality Control Specialist
- Regulatory Affairs Specialist
- Research Assistant
- Sales Representative
- Science Teacher, University Professor
- Toxicologist
- Water Purification Chemist or Water Quality Analyst

Major Biochemistry

Biochemistry (B.S) Curriculum Map 2020-2021 Catalog

All courses listed on the curriculum map are required, although the sequence varies somewhat for courses offered in alternate years. It is difficult for chemistry and biochemistry majors to schedule the required courses unless they follow the outline recommended paying special attention to the alternate year courses.

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
BI 101 Principles of Biology I	4		BI 102 Principles of Biology II	4	
CH 103 General Chemistry I (General Education Lab Science)	4		CH 104 General Chemistry II (General Education Lab Science)	4	
EN 101 Composition and Literature I	3		EN 102 Composition and Literature II	3	
MA 107 Precalculus Mathematics [1]	4		MA 121 Calculus I (General Education Math)	4	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	15	
SOPHOMORE					
Fall			**Spring**		
CH 214 Communication in Chemistry (or in 3rd year)	1		BI 226 Cell Biology	4	
CH 225 Organic Chemistry I	4		CH 226 Organic Chemistry II	4	
PS 201 General Physics I [2]	4		PS 202 General Physics II [2]	4	
EN 222 Introduction to World Literatures (General Education Goal 3: Literature)	3				
MA 122 Calculus II (General Education Math)	4				
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	12	
JUNIOR					
Fall			**Spring**		
BI 303 Genetics	4		CH 314 Instrumental Methods	3	
CH 204 Quantitative Analysis	4		CH 315 Analysis Laboratory (taken with CH 314)	1	
CH 327 Physical Chemistry I	3		CH 328 Physical Chemistry II (or Free Elective)	3	
General Education Social Science (p. 9)	3		General Education History (p. 9)	3	
General Education Leadership (p. 9)	1-3		General Education Arts & Humanities (p. 9)	3	
			General Education Ethics (p. 9)	3	

Fall Semester Total Cr.:	15-17		Spring Semester Total Cr.:	16	
SENIOR					
Fall			**Spring**		
BI 304 Physiology	4		CH 325 Biochemistry II (or BI 226)	4	
CH 324 Biochemistry I	4		CH 422 Chemical Synthesis and Examination II (Capstone)	3	
CH 413 Chemistry Seminar (Capstone)	1		Free Elective	3	
Free Elective	3		Free Elective	3	
Free Elective	3		Free Elective	3	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	16	
TOTAL CREDITS FOR THIS MAJOR: 120-122					

1 MA 107 can be substituted with a Free Elective credit if Math Placement Test places a student into MA 121

2 PS 211 - PS 212 may be substituted for PS 201 - PS 202

Major Chemistry

Chemistry (B.S.) - Curriculum Map 2020-2021 Catalog

All courses listed on the curriculum map are required, although the sequence varies somewhat for courses offered in alternate years. It is difficult for chemistry and biochemistry majors to schedule the required courses unless they follow the outline recommended paying special attention to the alternate year courses.

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
CH 103 General Chemistry I (General Education Lab Science)	4		CH 104 General Chemistry II (General Education Lab Science)	4	
EN 101 Composition and Literature I	3		EN 102 Composition and Literature II	3	
MA 121 Calculus I (General Education Math)	4		MA 122 Calculus II (General Education Math)	4	
General Education Arts & Humanities (p. 9)	3		MA 241 Mathematical Computation and Modeling (or Free Elective) [1]	3	
Fall Semester Total Cr.:	14		Spring Semester Total Cr.:	14	
SOPHOMORE					
Fall			**Spring**		
CH 214 Communication in Chemistry (or in 3rd year)	1		CH 226 Organic Chemistry II	4	
CH 204 Quantitative Analysis	4		MA 224 Differential Equations	4	
CH 225 Organic Chemistry I	4		PS 212 University Physics II	4	
PS 211 University Physics I	4		General Education Leadership (p. 9)	1-3	
EN 222 Introduction to World Literatures (General Education Goal 3: Literature)	3				
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	13-15	
JUNIOR					
Fall			**Spring**		
CH 327 Physical Chemistry I	3		CH 314 Instrumental Methods	3	
CH 337 Physical Chemistry Laboratory I (taken with CH 327)	1		CH 315 Analysis Laboratory (taken with CH 314)	1	
Free Elective	3		CH 328 Physical Chemistry II	3	
Math/Science Elective	3-4		CH 338 Physical Chemistry Laboratory II (taken with CH 328)	1	
BI 101 Principles of Biology I	4		Science/Math Elective	4-3	
			Free Elective	3	
Fall Semester Total Cr.:	14-15		Spring Semester Total Cr.:	15-14	
SENIOR					
Fall			**Spring**		
CH 324 Biochemistry I (or CH 204 Quantitative Analysis)	4		CH 438 Advanced Inorganic Chemistry (or Math/Science Elective)	3	
CH 413 Chemistry Seminar	1		CH 422 Chemical Synthesis and Examination II	3	

CH 421 Chemical Synthesis and Examination I	3		General Education Ethics (p. 9)	3	
General Education Social Science (p. 9)	3		General Education History (p. 9)	3	
Free Elective	3		Free Elective	3	
Free Elective	3		Free Elective	3	
Fall Semester Total Cr.:	17		Spring Semester Total Cr.:	18	
TOTAL CREDITS FOR THIS MAJOR: 121-123					

1 EG 110 may be substituted for MA 241.

Minor

Chemistry Minor 2020-2021 Catalog

This minor is not available to students majoring in Chemistry or Biochemistry.

CH Elective	3
CH Elective	3
CH Elective (200 level or higher)	3
CH Elective (200 level or higher)	3
CH Elective (200 level or higher)	3
CH Elective (200 level or higher)	3
Total Cr.	18

Chinese

Visiting Assistant Professor Lingyi Hu (Interim Program Director)

The Chinese Program offers a wide range of courses that promote language learning and the development of intercultural competence necessary for communication in Chinese. The curriculum focuses on a balanced development of language and cultural competence across proficiency levels. All students are encouraged to participate in the cultural activities organized by the Chinese Club and to immerse themselves in Chinese culture on and off-campus.

Students who have completed more than one year of high school Chinese, or the equivalent, must take the foreign language placement test before enrolling in their first Norwich course in Chinese.

Goals:

Students learn to communicate in Chinese at an intermediate-low to intermediate-mid level with an appropriate breadth of vocabulary, enhance their understanding of Chinese culture, and develop their critical thinking skills. The Chinese Program uses the Proficiency Guidelines from the American Council on the Teaching of Foreign Language to achieve learning goals.

Outcomes:

Upon graduation, students minoring in Chinese will be able to:

- reach intermediate-low to intermediate-mid proficiency in the areas of listening, speaking, reading, and writing.
- demonstrate an extensive understanding of Chinese values and beliefs.
- use critical skills to analyze Chinese cultural materials.

Careers for this Minor:

- Law Enforcement
- Military Service
- Diplomacy
- Education
- Business
- Social Services
- Health Care
- Politics
- Environmental Science
- Advertising and Mass Media

Minor

Chinese Minor 2020-2021 Catalog

All courses require a grade of C or higher. The courses required to complete the minor depend on the Chinese-language proficiency level of the incoming student. See tracks A and B below:

A. Track A is to be completed by students who enter Norwich at or below the Intermediate level:

CN 205	Intermediate Chinese I	3
CN 206	Intermediate Chinese II	3
CN Elective (250 or higher)		3
CN Elective (301 or higher)		3
CN Elective (301 or higher)		3
CN Elective (301 or higher)		3
Total Cr.		18

B. Track B is to be completed by students who initially place above the Intermediate level.

CN Elective (301 or higher)		3
CN Elective (301 or higher)		3
CN Elective (301 or higher)		3
CN Elective (301 or higher)		3
CN Elective (301 or higher)		3
CN Elective (301 or higher)		3
Total Cr.		18

Coaching

Coaching Minor 2020-2021 Catalog

Physical Education majors can declare a Concentration in Coaching.

The concentration or minor is designed to meet proposed national standards preparation in coaching for elementary through high school level. The primary goals are to teach coaching fundamentals, injury prevention, health awareness, motor skill development, adolescent behavior, and youth leadership skills. The following courses are required:

All courses must be passed with a grade of C or higher.

PE 163	Scientific Foundations of Health and Wellness	3
PE 224	Motor Skills Development II	3
PE 355	Coaching:Leadership in Sports	3
PE 432	Organization and Administration in Physical Education	3
Two courses from the following list:		**7-8**
PE 223	Motor Skills Development I	3
PE 341	Instructional Strategies for Physical Education in Elementary School	4
PE 342	Instructional Strategies for Physical Education in Middle-Secondary School	4
PE 371	Physiology of Exercise	4
PY 324	Adolescent Psychology	3
Total Cr.		19-20

Communications

Professor Narain Batra and Lecturer Stephen Pite

The Communications Program provides a high-level, broad-based bachelor's degree in Communications as well as a minor in Communications. The career-oriented curriculum provides introductory and advanced writing, editing, and production experience in print, digital, and electronic media. The program is committed to freedom of expression, personal and professional fulfillment, intellectual development, and the fostering of ethical understanding and creative growth.

Goals:

To expand students' knowledge of the structure, history, and practices of the field of mass media, and provide them with the skill set necessary to enter the current employment market.

Outcomes:

Graduates will demonstrate:

- the knowledge and skills to write a balanced, thorough and incisive news or feature story for the Norwich University community by following established Associated Press style guidelines
- the knowledge and skills necessary for television production.
- understanding of various social media issues and agility with web-based presentations.
- knowledge of legal and ethical responsibilities of media professionals

Careers for this Major:

- Television Producer
- Journalist
- Videographer
- Editor
- Camera Operator
- Studio Technician

- Teaching
- Communications Law
- Public Affairs
- Corporate Communications

Communications Major

Communications (B.S.) – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
CM 109 Introduction to Mass Media [c]	3		CM 261 Interpersonal Communications [c]	3	
EN 101 Composition and Literature I [c]	3		CM 271 Television Production [c] or EN 112 Public Speaking	4-3	
EN 112 Public Speaking [c] or CM 271 Television Production	3-4		EN 102 Composition and Literature II [c]	3	
General Education Math (p. 9)	3		General Education Math (p. 9)	3	
			Psychology (PY) Elective	3	
Fall Semester Total Cr.:	12-13		Spring Semester Total Cr.:	16-15	
SOPHOMORE					
Fall			**Spring**		
CM 207 Journalism I: News Gathering [c]	3		AC 205 Principles of Accounting-Financial or MG 101 Introduction to Business or EC 201 Principles of Economics (Macro)	4-3	
CM 211 Broadcasting Techniques [c]	3		CM 208 Journalism II: Advanced News Gathering and Design [c]	3	
EN 222 Introduction to World Literatures (General Education Goal 3: Literature)	3		CM 351 Radio Production or 391 Advanced Television Production	3	
CS Elective (excluding CS 120)	3		EN 222 Topics in World Literatures	3	
General Education History (p. 9)	3		General Education Social Science (p. 9)	3	
General Education Leadership (p. 9)	1-3				
Fall Semester Total Cr.:	16-18		Spring Semester Total Cr.:	16-15	
JUNIOR					
Fall			**Spring**		
CM 209 Broadcast Writing	3		CM 303 Advertising [c]	3	
General Education Arts & Humanities (p. 9)	3		EN 240 Technical Aspects of Theatrical Design [c,1]	3	
General Education Lab Science (p. 9)	4		Psychology (PY) Elective	3	
Free Elective	3		General Education Lab Science (p. 9)	4	
Free Elective	3		Free Elective	3	
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	16	
SENIOR					
Fall			**Spring**		
CM 436 Communications Law and Ethics (General Education Ethics)	3		CM 407 Senior Communications Seminar (Capstone) [c]	3	
CM 391 Advanced Television Production [c]	3		CM 408 Communications Internship [c]	3	
General Education Literature (p. 9)	3		General Education Literature (p. 9)	3	
Free Elective	3		Free Elective	3	
Free Elective	3		Free Elective	3	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	15	
TOTAL CREDITS FOR THIS MAJOR: 122-123					

c Grade of C or higher required

1 Alternative course options: EN 239EN 241EN 253EN 307EN 308EN 310CM 335

Minor

Communications Minor 2020-2021 Catalog

All requirements require a grade of C or higher

CM 109	Introduction to Mass Media	3
CM 207	Journalism I: News Gathering	3
CM Elective above 208		3
CM Elective above 208		3
CM elective above 208		3
CM Elective above 208		3
Total Cr.		18

Computer Crime & Forensics

Professors Michael Battig, Mich Kabay and Huw Read; Associate Professors Matthew Bovee, Jeremy Hansen, and Charles Snow; Assistant Professor Ahmed Abdeen Hamed; Lecturer Kris Rowley.

Cybercrime is a pervasive threat and the organizational demand for individuals capable of providing collaboration and support in dealing with this threat continues to grow. To prepare students from a variety of disciplines with the foundational study for this demand, the Computer Crime and Forensics minor provides a background in criminal justice and digital forensics, as well as computer science, computer programming, and information assurance. Students wishing to pursue the minor must obtain the approval of the School Director and complete each of the required courses with a grade of C or higher.

Goals:

To develop in students:

- An understanding and appreciation of the fundamentals of computer science, cybersecurity, and information assurance;
- Knowledge and basic facility with a high-level programming language;
- A foundation of understanding and skills in digital forensics and cyber-investigation;
- The foundation for practical work and further study in information assurance, cyberlaw, and digital forensics;
- Understanding of the constraints, legal procedures, and multi-jurisdictional nature and scope, of digital incidents and the responses to them; and,
- The ability to identify, think critically, analyze, and solve, cybercrime and cyberlaw problems.

Outcomes:

Upon graduation successful students will competently demonstrate:

- Use of the fundamental concepts and terminology regarding computers, computer security, and information assurance;
- Application of the essential cybercrime and digital forensic concepts, techniques and procedures;
- Ability to recognize, define, and use, the technical terminology of information assurance (IA);
- Application of the fundamentals of information assurance in both personal and organizational contexts;
- A breadth of knowledge and the ability to apply it regarding cyberlaw and cybercrime, including: identifying and classifying cybercrimes; the motivations of cybercriminals; seizure and handling of digital evidence; admissibility of digital incident evidence; preparing and delivering professional testimony; and, the key regulations and laws regarding cybercrimes of varying types and jurisdictions; and,
- High ethical, personal and professional standards, especially in regards to information assurance and its impact on individuals, organizations, and society.

Careers for this Minor:

Computers and mobile phones are now common tools used in the commission of ordinary crime, and the frequency, magnitude, and scope, of cybercrimes have increased dramatically. The Computer Crime & Forensics minor prepares students with the following career paths to better deal with them:

- Attorneys
- Crime Analysts
- Federal, state and local law enforcement
- Federal intelligence agents
- Private security personnel
- Probation and parole officers

Minor

Computer Crime and Forensics Minor 2020-2021 Catalog

Students seeking a minor in Computer Crime and Forensics must obtain the approval of the School Director and complete all of the six courses listed below, each with a grade of C or higher. Please also refer to the course descriptions for any prerequisites.

CJ 301	Criminal Procedure	3
CJ 423	Evidence	3
CS 140	Programming and Computing	4

DF 395	Cyber Criminalistics	3
IA 241	Cyberlaw and Cybercrime	3
IA 340	Introduction to Information Assurance	3
Total Cr.		19

Computer Science

Professors Michael Battig, Mich Kabay and Huw Read; Associate Professors Matthew Bovee, Jeremy Hansen, and Charles Snow; Assistant Professor Ahmed Abdeen Hamed; Lecturer Kris Rowley.

The program focuses on practical design and development in computational environments, as well as the underlying theoretical foundations that make these environments operate efficiently, reliably, and securely. Our graduates integrate knowledge from other disciplines, such as mathematics and engineering, and will enter organizations with a broad functional and enterprise perspective.

The Bachelor of Science program in Computer Science provides students with a solid foundation for a wide range of career fields and for entry into graduate-degree programs. This intense and challenging program provides extensive preparation in data structures, algorithms, and mathematics, leading to advanced courses in operating systems, parallelism, software engineering, computer networking, and information security. The graduates of this program have the in-depth knowledge of hardware, software, and applications, required to perform complex trade-off analyses at the hardware and software level. The technical studies in this program, combined with thoughtful selection of electives in the humanities and social sciences, prepare the graduate to be a future leader in our progressive information-based society.

Each student has an individually-assigned faculty advisor from their very first day on campus. The faculty advisor assists in the development of an individualized academic program designed to meet the student's career goals. The student and the faculty advisor work together to keep the student's individualized program on track throughout their enrollment at Norwich. Committed to strong ties linking the classroom, the computer labs, and the real world, this program focuses extensively on the application of classroom work to solving real-world computer-design and computer-application problems.

Goals:

Graduates will be able to:

- Apply their knowledge of computer science to problems encountered in their professional careers or in pursuit of advanced degrees;
- Use evolving technologies, analytical thinking, and design to address contemporary issues;
- Communicate well orally and in writing, interact professionally, and work effectively on multidisciplinary teams to achieve project objectives; and
- Uphold high ethical standards, including concern for the impact of computing on individuals, organizations, and society.

Outcomes:

Upon graduation, students will:

- Be competent in theoretical and mathematical foundations of computer science;
- Be proficient in at least one programming language and have a basic knowledge of at least one other;
- Understand the hardware and software architecture of computer systems;
- Demonstrate the ability to participate in professional practices related to software engineering;
- Be able to communicate effectively about computer science-related topics; and,
- Demonstrate the ability to be responsible practitioners of computer science and understand the social and ethical implications of computing.

Careers for this Major:

- Chief Information Officer
- Chief Technical Officer
- Computer Support Specialist
- Information Systems Manager
- Network Administrator
- Software Engineer
- Software Tester
- Systems Administrator

Major

Computer Science (B.S.) – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
CS 100 Foundations of Computer Science and Information Assurance [1]	3		CS 142 Introduction to Python Programming	3	
CS 111 Personal & Professional Cyber Safety	1		EN 102 Composition and Literature II	3	
EN 101 Composition and Literature I	3		MA 121 Calculus I (General Education Math)	4	
General Education History (p. 9)	3		General Education Arts & Humanities (p. 9)	3	

MA 107 Precalculus Mathematics [2]	4		General Education Leadership (p. 13)	1-3	
Fall Semester Total Cr.:	14		Spring Semester Total Cr.:	14-16	
SOPHOMORE					
Fall			**Spring**		
CS 140 Programming and Computing [1]	4		CS 228 Introduction to Data Structures	3	
EE 215 Fundamentals of Digital Design	4		CS 240 Database Management	3	
General Education Lab Science (p. 9)	4		CS 260 Data Communications and Networks	3	
MA 122 Calculus II (General Education Math)	4		General Education Lab Science (p. 9)	4	
			Free Elective	3	
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	16	
JUNIOR					
Fall			**Spring**		
EE 321 Embedded Systems	4		CS 270 Operating Systems & Parallelism	3	
CS 212 Assembly Language & Reverse Engineering	3		CS 301 Software Engineering	3	
MA 306 Discrete Mathematics	3		MA 380 Theory of Computation	3	
Technical Elective [3,4]	3		Technical Elective [3,4]	3	
QM 213 Business and Economic Statistics I or MA 232 Elementary Statistics	3		Free Elective	3	
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	15	
SENIOR					
Fall			**Spring**		
CS 420 Computer Science capstone I or 430 Computer Science Undergraduate Thesis I	3		CS 421 Computer Science capstone II or 431 Computer Science Undergraduate Thesis II	3	
PH 215 Survey of Ethics (General Education Ethics) or 322 Money, Meaning and Morality	3		General Education Social Science (p. 9)	3	
General Education Literature (p. 9)	3		Mathematics Elective [5]	3	
Technical Elective [3,4]	3		Technical Elective [3,4]	3	
Free Elective	3		Free Elective	3	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	15	
TOTAL CREDITS FOR THIS MAJOR: 121-123					

1 Must earn a grade of “C” or higher

2 Enrollment requires a math placement exam (MPE) score of 2. Students scoring below 2 must successfully complete the appropriate necessary prerequisite math courses first. With a math placement score of 3 a free elective may be substituted for the MA 107 requirement credit hours

3 Any non-duplicate course from CS (higher than CS 249; excluding CS300), from DF (DF 242 or higher), from EE (EE 200 or higher), or from IA (IA 241 or higher).

4 Earned internship credit (CS410) may be applied to not more than two technical electives

5 MA 223, MA 224, MA 240, MA 241, MA 309, MA 318, or MA 421

Minor

Computer Science Minor - Curriculum Map 2020-2021

All six courses require a grade of C or higher. Please also refer to the course descriptions for any course prerequisites.

CS 140	Programming and Computing	4
CS 228	Introduction to Data Structures	3
EE 215	Fundamentals of Digital Design	4
MA 306	Discrete Mathematics	3
Minor Elective Courses: choose two of the following		**6**
CS 212	Assembly Language & Reverse Engineering	3
CS 240	Database Management	3
CS 250	Virtual Systems Administration	3
CS 260	Data Communications and Networks	3
CS 270	Operating Systems & Parallelism	3
CS 280	Introduction to Data Science	3

CS 290	Contemporary Data Visualization	3
CS 301	Software Engineering	3
CS 305	Advanced Data Science	3
CS 315	Intro to Data & Web Mining	3
CS 437	Machine Learning & Artificial Intelligence	3
Total Cr.		20

Computer Security & Information Assurance

Professors Michael Battig, Mich Kabay and Huw Read; Associate Professors Matthew Bovee, Jeremy Hansen, and Charles Snow; Assistant Professor Ahmed Abdeen Hamed; Lecturer Kris Rowley.

Center of Academic Excellence in Digital Forensics and Cyber Defense Education

Norwich University is one of very few academic institutions to be designated as both a Center of Academic Excellence in Cyber Defense Education (https://www.nsa.gov/resources/educators/centers-academic-excellence/cyber-defense/) (since 2001, by the *National Security Agency* of the United States of America) and a Center of Digital Forensics Academic Excellence (http://www.dc3.mil/) (since 2012, by the *Defense Cyber Crime Center* of the United States Air Force Office of Special Operations). These designations recognize Norwich's significant contribution in meeting the national demand for digital-forensics and information-assurance education, developing a growing number of professionals with expertise in both areas, and ultimately contributing to the protection of the national critical information infrastructure.

Each student has an individually-assigned faculty adviser from their very first day on campus. The faculty adviser assists in the development of an individualized academic program designed to meet the student's career goals. The student and the faculty adviser work together to keep the student's program on track throughout their enrollment at Norwich. Committed to strong ties linking the classroom, the computer labs, and the real world, this program focuses extensively on the practical application of classroom work to solving real-world problems in forensics and information assurance and emphasis on professionalism and ethics in students' careers.

Instructors in this program utilize extensive real-world experiences when helping students become security professionals. Students learn to consider their fellow-employees as clients whose needs are to be heard and responded to effectively and efficiently.

The Computer Security and Information Assurance (http://catalog.norwich.edu/residentialprogramscatalog/collegeofprofessionalschools/schoolofbusinessandmanagement/csia/#majorsconcentrationstext) (CSIA) major provides a foundation of study in computer programming, digital forensics and information assurance, as well as in the liberal arts, mathematics, management, and the sciences. Students integrate knowledge from these disciplines to enter organizations with both practical, functional capabilities and an enterprise perspective. The curriculum of the major complies with the standards (http://niatec.info/viewpage.aspx?id=103) defined by the *Committee on National Security Systems* (CNSS (https://www.cnss.gov/cnss/)) required by the *National Information Assurance Training and Education Center* (NIATEC (http://niatec.info/ViewPage.aspx?id=0)). During their sophomore Spring, sophomore CSIA majors must choose at least one of the two available areas of specialization (called *concentrations*) – Forensics (http://catalog.norwich.edu/residentialprogramscatalog/collegeofprofessionalschools/schoolofbusinessandmanagement/csia/#majorsconcentrationstext) or Information Assurance Management (http://catalog.norwich.edu/residentialprogramscatalog/collegeofprofessionalschools/schoolofbusinessandmanagement/csia/#majorsconcentrationstext) (students can successfully complete both by taking a few additional courses per semester).

- The Forensics (http://catalog.norwich.edu/residentialprogramscatalog/collegeofprofessionalschools/schoolofbusinessandmanagement/csia/#majorsconcentrationstext) Concentration (p. 63) prepares graduates for practical application of current forensics theory, ethics, techniques, skills, and tools for all levels of digital-incident investigation relevant to solving policy violations and crimes. Students learn and apply foundational concepts, terminology and techniques ranging from the extraction and analysis of digital evidence, its sources and communication, to process-, system- and program-design.
- The Information Assurance (IA) Management Concentration (p. 63) prepares graduates to analyze requirements and implement measures to protect information confidentiality, control, integrity, authenticity, availability, and utility, and to maintain their technical and managerial competence in the face of ever-changing requirements and technology. Students integrate concepts, terminology, and techniques from information assurance, operations management, organizational psychology, and management principles for the effective development, implementation and management of IA in organizations. Students learn always to consider context, mission and organizational priorities when working on information security.

Goals:

To develop in or provide for students

- Foundational competency in liberal arts, mathematics, management, the sciences, and computer programming;
- An understanding and appreciation for the evolving nature and role of technology at all levels of society;
- An understanding of individual privacy rights and the impact of large-scale data collection and interconnected data sources;
- Multiple, differing perspectives on information security;
- Ethical decision-making principles for deciding how best to implement information assurance in all environments;
- Integrated knowledge and practical skills in digital forensics and information assurance;
- An appreciation for the organizational importance and applications of digital forensics and information assurance;
- Advanced specialization in the theory, practice, and application, of digital forensics or information-assurance management;
- Preparation to participate effectively with computer-security professionals in multiple environments, such as industry, government, military, and academia;

- A multidisciplinary perspective coupled with the commitment to integrate human factors for success in defending information resources; and,
- Readiness for continuing, perpetual education in a constantly changing field.

Outcomes:

Upon graduation successful students will competently demonstrate:

- Clear and effective communication of the fundamentals of computers, computer science, computer security, and information assurance;
- Facility in at least one programming language and a basic knowledge of at least one other;
- Ability to identify and discuss the fundamental hardware and software architecture of computer systems;
- Application of fundamental theory and practice of digital forensics, digital-incident investigation, and information assurance;
- Professional-level knowledge regarding cyber-law and cyber-crime, including: identifying and classifying cyber-crimes; the motivations of cyber-criminals; seizure and handling of computer-related evidence; admissibility of digital-incident evidence in courts of law; preparing and delivering professional testimony; and the key regulations and laws regarding cyber-crimes of varying types and jurisdictions;
- Ethical, responsible conduct, both personal and professional, in their computer-security and information-assurance practices consistent with the highest professional standards of the field; and
- Depth of knowledge and application of the concepts, terminology and techniques of their chosen concentration area.

Careers for this Major:

The CSIA curriculum provides a balanced foundation of both information assurance and digital forensics. The Information Assurance Management concentration emphasizes upper-level coursework associated with implementation, management and support of corporate networks, information, and cyber defense programs. The Forensics concentration emphasizes upper-level coursework on the skills, practices and policies of digital forensics and cyber-investigation. Norwich students can specialize in both areas. All organizations need professionals with *either* skill set. However, there is a tendency for IA Management to be more oriented toward careers with for-profit commercial and non-profit public organizations, and for Forensics to be more oriented toward careers with federal, state, and local government agencies. Students' elective course choices further widen the career opportunities open to them. Potential careers include:

- Computer Network Defense
- Counterintelligence
- Counter-Terrorism
- Cyber-Crime Investigation & Analysis
- Cyber-Forensics Investigation
- Cyber-Incident Analysis & Response
- Cyber-Intelligence
- Cyber-Security
- Cyber-Warfare and National Security
- Information Systems/Technology Management
- Malware Analysis
- Penetration Testing
- Threat Analysis
- Law Enforcement (federal, state, tribal, local)
- Legal Studies and Practice of Law as attorneys

Major & Concentrations

Computer Security & Information Assurance (B.S.) – Curriculum Map 2020-2021 Catalog

Students must declare either the Forensics Concentration, the Information Assurance Management Concentration, or both no later than the end of their sophomore year. See requirements below.

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
CS 100 Foundations of Computer Science and Information Assurance [1]	3		CS 142 Intro to Python Programming [1]		
CS 111 Personal & Professional Cyber Safety	1		EN 102 Composition and Literature II	3	
EN 101 Composition and Literature I	3		General Education History (p. 10)	3	
MA 107 Precalculus Mathematics [1]	4		General Education Leadership (p. 13)	1-3	
General Education Arts & Humanities (p. 10)	3		PY 211 Introduction to Psychology (General Education Social Science)	3	
Fall Semester Total Cr.:	14		Spring Semester Total Cr.:	10-12	

SOPHOMORE					
Fall			**Spring**		
CS 140 Programming and Computing [1]	4		CS 228 Introduction to Data Structures	3	
IA 241 Cyberlaw and Cybercrime	3		CS 260 Data Communications and Networks	3	
MA 240 Introduction to Number Theory and Cryptology (General Education Math)	3		EN 112 Public Speaking	3	
MG 341 Business Law I (General Education Ethics)	3		MA 318 Cryptology (General Education Math)	3	
Free Elective	3		Free Elective	3	
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	15	
JUNIOR					
Fall			**Spring**		
CS 212 Assembly Language & Reverse Engineering	3		CS 240 Database Management	3	
DF 242 Computer Forensics I	4		CS 301 Software Engineering	3	
IA 340 Introduction to Information Assurance	3		IA 342 Management of Information Assurance	3	
Concentration Elective [1]	3		Concentration Elective [1]	3	
Free Elective	3		Concentration Elective [1]	3	
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	15	
SENIOR					
Fall			**Spring**		
IA 455 Contemporary Issues in Information Assurance	3		IA 456 Cyber Defense Practicum (Capstone)	3	
QM 213 Business and Economic Statistics I or MA 232 Elementary Statistics	3		Concentration Elective [1]	3	
Concentration Elective [1]	3		Concentration Elective [1]	3	
General Education Literature (p. 10)	3		Free Elective	3	
General Education Lab Science (p. 11)	4		General Education Lab Science (p. 11)	4	
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	16	
TOTAL CREDITS FOR THIS MAJOR: 118-120					

1 Must earn a grade of “C” or higher

2 Enrollment requires a math placement exam (MPE) score of 2. Students scoring below 2 must successfully complete the appropriate necessary prerequisite math courses first. With a math placement score of 3 a free elective may be substituted for the MA 107 requirement credit hours.

Concentrations

Forensics Concentration 2020-2021 Catalog

All courses used to fulfill a concentration must be completed with a grade of C or higher.

Required Courses		
DF 311	Network Forensics	3
DF 312	Malware Forensics	3
DF 411	Cyber Investigation	3
DF 425	Advanced Digital Forensics	3
Elective Courses - Choose six (6) non-duplicate credit hours from the following courses:		
CS 221	GUI Programming	3
CS 250	Virtual Systems Administration	3
CS 270	Operating Systems & Parallelism	3
CS 280 Intro to Data Science		3
CS 290 Contemporary Data Visualization		3
CS 305 Advanced Data Science		3
CS 315 Intro to Data & Web Mining		3
CS 330	Ethics in Computing and Technology	3
CS 406	Special Topics in Computer Science [1]	1-4
CS 407	Politics of Cyberspace	3
CS 410	Computing Internship [1,2,3]	1-6
CS 437 Machine Learning & Artificial Intelligence		3
IA 360	Network Security	3

MG 309	Management of Organizations	3
MG 346	Business Law II	3
MG 351	Organizational Behavior	3
PY 234	Forensic Psychology	3
Total Cr.		18

1 May be taken more than once for credit by approval, contingent on different Topic titles

2 Maximum of 18 credits allowed

3 Earned internship credit may be applied to not more than two required CS/CSIA major technical/concentration electives

Information Assurance Management Concentration 2020-2021 Catalog

All courses used to fulfill a concentration must be completed with a grade of C or higher.

Required Courses		
CS 270	Operating Systems & Parallelism	3
IA 360	Network Security	3
MG 309	Management of Organizations	3
MG 351	Organizational Behavior	3
Elective Courses - Choose six (6) non-duplicate credit hours from the following courses:		
CS 221	GUI Programming	3
CS 250	Virtual Systems Administration	3
CS 280 Intro to Data Science		3
CS 290 Contemporary Data Visualization		3
CS 305 Advanced Data Science		3
CS 315 Intro to Data & Web Mining		3
CS 330	Ethics in Computing and Technology	3
CS 406	Special Topics in Computer Science [1]	1-4
CS 407	Politics of Cyberspace	3
CS 410	Computing Internship [1,2,3]	1-6
CS 437 Machine Learning & Artificial Intelligence		3
DF 311	Network Forensics	3
DF 312	Malware Forensics	3
DF 411	Cyber Investigation	3
DF 425	Advanced Digital Forensics	3
MG 346	Business Law II	3
PY 234	Forensic Psychology	3
Total Cr.		18

1 May be taken more than once for credit by approval, contingent on different Topic titles

2 Maximum 18 credits allowed

3 Earned internship credit may be applied to not more than two required CS/CSIA major technical/concentration electives

Construction Management

Charles A. Dana Professor Michael Puddicombe; Professor Edwin Schmeckpeper (Chair); Associate Professors Nadia Al-Aubaidy, Michael Kelley, Tara Kulkarni, Jack Patterson, Adam Sevi, and Moses Tefe; Lecturer Mark Atwood

In any given construction project the disciplines of architecture, engineering, and management converge. Recognizing this fact is a student's first step towards becoming a real-world leader in the fields of project and construction management. The second step is taken by enrolling in Norwich University's Construction Management degree program, where students learn the foundational skills necessary to take projects from the conceptual stage straight through to the grand opening ceremony.

Mission:

- Prepare students to excel in construction management and related fields.
- Make clear to students that above all else, the Construction Management profession is committed to bettering the world.
- Provide fundamental, hands-on education in the construction management field.
- Foster creativity, critical thinking, and problem solving abilities and motivate students to consider the impact of their work on society
- Enable students to be leaders in their profession, community, nation, and the world.

Goals:

Construction Management students are taught to assess, strategize, and execute projects from an interdisciplinary approach in which facets of architecture, engineering, and management are taken into account. Along with business, engineering and architecture courses, students are required to take Construction Management courses specifically

designed to prepare students for situations they may encounter while on the job site and in the office. Additionally, core studies include courses in the humanities, social sciences, mathematics and sciences.

The Program Educational Objectives (PEO's) of the Construction Management Program are to produce graduates who, within two to four years after graduation are able to:

- Lead project teams in their chosen field progressively rising to positions of technical or managerial leadership.
- Be respected and recognized for technical and managerial competence in the creation of solutions that balance sustainability, societal and economic issues.
- Become active citizens in their profession, community, the nation and the world.
- Communicate to both technical and non-technical audience.
- Actively engage in continuing education throughout life.

Students who are awarded the Bachelor of Science in Construction Management, may sit for the Associated Constructors (AC) and/or the Construction Management in Training Exams (CMIT) exams. These students must have a foundational understanding of:

- Construction project management from pre-design through commissioning
- project life-cycle and sustainability
- health and safety, accident prevention, and regulatory compliance
- law, contract documents administration, and dispute prevention and resolution
- materials, labor, and methods of construction
- finance and accounting principles
- planning and scheduling
- cost management, plan reading, quantity takeoff and estimating
- project delivery methods
- leadership and people management
- business and communication skills

Outcomes:

At the time of graduation, students in the Construction Management Program will be expected to have developed and demonstrated an ability to:

1. identify, formulate, and solve broadly defined technical or scientific problems by applying knowledge of mathematics and science and/or technical topics to areas relevant to the discipline
2. formulate or design a system, process, procedure or program to meet desired needs
3. develop and conduct experiments or test hypotheses, analyze and interpret data and use scientific judgment to draw conclusions
4. communicate effectively with a range a audiences
5. understand ethical and professional responsibilities and the impact of technical and or scientific solutions in global, economic, environmental and societal contexts
6. function effectively on teams that establish goals, plan tasks, meet deadlines and analyze risk and uncertainty
7. acquire and apply new knowledge as needed, using appropriate learning strategies

Careers for this Major:

Graduates from this program manage varying job demands and requirements and are capable of adapting to rapidly changing technology. Whether working for a private construction firm, engineering firm, government agency, real estate developer, or Industry, there are many areas in which construction managers can focus. A few of the major specialties include:

- Construction management
- Construction supervision
- Construction inspection
- Safety inspection
- Project estimation
- Project development

To learn more about employment opportunities in Construction Management, please visit: http://careers.asce.org.

Accreditation:

The Construction Management Program is accredited by the Applied and Natural Science Accreditation Commission (ANSAC) of ABET, http://www.abet.org, 415 N. Charles Street, Baltimore, MD 21201, (410) 347-7700.

Major

Construction Management (B.S.) – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
CH 103 General Chemistry I (General Education Lab Science) or GL 110 Introduction to Geology	4		EG 110 Introduction to Engineering II	3	
EG 109 Introduction to Engineering I	3		EN 102 Composition and Literature II	3	
EN 101 Composition and Literature I	3		MA 108 Applied Calculus (General Education Math) or 121 Calculus I	4	
MA 107 Precalculus Mathematics (General Education Math)	4		SA 112 Foundations of Art and Architecture II (General Education Arts & Humanities)	3	
General Education Leadership (p. 9)	1-3		General Education History/Literature (p. 9)	3	
Fall Semester Total Cr.:	15-17		Spring Semester Total Cr.:	16	
SOPHOMORE					
Fall			**Spring**		
AP 225 Introduction to Passive Environmental Systems	3		AP 325 Materials, Construction, and Design	3	
CE 211 Surveying	3		CE 214 Site Development and Engineering	4	
CE 264 Specifications and Estimating	1		EM 210 Building Information Modeling and Integrated Practices	4	
EC 202 Principles of Economics (Micro) (General Education Social Science)	3		EM 220 Advanced Project Estimating	3	
EN 204 Professional and Technical Writing	3		QM 213 Business and Economic Statistics I or MA 232 Elementary Statistics	3	
PS 201 General Physics I (General Education Lab Science)	4				
Fall Semester Total Cr.:	17		Spring Semester Total Cr.:	17	
JUNIOR					
Fall			**Spring**		
AP 327 Active Building Systems I	3		CE 457 Wood, Steel, and Concrete Structures	4	
CE 336 Introduction to Transportation Engineering	3		EM 320 Construction Productivity	3	
CE 351 Statics and Mechanics of Materials	4		EM 322 Construction Safety	3	
CE 460 Construction Management	3		EM 324 Special Construction Systems	3	
EG 350 Engineering Economics and Decision Analysis	3		General Education History/Literature (p. 9)	3	
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	16	
SENIOR					
Fall			**Spring**		
CE 321 Materials Laboratory	1		EM 480 Senior Design Project II (Capstone)	3	
CE 458 Structural Issues for Construction	3		CE 446 Soils in Construction	4	
EG 044 Conference	0		MG 310 Production/Operations Management	3	
EM 399 Pilot Course	3		MG 351 Organizational Behavior	3	
EM 401 Pre-Construction Management	3		Free Elective	3	
EM 461 Project Management	3				
EM 479 Senior Design Project I	3				
MG 341 Business Law I (General Education Ethics)	3				
Fall Semester Total Cr.:	19		Spring Semester Total Cr.:	16	
TOTAL CREDITS FOR THIS MAJOR: 132-134					

Minor

Construction Management Minor 2020-2021 Catalog

Engineering majors may choose this minor. All courses must be completed with a grade of C or higher.

A) Two courses from either one of the following lists:

List of Architecture Courses		
AP 211	Architectural Design I	5
AP 212	Architectural Design II	5

AP 221	Site Development and Design	3
AP 222	Human Issues in Design	3
AP 225	Introduction to Passive Environmental Systems	3
AP 311	Architectural Design III	5
AP 312	Architectural Design IV	5
AP 325	Materials, Construction, and Design	3
AP 411	Architectural Design V	5
AP 412	Architectural Design VI	5
List of Civil Engineering Courses		
CE 211	Surveying	3
CE 214	Site Development and Engineering	4
CE 328	Soil Mechanics	4
CE 332	Engineering Hydrology	3
CE 336	Introduction to Transportation Engineering	3
CE 348	Structural Analysis	3
CE 419	Foundation Engineering	3
CE 421	Environmental Engineering	4
CE 422	Waste and Water Treatment	3
CE 442	Design of Steel Structures	3
CE 444	Reinforced Concrete Design	3
B) Plus four courses from the following:		**12**
EG 350	Engineering Economics and Decision Analysis	3
CE 460	Construction Management	3
EM 210	Building Information Modeling and Integrated Practices	4
EM 220	Advanced Project Estimating (formerly EM 302-Supply Chain Management)	3
EM 320	Construction Productivity	3
EM 322	Construction Safety	3
EM 324	Special Construction Systems	3
EM 401	Pre-Construction Management	3
EM 461	Project Management (formerly EM 301-Project Management)	3
Total Cr.		18

Criminal Justice

Professors William Clements and Penny Shtull; Associate Professors Elizabeth Gurian (Associate Director), W. Travis Morris (Director); Assistant Professors Matthew Fischer, Connie Hassett-Walker, Stephanie Maass, Robert VandenBerg; Lecturer Anne Buttimer. David Sem (Internship Coordinator)

The baccalaureate program in Criminal Justice provides its students with a liberal arts-based education that emphasizes critical thinking and knowledge about crime, criminal law, the criminal justice system, and the sociocultural environment in which human behavior occurs. The program emphasizes the interdependence between theoretical and research knowledge and practice. It also strives to cultivate a commitment to the principles of justice, ethics, and public service and the development of leadership skills.

Goals:

- Knowledge--Graduates will demonstrate superior knowledge of criminology, criminal law, and the criminal justice system compared to their peers from similar programs.
- Skills--Graduates will have the critical thinking and communication skills to analyze and articulate the effectiveness, ethical underpinnings and theoretical basis of criminal justice and social policies, programs and practices.
- Careers--Graduates will possess the knowledge, skills, and abilities to obtain employment in their desired career field, and/or to gain acceptance to graduate school.
- Values--Graduates will exhibit professionalism, leadership, and a commitment to lifelong learning through their careers and/or in their public service.

Outcomes:

Upon graduation, students will demonstrate a comprehensive knowledge of the field as measured by the following assessment indicators of the ETS (Educational Testing Service) Field Test in Criminal Justice:

- Theories of Criminal Behavior
- The Law
- Law Enforcement
- Corrections
- The Court System
- Critical Thinking
- Research Methodology and Statistics

Careers for this Major:

- federal or state/local law enforcement
- intelligence agents
- private and corporate security personnel
- state and local police officers
- probation and parole officers
- crime analysts
- attorneys

Certification:

The Criminal Justice program is certified by the Massachusetts Department of Higher Education for the Police Career Incentive Pay Program (PCIPP) or Quinn Bill.

Major Criminal Justice

Criminal Justice (B.A.) – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
CJ 101 Introduction to Criminal Justice [c]	3		CJ 102 Criminal Law [c]	3	
EN 101 Composition and Literature I	3		EN 102 Composition and Literature II	3	
Modern Language OR (p.) [3]	4		Modern Language OR (p.) [3]	4	
General Education Lab Science (p. 9) [3]			General Education Lab Science (p. 9) [3]		
SO Elective [1]	3		General Education Math (p. 9)	3	
			PY 211 Introduction to Psychology (General Education Social Science) [5]	3	
Fall Semester Total Cr.:	13		Spring Semester Total Cr.:	16	
SOPHOMORE					
Fall			**Spring**		
CJ 209 Methods of Social Science Research	4		CJ 201 Criminology [c]	3	
General Education Lab Science OR (p. 9) [3]	4		General Education Literature (BA Intercultural) (p. 9) [2]	3	
Modern Language (p.) [3]			General Education History (p. 9)	3	
MA 232 Elementary Statistics (General Education Math)	3		General Education Lab Science OR (p. 9) [3]	4	
Social Science or Business Elective [4]	3		Modern Language (p.) [3]		
Free Elective	3		Free Elective	3	
Fall Semester Total Cr.:	17		Spring Semester Total Cr.:	16	
JUNIOR					
Fall			**Spring**		
CJ 301 Criminal Procedure [c]	3		CJ 310 The Courts [c]	3	
CJ 308 The Police [c]	3		CJ 312 Corrections [c]	3	
PH 324 Criminal Justice Ethics (General Education Ethics)	3		CJ Elective [c]	3	
SO 214 Racial and Cultural Minorities (BA Intercultural)	3		DF 395 Cyber Criminalistics	3	
Free Elective	3		Free Elective	3	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	15	
SENIOR					
Fall			**Spring**		
CJ Elective [C]	3		CJ 410 Senior Seminar (Capstone) [c]	3	
General Education Arts & Humanities (p. 9)	3		CJ Elective [c]	3	
PO 321 U.S. Constitutional Law (or Free Elective if taking PO 324 in Spring)	3		General Education Leadership (p. 9)	1-3	
Free Elective	3		PO 324 Civil Liberties (or Free Elective only if PO 321 taken in fall)	3	

Free Elective	3		Free Elective	3	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	13-15	
TOTAL CREDITS FOR THIS MAJOR: 120-122					

c Grade of C or higher is required

1 Preferably SO 201 OR SO 202; excludes SO 209 and SO 214

2 Consider taking a course that is identified on both lists. If not, an additional course must be added at some point in the curriculum to complete the requirement not fulfilled.

3 The Modern Language Requirement and General Education Science Lab can be taken within the first two years.

4 Any other social science course in course subject areas of: sociology, psychology, history, or political science. The course cannot be shared with the General Education Goal 5. Or the following: AC 201, EC 201, EC 202, MG 309, MG 341, MG 351, MG 409

5 Any PY course permitted

Major Criminal Justice-Criminology Conc.

Criminal Justice (B.A.) Criminology Conc. – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
CJ 101 Introduction to Criminal Justice [c]	3		CJ 102 Criminal Law [c]	3	
EN 101 Composition and Literature I	3		EN 102 Composition and Literature II	3	
Modern Language OR (p.)	4		Modern Language OR (p.)	4	
General Education Lab Science (p. 9)			General Education Lab Science (p. 9)		
SO Elective [5]	3		General Education Leadership (p. 9)	1-3	
			General Education Math (p. 9)	3	
			PY 211 Introduction to Psychology (General Education Social Science) or 212 Abnormal Psychology	3	
Fall Semester Total Cr.:	13		Spring Semester Total Cr.:	17-19	
SOPHOMORE					
Fall			**Spring**		
CJ 209 Methods of Social Science Research [c] or PY 313 Experimental Psychology I	4-3		CJ 201 Criminology [c]	3	
MA 232 Elementary Statistics	3		General Education History (p. 9) [1]	3	
General Education Lab Science OR (p. 9)	4		General Education Lab Science OR (p. 9) [2]	4	
Modern Language (p.) [2]			Modern Language (p.)		
Social Science or Business Elective [4]	3		General Education Literature (BA Intercultural) (p. 9) [3]	3	
Free Elective	3		Free Elective	3	
Fall Semester Total Cr.:	17-16		Spring Semester Total Cr.:	16	
JUNIOR					
Fall			**Spring**		
CJ 301 Criminal Procedure [c]	3		CJ 310 The Courts [c]	3	
CJ 308 The Police [c]	3		CJ 312 Corrections [c]	3	
PH 324 Criminal Justice Ethics (General Education Ethics)	3		DF 395 Cyber Criminalistics	3	
SO 214 Racial and Cultural Minorities (BA Intercultural)	3		Concentration Requirement [c,6]	3	
Concentration Requirement [c,6]	3		Free Elective	3	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	15	
SENIOR					
Fall			**Spring**		
CJ 316 Criminal Violence [c]	3		CJ 410 Senior Seminar (Capstone) [c]	3	

PO 321 U.S. Constitutional Law (or Free Elective if taking PO 324 in Spring)	3		PO 324 Civil Liberties (or Free Elective only if PO 321 taken in fall)	3	
General Education Arts & Humanities (p. 9)	3		Free Elective	3	
CJ Concentration Requirement [c,6]	3		Free Elective	3	
Free Elective	3				
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	12	
TOTAL CREDITS FOR THIS MAJOR: 120-121					

c Grade of C or higher is required

1 Preferably HI 121, HI 122 HI 235, HI 236

2 The Modern Language Requirement and General Education Science Lab can be taken within the first two years.

3 Consider taking a course that is identified on both lists. If not, an additional course must be added at some point in the curriculum to complete the requirement not fulfilled.

4 Any other social science course in course subject areas of: sociology, psychology, history, or political science. The course cannot be shared with the General Education Goal 5. Or the following: EC 201, EC 202, MG 309, MG 341, MG 351, MG 409

5 Preferably SO 201 or SO 202; excludes SO 209 and SO 214

6 Concentration requirement: select three of the following (at least one must be CJ): CJ 304, CJ 306, CJ 320, CJ 330, CJ 425, CJ 444, IA 241, PY 212, PY 234, PY 314, PY 344

Minor

Criminal Justice Minor 2020-2021 Catalog

For the minor in Criminal Justice, the student must complete six courses (18 degree credits) with a grade of C or higher that must include:

CJ 101	Introduction to Criminal Justice	3
CJ 102	Criminal Law	3
CJ 201	Criminology	3
Select two of the following:		6
CJ 308	The Police	3
CJ 310	The Courts	3
CJ 312	Corrections	3
CJ 341	Cyber Law and Cyber Crime	3
One CJ Elective Course (excludes CJ 209)		3
Total Cr.		18

Criminology

Overview

Criminology

Criminology focuses on describing different types of crime and causes of criminal behavior, while criminal justice refers to the system in which criminals are processed and punished. Given the interdisciplinary nature of this degree, students with a criminology minor could pursue job opportunities in social and human service occupations related to criminal, juvenile, and social justice. The minor prepares students for a wide variety of career options and provides an excellent basis for graduate study in criminology, other social sciences, and law.

Minor

Criminology Minor 2020-2021 Catalog

For the minor in Criminology, the student must complete six courses (no less than 18 credits) with a grade of C or higher, from the following requirements:

CJ 201	Criminology	3
CJ/SO 209	Methods of Social Science Research	4-3
or PY 313	Experimental Psychology I	
CJ 316	Criminal Violence	3
Select three of the following (one must be a CJ course subject)		
CJ 304	Juvenile Delinquency	3
CJ 306	Victimology	3
CJ 320	Drugs and Society	3
CJ 330	Terrorism	3
CJ 424	Murder: Our Killing Culture	3
CJ 425	Domestic Violence	3
PY 212	Abnormal Psychology	3
PY 234	Forensic Psychology	3
PY 314	Experimental Psychology II	3

PY 344	Cognition	4
Total Cr.		18

Design Arts

Professors Arthur Schaller and Aron Temkin; Associate Professors Cara Armstrong, Wendy Cox, Eleanor D'Aponte, Jason Galligan-Baldwin, Danny Sagan; Lecturer Cara Armstrong;

Developed for students who are curious, artistic, and want to develop their talents for practical solutions, the Design Arts program nurtures critical thinking and merges historical and digital practices in art, fine craft, and industry. In collaboration with the Vermont Granite Museum's Stone Arts School, in Barre, the self-proclaimed "Granite Center of the World," we aim to be North America's premier source of stone arts information and education by merging historical and digital practices in art, fine craft and industry.

Drawing on the School's emphasis on human-centered design as well as Design Build, the program teaches students to use critical thinking and the design process itself to bring new value to citizens, communities, and companies. Professors with expertise in a wide range of areas guide students in researching user experiences to create well-conceived and executed projects.

Each year, progressively more challenging studio projects enable majors to build an awareness of materials and gain an in-depth understanding of visual and 3D vocabulary through hands-on work. Professors emphasize both the traditional values behind the design arts and current trends in the profession as students progress from drawing, to three-dimensional mock-ups and models, to working drawings and prototypes.

A Design Arts major is an introduction to the profession, where students learn vital technical, artistic, design, and communication skills. The first year of the program provides a foundation in Art and Architecture. In the second year, students begin to understand the historical context of the design arts. They receive skill-based exposure to both traditional and state-of-the art techniques for visualization. Through hands-on making, students begin to understand materials and the design possibilities inherent in them.

Third year encourages students to learn various advanced techniques and tools, to further experiment with the elements and principles of 2-D and 3-D design through the critique of historical works and hands-on exercises, and to develop their own sophisticated body of work and an individualized area of study. A semester at CityLAB: Berlin provides enrichment and global perspectives to the course of study.

During fourth year, students learn more about legal and business practices in the profession and undertake projects that emphasize innovation and the ability to refine formal design issues. A capstone project and apprenticeship/ internship provides a practical connection between academic studies and potential career paths.

The School of Architecture + Art fosters a natural and effective mentoring relationship between faculty and students and allows students to develop their own visions as designers. We offer our students the education necessary for the practice of the design arts in their fullest sense: to design, make, and build in a way that embodies cultural meaning, employs technology wisely, and contributes to the larger community. To this end, we seek to instill in students the core values of comprehensive knowledge, holistic awareness, continual innovation, active cooperation, and ethical responsibility through a balanced curriculum comprising observation, analysis, exploration, iteration, and synthesis, grappling throughout with abstract as well as concrete material, intellectual as well as hands-on experience.

We endeavor to contribute to the making of meaning and the meaning of making.

Goals:

Students of the Design Arts Program will:

- Be respected and recognized for technical competence in the creation of design arts projects
- Conceptualize and develop ideas imaginatively and accurately in three dimensions
- Develop material ideas with facility, clarity and rigor
- Exercise collaborative skills for working across disciplines and in multidisciplinary fields
- Communicate to both technical and non-technical audiences.
- Actively engage in continuing education throughout life.
- Be recognized for their leadership skills and their abilities to work with all people.

Outcomes:

Design Arts majors will:

- Gain a way of thinking, rooted in the iterative, test-and-learn approach to creativity and innovation.
- Learn to utilize techniques, skills, conventions, and modern digital and hand tools and techniques necessary for professional practice.
- Be trained in the ethics of the profession and learn to make ethical decisions.
- Function as a member of a multidisciplinary team and be able to assume leadership roles on the team.
- Learn contemporary design production techniques, which blend traditional arts with modern technical expertise, such as computation and computer numeric control machinery.
- Learn to market what you make by complementing your core study with personal finance/business and general education courses.
- Graduate ready to compete in multidisciplinary fields with facility, clarity and rigor, after further developing your knowledge in internships with business and industry partners.

Careers for this Major:

- Fabricator
- Conservator
- Shop Manager
- Design consultant
- Artist
- Manufacturing and sales
- Granite, quarry, and industrial corporations
- Construction
- Public and private institutions
- Academia

Accreditation:

The Design Arts program is designed to be accredited by the National Association of Schools of Art and Design (NASAD) which establishes national standards for undergraduate and graduate degrees and other credentials for art and design and art/design-related disciplines, and provides assistance to institutions and individuals engaged in artistic, scholarly, educational, and other art/design-related endeavors.

Major

Design Arts (B.S.) – Curriculum Map 2020-2021 Catalog

Freshman			
Fall	**Cr.**	**Spring**	**Cr.**
AP 111 Fundamentals of Architecture	4	AP 118 Fundamentals of Architecture II	4
SA 111 Foundations of Art and Architecture I (General Education Goal 3: Arts/Humanities)	3	SA 112 Foundations of Art and Architecture II	3
EN 101 Composition and Literature I (General Education Goal 1)	3	EN 102 Composition and Literature II (General Education Goal 1)	3
HI 107 The History of Civilization I (General Education Goal 3: History)	3	General Education Math (p. 9)	3
General Education Math (p. 9)	3	SA 100-Level Elective	3
Semester Total Credits	16	Semester Total Credits	16
Sophomore			
Fall	**Cr.**	**Spring**	**Cr.**
SA 200-Level Elective	3	FA 202 History/Theory of Architecture II	3
SA 200-Level Elective	3	Free Elective	3
FA 221 History of Visual Arts I: Prehistoric to 1350	3	SA 200-Level Elective	3
General Education Lab Science (p. 9)	3-4	SA 200-Level Elective	3
General Education Literature (p. 9)	3	General Education Lab Science (p. 9)	4
Semester Total Credits	15-16	Semester Total Credits	16
Junior			
Fall	**Cr.**	**Spring**	**Cr.**
SA 300-Level Elective	3	SA 300-Level Elective	3
SA 300-Level Elective	3	FA 250: Berlin: Inventing the Modern City	3
FA 250 Topics in Art	3	FA 250: Urban Landscape Public and Open Space	3
MG 230 Personal Financial Literacy	3	SO 218 Intro to Cultural Competence (General Education: Goal 5)	3
Free Elective	3	Free Elective[1]	3
Semester Total Credits	15	Semester Total Credits	15
Senior			
Fall	**Cr.**	**Spring**	**Cr.**
SA 402 Design Arts Capstone (General Education Capstone)	6	SA 404 Design Arts Internship	6
FA 250 Topics in Art History	3	FA 250 Topics in Art History	3
SA 400 Business of Being an Artist	3	Free Elective (General Education: Goal 8)	3
MG 341 Business Law I (General Education: Goal 6)	3		
Semester Total Credits	15	Semester Total Credits	12
Total Credits For This Major: 120-121			

1 GR 350 is required for those who study in Germany; otherwise free elective.

Economics

Professor D. William Jolley; Associate Professors David Blythe and Thomas Yandow; Assistant Professors Alex Chung and Kahwa Douoguih; Lecturer James Rogler.

The Economics minor provides an introduction to the field and provides non-business majors with an understanding of key finance concepts. Students seeking a minor in Economics must obtain the approval of the School Director and complete each of the required courses with a grade of C or higher.

Minor

Economics Minor 2020-2021 Catalog

- Students seeking a minor in Economics must obtain the approval of the School Director
- Complete all 6 courses with a grade of C or higher.

EC 201	Principles of Economics (Macro)	3
EC 202	Principles of Economics (Micro)	3
EC 310	Money and Banking	3
EC 406	Public Finance	3
Two additional courses numbered 300 or above in Economics (EC), Finance (FN) or Quantitative Methods (QM).		6
Total Cr.		18

Education

Program Director: Visiting Associate Professor Rommy Fuller

Program Overview:

The Education program has majors leading to a BS in Elementary Education, a BS in Physical Education preK-12, and Mathematics students may work toward a second major in Education if they are interested in teaching at the secondary level. Mathematics students interested in pursuing a recommendation for a teaching license in the State of Vermont must complete all of the designated requirements for the Mathematics major, and they must complete a sequence of Education courses to help prepare them to become secondary mathematics teachers.

Mission:

The Education majors provide essential course content and preparation in knowledge and performance standards set forth by the State of Vermont Agency of Education in their Core Teaching Standards. The Education program is in line with the Interstate New Teacher Assessment and Support Consortium standards from which Vermont's Core Teaching Standards were adapted. Education programming also fulfills the endorsement standards outlined by the Vermont Agency of Education for each area of Education-related licensure that is offered at NU. Norwich University hopes to contribute to the important field of education by producing well-prepared, dynamic educators who will have a positive impact on their students.

Goals:

- To foster student knowledge and to promote student acquisition of the dispositions and practices of professional educators.
- To guide and develop students through the process of becoming a teacher.
- To prepare students for lifelong career development.

Outcomes:

- Students will be able to apply their knowledge of learner development, learner differences, learning environments, content knowledge, and assessment to plan for and execute instruction using a variety of different instructional strategies that meet the needs of all learners.
- Students will be able to apply content in authentic, meaningful ways that promotes critical thinking, problem solving, creativity, and engagement for their students.
- Students will analyze the field of education including major concepts of teaching and learning, theoretical constructs, and historical foundations.
- Students will reflect on their own development as a teacher in order to set a pattern of life-long, professional learning, and ethical practice.
- Students will demonstrate growth in teaching skills, strategies, and dispositions.
- Students will demonstrate their ability to provide culturally-responsive teaching that aims to eradicate discrimination and bias in the classroom.

Careers for this Major:

- Classroom teacher: public school, private school
- Preparation for overseas schools for military dependents
- International teacher of English, or other subject matter
- Test preparation companies
- School support personnel
- Public or non-profit organizations which support education
- Tutoring and learning centers
- Graduate study in specialized fields such as: English Language Learning, Special Education, Curriculum & Instruction, College Professor, School Principal / Assistant Principal, Dean of Students, Behavioral Specialist, Reading Specialist, Math Specialist

Dual Options in Elementary Education

Though most Norwich Elementary Education students fulfill the requirements to be eligible for a teaching license, some students choose to pursue a degree in Elementary Education, but not licensure. To that end, the Education program offers a choice of two different options that will allow students to choose the path that meets their needs:

Option 1: Degree with Recommendation for License

These students fulfill all of the course requirements of the endorsement area including application to, and completion of Student Teaching. In order to be eligible for Student Teaching, students must meet all Praxis requirements for their endorsement area(s), and they must meet the GPA requirements set forth by the Vermont Agency of Education. Students must declare the Licensure option prior to application to Student Teaching. A student who does not meet the State of Vermont requirements for licensure may still obtain a B.S. in Elementary Education from Norwich University providing the student meets all requirements for the major except Student Teaching, and makes up Student Teaching credits following the requirements for the Degree only option.

Option 2: Degree with No License

These students fulfill all of the course requirements of the endorsement area except application to, and completion of Student Teaching. These students are not on track to be recommended for teaching licensure, but instead graduate with a B.S. in Elementary Education. They must fulfill the credits in lieu of Student Teaching with other courses directly related to the field of education. These courses are to be determined with their advisors, and will fulfill the upper level graduation requirements. The Degree option is ideal for students that wish to teach in a non-traditional setting (private schools, museums, daycare centers, private tutoring, etc.), internationally, or those who wish to seek a teaching license or pursue an educational specialist endorsement through graduate studies. The Degree option is also ideal for transfer students that would like a B.S. in Elementary Education, but do not want to stay for additional semesters in order to work through the requirements for licensure.

Admission to Student Teaching for Licensure Seeking:

Prior to being allowed into Student Teaching, students have senior standing, have completed all required courses for the endorsement areas being sought, have fulfilled GPA requirements (see below), have been recommended by faculty in both Education, and in the major / concentration, have passed Praxis requirements (see below), and completed the Application to Student Teach by the required deadline.

Grade Point Average Requirements for Licensure Seeking:

In order to successfully complete the Licensure option at Norwich University, students are required to have a 3.0 GPA both in Education, and overall. Secondary Education students must have achieved a 3.0 in Education courses, have a 3.0 in subject major courses, have a 3.0 average overall. This GPA requirement must be attained by Licensure option students before being placed in Student Teaching and before graduation. In order to be recommended for licensure, all Licensure option candidates must earn a B or better for Student Teaching.

Praxis Requirements for Licensure Seeking:

All Education majors seeking recommendation for licensure are required to take the Praxis Core Academic Skills for Educators (Core) test and the Praxis II Content Tests before they will be admitted into Student Teaching. The Praxis Core tests “measure academic skills in reading, writing, and mathematics deemed by teacher educators to be essential for all candidates preparing to be a teacher, no matter what content area or grade-level they aspire to teach” (ETS, 2019). Praxis Core should be taken and passed before the conclusion of the sophomore year. Praxis II is an assessment of content specific material and instructional pedagogy. For Elementary Education majors, this includes mathematics, language arts, science, and social studies. Praxis II should be taken around the spring of the junior year. Both Praxis tests are to be passed, with results received by the Director of Education Teacher Licensure prior to placement in Student Teaching. Other licensure requirements, such as the licensure portfolio and fingerprints, are articulated in the Student Teaching Handbook. All students preparing to Student Teach must apply by a specified deadline set forth by the Director of Education. The Student Teaching Application is available upon request, it will be sent via email to all Education students who have declared an Education major, and it will be discussed each fall at the Education Advising Plenary.

Core Concentration (CC) for Elementary Education Majors (Licensure):

Students studying Elementary Education who are seeking licensure must select 30 credits (nine of these credits should be at the 300-level or above) in one of the core academic areas below (may draw from General Education coursework):

- Language Arts (English, Spanish)
- The Sciences (Biology, Chemistry, Geology, Physics, Environmental Science)
- Mathematics
- Social Studies (History, Psychology, Political Science)

Elementary Education Major Licensure

Education/Elementary Teacher Licensure (B.S.) – Curriculum Map 2020-2021 Catalog

Must maintain a 3.0 cumulative Grade Point Average in the Education major.

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
EN 101 Composition and Literature I	3		EN 102 Composition and Literature II	3	
ED 104 Foundations of Education	3		ED 262 Child Growth and Development	3	
MA 160 Mathematics for Elementary School Teachers I	3		MA 161 Mathematics for Elementary School Teachers II (General Education Math)	3	
General Education History (p. 9)	3		Core Concentration Course	3	
PY 211 Introduction to Psychology (General Education Social Science)	3		Core Concentration Course	3	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	15	

SOPHOMORE					
Fall			**Spring**		
ED 234 Learning and Teaching Strategies	4		ED 315 Special Needs Child	3	
General Education Lab Science (p. 9)	4		General Education Lab Science (p. 9)	4	
General Education Literature (p. 9)	3		General Education Arts & Humanities (p. 9)	3	
Core Concentration Course	3		Core Concentration Course	3	
			Core Concentration Course	3	
Fall Semester Total Cr.:	14		Spring Semester Total Cr.:	16	
JUNIOR					
Fall			**Spring**		
ED 364 Language and Literacy I	4		ED 351 Methods of Teaching Science to Elementary Students	3	
MA 360 Teaching Mathematics at the Elementary - Middle School Level	3		ED 367 Language and Literacy II	3	
Core Concentration	3		PY 352 Learning and Memory	4	
Core Concentration	3		SO 214 Racial and Cultural Minorities	3	
Core Concentration	3		General Education Ethics (p. 9)	3	
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	16	
SENIOR					
Fall			**Spring**		
ED 377 Instructional Methods in the Social Studies	3		ED 425 Student Teaching (Capstone)	12	
ED 432 Curriculum & Methods of Instruction Capstone	4				
Core Concentration	3				
Core Concentration	3				
General Education Leadership (p. 9)	3				
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	12	
TOTAL CREDITS FOR THIS MAJOR: 120					

Core Concentration Courses

Elementary Education requires 30 credits of “core” study aside from Education coursework for licensure. Core subjects are typically described as language arts, mathematics, science, and social studies.

The Fifth-Year Program

For those with degrees in appropriate fields, an opportunity to become a candidate for licensure is provided through a “fifth-year” program. These students are non-matriculating students. Each candidate’s course work and experience are evaluated and a program of study is recommended. Typically, for candidates without education or psychology courses, the program takes 1-1/2 – 2 years to complete. Because of course sequencing, a candidate with some of the required courses must commit to a minimum of one year. Candidates must meet the same requirements for licensure as those students enrolled in the Education Major.

Vermont Licensure Portfolio

All licensure candidates are required to complete a portfolio. Development of the portfolio begins early on as candidates collect evidence that will be used in various parts of the portfolio. Substantial progress toward completion must be demonstrated before the student is admitted to Student Teaching. The portfolio must be completed and passing before final grades are submitted for Student Teaching in order for a candidate to be recommended for licensure.

Praxis Tests

In order to be recommended for licensure, candidates must achieve a passing score on the Praxis Core Academic Skills for Educators and the PRAXIS II Content Tests. These tests are discussed in detail with Education students during their individual advising times.

All students are required to pass PRAXIS I Core Academic Skills for Educators test and the Praxis II Content tests prior to placement in ED 425 Student Teaching.

Secondary Education (Math) Major

The Department of Psychology and Education offers only Secondary Licensure in Mathematics. To review the requirements, please review the Mathematics Department within the College of Science and Mathematics, Math Major with a Concentration in Secondary Education.

The Fifth-Year Program

For those with degrees in appropriate fields, an opportunity to become a candidate for licensure is provided through a "fifth-year" program. These students are non-matriculating students. Each candidate's course work and experience are evaluated and a program of study is recommended. Typically, for candidates without education or psychology courses, the program takes 1-1/2 – 2 years to complete. Because of course sequencing, a candidate with some of the required courses must commit to a minimum of one year. Candidates must meet the same requirements for licensure as those students enrolled in the Education Major.

Vermont Licensure Portfolio

All licensure candidates are required to complete a portfolio. Development of the portfolio begins early on as candidates collect evidence that will be used in various parts of the portfolio. Substantial progress toward completion must be demonstrated before the student is admitted to Student Teaching. The portfolio must be completed and passing before final grades are submitted for Student Teaching in order for a candidate to be recommended for licensure.

Praxis Tests

In order to be recommended for licensure, candidates must achieve a passing score on the Praxis Core Academic Skills for Educators and the PRAXIS II Content Tests. These tests are discussed in detail with Education students during their individual advising times.

All students are required to pass PRAXIS I Core Academic Skills for Educators test and the Praxis II Content tests prior to placement in ED 425 Student Teaching.

Education Non-licensure

Education Non-Licensure (B.S.) – Curriculum Map 2020-2021 Catalog

Freshman			
Fall	**Cr.**	**Spring**	**Cr.**
ED 104 Foundations of Education	3	EN 102 Composition and Literature II	3
EN 101 Composition and Literature I	3	ED 262 Child Growth and Development	3
MA 160 Mathematics for Elementary School Teachers I	3	MA 161 Mathematics for Elementary School Teachers II (General Education Math)	3
PY 211 Introduction to Psychology (General Education Social Science)	3	Free Elective	3
General Education History (p. 9)	3	Free Elective	3
Semester Total Credits	15	Semester Total Credits	15
Sophomore			
Fall	**Cr.**	**Spring**	**Cr.**
ED 234 Learning and Teaching Strategies	4	ED 315 Special Needs Child	3
General Education Lab Science	4	General Education Lab Science	4
General Education Literature (p. 9)	3	General Education Arts/Humanities (p. 9)	3
Free Elective[1]	4	Free Elective[1]	3
		Free Elective	3
Semester Total Credits	15	Semester Total Credits	16
Junior			
Fall	**Cr.**	**Spring**	**Cr.**
ED 364 Language and Literacy I[1]	4	ED 351 Methods of Teaching Science to Elementary Students	3
MA 360 Teaching Mathematics at the Elementary - Middle School Level	3	ED 367 Language and Literacy II[1]	3
General Education Ethics (p. 9)	3	PY 352 Learning and Memory	4
Free Elective	3	SO 214 Racial and Cultural Minorities	3
Free Elective	3	Free Elective	3
Semester Total Credits	16	Semester Total Credits	16
Senior			
Fall	**Cr.**	**Spring**	**Cr.**
ED 377 Instructional Methods in the Social Studies	3	ED 480 Education Internship (Or Education Electives)	12
ED 432 Curriculum & Methods of Instruction Capstone	4		
General Education Leadership (p. 9)[2]	3		
Free Elective	3		
Free Elective	3		
Semester Total Credits	16	Semester Total Credits	12
Total Credits For This Major: 121			

1 These courses can be taken in the Sophomore or Junior year. When the required course is taken the opposite year take a Free Elective.

2 When Leadership taken as a 1 hour course, additional free elective hours may be necessary.

Minors

Elementary Education Minor 2020-2021 Catalog

ED 234	Learning and Teaching Strategies	4
PY 220	Developmental Psychology	3
ED 315	Special Needs Child	3
And three of the following four courses:		**9-11**
ED 432	Curriculum & Methods of Instruction Capstone	4

ED 351	Methods of Teaching Science to Elementary Students	3
ED 360	Language Arts and Teaching Reading in the Elementary School	4
MA 360	Teaching Mathematics at the Elementary - Middle School Level (Pre-requisites include MA 160 and MA 161)	3
Total Cr.		19-21

Secondary Education Minor 2020-2021 Catalog

ED 234	Learning and Teaching Strategies	4
PY 220	Developmental Psychology	3
ED 315	Special Needs Child	3
ED 363	Reading and Writing in the Content Area	4
ED 368	Curriculum & Methods in Secondary Subjects	4
PY 324	Adolescent Psychology	3
Total Cr.		21

Engineering

Faculty: Charles A. Dana Professor Michael Puddicombe; Professors Jacques Beneat, Thomas Descoteaux, Stephen Fitzhugh, R. Danner Friend, Ronald Lessard and Edwin Schmeckpeper; Associate Professors David Feinauer, Michael Kelley, Tara Kulkarni, Jack Patterson, Michael Prairie, Adam Sevi, Karen Supan and Moses Tefe; Assistant Professors Nadia Al-Aubaidy, Brian Bradke, Carolina Payares-Asprino and Charles White; Lecturers Michael Cross and Matt Rolland.

Engineering major students engage in an innovative approach to interdisciplinary engineering education that is guided by current challenges of broad human concern that address societal needs. Students attain proficiency in skills necessary to contribute to solving complex and multi-disciplinary problems. The curriculum includes innovative problem-based seminar studio courses that employ modules to develop competencies in engineering fundamentals.

Mission:
Prepare students to excel in engineering and related fields. Make clear to students that above all else, the engineering profession is committed to bettering the world. Provide fundamental, laboratory-oriented, hands-on education in engineering and related fields. Foster creativity, critical thinking, and problem-solving abilities and motivate students to consider the societal and environmental consequences of their work. Enable students to be leaders in their profession, community, nation, and the world.

Upon completion of the program, students are awarded the BS in Engineering, are prepared to sit for Fundamentals of Engineering Exam (F.E. exam), and have a foundational understanding of engineering and science fundamentals.

Goals:
The educational objectives of the interdisciplinary Engineering major prepare graduates who, during their first few years of professional practice will:

- Be employed by industry or government in the fields, such as design, research and development, experimentation and testing, manufacturing, and technical sales
- Assume an increasing level of responsibility and leadership within their respective organizations
- Communicate effectively and work collaboratively in multidisciplinary and multicultural work environments
- Recognize and understand global, environmental, social, and ethical contexts of their work

Outcomes:
Students in the Engineering major demonstrate an ability to:

1. identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. communicate effectively with a range of audiences
4. recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. acquire and apply new knowledge as needed, using appropriate learning strategies.

Careers for this Major:

The Engineering major allows graduates the option of beginning a career in either the military or civilian life immediately upon graduation, or furthering their education in graduate school. Studies are designed to give both a broad engineering background and a focus in a specific topic area necessary to apply engineering principles and methods to solve multi-disciplinary problems in an ever-increasing range of applications.

- Clean water
- Sustainability
- Renewable Energy

- Cyber Security
- Bio-mechanical / biomedical / assistive technologies

The B.S. in Engineering major is designed to be accredited by the Engineering Accreditation Commission (EAC) of ABET. 415 N. Charles Street, Baltimore, MD, 21201, 1.410.347.7700.

Note: The application for accreditation of the Engineering major is planned to be submitted to ABET as soon as the first students in the program complete their graduation requirements.

Major

Engineering (B.S.) – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
EG 109 Introduction to Engineering I	3		EG 110 Introduction to Engineering II	3	
CH 103 General Chemistry I (General Education Lab Science)	4		EN 102 Composition and Literature II	3	
EN 101 Composition and Literature I	3		General Education History/Literature/Arts & Humanities/Social Science (p. 9)	3	
General Education Leadership (p. 9)	1-3		General Education Lab Science (p. 9)	4	
MA 107 Precalculus Mathematics	4		MA 121 Calculus I (General Education Math)	4	
Fall Semester Total Cr.:	15-17		Spring Semester Total Cr.:	17	
SOPHOMORE					
Fall			**Spring**		
EE 204 Electrical Circuits I	3		EE 200 Engineering Programming	3	
EG 201 Engineering Mechanics-Statics	3		EG 202 Engineering Mechanics-Dynamics	3	
Engineering Elective (CE, EE, EM, ME) [1, 4]	3		EG 206 Thermodynamics I	3	
MA 122 Calculus II (General Education Math)	4		Math Elective [2]	3	
PS 211 University Physics I	4		Math or Science Elective [2, 3]	4	
Fall Semester Total Cr.:	17		Spring Semester Total Cr.:	16	
JUNIOR					
Fall			**Spring**		
EG 301 Mechanics of Materials	3		EN 204 Professional and Technical Writing	3	
EG 303 Fluid Mechanics	3		Engineering Elective (CE, EE, EM, ME) [1, 4]	3	
EG 350 Engineering Economics and Decision Analysis	3		Engineering Elective (CE, EE, EM, ME) [1, 4]	3	
EM 461 Project Management	3		Engineering Elective (CE, EE, EM, ME), Math Elective or Science Elective [1, 2, 3, 4]	3	
Concentration/Focus Area Elective	3		General Education History/Literature/Arts & Humanities/Social Science (p. 9)	3	
Math Elective [2]	3		Concentration/Focus Area Elective	3	
Fall Semester Total Cr.:	18		Spring Semester Total Cr.:	18	
SENIOR					
Fall			**Spring**		
Concentration/Focus Area Elective	3		Concentration/Focus Area Elective	3	
Concentration/Focus Area Elective	3		Concentration/Focus Area Elective	3	
EG 450 Professional Issues (General Education Ethics)	3		Engineering Elective (CE, EE, EM, ME) [1, 4]	3	
CE 479 Senior Design Project I or EE 491 Electrical System Design I or ME 467 Mechanical Engineering Design I	3		General Education History/Literature/Arts & Humanities/Social Science (p. 9)	3	
Engineering Elective (CE, EE, EM, ME) [1, 4]	3		CE 480 Senior Design Project II (Capstone) [5] or EE 494 Electrical System Design II or ME 468 Mechanical Engineering Design II	3	
General Education History/Literature/Arts & Humanities/Social Science (p. 9)	3				
Fall Semester Total Cr.:	18		Spring Semester Total Cr.:	15	
TOTAL CREDITS FOR THIS MAJOR: 134-136					

1 CE 211, CE 214, CE 328, CE 332, CE 348, CE 421, CE 422, CE 444, CE 460, EE 204, EE 215, EE 303, EE 321, EE 325, EE 350, EE 356, EE 357, EE 359, EE 366, EE 373, EE 411, EE 459, EE 463,EE 478, EE 486, EG 203, EG 447, EM 220, EM 401, ME 211, ME 307, ME 311, ME 356, ME 363, ME 370, ME 435, ME 465, ME 490

2 Math courses 200 level or higher that may NOT be counted as both a Math Elective and a Concentration/Focus Area Elective.

3 BI 101, BI 102, BI 220, CH 104, CH 204, CH 205, CH 327,GL 110, GL 156, GL 253, GL 255,GL 257, GL 262, GL 265, ID 110

4 Science or Engineering courses may NOT be counted as both an Engineering Elective and a Concentration/Focus Area Elective.

5 Must take either CE 475/480 OR EE 491/494 OR ME 467/468 sequence.

6 Focus Area Electives are an intentional, customized course selection in consultation with the advisor to meet the student's interests. Courses may be selected from category 1 or an alternative approved course(s).

Civil Engineering

Charles A. Dana Professor Michael Puddicombe; Professor Edwin Schmeckpeper (Chair); Associate Professors Nadia Al-Aubaidy, Michael Kelley, Tara Kulkarni, Jack Patterson, Adam Sevi, and Moses Tefe; Lecturer Mark Atwood

Civil Engineering, the oldest branch of the engineering profession, utilizes knowledge of mathematics and science, while applying judgment, to design economic means for improving the well-being of humanity: by providing designs for community living, industry, and transportation; and by designing structures for the use of humankind. One of the rare historical records of civil engineering within academia is contained in the first catalogue of this university, dated August 1821. Among the description of offerings to students in 1820 was . . . "Civil Engineering, including the construction of roads, canals, locks and bridges." This institution was thus the first private school in the United States where students were taught engineering as a separate branch of education. Two of its earliest alumni, Alfred W. Craven and Moncure Robinson, were prominent in the formation of the American Society of Civil Engineers in 1852.

The Civil & Environmental Engineering field encompasses planning, design, construction, and maintenance of structures, which often includes altering the natural geography to meet human needs. Civil Engineers plan, design, construct, and maintain suspension bridges, dams, tunnels, skyscrapers, the Interstate highway system, airports, ports, shopping centers, residential developments, water delivery and purification facilities, and irrigation systems. During their first two years, students learn the fundamental mathematical and scientific principles essential for engineering analysis and design. Principles of the design process are introduced in the first engineering courses and continually emphasized and practiced in the subsequent engineering courses. The last two years of the curriculum are devoted to providing a sound grounding in five major civil engineering sub-disciplines: water resources, structural, environmental, geotechnical, and construction. The design experience culminates in the senior year with a major design project. Because laboratory experience is deemed essential to learning, participatory laboratories reinforce principles learned in lectures and permit students to learn through inquiry. To this end, laboratory sections are kept small and require student participation. Use of the computer for both analysis and design is an integral part of the curriculum and the department maintains a computer laboratory for the exclusive use of civil engineering students. Software required for all courses and additional software for student inquiry is available. The curriculum is also strengthened by activities of the Norwich student chapters of the American Society of Civil Engineers, Chi Epsilon, Tau Beta Pi, and the Society of American Military Engineers.

Mission:

The mission of the Civil Engineering Program is:

- Prepare students to excel in civil engineering and related fields.
- Make clear to students that above all else, the Civil Engineering profession is committed to bettering the world.
- Provide fundamental, laboratory-oriented (BSCE level only), hands-on education in the civil engineering field.
- Foster creativity, critical thinking, and problem-solving abilities and motivate students to consider the environmental consequences of their work.
- Enable students to be leaders in their profession, community, nation, and the world.

Goals:

The Program Educational Objectives of the Civil Engineering Program are to produce graduates who, within two to four years after graduation are able to:

- Lead project teams in their chosen field of Civil Engineering research, design, construction, or management, progressively rising to positions of technical leadership
- Be respected and recognized for technical competence in the creation of solutions that balance sustainability, societal and economic issues.
- Become active citizens in their profession, community, the nation and the world.
- Communicate to both technical and non-technical audiences.
- Actively engage in continuing education throughout life.

Outcomes:

At the time of graduation, students in the Civil Engineering Program will be expected to have developed and demonstrated an ability to:

1. identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. communicate effectively with a range of audiences

4. recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. acquire and apply new knowledge as needed, using appropriate learning strategies.

Careers for this Major:

Graduates from this program manage varying job demands and requirements and are capable of adapting to rapidly changing technology. Graduates are also prepared for further formal study in graduate school where a student can specialize in a civil engineering sub-discipline. Whether working for a private engineering firm, construction firm, government agency, or industry, there are many areas in which civil engineers can focus. A few of the major specialties include:

- Structural (buildings, bridges, tunnels)
- Geotechnical (retaining structures, foundations)
- Water and wastewater (water supply, sewage disposal)
- Hydrology (river control, drainage)
- Transportation (highways, airports, railroads)
- Environmental (hazardous waste, air pollution, water quality)

The American Society of Civil Engineers is the largest professional organization that serves Civil and Environmental Engineers, as well as many other types of engineers in associated fields. To learn more about employment opportunities in Civil and Environmental Engineering, please visit: http://careers.asce.org.

Accreditation:

The Civil Engineering Program is accredited by the Engineering Accreditation Commission (EAC) of ABET, http://www.abet.org, 415 N. Charles Street. Baltimore, MD 21201, Telephone: (410) 347-7700.

Major

Civil Engineering (B.S.) – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
CH 103 General Chemistry I (General Education Lab Science)	4		CH 104 General Chemistry II (General Education Lab Science)	4	
EG 109 Introduction to Engineering I	3		EG 110 Introduction to Engineering II	3	
EN 101 Composition and Literature I	3		EN 102 Composition and Literature II	3	
MA 121 Calculus I	4		MA 122 Calculus II (General Education Math)	4	
General Education Leadership (p. 9)	1-3		General Education History/Literature/Arts & Humanities/Social Science (p. 9)	3	
Fall Semester Total Cr.:	15-17		Spring Semester Total Cr.:	17	
SOPHOMORE					
Fall			**Spring**		
CE 211 Surveying	3		CE 214 Site Development and Engineering	4	
CE 264 Specifications and Estimating	1		EG 202 Engineering Mechanics-Dynamics	3	
EG 201 Engineering Mechanics-Statics	3		EG 206 Thermodynamics I	3	
MA 223 Calculus III (General Education Math)	4		MA 224 Differential Equations	4	
PS 211 University Physics I	4		Science Elective *	3	
General Education History/Literature/Arts & Humanities/Social Science (p. 9)	3				
Fall Semester Total Cr.:	18		Spring Semester Total Cr.:	17	
JUNIOR					
Fall			**Spring**		
EG 350 Engineering Economics and Decision Analysis	3		CE 322 Fluid Mechanics Laboratory	1	
CE 321 Materials Laboratory	1		CE 328 Soil Mechanics	4	
CE 336 Introduction to Transportation Engineering	3		CE 332 Engineering Hydrology	3	
CE 421 Environmental Engineering	4		CE 348 Structural Analysis	3	
EG 301 Mechanics of Materials	3		CE 422 Waste and Water Treatment	3	
EG 303 Fluid Mechanics	3		EN 204 Professional and Technical Writing	3	

Fall Semester Total Cr.:	17		Spring Semester Total Cr.:	17	
SENIOR					
Fall			**Spring**		
CE 419 Foundation Engineering	3		CE 444 Reinforced Concrete Design	3	
CE 442 Design of Steel Structures	3		CE 480 Senior Design Project II (Capstone)	3	
CE 460 Construction Management	3		General Education History/Literature/Arts & Humanities/Social Science (p. 9)	3	
CE 479 Senior Design Project I	3		General Education History/Literature/Arts & Humanities/Social Science (p. 9)	3	
EE 315 Electrical Energy Systems	3		Science Elective *	4	
EG 044 Conference	0				
EG 450 Professional Issues (General Education Ethics)	3				
Fall Semester Total Cr.:	18		Spring Semester Total Cr.:	16	
TOTAL CREDITS FOR THIS MAJOR: 135-137					

An undergraduate student, who has completed all degree requirements except for attaining a 2.00 average, must take at least 50 percent of all subsequent course work in technical material (subject to approval by the School Director).

All Civil Engineering majors are required to take the Fundamentals of Engineering (F.E.) exam, administered by the State of Vermont or another state, to receive the BSCE degree.

*Science Electives: BI 101, BI 102, BI 220, BI 205, CH 204, CH 205, CH 327, GL 110, GL 111, GL 156, GL 253, GL 255, GL 257, GL 262, GL 265, ID 110, PS 212. Must include at least one science course that is in an area other than chemistry or physics.

Electrical & Computer Engineering

Professors Jacques Beneat and Ronald Lessard; Associate Professor Michael Prairie (Chair); Assistant Professor Michael Cross; Visiting Associate Professor Yongpeng Zhang

Mission:

To prepare students for the profession of Electrical and Computer Engineering; to enable them to solve problems of substance through the application of fundamental principles, disciplined practices and modern methods; to instill the humility of contribution to ventures larger than themselves, and the courage to lead others in the pursuit of such ventures; to inspire an ethic of service to all mankind in the context of a global community; and finally, to instill a lifelong thirst for the knowledge of their craft.

Goals:

The Program Educational Objectives of the Electrical and Computer Engineering Program are to produce graduates who, within two to four years after graduation are able to:

- Attain respect for competence in the skills of engineering practice by solving problems and leading others in the pursuit of solutions.
- Effectively communicate the results of their work.
- Work professionally in team environments to design electrical and computer systems.
- Pursue professional development through life-long learning to better serve in an evolving global society.
- Demonstrate initiative and perform leadership roles in an ethical manner.
- Perceive the impact of their professional decisions on society.

Outcomes:

At the time of graduation, students in the Electrical and Computer Engineering Program are expected to have developed and demonstrated an ability to:

- Identify, formulate and solve complex engineering problems by applying principles of engineering, science and mathematics
- Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety and welfare, as well as global, cultural, social, environmental, and economic factors
- Communicate effectively with a range of audiences
- Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental and societal contexts
- Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks and meet objectives
- Develop and conduct appropriate experimentation, analyze and interpret data and use engineering judgment to draw conclusions
- Acquire and apply new knowledge as needed using appropriate learning strategies

During the first two years, students receive intensive instruction in mathematics and basic physical sciences as well as fundamental principles and techniques of engineering. Students are introduced to the basic tools and problem solving techniques they will use throughout their careers. The final two years are spent in a laboratory intensive environment. In the third year, students begin to apply their knowledge solving discipline-specific engineering problems. Project-based courses begin to develop the ability to apply knowledge in open-ended problems. In the fourth year, more focused courses cover a broad spectrum of electrical and computer engineering topics. A completely open-ended design experience, where students can exercise creativity solving current engineering problems, spans the senior year. Designing, building, testing, and evaluating projects in such application areas as instrumentation and data acquisition, computer network control, SCADA systems security, robotics, wireless communication, and machinery controls is typical of this experience. Constraints such as economics, safety, reliability, aesthetics, ethics, and social impact are considered. This experience builds upon the fundamental concepts of mathematics, basic sciences, the humanities and social sciences, engineering topics, and communication skills developed earlier in the undergraduate experience. The design team experience allows close coordination with an individual faculty member. The scope of the project is designed to match the requirements of practice within the electrical and computer engineering discipline.

Careers for this Major:

Graduates have the option of beginning a career in either the military or civilian life, or attending graduate school. Career choices for ECE graduates are extremely diverse; below is an abbreviated list from “Your Career in the Electrical, Electronics, and Computer Engineering Fields,” a website published by the Institute for Electrical and Electronics Engineers (IEEE).

- Signal Processing
- Aerospace and Electronic Systems
- Circuits and Systems
- Communications
- Computers
- Consumer Electronics
- Control Systems
- Industrial Electronics
- Industry Applications
- Instrumentation and Measurement
- Power Electronics
- Power Engineering
- Robotics
- Systems, Man and Cybernetics
- Frequency Control
- Vehicular Technology

The IEEE is the largest professional organization that serves Electrical and Computer Engineers, as well as many other types of engineers in related fields. To see the IEEE website that discusses a broader range of ECE career opportunities, please sample a few videos at this IEEE.tv website (https://ieeetv.ieee.org/careers/), or visit this website maintained by TryEngineering.org (http://tryengineering.org/become-an-engineer/electrical-engineering/).

Accreditation:

The Electrical and Computer Engineering curriculum is accredited by the Engineering Accreditation Commission (EAC) of ABET, http://www.abet.org (http://www.abet.org/).

Major

Electrical and Computer Engineering(B.S.) – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
CH 103 General Chemistry I (General Education Lab Science)	4		EG 110 Introduction to Engineering II	3	
EG 109 Introduction to Engineering I	3		EE 200 Engineering Programming	3	
EN 101 Composition and Literature I	3		EN 102 Composition and Literature II	3	
MA 121 Calculus I (General Education Math)	4		MA 122 Calculus II (General Education Math)	4	
			General Education History/Literature/Arts & Humanities/Social Science (p. 9)	3	
Fall Semester Total Cr.:	14		Spring Semester Total Cr.:	16	
SOPHOMORE					
Fall			**Spring**		
EE 215 Fundamentals of Digital Design	4		EE 356 Electrical Circuits II	3	
EE 204 Electrical Circuits I	3		EE 357 Electronics I	3	
MA 223 Calculus III	4		EE 359 Electrical Engineering Laboratory	1	

PS 211 University Physics I (General Education Lab Science)	4		MA 224 Differential Equations	4	
General Education History/Literature/Arts & Humanities/Social Science (p. 9)	3		PS 212 University Physics II	4	
			General Education Leadership (p. 9)	1-3	
Fall Semester Total Cr.:	18		Spring Semester Total Cr.:	16-18	
JUNIOR					
Fall			**Spring**		
EE 321 Embedded Systems	4		EE 303 Electromagnetic Field Theory I	3	
EE 350 Linear Systems	3		EE 323 Computer Architecture or 478 Control Systems	3	
EE 366 Electronics II	4		EE 373 Electrical Energy Conversion	4	
MA 306 Discrete Mathematics	3		EG 206 Thermodynamics I	3	
General Education History/Literature/Arts & Humanities/Social Science (p. 9)	3		EN 204 Professional and Technical Writing	3	
Fall Semester Total Cr.:	17		Spring Semester Total Cr.:	16	
SENIOR					
Fall			**Spring**		
EE 491 Electrical System Design I (Capstone)	3		EE 411 Infrastructure Control Systems [1]	4	
EE 459 Electric Power Systems [1]	3		EE 478 Control Systems or 323 Computer Architecture	3	
EE 463 Communication Systems	4		EE 486 Digital Signal Processing [1]	3	
EG 450 Professional Issues (General Education Ethics)	3		EE 487 Digital Signal Processing Lab	1	
MA 311 Statistical Methodology	3		EE 494 Electrical System Design II	3	
			General Education History/Literature/Arts & Humanities/Social Science (p. 9)	3	
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	17	
TOTAL CREDITS FOR THIS MAJOR: 130-132					

1 Students must complete at LEAST two of the following three courses: EE 411, EE 486, EE 459. Students may choose to complete all three courses, or they may choose two of the three and select one technical elective from the following approved courses: EE 468, EE 490, EG 301, EG 303, EG 350, EG 400, EG 447, ME 307, CS 301, MA 303, MA 310, MA 312, MA 380, MA 405,MA 407, PS 334, PS 356,PS 341, PS 426.

Students who complete all degree requirements, but do not have a minimum 2.0 cumulative GPA must complete at least 50 percent of all subsequent course work in technical material (subject to approval by the Director of the David Crawford School of Engineering).

Mechanical Engineering

Professor R. Danner Friend (Chair); Associate Professor Karen Supan; Assistant Professors Carolina Payares-Asprino, Scott Smith, and Charles White; Lecturer Martin Rolland; Donald Wallace Visiting Assistant Professor Shazali Osman

Mechanical engineering, the broadest of the engineering professions, provides an opportunity for a wide range and variety of services, work, and interests. The major branches of mechanical engineering include structural/solid mechanical systems and thermal/fluid systems. The mechanical engineer deals with the conversion of energy, the design of machines, the instrumentation and control of processes, and the control of machines and their impact on the environment. Conventional fields of interest are transportation (automobiles, aircraft, urban and mass transit); machines and systems for electrical power production from wind, water, coal, oil, and gas; heating and air conditioning of buildings; and the complex machinery and methods of making steel, plastics, paper products, etc.

Mission:

The Mission of the Mechanical Engineering Program is to:

- Prepare students to excel in mechanical engineering and related fields.
- Provide modern, fundamental, practice-oriented education in the mechanical engineering field.
- Foster creativity and critical thinking in problem solving and motivate students to consider the societal consequences of their work.
- Enable students to be leaders in their profession, community, and the nation.

Goals:

The Program Educational Objectives of the Mechanical Engineering Program are to produce graduates who, within two to four years after graduation, are able to:

- Apply engineering principles and modern tools to conceive, analyze and implement engineering solutions.
- Hold positions of progressive responsibility leading teams in a variety of mechanical engineering fields.
- Work as professionals in industrial, military, government, public works, and academic settings while maintaining a high awareness and responsibility regarding ethical, safety, environmental, social, economic, and global issues.
- Apply effective communication skills to interact and collaborate with teams comprised of diverse individuals, technical disciplines and management levels.
- Maintain an ongoing intellectual curiosity while actively engaged in continuing education and professional development throughout life.

Outcomes:

At the time of graduation, students in the Mechanical Engineering Program are expected to have developed and demonstrated an ability to:

- Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
- Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
- Communicate effectively with a range of audiences.
- Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
- Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
- Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
- Acquire and apply new knowledge as needed, using appropriate learning strategies.

Careers for this Major:

- Product Design
- Automotive engineering
- Bio-engineering (artificial body organs and medical devices)
- Aerospace (spacecraft and rockets)
- Applications of electronics to the control of machines and to laboratory instruments
- Robotics
- Heating, ventilation, and air conditioning
- Manufacturing
- Energy and power including renewable energy (wind, solar, etc.)
- Control of environmental pollution for automobiles and industry

The American Society of Mechanical Engineers (ASME International) is the largest professional organization devoted specifically to Mechanical Engineering; serving the general Mechanical Engineering profession and a variety of associated fields. To learn more about employment opportunities in Mechanical Engineering, please visit http://jobboard.asme.org (http://jobboard.asme.org/).

Accreditation:

The Mechanical Engineering Program is accredited by the Engineering Accreditation Commission (EAC) of ABET, http://www.abet.org (http://www.abet.org/).

Major

Mechanical Engineering (B.S.) – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
CH 103 General Chemistry I (General Education Lab Science)	4		CH 104 General Chemistry II (General Education Lab Science)	4	
EG 109 Introduction to Engineering I	3		EN 102 Composition and Literature II	3	
EN 101 Composition and Literature I	3		EG 110 Introduction to Engineering II	3	
MA 121 Calculus I	4		General Education History/Literature/Arts & Humanities/Social Science (p. 9)	3	
			MA 122 Calculus II (General Education Math)	4	
Fall Semester Total Cr.:	14		Spring Semester Total Cr.:	17	
SOPHOMORE					
Fall			**Spring**		
EE 204 Electrical Circuits I	3		EE 240 Electrical Concepts and Applications	3	
EG 201 Engineering Mechanics-Statics	3		EG 202 Engineering Mechanics-Dynamics	3	
MA 223 Calculus III (General Education Math)	4		EG 206 Thermodynamics I	3	

ME 211 Mechanical Engineering Tools I	2		MA 224 Differential Equations	4	
PS 211 University Physics I	4		PS 212 University Physics II	4	
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	17	
JUNIOR					
Fall			**Spring**		
EG 203 Materials Science	3		EG 303 Fluid Mechanics	3	
EG 301 Mechanics of Materials	3		ME 356 Manufacturing Processes	4	
ME 307 Thermodynamics II	3		ME 368 Design of Machine Elements	3	
ME 311 Mechanical Engineering Tools II	2		ME 370 Mechanical Systems Design	3	
ME 363 Kinematic and Kinetic Sythesis	3		ME 382 Mechanical Engineering Laboratory II	1	
ME 381 Mechanical Engineering Laboratory I	2		General Education History/Literature/Arts & Humanities/Social Science (p. 9)	3	
			General Education Leadership (p. 9)	1-3	
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	18-20	
SENIOR					
Fall			**Spring**		
EE 321 Embedded Systems	4		ME 468 Mechanical Engineering Design II (Capstone)	3	
EG 044 Conference	0		EG 450 Professional Issues (General Education Ethics)	3	
ME 435 Mechanical Control Systems	3		Math or Science or Engineering Elective [1]	3	
ME 465 Heat Transfer	3		Mechanical Engineering (ME) Elective [2]	3	
ME 467 Mechanical Engineering Design I (Capstone)	3		General Education History/Literature/Arts & Humanities/Social Science (p. 9)	3	
ME 487 Mechanical Engineering Laboratory III	2				
General Education History/Literature/Arts & Humanities/Social Science (p. 9)	3				
Fall Semester Total Cr.:	18		Spring Semester Total Cr.:	15	
TOTAL CREDITS FOR THIS MAJOR: 131-133					

An undergraduate student, who has completed all degree requirements except for attaining a 2.00 average, must take at least 50 percent of all subsequent course work in technical material (subject to approval by the Director of the David Crawford School of Engineering).

1 Courses approved for Math/Science/Engineering Electives: CE 348, CH 205, CH 225, CH 327, EE 303, EE 325, EE 357, MA 241, MA 306,MA 309 MA 310, MA 370 MA 407, PS 334, PS 341, PS 426, PS 428, and any ME 400 level course not specifically listed as a degree requirement.
Other 200 level (or higher) 3+ credit courses offered by College of Science and Mathematics or the David Crawford School of Engineering may be approved subject to completion of the course prerequisites and a positive recommendation from the student's academic advisor and the Mechanical Engineering department chair.

2 Two different ME 490 courses covering different topics can be used to satisfy the ME elective and the Math/ Science/Engineering elective.

Engineering Science

Faculty: All faculty in the David Crawford School of Engineering

The Engineering Science minor engages students in a exploration of a variety of topics in the engineering disciplines. Students who are not enrolled in an engineering curriculum may declare this minor, and must select six courses in one or more of the engineering disciplines, subject to the approval of the director of the School of Engineering.

Minor

Engineering Science Minor 2020-2021 Catalog

- Construction Management majors may elect this minor.
- Students who are engineering majors may not elect this minor.

Complete 6 engineering courses 200 level or above with a grade of C or higher, in a program approved by the Director of the David Crawford School of Engineering. ONE course must be an applied engineering course*.

Choose from the following Engineering subjects
CE, EE, EG or ME Elective (200 level or higher)
CE, EE, EG or ME Elective (200 level or higher)
CE, EE, EG or ME Elective (200 level or higher)
CE, EE, EG or ME Elective (200 level or higher)
CE, EE, EG or ME Elective (200 level or higher)

CE, EE, EG or ME Elective (200 level or higher)	
Total Cr.	18

* EE 215, EE 321, EE 373,EE 411, EG 201, EG 301, EG 303, CE 211, CE 321, CE 322, CE 336, CE 348, ME 381, ME 382

English

Charles A. Dana Professor F. Brett Cox; Professors Patricia Ferreira, Daniel Lane, Kathleen McDonald, Lea Williams (Chair); Associate Professors Dalyn Luedtke, Carl Martin, Kyle Pivetti, Sean Prentiss, and Amy Woodbury Tease; Assistant Professor Jeff Casey; Lecturers Megan Cannella, Kate Donley, and Michan Myer, Anne Summers, and Mayumi Wagstaff-Blaise.

Courses are offered in literature, theater, and film, which provide a broad humanistic background, and in writing and speech, which provide practical skills. The composition and literature sequence emphasizes writing, reading, and critical thinking skills; students also receive instruction in the forms of discourse and literary genres. World literature courses examine world texts in their historical and cultural contexts. A broad range of elective offerings, open to students of all academic disciplines, provides examination of traditional periods and authors as well as emerging literary forms. Specialty courses also include literature of the developing world, of leadership, of American culture and ethnicity, and of the military. A variety of writing courses, both technical and creative, introduces and strengthens rhetorical skill.

Goals:

Through developing a critical understanding of English and American literature in relationship to aesthetic, cultural, and intellectual contexts, we are committed to fostering opportunities that cultivate freedom of expression, personal and professional fulfillment, intellectual development, collaboration, and social growth.

Outcomes:

Graduates will:

- have the ability to write critically with clarity and precision and to read with comprehension.
- achieve basic levels of skill performing literary analysis, understanding theoretical approaches to the discipline, and applying these approaches to reading a text.
- have the ability to demonstrate knowledge of major literary periods, movements, and genres in American and British literature.
- demonstrate the ability to identify an advanced research question, know how to locate juried, peer-reviewed sources about the question, and craft a solid written response to the question, thus evidencing an ability to participate in critical thinking about the intellectual questions of the field.

Careers for this Major:

- Advertising
- Public Relations
- Publishing
- Medicine
- Teaching
- Business
- Government
- Military Service
- Law
- Post-graduate study in a variety of fields

Major

English (B.A.) – Curriculum Map 2020-2021 Catalog

Students must either pass or receive a department authorized waiver for both EN 101 and EN 102 before registering for any English class above the 200 level.

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
EN 101 Composition and Literature I	3		EN 102 Composition and Literature II	3	
General Education History (p. 9)	3		General Education Math (p. 9)	3	
General Education Math (p. 9)	3		General Education Social Science (p. 9)	3	
Modern Language (p.)	4		Modern Language (p.)	4	
			Free Elective	3	
Fall Semester Total Cr.:	13		Spring Semester Total Cr.:	16	

SOPHOMORE					
Fall			**Spring**		
EN 222 Introduction to World Literatures [c] or 322 Topics in World Literatures	3		EN 226 Survey of British Literature II (General Education Arts & Humanities) [c, 2] or 228 Survey of American Literature II	3	
EN 225 Survey of British Literature I (General Education Literature) [c, 1] or 227 Survey of American Literature I	3		BA Intercultural Elective (p. 5)	3	
EN 282 Literary Methods [c]	3		EN Theater or Writing Elective [c, 3]	3	
BA Intercultural Elective (p. 5)	3		Free Elective	3	
General Education Leadership (p. 9)	1-3		EN Elective above 200 [c]	3	
Free Elective	3				
Fall Semester Total Cr.:	16-18		Spring Semester Total Cr.:	15	
JUNIOR					
Fall			**Spring**		
EN 373 Major Author [c]	3		EN 350 History of the English Language [c]	3	
EN 390 Topics in American Literature [c]	3		EN 370 Topics in British Literature [c]	3	
General Education Lab Science (p. 9)	4		General Education Lab Science (p. 9)	4	
Free Elective	3		General Education Ethics (p. 9)	3	
Free Elective	3		Free Elective	3	
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	16	
SENIOR					
Fall			**Spring**		
EN 203 Advanced Composition [c] or 204 Professional and Technical Writing or 274 Introduction to Creative Writing	3		EN Elective above 299 [c]	3	
EN 450 Senior Seminar (General Education Capstone) [c, 1]	3		EN Elective above 299 [c]	3	
EN Elective above 200 [c]	3		EN 415 English Internship [c]	1-3	
Free Elective	3		Free Elective	3	
Free Elective	3		Free Elective	3	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	13-15	
TOTAL CREDITS FOR THIS MAJOR: 120-124					

c Grade of C or higher required

1 Students may complete both courses to satisfy the EN Literature Survey requirements.

2 IF EN 225 is taken in the Fall, then EN 228 must be taken in the Spring. Students who take EN 227 in the Fall, must take EN 226. Students who completed both EN 225 & 227 may substitute any EN elective.

3 Theater courses: EN 239, EN 241
Writing courses: EN 203, EN 204, EN 272, EN 276, EN 278, EN 362, EN 364

Minor

English Minor 2020-2021 Catalog

Many students who major in disciplines other than English, but who share a love and respect for language and literature, pursue the academic minor in English. This minor encourages students to draw from the department's range of resources in writing, literature, film, and theater, tailoring a program to their special interests.

- Students interested in developing their potential to write well might choose a minor consisting of Advanced Composition, Professional and Technical Writing, Creative Writing, and a course emphasizing the critical analysis of literature.
- Students who enjoy literature, film, or theater can find ample opportunities among the department's regular offerings to develop these competencies.

All requirements require a grade of C or higher

EN 222	Introduction to World Literatures	3
or EN 322	Topics in World Literatures	
EN 282	Literary Methods	3
EN Elective above 202		3
EN Elective above 202		3
EN Elective above 202		3

EN Elective above 299	3
Total Cr.	18

Entrepreneurship

The Entrepreneurship minor is unique in that it draws on faculty members from a wide range of academic disciplines across the University, including Business, Architecture, Engineering, Humanities and Nursing.

The Entrepreneurship Minor is a multidisciplinary opportunity for students to expand their knowledge and experience. Entrepreneurship, fundamentally, is about innovation. It is about recognizing opportunities and acting on them.

Entrepreneurs are agents of change. Being entrepreneurial requires the ability to think creatively, innovate, and lead the development of an idea to implementation

Goals:

The Entrepreneurship minor provides students with the skills and knowledge necessary to undertake the process of starting a new business venture. This minor is not just for students interested in creating a new business; rather it is a broad exploration of how to be entrepreneurial, whether by starting a new business, or within an existing business or organization.

Outcomes:

Students who satisfy the requirements for the minor demonstrate:

- an ability to evaluate a product or service to meet the desired needs of markets within realistic constraints such as financial, environmental, social, political, ethical, health and safety, manufacturability, and sustainability;
- an understanding of how to start an entrepreneurial business;
- an ability to convince others about the merits of a new idea;
- an ability to practice techniques to effectively manage and motivate people;
- the broad education necessary to understand the impact of product- and service-based solutions in a contemporary global, economic, environmental, and societal context;
- knowledge of legal and tax implications associated with their decisions;
- an ability to think and act innovatively;
- knowledge of design thinking and other tools that every innovative organization needs to succeed

Careers for this Minor:

- Mid-level management
- Business consultant
- Sales
- Research and development
- Not-for-profit fundraiser
- Teacher
- Recruiter
- Business reporter

Minor

Entrepreneurship Minor 2020-2021 Catalog

Overview of the Entrepreneurial Landscape		**3**
MG 224	Principles of Entrepreneurship	3
Convincing Others of the Merits New Ideas. (choose one course from below)		**3**
CM 261	Interpersonal Communications	3
EN 112	Public Speaking	3
MG 314	Marketing Management	3
MG 411	Consumer Behavior	3
MG 441	Integrated Marketing Communications	3
Interacting with Employees within an Organization. (choose one course from below; MG majors cannot choose a MG course)		**3**
AP 222	Human Issues in Design	3
EN 244	The Literature of Leadership	3
MG 309	Management of Organizations	3
MG 351	Organizational Behavior	3
MG 408	Human Resources Management	3
NR 321	Nursing Leadership	3
Economic Factors & Trends Influencing Current & Future Profitability. (choose one course from below)		**3**
EC 201	Principles of Economics (Macro)	3
EC 202	Principles of Economics (Micro)	3
EC 310	Money and Banking	3
EC 419	International Economics	3
MG 319	International Dimensions of Business	3

Legal & Tax Implications (choose one course from below)		**3**
AC 201	Introduction to Accounting and Financial World	3
MG 341	Business Law I	3
MG 346	Business Law II	3
Incorporating Innovation in Work & Teams.		**3**
AP 431	Design Thinking and Innovation	3
or EG 400	Design Thinking and Innovation	
Total Cr.		18

Environmental Science

Charles A. Dana Professor Richard K. Dunn (Chair); Associate Professor G. Christopher Koteas; Assistant Professor Laurie D. Grigg; Lecturer John Gartner; Research Associate George E. Springston

This major is interdisciplinary, designed for those with environmental interests and career goals. The program emphasizes experiential learning, commonly through field studies and outdoor education. Courses include real projects and original research participation. Students begin their curriculum with the development of a firm base in the sciences and mathematics. Each student develops an area of specialization by selecting a Concentration from one of two Options. Option I Concentrations lead to a heavier emphasis in science and engineering, and include Environmental Biology, Environmental Geology, Environmental Engineering, Environmental Chemistry, and Climate Science. Option II Concentrations result in a stronger emphasis in the social sciences, humanities, business, and include Environmental Policy & Management, Environmental Law & Protection, Environmental Writing, Green Design, and Environmental Education.

All Environmental Science majors take a pair of capstone courses involving an original research project and a seminar designed to synthesize their education and tie scientific thought to issues in society. The Department houses a number of instruments for environmental monitoring and analysis, and students also have access to resources in their area of Concentration.

Goals:

- To provide an interdisciplinary Liberal Arts degree program in Environmental Science having a strong foundation in the physical and life sciences with a focus on relationships connecting society and nature.
- To provide two options, one with a concentration in the sciences and engineering, and the other with a concentration in the social sciences and humanities.
- To provide instruction and experiences with emphasis on field studies, solution of active problems, and communication in a professional format.

Outcomes:

- Understand the physical laws of nature that control the formation and evolution of Earth materials and biological organisms
- Understand what controls the behavior of the chemical compounds that make up the inorganic and organic materials of the Earth
- Know how to define a problem, design a study to acquire data, critically analyze and interpret data, and discuss the implications of results
- Be able to think critically about published work, synthesize the content of such work, and present findings at a professional level both in writing and orally
- Meet the University's General Education Goals

Careers for this Major:

- Graduate education
- Industry and consulting
- Military
- Environmental agencies
- Non-profit organizations

Environmental Science Major-Scientific Foundations Conc.

Environmental Science (B.S.) Scientific Foundations Conc. – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
GL 110 Introduction to Geology (General Education Lab Science)	4		GL 111 Oceanography (General Education Lab Science)	4	
BI 101 Principles of Biology I	4		BI 102 Principles of Biology II	4	
MA 107 Precalculus Mathematics (General Education Math)	4		MA 108 Applied Calculus (General Education Math)	4	
EN 101 Composition and Literature I	3		EN 102 Composition and Literature II	3	

Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	15	
SOPHOMORE					
Fall			**Spring**		
ES 251 Sophomore Seminar in Environmental Science	1		ES 115 Geographic Information Systems	3	
CH 103 General Chemistry I	4		CH 104 General Chemistry II	4	
PH 323 Environmental Ethics (General Education Ethics) or ES 130 Introduction to Environmental Law	3		MA 232 Elementary Statistics	3	
ES/GL/CE Elective [1,3]	3-4		Technical Elective [2,3]	3-4	
Free Elective [3]	3		General Education Arts & Humanities (p. 9)	3	
Fall Semester Total Cr.:	14-15		Spring Semester Total Cr.:	16-17	
JUNIOR					
Fall			**Spring**		
ES 130 Introduction to Environmental Law or PH 323 Environmental Ethics	3		ES 340 Project Development in Environmental Science	1	
GL Elective [4]	4		ES 2XX [3]	3-4	
PS 201 General Physics I	4		ES/GL/CE Elective or GL 255 [1,3]	4	
EC 201 Principles of Economics (Macro) (General Education Social Science) or 202 Principles of Economics (Micro)	3		PS 202 General Physics II	4	
General Education Literature (p. 9)	3		Free Elective [3]	3	
Fall Semester Total Cr.:	17		Spring Semester Total Cr.:	15-16	
SENIOR					
Fall			**Spring**		
ES 440 Research Project in Environmental Science (Capstone)	3		ES 451 Environmental Science Seminar	3	
BI 205 Ecology	4		ES 460 Project Completion in Environmental Science	1	
Technical Elective [2,3]	3-4		GL 255 Hydrogeology	3	
General Education Leadership (p. 9)	1-3		General Education History (p. 9)	3	
Free Elective [3]	4		Free Elective [3]	3	
Fall Semester Total Cr.:	15-18		Spring Semester Total Cr.:	13	
TOTAL CREDITS FOR THIS MAJOR: 120-126					

1 Any 200-level, or higher course in ES, GL, CE.

2 Technical Electives include courses in BI, CE, CH, CS 140 or 200-level or higher, EE, EG, EM, ES, GL, MA (108 or higher), ME, PS.

3 Course options may have varying credits to select from with course offerings. The degree requires no less than 120 credits; therefore, ensure degree plans account for no less than 120 credits.

4 Geology elective must be taken from the following: GL 253, GL 255, GL 257, GL 258, GL 261, GL 262, GL 263, GL 264.

Environmental Science Major-Social/Cultural Foundations Conc.

Environmental Science (B.S.) Social/Cultural Conc. – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
GL 110 Introduction to Geology (General Education Lab Science)	4		GL 111 Oceanography (General Education Lab Science)	4	
BI 101 Principles of Biology I	4		BI 102 Principles of Biology II	4	
MA 107 Precalculus Mathematics (General Education Math)	4		MA 108 Applied Calculus (General Education Math)	4	
EN 101 Composition and Literature I	3		EN 102 Composition and Literature II	3	

Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	15	
SOPHOMORE					
Fall			**Spring**		
ES 251 Sophomore Seminar in Environmental Science	1		ES 115 Geographic Information Systems	3	
GL 253 Geomorphology (or Technical Elective) [1]	4		MA 232 Elementary Statistics	3	
EN 276 Environmental Writing	3		Social Science 100-200 Level [2]	3	
PH 323 Environmental Ethics (General Education Ethics)	3		Social Science 100-200 Level [2]	3	
Social Science 100-200 Level [2]	3		Free Elective	3	
Free Elective [4]	3				
Fall Semester Total Cr.:	17		Spring Semester Total Cr.:	15	
JUNIOR					
Fall			**Spring**		
ES 130 Introduction to Environmental Law	3		ES 340 Project Development in Environmental Science	1	
Technical Elective [1]	3-4		ES Elective	3	
General Education Literature	3		Social Science 300-400 Level [3]	3	
Social Science 100-200 Level [2]	3		General Education History (p. 9)	3	
Social Science 300-400 Level [3]	3		Chemistry (CH) Elective	4	
			Free Elective [4]	3-4	
Fall Semester Total Cr.:	15-16		Spring Semester Total Cr.:	17-18	
SENIOR					
Fall			**Spring**		
ES 440 Research Project in Environmental Science (Capstone)	3		ES 451 Environmental Science Seminar	3	
BI 205 Ecology	4		ES 460 Project Completion in Environmental Science	1	
ES Elective	3		Social Science 300-400 Level [3]	3	
General Education Arts & Humanities OR PH 323 (p. 9)	3		General Education Leadership (p. 9)	1-3	
Social Science 300-400 Level [3]	3		Free Elective	3	
			Free Elective	3	
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	14-16	
TOTAL CREDITS FOR THIS MAJOR: 124-128					

1 Technical Electives include courses in BI, CE, CH, CS 140 or 200-level or higher, EE, EG, EM, ES, GL, MA (108 or higher), ME, PS.

2 One, 100-200-level course from PO or SO; one 100-200-level course from CJ or PY; one 100-200-level course from MG or EC. One 100-200-level course from, from PO, SO, CJ, PY, MG, or EC.

3 300-400-level course from CJ, EC, MG, PO, PY, SO.

4 Course options may have varying credits to select from with course offerings. The degree requires no less than 120 credits; therefore, ensure degree plans account for no less than 120 credits.

Exercise Science

Professor Amy Welch (Chair); Visiting Assistant Professor, Gregory Ledoux; Lecturers Kylie Blodgett, Kate Harney and Scott Maxham

Information

Goals:

- The goals of the Exercise Science major are to provide undergraduate students with the following:
  - A fundamental background in human physiology
  - An understanding of how exercise can impact the human body in a positive manner
  - A solid foundation in the natural sciences

- To produce highly trained individuals to educate others on how to exercise appropriately without causing undue harm

Outcomes:

- Exercise Science students will acquire scientific literacy related to the biological and exercise sciences. This will be demonstrated through written and oral expression.
- Exercise Science students will conduct laboratory research to allow students to learn hands-on experimental methodology, approach, design, and statistical analysis.
- The Exercise Science major will give students the knowledge, skills and abilities to become gainfully employed upon graduation or secure a position at a graduate school in a related field.

Careers for this Major:

- Cardiopulmonary Rehabilitation Specialist; Exercise Technologist in cardiology suites
- Personal Trainer/Exercise leader
- Strength and Conditioning Coach for College, University and professional sports programs
- Laboratory Researcher in exercise science
- Sports Nutritionist
- Corporate Fitness Program Director
- Sports and Wellness Program Instructor and Director
- Health Promotion Specialist

Major

Exercise Science (B.S.) Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
BI 101 Principles of Biology I (General Education Lab Science)	4		CH 101 Introduction to General Chemistry (General Education Lab Science)	4	
EN 101 Composition and Literature I	3		EN 102 Composition and Literature II	3	
General Education History (p. 9)	3		MA 232 Elementary Statistics (General Education Math)	3	
MA 107 Precalculus Mathematics (General Education Math)	4		PE 107 Foundations of Physical Education [c]	3	
PE 163 Scientific Foundations of Health and Wellness	3		PE 265 Lifelong Motor Development [c]	3	
Fall Semester Total Cr.:	17		Spring Semester Total Cr.:	16	
SOPHOMORE					
Fall			**Spring**		
BI 215 Human Anatomy & Physiology I	4		BI 216 Human Anatomy & Physiology II	4	
CH 102 Introduction to Organic and Biochemistry	4		HE 200 Foods and Nutrition	4	
PE 261 Foundations in Health Education [c]	4		PE 272 Outdoor Physical Education II	3	
PE 271 Outdoor Physical Education I	3		PY 211 Introduction to Psychology (General Education Social Science)	3	
			General Education Literature (p. 9)	3	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	17	
JUNIOR					
Fall			**Spring**		
General Education Leadership (p. 9)	1-3		HE 310 Pathophysiology in Sports Medicine	4	
PE 355 Coaching:Leadership in Sports (General Education Ethics) [c]	3		PE 371 Physiology of Exercise [c]	4	
PE 365 Kinesiology [c]	4		PE 432 Organization and Administration in Physical Education [c]	3	
PE 333 Management Sports Facilities [c]	3		General Education Arts & Humanities (p. 9)	3	
PS 201 General Physics I	4		Free Elective	3	
Fall Semester Total Cr.:	15-17		Spring Semester Total Cr.:	17	
SENIOR					
Fall			**Spring**		
BI 401 Senior Seminar (Capstone) [C]	3		PE 426 Internship (OR Free Elective)	12	

BI 440 Reading and Research (OR Free Elective)	4				
PE 441 Advanced Exercise Physiology and Prescription [C]	4				
PE 450 Exercise Testing and Electrocardiography [C]	4				
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	12	
TOTAL CREDITS FOR THIS MAJOR: 124-126					

c Grade of C or higher required.

- All sciences must be taken as lab sciences (4 credit courses)
- Certification in First Aid & CPR is also required for graduation

Finance

Professor D. William Jolley; Associate Professors David Blythe (director), Nasim Hosein, Sethuram Soman and Thomas Yandow; Visiting Associate Professors Andrew Bargerstock and Peter Appleton; Lecturer James Rogler; Adjunct Instructors Daniel Alcorn, Bruce Faulkner and Renato (Ron) Merolli.

Goals:

In a rapidly changing and complex financial environment, college graduates in all disciplines will need financial management knowledge and skills to fulfill their professional careers and their own personal lives. The goal is to promote financial literacy. As a result, they must understand financial terminology, how to make budgets and how to channel resources and invest. Students should be able to make informed financial decisions.

Careers for this Minor:

- Asset Management
- Investment Banking
- Commercial Banking and Management of Financial Institutions
- Financial Engineering
- Corporate Financial Management
- Consulting
- Private Equity / Venture Capital

Minor

Finance Minor 2020-2021 Catalog

- Students seeking a minor in Finance must obtain the approval of the School Director
- Complete all 6 courses with a grade of C or higher.

FN 311	Corporate Finance	3
FN 407	Corporate Finance II	3
FN 412	Investments	3
EC 310	Money and Banking	3
Any two of the following:		**6**
AC 335	Intermediate Accounting I	3
AC 336	Intermediate Accounting II	3
AC 419	Taxation I	3
AC 442	Advanced Accounting	4
EC 406	Public Finance	3
EC 419	International Economics	3
MG 319	International Dimensions of Business	3
Total Cr.		18

French

Assistant Professor Sophia Mizouni (Program Director)

French is a useful strategic language, especially for those interested in careers in the military, business, the Department of Defense, research, and industry. It is ranked as the second most important communication language in the world after English by the Bloomberg Rankings (2014). Norwich has developed a program to prepare students to use French in the workplace or to strengthen an application for graduate school.

The French minor offers courses that are communicative and interactive at all levels. For beginning and intermediate-level students, a strong audio-video program facilitates learning language from native speakers through visuals and oral patterning. Every course includes a cultural focus. Literature, civilization courses and the examination of international French-language media sources provide opportunities for students to be alert to cultural differences outside their own culture to develop a more global perspective. The French minor offers service-learning courses and community service with leadership opportunities. Past examples of service include French-language interpreter/cultural role-play with 40

members of the National Guard, participation in Vermont's Lake Champlain Quadricentennial events representing the French heritage of the region, and the translation of a brochure for the Washington County Battered Women Services and Shelter.

All students are encouraged to participate in the program´s *Cercle Francophone/*French Club on-campus and to study abroad for a summer or semester in an approved overseas program to experience language immersion and explore products, practices, and perspectives of other cultures. Norwich maintains a student exchange program with the renowned French military academy, *l'Ecole Spéciale Militaire de Saint-Cyr* in Coëtquidan, France.

Students who have completed more than one year of high school French, or the equivalent, must take the foreign language placement test before registering for their first Norwich course in French.

Goals:

The French minor provides students with competency using the forms of language and cultural expression appropriate for use in the professions.

Outcomes:

Upon successful completion of the minor in French, students will present test results and written work in their dossiers showing the abilities to:

- develop linguistic skills in oral and written expression at the intermediate to low-advanced level
- engage in everyday conversation with native speakers of French
- communicate with respect and cultural understanding in the French language
- read and analyze authentic documents from French-speaking societies
- produce texts and media in French and demonstrate an understanding of approaches to translation

Careers for this Minor:

Because French is ranked the second most important communication language in the world after English according to the Bloomberg Rankings (2014) and has been identified as strategic for the military and counter-terrorist organizations, demonstrated proficiency in French language and culture can be a very useful asset for careers in

- military service
- diplomacy
- business
- law enforcement and peacekeeping
- state and federal government agencies
- industry and technology
- research
- teaching
- NGO global partnerships.

Minor

French Minor 2020-2021 Catalog

All courses require a grade of C or higher. The courses required to complete the minor depend on the French-language proficiency level of the incoming student. See tracks A and B below:

A. Track A is to be completed by students who place at or below the intermediate level:

FR 205	Intermediate French I	3
FR 206	Intermediate French II	3
FR Elective (250 or higher)		3
FR Elective (311 or higher)		3
FR Elective (311 or higher)		3
FR Elective (311 or higher)		3
Total Cr.		18

B. Track B is to be completed by students who place above the intermediate level:

FR Elective (311 or higher)	3
FR Elective (311 or higher)	3
FR Elective (311 or higher)	3
FR Elective (311 or higher)	3
FR Elective (311 or higher)	3
FR Elective (311 or higher)	3
Total Cr.	18

Geology

Charles A. Dana Professor Richard K. Dunn (Chair); Associate Professor G. Christopher Koteas; Assistant Professor Laurie D. Grigg; Lecturer, John Gartner; Research Associate George E. Springston

The Geology major provides a broad background in the physical sciences, with a strong focus on geology and its pivotal role in understanding our environment. Our graduates enter graduate school for continuing education, or move into the workforce prepared to contribute as leaders addressing the many local and global issues facing society.

The major emphasizes experiential learning through field studies and outdoor education. Courses include real projects and original research participation. The program is enriched through department field trips across New England, eastern Canada, and the western United States. All Geology majors take a pair of capstone courses involving an original research project and a seminar designed to synthesize their education and tie scientific thought to issues in society.

Students majoring in Geology have access to equipment for analyses of ground and surface water, soil, sediment, and rock. This equipment enables terrestrial and lake coring, collection of hydro-geochemical data, determination of sediment characteristics, subsurface studies, geological mapping, and more. Specific analytical tools include X-ray diffractometer, scanning electron microscope, and inductively coupled plasma spectrophotometer. The program also has a range of geophysical exploration equipment, including a gravity meter, seismographs, electromagnetometers, a magnetometer, and ground-penetrating radar instruments.

Goals:

- To provide a Liberal Arts degree program in Geology having a broad background in the physical sciences with a focus on geology and its pivotal role in understanding our environment.
- To provide instruction and experiences with emphasis on field studies, solution of active problems, and communication in a professional format.

Outcomes:

- Know the procedures for identification of rocks, minerals and fossils
- Understand the stresses produced in a dynamic Earth and their resulting products, and know the fundamentals of plate tectonic theory
- Understand the materials and processes involved in the constitution and transformation of the Earth, both on the surface and within
- Know how to define a problem, design a study to acquire data, critically analyze and interpret data, and discuss the implications of results
- Be able to think critically about published professional work, synthesize the content of such work, and present findings at a professional level both in writing and orally
- Meet the University's General Education Goals

Careers for this Major:

- Graduate school
- State and federal surveys
- Military
- Teaching
- Industry and consulting

Major

Geology (B.S.) – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
GL 110 Introduction to Geology (General Education Lab Science)	4		GL 156 Introduction to Earth Evolution (General Education Lab Science)	4	
CH 103 General Chemistry I	4		CH 104 General Chemistry II	4	
MA 107 Precalculus Mathematics (General Education Math)	4		MA 108 Applied Calculus (General Education Math)	4	
EN 101 Composition and Literature I	3		EN 102 Composition and Literature II	3	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	15	
SOPHOMORE					
Fall			**Spring**		
GL 251 Sophomore Seminar in Geology	1		GL 200 level Elective [1]	4	
GL 200 level Elective [1]	4		PS 202 General Physics II	4	
PS 201 General Physics I	4		General Education Arts & Humanities (p. 9)	3	
General Education Social Science (p. 9)	3		Technical Elective [2]	3-4	
Free Elective	3				
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	14-15	
JUNIOR					
Fall			**Spring**		
GL 200 level Elective [1]	4		GL 340 Project Development in Geology	1	
Technical Elective [2]	3-4		GL 200 level Elective [1]	4	

MA 232 Elementary Statistics	3		GL 200 level Elective [1]	3-4	
General Education Ethics (p. 9)	3		General Education History (p. 9)	3	
Free Elective	3		Technical Elective [2]	3-4	
			Free Elective	3-4	
Fall Semester Total Cr.:	16-17		Spring Semester Total Cr.:	17-20	
SENIOR					
Fall			**Spring**		
GL 440 Research Project in Geology (General Education Capstone)	3		GL 451 Geology Seminar ((General Education Capstone))	3	
GL 200 level Elective [1]	4		GL 460 Project Completion in Geology	1	
Technical Elective [2]	3-4		GL 200 level Elective [1]	4	
General Education Leadership (p. 9)	1-3		Technical Elective [2]	3-4	
Free Elective	3		Technical Elective [2]	3-4	
Fall Semester Total Cr.:	14-17		Spring Semester Total Cr.:	14-16	
TOTAL CREDITS FOR THIS MAJOR: 120-130					

1 Geology electives must include GL 253, GL 255, GL 257, GL 258, GL 261, GL 262, GL 263, GL 264.

2 Technical Electives include courses in BI, CE, CH, CS 140 or 200-level or higher, EE, EG, EM, ES, GL, MA (108 or higher), ME, PS.

3 PH 323 Environmental Ethics is strongly recommended.

Minor

Geology Minor 2020-2021 Catalog

GL Elective	3-4
GL Elective	3-4
GL Elective (200 level or higher)	3-4
GL Elective (200 level or higher)	3-4
GL Elective (200 level or higher)	3-4
GL Elective (200 level or higher)	3-4
Total Cr.	18-24

German

Professor David Ward (Modern Languages Department Chair and German Program Director)

The German program at Norwich offers instruction in German language, culture and literature; the minor in German consists of six courses at the intermediate level or higher. Beginning and intermediate German courses focus on building a solid foundation in the language, while courses beyond the intermediate offer a broad overview of German (and Austrian and Swiss) cultural history, literature, business practices, and cinema. The academic program is augmented by extra-curricular activities that include weekly film viewings, German table lunches, peer tutoring, and the German Club. Students are also encouraged to study abroad. Norwich maintains a student exchange with campuses of the German military university, *Die Universität der Bundeswehr*, in Hamburg and Munich. Students may also study for a semester at CityLab, Norwich's own program in Berlin. Students who have completed more than one year of high school German, or the equivalent, must take the foreign language placement test before registering for their first Norwich course in German.

Goals:

Our program aims to provide students with a firm foundation in spoken and written German, an overview of German political, cultural and literary history, and firsthand knowledge of today's German-speaking world.

Outcomes:

Students who complete the minor in German are able to:

- Comprehend and produce a broad range of communicative structures in German, consistent with the Intermediate-Mid ACTFL (American Council on the Teaching of Foreign Languages) rubrics.
- Recognize and understand literary, linguistic, and cultural texts and apply digital tools across different texts and contexts.
- Engage the German-speaking world with empathy and with an understanding of human experience across languages and cultures.

Minor

German Minor 2020-2021 Catalog

All courses require a grade of C or higher. The courses required to complete the minor depend on the German-language proficiency level of the incoming student. See tracks A and B below:

A. The following is the track to complete the minor for those who enter Norwich at or below the intermediate level:

GR 205	Intermediate German I	3
GR 206	Intermediate German II	3
GR Elective (250 or above)		3
GR Elective (321 or above)		3
GR Elective (321 or above)		3
GR Elective (321 or above)		3
Total Cr.		18

B. Track B is to be completed by students who place above the Intermediate level:

GR Elective (321 or above)		3
GR Elective (321 or above)		3
GR Elective (321 or above)		3
GR Elective (321 or above)		3
GR Elective (321 or above)		3
GR Elective (321 or above)		3
Total Cr.		18

Health

Health Minor 2020-2021 Catalog

Physical Education majors can declare a Concentration in Health.

This concentration or minor is designed to add depth and breadth to a student's education in health and wellness, develop healthy lifelong patterns, and increase the marketability of graduates. Students must complete:

All courses must be passed with a grade of C or higher.

PE 163	Scientific Foundations of Health and Wellness	3
HE 200	Foods and Nutrition	4
Four additional courses from the following list:		**7-8**
BI 220	Introductory Microbiology	4
BI 330	Immunology	4
HE 310	Pathophysiology in Sports Medicine	4
PE 261	Foundations in Health Education	4
PE 365	Kinesiology	4
PE 371	Physiology of Exercise	4
PY 211	Introduction to Psychology	3
PY 220	Developmental Psychology	3
PY 324	Adolescent Psychology	3
SO 320	Drugs and Society	3
Total Cr.		19-20

Health Sciences

Professor Amy Welch (Chair); Assistant Professor Gregory Jancaitis, ATC; Assistant Professor Janine Osterman, ATC; Lecturer Kate Harney, ATC.

The Bachelor of Science in Health Science is designed to provide students with two pathways for preparation in health careers.

Pre-Professional Health Careers

The Pre-Professional Pathway prepares you for graduate or professional study in medical school, physical therapy, occupational therapy, physicians' assistant and other health-related programs. Students take a core of health-related courses, with ample flexibility to select courses needed for admission into your chosen field of post-baccalaureate study.

Accelerated Master's in Athletic Training

The Accelerated Master's in Athletic Training pathway prepares you for a career in athletic training through our innovative 3+2 program. Students complete both a bachelor's in Health Science and master's in Athletic Training in five years. Your fourth year serves as both the senior year of the bachelor's in Health Science and the first year of the master's degree in Athletic Training, as long as you meet admission criteria for the graduate program.

Goal:

To prepare students to meet the entrance requirements of graduate schools in areas such as athletic training, physical therapy, occupational therapy, physician's assistant, medicine, public health, exercise sciences, biomechanics, and hospital administration.

Outcomes:

- Earn advanced certification in cardiopulmonary resuscitation and automatic external defibrillator (CPR/AED) administration.

- Develop strong writing skills in the production of scientific literature.
- Demonstrate proficiency in skills required for entry-level patient care.
- Reference literature as appropriate for profession.
- Be able to critically appraise scientific literature in the health care field.
- Effectively communicate with health professions and the community on a variety of topics in health care.
- Make sound, ethically-based decisions in topics of health care.
- Demonstrate the ability to organize, lead, and work within an inter-professional team on a variety of health care initiatives.

Careers for this Major:

- Hospitals
- International healthcare organizations
- Research facilities
- Universities

Health Sciences Major-Pre-Professional

Health Sciences Pre-Professional Track (B.S.) – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
BI 101 Principles of Biology I (General Education Lab Science)	4		BI 102 Principles of Biology II (General Education Lab Science)	4	
EN 101 Composition and Literature I	3		EN 102 Composition and Literature II	3	
MA 232 Elementary Statistics (General Education Math)	3		HE 136 Emergency Care of Injury and I	3	
PY 211 Introduction to Psychology (General Education Social Science)	3		PE 163 Scientific Foundations of Health and Wellness	3	
HE 138 Introduction to Health Professions	3		General Education Arts & Humanities (p. 9)	3	
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	16	
SOPHOMORE					
Fall			**Spring**		
BI 215 Human Anatomy & Physiology I [2]	4		BI 216 Human Anatomy & Physiology II [2]	4	
CH 103 General Chemistry I	4		CH 104 General Chemistry II	4	
General Education Literature (p. 9)	3		HE 214 Clinical Anatomy	3	
HE 139 Health Science Research Methods	3		HE 256 Fundamentals of Epidemiology	3	
MA 107 Precalculus Mathematics (General Education Math)	4		PH 350 Medical Ethics (General Education Ethics)	3	
Fall Semester Total Cr.:	18		Spring Semester Total Cr.:	17	
JUNIOR					
Fall			**Spring**		
PS 201 General Physics I	4		PS 202 General Physics II	4	
General Education History (p. 9)	3		HE 200 Foods and Nutrition	4	
HE 212 Health Promotion	3		HE 439 Leadership & Management in Healthcare [2]	3	
Course from Track [1]	4		Course from Track [1]	4	
			General Education Leadership (p. 9)	1-3	
Fall Semester Total Cr.:	14		Spring Semester Total Cr.:	16-18	
SENIOR					
Fall			**Spring**		
PE 265 Lifelong Motor Development	3		PE 371 Physiology of Exercise [2]	4	
PE 365 Kinesiology [2]	4		Course from Track [1]	4	
Course from Track [1]	4		Course from Track [1]	4	
Course from Track [1]	4		HE 450 Evidence - Based Healthcare (General Education Capstone)	3	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	15	
TOTAL CREDITS FOR THIS MAJOR: 127-129					

1 Choose 24 credits from this Course Track list :
BI 220, BI 303, BI 370, CH 205, CH 225, CH 226, HE 310, MA 121, MA 122, PE 441, PE 450, SM 426
OR
Choose 12 credits minimum from HE 501, HE 502, HE 503, HE 504, HE 505, HE 506, HE 507, HE 508, HE 509, HE 510, as Free Electives toward the Pre-Professional Track.

2 Courses must be passed with a grade of C or higher before progressing in the program.

Health Sciences Major-Accelerated Master's

Health Sciences Accelerated Master's in Athletic Training Track (B.S.) – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
BI 101 Principles of Biology I [1]	4		BI 102 Principles of Biology II [1]	4	
EN 101 Composition and Literature I	3		EN 102 Composition and Literature II	3	
HE 138 Introduction to Health Professions	3		General Education Arts & Humanities (p. 9)	3	
MA 232 Elementary Statistics	3		HE 136 Emergency Care of Injury and I	3	
PY 211 Introduction to Psychology [1]	3		PE 163 Scientific Foundations of Health and Wellness	3	
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	16	
SOPHOMORE					
Fall			**Spring**		
BI 215 Human Anatomy & Physiology I [1,2]	4		BI 216 Human Anatomy & Physiology II [1]	4	
CH 103 General Chemistry I [1]	4		CH 104 General Chemistry II [1]	4	
General Education Literature (p. 9)	3		HE 256 Fundamentals of Epidemiology	3	
HE 139 Health Science Research Methods	3		HE 214 Clinical Anatomy	3	
MA 107 Precalculus Mathematics	4		PH 350 Medical Ethics	3	
Fall Semester Total Cr.:	18		Spring Semester Total Cr.:	17	
JUNIOR					
Fall			**Spring**		
PS 201 General Physics I [1]	4		HE 200 Foods and Nutrition	4	
PE 265 Lifelong Motor Development [1]	3		HE 439 Leadership & Management in Healthcare [2]	3	
PE 365 Kinesiology [1,2]	4		PE 371 Physiology of Exercise [1,2]	4	
General Education History (p. 9)	3		PS 202 General Physics II	4	
HE 212 Health Promotion [1]	3		General Education Leadership (p. 9)	1-3	
Fall Semester Total Cr.:	17		Spring Semester Total Cr.:	16-18	
SENIOR					
Fall			**Spring**		
HE 501 Athletic Training in Healthcare [2]	1		HE 450 Evidence - Based Healthcare [2]	3	
HE 502 Musculoskeletal Evaluation and Interventions [2]	4		HE 507 Care of Orthopedic Injuries II [2]	4	
HE 503 Clinical Experience in Athletic Training I [2]	2		HE 508 Therapeutic Interventions II [2]	4	
HE 504 Advanced Emergency Management [2]	1		HE 509 Clinical Experience in Athletic Training II [2]	3	
HE 505 Care of Orthopedic Injuries I [2]	4		HE 510 Simulation in Athletic Training I [2]	1	
HE 506 Therapeutic Interventions I [2]	3				
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	15	
TOTAL CREDITS FOR THIS MAJOR: 130-132					

1 Students pursuing a Master of Athletic Training (p. 49) (Available 2021-22) must complete these courses with a grade of C+ or higher.

2 Courses must be passed with a grade of C or higher in order to satisfy the undergraduate degree.

History

Program Coordinator: Mark Boonshoft

Charles A. Dana Professor Reina Pennington; Professors Rowland Brucken, Christine McCann, Steven Sodergren and Thomas Taylor; Associate Professor Emily Gray; Assistant Professors Mark Boonshoft and Miri Kim.

Mission:

The History Program instills and fosters, in the spirit of free inquiry and intellectual exchange, an understanding of the influence of political, economic, social, and cultural forces on past and contemporary events, institutions, and peoples. The History Program provides students with the ability to comprehend, compare, and evaluate competing explanations of past and present subjects, using reason and evidence to guide inquiry.

Goals:

- Develop critical thinking, research, and communication skills.
- Develop an appreciation for the variety of cultures and civilizations of the world, across every period of history, from the ancient world to the 21st century.
- Promote not only tolerance of different perspectives and points of view, but an understanding of why these differences exist and persist.
- Complete independent research in the field of history by working with professional historians.

Outcomes:

- Students are able to write and speak effectively about the contributions of others as well as their own research.
- Students understand and use the methods and ethical standards of professional historians.
- Students are able to discern between different types of sources.
- Students develop and present a thesis.

Careers for this Major:

- Historian
- Military Officer
- Lawyer
- Museum Curator
- Teacher
- Intelligence Officer
- Any career that requires critical thinking, and analytical, problem-solving, and communications skills

Major

History (B.A.) – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
EN 101 Composition and Literature I	3		EN 102 Composition and Literature II	3	
PO 105 American Politics (General Education Social Science) [c]	3		HI 121 American History Survey I (General Education History) [c] or 122 American History Survey II	3	
			Modern Language (p.)	4	
HI 105 First Year Seminar (or 100-level HI course) [c]	3		Free Elective	3	
Modern Language (p.)	4		Free Elective	3	
Fall Semester Total Cr.:	13		Spring Semester Total Cr.:	16	
SOPHOMORE					
Fall			**Spring**		
HI 249 Historical Methods [c]	4		HI 200 Level or Higher [c,3]	3	
HI 200 level or higher [c,3]	3		PO 202 Introduction to Comparative Politics [2]	3	
BA Intercultural Elective (p. 5)	3		BA Intercultural Elective (p. 5)	3	
General Education Arts & Humanities (p. 9)	3		General Education Leadership (p. 9)	1-3	
General Education Math (p. 9)	3		General Education Math (p. 9)	3	
			Free Elective	3	
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	16-18	

JUNIOR					
Fall			**Spring**		
HI Colloquium [c,4,11]	3		HI Distribution Elective [c,3,5,6,7,8]	3	
HI Distribution Elective [c,3,5,6,7,8]	3		HI Distribution Elective [c,3,5,6,7,8]	3	
EC 201 Principles of Economics (Macro)	3		General Education Lab Science (p. 9)	4	
General Education Ethics (p. 9)	3		General Education Literature (p. 9)	3	
General Education Lab Science (p. 9)	4		Free Elective	3	
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	16	
SENIOR					
Fall			**Spring**		
HI 43X Course (Capstone) [c,4,9]	3		HI Upper Level Elective [c,3,9]	3	
HI Distribution Elective [c,3,5,6,7,8]	3		Free Elective	3	
Free Elective	3		Free Elective	3	
Free Elective	3		Free Elective	3	
Free Elective	3		Free Elective	3	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	15	
TOTAL CREDITS FOR THIS MAJOR: 123-125					

1 HI 100 level courses open to Freshmen only. History majors may not count more than five HI 100 and 200 level courses, including HI 249 Historical Methods, towards this major. History majors must complete 12 courses (36 credits) in History.

c Grade of C or higher required.

3 One 200 level History course required with a C or higher, or written instructor permission to enroll in a 300 level History course.

4 May not be counted as distribution courses.

5 United States History. Choose one course from: HI 331, HI 332, HI 334, HI 335, HI 338HI 339, HI 341, HI 360, HI 372, HI 373.

6 European History. Choose one course from: HI 326, HI 329, HI 361.

7 Pre-Modern History (prior to 1600 C.E.). Choose one course from: HI 321 HI 362

8 Non-Western History. Choose one course from: HI 315 HI 317 HI 363 .

9 HI 400 level courses require instructor permission.

11 History Colloquium. Choose one course from: HI 303, HI 304, HI 319, HI 322, HI 333, HI 335, HI 340, HI 345 or HI 355

Minor

History Minor 2020-2021 Catalog

Must complete six HI courses with a grade of C or higher.

HI Elective	3
HI Elective	3
HI Elective	3
HI 200 level Elective	3
HI 300 level Elecive	3
History Colloquium [1]	3
Total Cr.	18

1 History Colloquium. Choose one course from: HI 303, HI 304, HI 319, HI 322, HI 333, HI 335, HI 340, HI 345 or HI 355

Information Assurance

Professors Michael Battig, Mich Kabay and Huw Read; Associate Professors Matthew Bovee, Jeremy Hansen, and Charles Snow; Assistant Professor Ahmed Abdeen Hamed; Lecturer Kris Rowley.

Assuring the security and integrity of information assets is now widely recognized as a critical function. Information is one of the most valuable, fragile, and irreplaceable, assets possessed or owned by an individual or organization. The Information Assurance minor provides students in any major with the knowledge and skills for practical work and further study in information assurance, and for information assurance specialization within their major field. This includes: general knowledge of computer information systems; a programming language; introductory digital forensics; data communications; networks and network security; information-assurance fundamentals; and the management of information assurance.

Goals:

Provide students with:

- An understanding and appreciation of computer science, computer security, and information-assurance fundamentals;
- Knowledge and basic facility with a high-level programming language;
- Understanding of and ability to use data-communication concepts and terminology;
- Foundational understanding and skills in digital forensics, cyber-investigation, and information assurance;
- Understanding of the multi-disciplinary, multi-jurisdictional regulations and standards that govern and guide information assurance, and their appropriate application;
- The foundation for practical work and further study in information assurance;
- The ability to intelligently and usefully discuss information-assurance topics at a management level; and,
- An understanding of the high ethical, personal and professional standards associated with information assurance for individuals, organizations, and society

Outcomes:

Upon graduation successful students will competently demonstrate:

- Use of fundamental computing and data-communication terminology, concepts and practices;
- Appropriate application of essential cyber-crime and digital-forensic concepts, techniques and procedures;
- The ability to recognize, define or explain, and use the technical terminology of information assurance;
- Application of the fundamentals of information assurance, information-assurance management, and their application in organizational contexts; and
- High ethical, personal and professional standards, especially in regards to information assurance and its impact on individuals, organizations, and society.

Careers for this Minor:

Information assurance is critical to all fields, all organizations, and all individuals. Depending on the student's major, augmenting it with the minor in Information Assurance prepares the student for further study and for specialization within their chosen field in:

- Information assurance
- Management of information assurance
- Management of information systems and information technology
- Cyber-warfare assignments in military and national-security organizations
- Legal studies and careers in law

Minor

Information Assurance Minor 2020-2021 Catalog

Approval of the School Director is required to declare this minor.

Complete all courses below with a grade of C or higher.		
CS 140	Programming and Computing	4
CS 260	Data Communications and Networks	3
DF 395	Cyber Criminalistics	3
IA 340	Introduction to Information Assurance	3
IA 342	Management of Information Assurance	3
IA 360	Network Security	3
Total Cr.		19

International Business

Charles A. Dana Professor Michael Puddicombe; Professors D. William Jolley, H. Stewart Robertson and David Ward; Associate Professors David Blythe, Nasim Hosein, Sethuram Soman, Xiaoping Song, Judith Stallings-Ward and Thomas Yandow; Visiting Associate Professors Andrew Bargerstock and Peter Appleton; Lecturers James Rogler and Kris Rowley; Adjunct Instructors Daniel Alcorn, Joseph Bosley, Duncan Currier, Jon Dellapriscoli, and Bruce Faulkner.

The International Business major focuses on preparing our students for a successful career in business, government, non-profit organizations or military service with a distinctly global perspective. This program will enhance students' strategic thinking and broaden their global business acumen. Through a unique combination of business courses, proficiency in cross-cultural communication and study abroad, students will understand all functional areas of a firm, as well as the global, strategic management issues most businesses face today.

Accreditation: Accreditation of the International Business Program by the Accreditation Council for Business Schools and Programs is pending.

Goals:

- Gain a solid foundation in general business skills and principles
- Develop a foreign language ability consistent with program goals
- Acquire an awareness of and an appreciation for how business is conducted in other cultures by spending a semester overseas
- Learn collaborative business practices through hands-on exercises and internship opportunities

Outcomes:

- Appreciate the impact of globalization on countries, businesses and their citizens and provide a strong foundation in international implications for business disciplines.
- Explain the role of international organizations/agreements that affect business organizations including, by way of example, regional agreements and treaties, the World Bank, the World Trade Organization, and the International Monetary Fund.
- Analyze the political, legal, economic, and cultural environments of multinational organizations required to develop competitive strategies in a global environment.
- Evaluate the impact of internationalization on company strategies and on the mode of entry chosen by a multinational organization.
- Apply knowledge of cultural values in evaluating alternative management techniques in different cultures.
- Design a marketing strategy for an international market.
- Demonstrate knowledge of the basics of international finance necessary to conduct financial transactions in a global economy, including development and current status of international monetary system, foreign exchange exposure, global parity conditions, global capital budgeting, global cost of capital, and exports and/imports.
- Develop cultural understanding through course work and a required semester abroad.

Careers for this Major:

- Leadership and management positions in multinational business organizations
- Government agencies and military service
- International banking
- Corporate finance
- Humanitarian and not-for-profit organizations

Major

International Business (B.S.) – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
CS 120 Business Applications & Problem Solving Techniques	3		EC 201 Principles of Economics (Macro) (General Education Social Science)	3	
EN 101 Composition and Literature I	3		EN 102 Composition and Literature II	3	
IN 101 Introduction to International Studies	3		MG 101 Introduction to Business	3	
MA 107 Precalculus Mathematics (General Education Math)	4		Modern Language (p.) [3]	4	
Modern Language (p.) [3]	4		PO 215 International Relations	3	
Fall Semester Total Cr.:	17		Spring Semester Total Cr.:	16	
SOPHOMORE					
Fall			**Spring**		
Study Abroad Free Elective [1]	15		CS 300 Management Information Systems	3	
			EN or CM Elective [2]	3	
			MG 309 Management of Organizations	3	
			PH 230 Logic (General Education Arts & Humanities)	3	
			Modern Language (p.) [1]	3	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	15	
JUNIOR					
Fall			**Spring**		
AC 205 Principles of Accounting-Financial	4		EC 310 Money and Banking	3	
EC 202 Principles of Economics (Micro)	3		General Education History (p. 9) [4]	3	
General Education Leadership (p. 9)	1-3		General Education Lab Science (p. 9)	4	
MA 212 Finite Mathematics (General Education Math)	3		General Education Literature (p. 9)	3	
Modern Language (p.) [3]	3		QM 213 Business and Economic Statistics I	3	
Fall Semester Total Cr.:	14-16		Spring Semester Total Cr.:	16	
SENIOR					
Fall			**Spring**		
FN 311 Corporate Finance	3		EC 419 International Economics	3	

MG 319 International Dimensions of Business	3		FN 407 Corporate Finance II	3	
MG 341 Business Law I (General Education Ethics)	3		General Education Lab Science (p. 9)	4	
PO 415 International Law	3		MG 449 Administrative Policy and Strategy (General Education Capstone)	3	
Free Elective	3		Free Elective	3	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	16	
TOTAL CREDITS FOR THIS MAJOR: 124-126					

1 Students must spend one semester in a study abroad program (normally in the Sophomore year). Study abroad may include credit internship or off-campus experience with the U.S. (Washington D.C. Semester Program). Summer study abroad or Maymester may substitute for this requirement if it is at least 6 credits are earned through any combination of course work or independent study.

2 Select EN 112, EN 203, EN 204, or CM 261

3 Four semesters of the same language (unless a waiver is granted by the School Director).

4 HI 201, HI 202, HI 211, HI 212, HI 214, HI 218, HI 223 or HI 224

Minor

International Business Minor 2020-2021 Catalog

AC 205	Principles of Accounting-Financial	4
EC 201	Principles of Economics (Macro)	3
MG 319	International Dimensions of Business	3
Free Elective		3
Select Two of the Following		
PO 215	International Relations	3
PO 415	International Law	3
MG 341	Business Law I	3
ES 130	Introduction to Environmental Law	3
Total Cr.		18

International Studies

Program Coordinator: Michael Andrew

Mission:

The International Studies program develops, within students, an appreciation for the diversity of political, economic, and cultural systems in the world through an interdisciplinary curriculum. In addition to coursework, students expand their understanding of the world by studying abroad. International Studies majors develop self-discipline, critical thinking skills, and the ability to communicate effectively in both their language and a second language.

Goals:

- Develop the skills which will enable students to have successful and rewarding careers.
- Develop proficiency in a second language.
- Develop a substantive knowledge of the culture, history, political system and economy of a different country or region.

Outcomes:

- Have studied abroad in a non-English speaking country for at least one semester.
- Able to write and speak effectively about foreign study experiences.
- Be prepared for the job market, graduate studies, or law school.

Careers for this Major:

- Graduate studies
- Government service
- International agencies
- Multinational corporations
- Non-profit organizations
- Law
- Military

Major

International Studies (B.A.) – Curriculum Map 2020-2021 Catalog

Exceptions to any of the provisions listed below in the footnotes may be petitioned to and approved by a majority vote of the IS Faculty Advisory Board. The decision of the Board may be appealed to the Dean of the College of Liberal Arts

and the Committee on Academic Standing and Degrees. The final decision shall be communicated to the Office of the Registrar.

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
EN 101 Composition and Literature I	3		EN 102 Composition and Literature II	3	
IN 101 Introduction to International Studies [c]	3		PO 215 International Relations	3	
HI 108 The History of Civilization II (General Education History)	3		Modern Language (p.)	3-4	
PO 105 American Politics	3		General Education Math (p. 9)	3	
Modern Language (p.) [1]	3-4		General Education Leadership (p. 9)	1-3	
Fall Semester Total Cr.:	15-16		Spring Semester Total Cr.:	13-16	
SOPHOMORE					
Fall			**Spring**		
EC 201 Principles of Economics (Macro) or 202 Principles of Economics (Micro)	3		EC 202 Principles of Economics (Micro) [c] or 201 Principles of Economics (Macro)	3	
PO 202 Introduction to Comparative Politics	3		Modern Language 206 [1, c]	3	
Modern Language 205 [1, c]	3		BA Intercultural Elective (p. 5)	3	
BA Intercultural Elective (p. 5)	3		General Education Ethics (p. 9)	3	
General Education Math (p. 9)	3		History Elective (200 level) [4]	3	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	15	
JUNIOR					
Fall			**Spring**		
Study Abroad Free Elective [7]	3		Comparative Politics Elective [3]	3	
Study Abroad Free Elective [7]	3		Modern Language (300 level) [1]	3	
Study Abroad Free Elective [7]	3		General Education Lab Science (p. 9)	4	
Study Abroad Modern Language (300 level) General Education Arts & Humanities [2, 7]	3		General Education Literature (p. 9)	3	
Study Abroad Free Elective [7]	3		Free Elective	3	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	16	
SENIOR					
Fall			**Spring**		
Comparative Politics Elective [3]	3		EC 419 International Economics	3	
General Education Lab Science (p. 9)	4		IN 410 Seminar in International Studies (Capstone) [6, c]	3	
History Colloquium [8]	3		History Elective (200 level) [4]	3	
Free Elective	3		History Elective (300 level) [5]	3	
Free Elective	3		Free Elective	3	
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	15	
TOTAL CREDITS FOR THIS MAJOR: 120-124					

1 Languages other than Chinese, French, Spanish, or German may be used to satisfy the language requirement with the approval of the Modern Languages Department.

2 At least one 300 level Modern Language courses must be taken abroad.

3 PO 202 is a prerequisite for upper-level comparative politics courses and PO 215 is a prerequisite for upper-level international relations courses. Choose 2 courses from PO 301, PO 305, PO 310, PO 320, PO 333, PO 340, PO 348, PO 405, PO 412, or PO 415

4 Choose History courses from HI 201, HI 202, HI 211, HI 212, HI 214, HI 218 HI 223 HI 224, HI 227, HI 235, or HI 236

5 A 200 level history course is a prerequisite for upper-level history courses. Choose History course from HI 303, HI 304, HI 315, HI 317, HI 319, HI 321, HI 322 HI 326, HI 329, HI 338, HI 339,HI 345, HI 363, HI 371, HI 372, or HI 373

6 Study Abroad must be completed before enrollment in IN 410

7
- International Studies (IS) students must spend at least one semester in a study abroad program (normally in the junior or senior year), and take all courses abroad in a foreign language studied at Norwich, with the exception of Chinese where content courses can be taken in English. Study abroad can also include pre-approved credit-bearing internships or an off-campus experience within the U.S. (e.g. Washington, DC Semester program).
- Study abroad program must be approved by the International Studies Program Director prior to registration.
- International Studies students must earn a minimum 2.5 cumulative GPA at the end of the Sophomore year, and maintain this GPA through the time they apply for study abroad. A student will be required to leave the IS program if they fail to earn a minimum 2.5 cumulative GPA at the end of their sophomore year. A decision to require a student to leave the IS program is by a majority vote of the IS Faculty Advisory Board with the concurrence of the History and Political Science Department Chair.

8 History Colloquium. Choose one course from: HI 303 (http://catalog.norwich.edu/search/?P=HI%20303), HI 304 (http://catalog.norwich.edu/search/?P=HI%20304), HI 319 (http://catalog.norwich.edu/search/?P=HI%20319), HI 322 (http://catalog.norwich.edu/search/?P=HI%20322), HI 345 (http://catalog.norwich.edu/search/?P=HI%20345) or HI 355 (http://catalog.norwich.edu/search/?P=HI%20355)

c Grade of C or higher required

Leadership

The Leadership minor is unique in that it draws on faculty members from an extraordinarily wide range of academic disciplines across the University, including Business, Architecture, Engineering, Psychology, English, Political Science, Sociology, Philosophy, Communications, various ROTC programs and Nursing.

Leadership is a program that enacts the Guiding Values of Norwich University. “We are dedicated to learning, emphasizing teamwork, leadership, creativity, and critical thinking.” In addition to business coursework, the minor draws from the humanities and psychology to produce graduates who will meet society's pressing need for leaders. Graduates will understand not only the role of the leader but, also just as importantly, the role of those who are led. In today’s increasingly complex world, one can neither go it alone nor lead by fiat. Successful managers must understand the complex requirements of people and organizations. Regardless of whether the student is planning to enter the civilian or the military world, the minor in Leadership will give the students the tools to succeed.

Goals:

- Build an awareness of self and others as members of teams.
- Enhance students’ understanding of ethical decision-making while developing the mental agility to adapt to the unknowns of the 21st century.
- Be able to develop the knowledge and skills essential in the 21st century, including the role of the team member, teamwork, critical thinking, ethical decision-making, mental agility, communications (both oral and written), planning, self-awareness (including self-assessment), self-reflection and self-regulation, and reflection on ethical standards of conduct in the professional world.

Outcomes:

- Demonstrate critical thinking skills through effective oral and written communication within the classroom and with the general public.
- Employ their mental agility, team building and planning skills to successfully engage others to affect positive change in their communities.
- Integrate knowledge with experience, formulating ethical decisions through reflection on the ethical standards of conduct within their profession and in their personal lives.
- Synthesize their awareness of self and of others through reflection, accurate assessment and example setting self-regulation skills developed during their studies at Norwich.

Careers for this Minor:

- Military service
- Management position(s) in for-profit or not-for-profit organizations
- Government service
- Academic institutions

Minor

Leadership Minor 2020-2021 Catalog

The Leadership Minor is a multidisciplinary opportunity for students to expand their knowledge and experience in leadership via an informally-guided, multidisciplinary academic exploration and discovery that builds on the premise that leadership development is a core mission of Norwich University. The minor focuses on building an understanding of self and others as members of teams. Taken as a whole, the minor will enhance the development of knowledge and skills essential in the 21st century, including the role of the team leader, team member, critical thinking, ethical decision-making, mental agility, communications (both oral and written), planning, self-awareness (including self-assessment), self-reflection and self-regulation, and reflection on ethical standards of conduct in the professional world.

- The NU Leadership minor is open to students of all academic majors, except for Management majors with a Leadership concentration.
- All minor courses must be completed with a grade of C or higher to earn the minor.
- It is most beneficial if the student selects the minor prior to the start of her or his junior year to allow maximum time for personal assessment, reflection, growth and development.
- All students in the minor will have the opportunity for informal coaching and mentoring by a member of the multidisciplinary Leadership Minor Committee and will have the opportunity to attend and participate in optional leadership development activities.

MG 351	Organizational Behavior	3
PY 210	Psychology of Leadership	3
Ethics Elective [1]		3
Choose two of the following: [2]		**6**
AP 222	Human Issues in Design	3
CM 261	Interpersonal Communications	3
EN 112	Public Speaking	3
EN 244	The Literature of Leadership	3
MG 309	Management of Organizations	3
PH 340	Philosophy of Non-Violence	3
PO 312	The Presidency	3
PY 211	Introduction to Psychology	3
PY 236	Cross-Cultural Psychology	3
PY 240	Introduction to Social Psychology	3
SO 201	Introduction to Sociology	3
SO 202	Problems of Modern Society	3
AS 311	Air Force Leadership Studies	3
AS 312	Air Force Leadership Studies	3
MS 311	Military Science III	3
MS 312	Military Science III	3
NS 221	Leadership and Management	3
NS 331	Evolution of Warfare	3
Integrating Experience Elective: choose one of the following:		**3**
MG 409	Organizational Leadership	3
EG 450	Professional Issues	3
SM 439	Leadership & Management in Sports Medicine	3
NR 321	Nursing Leadership	3
AS 412	National Security Affairs/Preparation for Active Duty	3
MS 411	Military Science IV	3
MS 412	Military Science IV	3
NS 422	Leadership and Ethics	3
Total Cr.		18

1 Any General Education Ethics course.

2 The two courses selected must be from two different disciplines outside of the student's major, except for military courses. Military courses used to meet Leadership minor requirements must be in the same discipline.

Management

Charles A. Dana Professor Michael Puddicombe; Professor D. William Jolley; Associate Professors David Blythe (director), Nasim Hosein, Sethuram Soman and Thomas Yandow; Visiting Associate Professors Andrew Bargerstock and Peter Appleton; Lecturers James Rogler and Kris Rowley. Adjunct Instructors Daniel Alcorn, Joseph Bosley, Duncan Currier, Jon Dellapriscoli, Bruce Faulkner, Renato (Ron) Merolli and Stephen Smith.

The Management program focuses on the management functions: planning, organization, leadership and control. Our students integrates knowledge from other disciplines within the school (accounting, economics and computer information systems), to enter into organizations with both a functional and an enterprise perspective. The program provides a breadth of required courses and the opportunity to pursue elective courses in such fields as organizational behavior, information systems, marketing, economics, human resources, and finance, thus enabling each student to align his or her interests with degree requirements. Management students benefit from a unique leadership laboratory and are offered the opportunity for summer and academic year internships in a wide variety of organizations.

At the conclusion of the spring semester of the sophomore year, Management majors must select a concentration.

Accreditation: The Management program is accredited by the Accreditation Council for Business Schools and Programs.

Management majors must choose from one of six concentrations:

- Computer Information Systems (p. 109)
- Financial Economics (p. 109)
- International Business (p. 103)
- Leadership (p. 109)
- Marketing (p. 109)
- Sports Management (p. 109)

Outcomes:

- Know the four functions of management (Planning, Organization, Leadership and Control) and be able to apply them within an ethical framework.
- Apply the four functions of management within specific functional areas of business.

- Understand the cross-functional nature of business and be able to apply the four functions of management within the overall enterprise.
- Have basic competency in all of the functional areas of business.

Goals:

- Develop the capacity to think critically about an enterprise, its present business position, its long-term direction, its resources and competitive capabilities, the caliber of its present strategy, and its opportunities for gaining a sustainable competitive advantage.
- Build skills in conducting business analysis in a variety of industries and competitive situations and, especially, to provide a stronger understanding of the competitive challenges of a global market environment.
- Provide hands-on experience in creating business plans, reasoning carefully about strategic options, using what-if analysis to evaluate action alternatives, and making sound business decisions.
- Acquaint students with the managerial tasks associated with implementing and executing business plans, to drill them in the range of actions managers can take to promote competent strategy execution and to give them greater confidence in being able to function effectively as part of a company's strategy-implementing team.
- Raise the consciousness about the importance of exemplary ethical principles, sound personal and company values, and socially responsible management practices.
- Demonstrate how the knowledge gained is integrated with other core courses of the business curriculum, show how the various pieces of the business puzzle fit together and from experience see why the different parts of a business need to be managed in harmony for a company to operate in winning fashion.
- Develop powers of managerial judgment, build skills in assessing business risk, and improve the ability to create results-oriented business plans.
- Be able to operate effectively as a team in an unstructured environment under conditions of uncertainty and incomplete information.
- Build proficiency in using personal computers to do managerial analysis and make professional management presentations.

Careers for this Major:

- Leadership and management positions in for-profit and not-for-profit businesses
- Leadership and management positions in, governmental organizations, and military organizations
- Entrepreneurs planning to start their own businesses
- Management in a family business
- Management in the international arena
- Management in service industries
- Banking
- Corporate Finance
- Information Assurance Management

Major & Concentrations

Management (B.S.) – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
EN 101 Composition and Literature I	3		EN 102 Composition and Literature II	3	
CS 120 Business Applications & Problem Solving Techniques	3		EC 106 The Structure and Operation of the World Economy	3	
MA 107 Precalculus Mathematics	4		MA 108 Applied Calculus	4	
MG 101 Introduction to Business	3		General Education Lab Science (p. 9)	4	
General Education Leadership (p. 9)	1-3		General Education Arts & Humanities (p. 9)	3	
Fall Semester Total Cr.:	14-16		Spring Semester Total Cr.:	17	
SOPHOMORE					
Fall			**Spring**		
AC 205 Principles of Accounting-Financial	4		AC 206 Principles of Accounting-Managerial	4	
EC 201 Principles of Economics (Macro)	3		EC 202 Principles of Economics (Micro)	3	
EN 112 Public Speaking	3		EN 204 Professional and Technical Writing	3	
General Education Lab Science (p. 9)	4		QM 213 Business and Economic Statistics I	3	
MA 212 Finite Mathematics	3		General Education History (p. 9)		
Fall Semester Total Cr.:	17		Spring Semester Total Cr.:	13	
JUNIOR					
Fall			**Spring**		
CS 300 Management Information Systems	3		EC 310 Money and Banking	3	
FN 311 Corporate Finance	3		MG 309 Management of Organizations	3	

MG 310 Production/Operations Management	3		General Education Literature (p. 9)	3	
MG 314 Marketing Management	3		Major/Concentration Elective	3	
PH 322 Money, Meaning and Morality	3		Major/Concentration Elective	3	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	15	
SENIOR					
Fall			**Spring**		
MG 319 International Dimensions of Business	3		MG 449 Administrative Policy and Strategy	3	
MG 341 Business Law I	3		Major/Concentration Elective	3	
Major/Concentration Elective	3		Major/Concentration Elective	3	
Major/Concentration Elective	3		Free Elective	3	
Free Elective	3		Free Elective	3	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	15	
TOTAL CREDITS FOR THIS MAJOR: 121-123					

Concentrations

Computer Information Systems Concentration 2019-2020 Catalog

CS 100	Foundations of Computer Science and Information Assurance	3
CS 140	Programming and Computing	4
CS 301	Software Engineering	3
IA 342	Management of Information Assurance	3
Major/Concentration Elective (see below) [1]		3
Major/Concentration Elective (see below) [1]		3
Total Cr.		19

1 Choose from the subjects/courses listed below:
AC, CN, CP, CS, DF, EC, FN, FR, GR, IA, MG, QM, SP, AS 311, AS 312, AS 411, AS 412,MS 311, MS 312, MS 411, MS 412, NS 321, NS 342, NS 421, NS 422, PY 210

Financial Economics Concentration 2019-2020 Catalog

EC 419	International Economics	3
FN 407	Corporate Finance II	3
FN 412	Investments	3
QM 370	Quantitative Methods for Marketing & Finance	3
Major/Concentration Elective [1]		3
Major/Concentration Elective [1]		3
Total Cr.		18

1 Choose from the subjects/courses listed below:
AC, CN, CS, DF, EC, FN, FR, GR, MG, QM, SP AS 311, AS 312, AS 411, AS 412, IA 241, DF 242, MA 240, MA 318, MA 370, MS 311, MS 312, MS 411, MS 412, NS 321, NS 342, NS 421, NS 422, PY 210

International Business Concentration 2019-2020 Catalog

EC 419	International Economics	3
FN 407	Corporate Finance II	3
PO 215	International Relations	3
Free Elective (any Study Abroad course)		3
Modern Language Elective		3-4
Modern Language Elective		3-4
Total Cr.		18-20

Leadership Concentration 2019-2020 Catalog

PY 210	Psychology of Leadership	3
MG 351	Organizational Behavior	3
MG 408	Human Resources Management	3
MG 409	Organizational Leadership	3
Major/Concentraton Elective [1]		3
Major/Concentration Elective [1]		3
Total Cr.		18

1 Choose from the subjects/courses listed below:
AC, CN, CS, DF, EC, FN, FR, GR, MG, QM, SP, CM 436, EG 450,EN 244, PH 215, PH 303, PH 324, PH 350, AS 311, AS 312, AS 411, AS 412,IA 241, DF 242, CJ 442, MA 240, MA 318, MA 370, MS 311, MS 312, MS 411, MS 412, NS 321, NS 342, NS 421, NS 422

Marketing Concentration 2019-2020 Catalog

MG 411	Consumer Behavior	3
MG 441	Integrated Marketing Communications	3
MG 416	Advanced Marketing	3
MG 426	Marketing Research	3
Major/Concentration Elective [1]		3
Major/Concentration Elective [1]		3
Total Cr.		18

1 Choose from the subjects/courses listed below:
AC, CN, CS, DF, EC, FN, FR, GR, MG, QM, SP AS 311, AS 312, AS 411, AS 412, CJ 341, CJ 442, MA 240, MA 318, MA 370, MS 311, MS 312, MS 411, MS 412, NS 321, NS 342, NS 421, NS 422, PY 210

Sports Management Concentration 2019-2020 Catalog

MG 441	Integrated Marketing Communications	3
MG Elective [1]		3
PE 107	Foundations of Physical Education	3
PE 333	Management Sports Facilities	3
PE 432	Organization and Administration in Physical Education	3
PE 426	Internship	6,12
Total Cr.		21-27

1 Choose from the subjects/courses listed below:
AC, CN, CS, DF, EC, FN, FR, GR, MG, QM, SP AS 311, AS 312, AS 411, AS 412, IA 241, DF 242, MA 240, MA 318, MA 370, MS 311, MS 312, MS 411, MS 412, NS 321, NS 342, NS 421, NS 422, PY 210

Marketing

Professor D. William Jolley, Associate Professor Nasim Hosein and Thomas Yandow; Visiting Associate Professor Peter Appleton.

The Business and Management minor in Marketing prepares students for careers in the fields of brand management, marketing analytics, digital /social media marketing, customer experience management and new product marketing.

Students successfully completing this minor will be qualified to interpret and understand strategic marketing plans, articulate the financial and market impacts associated with implementing those plans, and apply and utilize statistical decision-making theory to market data. Students will use marketing simulations, case studies, and real-world projects to create a challenging experiential learning environment using contemporary marketing concepts from the top marketing thought-leaders of today.

Goals:

- Understand the marketing process and its role in the profitable growth of a firm.
- Learn how to develop and translate marketing plans into executable marketing actions.
- Develop critical thinking skills for solving marketing problems in an international business situations.

Outcomes:

- Practice marketing from the perspective of the marketing team of a major consumer products firm.
- Apply the key concepts of marketing strategy development in a realistic simulation environment.
- Brand positioning and product design to execute a strategic marketing plan the success of which will be measured by sales revenue, net profit and the return on marketing investment.
- Understand how consumers make decisions regarding the purchase and use of products and services.
- Understand the social-psychological basis of the consumer’s decision process and the internal and external factors that influence this process.
- Understand how consumer behavior is used in the development of marketing strategies.
- Understand the principles behind marketing communications and how to develop the key components of an integrated messaging strategy.
- Understand the purpose of traditional and digital communication media, when to use them and in what combination, to effectively achieve marketing and communication objectives.
- Be able to think critically in the evaluation of marketing problems for drawing sound conclusions about what actions company management needs to take based on insights from the research findings.
- Develop your ability to define marketing problems, translate them into research objectives and testable hypotheses using the appropriate research methodology and statistical analyses, and present your recommendations to management.

Careers for this Minor:

- Brand Management
- Marketing Analytics
- Digital/Social Media Marketing
- Customer Experience Management
- New Product Marketing

Minor

Marketing Minor 2020-2021 Catalog

Approval of the School Director is required to declare this minor.

Complete 6 courses with a grade of C or higher.		
MG 314	Marketing Management	3
MG 416	Advanced Marketing	3
MG 441	Integrated Marketing Communications	3
MG 426	Marketing Research	3
Select Two of the Following:		**6**
MG 319	International Dimensions of Business	3
PY 211	Introduction to Psychology	3
MG 450	Internship in Management	3
Total Cr.		18

Mathematics Curriculum Overview

Charles A. Dana Professors Daniel McQuillan and Darlene Olsen; Professors Cathy Frey, Gerard LaVarnway, Robert Poodiack, and Jeffrey Olson (Chair); Associate Professors Sean Kramer, Christine Latulippe, and Jocelyn Latulippe; Assistant Professors Addie Armstrong, Natalie Cartwright, and Jared Holshouser; Lecturers Linn Caroleo, Min Ku and Susan McAuliffe.

Mission:

The Norwich University Department of Mathematics seeks to promote interest in mathematics and to serve as a resource for the university community on current advances in mathematical knowledge and application. The department educates mathematics majors in preparation for civilian or military careers, and for future study in graduate schools.

The department seeks to accomplish this mission through the following activities:

- offering a sequence of courses that introduce undergraduate students in the liberal arts and social sciences to the techniques, methods, and applicability of mathematics;
- offering a basic calculus sequence to provide computer science, mathematics, science, and engineering students with the tools of mathematical analysis;
- offering introductory calculus and quantitative analysis courses to support major programs in architecture, accounting and business administration;
- integrating the use of technology in mathematics education as a tool for solving applied problems;
- offering advanced courses in mathematical theory and application leading to a major in mathematics for a Bachelor of Science degree in mathematics;
- offering a minor in mathematics that complements the major programs of study that a student may select;
- engaging students in experiential education opportunities including undergraduate research, independent study and pre-professional activities;
- offering colloquia and seminars to promote dialogue between members of the department and others of the university community;
- offering math education coursework to support students seeking secondary education licensure;
- offering financial mathematics coursework to support students seeking employment in actuarial science.

Goals:

- Prepare mathematics majors for graduate work in mathematics or careers in computer science, engineering, industry, business, actuary science, or teaching;
- Support the curricula in all disciplines;
- Supply the students with the mathematics courses necessary to qualify for teacher licensure.

Outcomes:

- Graduates will have the ability to formulate problems in the application of mathematics to various disciplines, and analyze, solve, and model solutions to these problems.
- Graduates will have a good understanding and broad knowledge of mathematics including single and multivariable calculus, linear and abstract algebra. Students will demonstrate competency in theoretical, applied, routine, and non-routine problems.
- Graduates will be prepared for successful employment in a profession employing mathematics or a profession of their choice and be well prepared for graduate or professional school.

Careers for this Major:

- Mathematician
- Statistician
- Actuary
- Data Scientist
- University Professor
- Finance
- Government

Math Major

Mathematics (B.S.) – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
EN 101 Composition and Literature I	3		EN 102 Composition and Literature II	3	
MA 121 Calculus I (General Education Math) c1	4		MA 122 Calculus II (General Education Math) c1	4	
General Education History (p. 10)	3		MA 241 Mathematical Computation and Modeling	3	
General Education Lab Science (p.)	4		Free Elective [4]	3-4	
Fall Semester Total Cr.:	14		Spring Semester Total Cr.:	13-14	
SOPHOMORE					
Fall			**Spring**		
EN 222 Introduction to World Literatures (Gen. Ed. Literature)	3		MA 224 Differential Equations [c1]	4	
MA 223 Calculus III [c1]	4		MA 310 Linear Algebra [c2]	3	
MA 306 Discrete Mathematics [c2]	3		Technical Elective [3,4]	4	
PS 211 University Physics I	4		General Education Arts & Humanities (p. 10)	3	
Free Elective [4]	3				
Fall Semester Total Cr.:	17		Spring Semester Total Cr.:	14	
JUNIOR					
Fall			**Spring**		
MA 250 Communication in Mathematics	1		MA Elective (300-400 level) [c2]	3	
MA 303 Advanced Calculus I [1, c2] or 309 Algebraic Structures	3		MA Elective (300-400 level) [c2]	3	
MA 311 Statistical Methodology [c2]	3		MA 304 Advanced Calculus II [2] or 312 Statistical Methodology II	3	
Technical Elective [3,4]	3-4		Free Elective [sa]	3	
Free Elective [4,sa]	3		PH 215 Survey of Ethics (General Education Ethics)	3	
General Education Social Science (p. 12)	3		General Education Leadership (p. 13)	1-3	
Fall Semester Total Cr.:	16-17		Spring Semester Total Cr.:	16-18	
SENIOR					
Fall			**Spring**		
MA 309 Algebraic Structures [1, c2] or 303 Advanced Calculus I	3		MA Elective (300-400 level) [c2]	3	
MA 411 Senior Seminars (General Education Capstone) [c2]	3		MA Elective (300-400 level) [c2]	3	
Free Elective [4,sa]	3		Free Elective [sa]	3	
Free Elective [4,sa]	3		Free Elective [sa]	3	
Free Elective [4,sa]	3		Free Elective [sa]	3	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	15	
TOTAL CREDITS FOR THIS MAJOR: 120-124					

1 MA 303 and MA 309 alternate as fall semester courses; both courses are required. For years these courses are offered, see Course Descriptions.
2 MA 304 and MA 312 alternate as spring semester courses; one of the two courses is required.
3 Technical Electives may be any non-duplicate, 3 or more credit courses from: BI, CE, CH, CS, EE, EG, ES, FN, GL, MA, ME, PS. At least one of which is at the 200 level or above; if the course is in Mathematics, it must be at the 200 level or higher exclusive of MA 232.
4 Technical and Free Electives credit hours are suggestions to ensure no less than 120 credit hours is achieved. The credit hours taken within each semester may vary depending on selection.
c1 Grade of C or higher required in 3 of the 4 courses.
c2 Grade of C or higher in at least 6 Math courses at the 300/400 level (other than MA 360)
SA 15 credits of Free Electives may be taken during a Study Abroad semester.

Math Major-Actuarial Science Conc.

Mathematics-Actuarial Science Concentration (B.S.) – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
EN 101 Composition and Literature I	3		EN 102 Composition and Literature II	3	
General Education History (p. 10)	3		MA 122 Calculus II (General Education Math) [c1]	4	
General Education Lab Science (p. 11)	4		MA 241 Mathematical Computation and Modeling	3	
MA 121 Calculus I (General Education Math) [c1]	4		Free Elective	3-4	
Fall Semester Total Cr.:	14		Spring Semester Total Cr.:	13-14	
SOPHOMORE					
Fall			**Spring**		
EC 201 Principles of Economics (Macro) (General Education Social Science) [b,c]	3		EC 202 Principles of Economics (Micro) [b,c]	3	
EN 222 Introduction to World Literatures (General Education Literature)	3		MA 224 Differential Equations [c1,]	4	
MA 223 Calculus III [c1]	4		MA 310 Linear Algebra [c2]	3	
MA 306 Discrete Mathematics [c2]	3		Technical Elective [3]	3-4	
PS 211 University Physics I	4		General Education Arts & Humanities (p. 10)	3	
Fall Semester Total Cr.:	17		Spring Semester Total Cr.:	16-17	
JUNIOR					
Fall			**Spring**		
MA Elective	3		MA Elective (300-400 level)	3	
MA 250 Communication in Mathematics	1		MA 312 Statistical Methodology II [b,c]	3	
MA 303 Advanced Calculus I [1,c2] or 309 Algebraic Structures	3		MA 419 Internship in Mathematics (or any MA course) [2]	3	
MA 311 Statistical Methodology [b,c, c2]	3		PH 303 (General Education Ethics) or PH 350 Medical Ethics	3	
Free Elective	3		General Education Leadership (p. 13)	1-3	
Technical Elective [3]	3-4		Free Elective	3	
Fall Semester Total Cr.:	16-17		Spring Semester Total Cr.:	16-18	
SENIOR					
Fall			**Spring**		
MA 309 Algebraic Structures [1,c2] or 303 Advanced Calculus I	3		MA 321 Financial Mathematics (or any MA course) [c]	3	
MA 411 Senior Seminars (General Education Capstone) [2,c2]	3		MA Elective (300-400 level)	3	
Free Elective	3		Free Elective	3	
Free Elective	3		Free Elective	3	
Free Elective	3		Free Elective	1-3	

Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	13-15	
TOTAL CREDITS FOR THIS MAJOR: 120-127					

1 MA 303 and MA 309 alternate as fall semester courses; both courses are required. For years these courses are offered, see Course Descriptions.
2 Students must take either MA 419 or MA 411 with an approved project on an actuarial science topic.
3 Technical Electives may be any non-duplicate, 3 or more credit courses from: BI, CE, CH, CS, EE, EG, ES, FN, GL, MA, ME, PS. At least one of which is at the 200 level or above; if the course is in Mathematics, it must be at the 200 level or higher exclusive of MA 232.
b Grade of B- or higher to meet the Society of Actuaries Validation by Educational Experience requirement.
c Grade of C or higher required.
c1 Grade of C or higher required in 3 of the 4 courses.
c2 Grade of C or higher in at least 6 Math courses at the 300/400 level (other than MA 360)

Math Major-Education Conc.

Mathematics-Education Concentration (B.S.) – Curriculum Map 2020-2021 Catalog

This major concentration is recommended to be taken with Secondary Teacher Licensure. Please review the Education major section to understand licensure requirements.

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
ED 104 Foundations of Education	3		EN 102 Composition and Literature II	3	
EN 101 Composition and Literature I	3		MA 122 Calculus II (General Education Math) c1	4	
General Education Lab Science (p. 11)	4		MA 241 Mathematical Computation and Modeling	3	
MA 121 Calculus I (General Education Math) c1	4		General Education History (p. 11)	3	
PY 211 Introduction to Psychology	3		General Education Leadership (p. 9)	1-3	
Fall Semester Total Cr.:	17		Spring Semester Total Cr.:	14-16	
SOPHOMORE					
Fall			**Spring**		
ED 234 Learning and Teaching Strategies	4		ED 315 Special Needs Child	3	
EN 222 Introduction to World Literatures (General Education Literature)	3		MA 224 Differential Equations c1	4	
MA 223 Calculus III c1	4		MA 310 Linear Algebra c2	3	
MA 306 Discrete Mathematics c2	3		General Education Arts & Humanities (p. 10)	3	
PS 211 University Physics I	4		Technical Elective 3	3-4	
Fall Semester Total Cr.:	18		Spring Semester Total Cr.:	16-17	
JUNIOR					
Fall			**Spring**		
MA 250 Communication in Mathematics	1		ED 432 Curriculum & Methods of Instruction Capstone	4	
MA 303 Advanced Calculus I 1,c2 or 309 Algebraic Structures	3		MA 304 Advanced Calculus II 2 or 312 Statistical Methodology II	3	
MA 311 Statistical Methodology c2	3		Mathematics Elective, 300-400 Level	3	
MA 361 Teaching Mathematics at the Secondary Level (OR Mathematics Elective, 300-400 Level)	3		PY 352 Learning and Memory	4	
Mathematics Elective, 300-400 Level	3		SO 214 Racial and Cultural Minorities	3	
PY 324 Adolescent Psychology	3				
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	17	

SENIOR					
Fall			**Spring**		
MA 309 Algebraic Structures [1,c2] or 303 Advanced Calculus I	3		ED 425 Student Teaching	12	
MA 361 Teaching Mathematics at the Secondary Level (OR Mathematics Elective, 300-400 Level)	3				
MA 411 Senior Seminars (General Education Capstone) [c2]	3				
PH 215 Survey of Ethics (General Education Ethics)	3				
Technical Elective [3]	3-4				
Fall Semester Total Cr.:	15-16		Spring Semester Total Cr.:	12	
TOTAL CREDITS FOR THIS MAJOR: 125-129					

1 MA 303 and MA 309 alternate as fall semester courses; both courses are required. For years these courses are offered, see Course Descriptions.

2 MA 304 and MA 312 alternate as spring semester courses; one of the two courses is required.

3 Technical Electives may be any non-duplicate, 3 or more credit courses from: BI, CE, CH, CS, EE, EG, ES, FN, GL, MA, ME, PS. At least one of which is at the 200 level or above; if the course is in Mathematics, it must be at the 200 level or higher exclusive of MA 232.

c1 Grade of C or higher required in 3 of the 4 courses.

c2 Grade of C or higher in at least 6 Math courses at the 300/400 level (other than MA 360).

Minor

Mathematics Minor 2020-2021 Catalog

Students self-design this minor so the classes chosen blend with their major, with the advice of the Math Department.

All courses require a grade of C or higher.

Math Elective (higher than MA 121)	3
Math Elective (higher than MA 121)	3
Math Elective (higher than MA 121)	3
Math Elective (300-400 level)	3
Math Elective (300-400 level)	3
Math Elective (300-400 level)	3
Total Cr.	18

Military Studies Certificate--Aerospace Science

Certificate in Military Studies-Aerospace Science - Curriculum Map 2020-2021 Catalog

Choose 2 courses from:		
AS 311	Air Force Leadership Studies	3
AS 312	Air Force Leadership Studies	3
AS 411	National Security Affairs/Preparation for Active Duty	3
AS 412	National Security Affairs/Preparation for Active Duty	3
Choose 6 Credits from Below (or 2 Courses Not Used Above):		
AS 101	The Foundations of the United States Air Force	1
AS 102	The Foundations of the United States Air Force	1
AS 201	The Evolution of USAF Air and Space Power	1
AS 202	The Evolution of USAF Air and Space Power	1
MS 111	Military Science I	1
MS 112	Military Science I	1
MS 211	Military Science II	2
MS 212	Military Science II	2
MS 311	Military Science III	3
MS 312	Military Science III	3
MS 411	Military Science IV	3
MS 412	Military Science IV	4
NS 121	Introduction to Naval Science	2
NS 122	Sea Power and Maritime Affairs	3
NS 131	Naval Science Laboratory	0
NS 221	Leadership and Management	3
NS 222	Navigation	3

NS 242	Marine Corps Weapons Systems	2
NS 321	Naval Ship Systems I	3
NS 322	Naval Ship Systems II	3
NS 331	Evolution of Warfare	3
NS 342	Small Unit Leadership Skills	2
NS 342L	Small Unit Leadership Skills Lab	1
NS 421	Naval Operations and Seamanship	3
NS 422	Leadership and Ethics	3
NS 435	Fundamentals of Maneuver Warfare	3
Choose 3 credits from:		
HI 214	History of the Middle East	3
HI 235	Military History I	3
HI 236	Military History II	3
HI 326	Nazi Germany and the Holocaust	3
HI 329	Modern Russian History, 1917 to the Present	3
HI 332	The American Revolution	3
HI 334	The Citizen-Soldier in American History	3
HI 338	U.S. Diplomatic History, 1776-1914	3
HI 339	U.S. Diplomatic History, 1914-present	3
HI 355	Colloquium in Modern Military History	3
HI 372	Military History of the United States I, 1775-1902	3
HI 373	Military History of the United States II, 1902-Present	3
PO 305	Geopolitics	3
PO 333	American Foreign Policy	3
PO 412	War and Peace	3
PO 415	International Law	3
Total Cr.		15

Military Studies Certificate Army

Certificate in Military Studies-Army - Curriculum Map 2020-2021 Catalog

Choose 2 courses from:		
MS 311	Military Science III	3
MS 312	Military Science III	3
MS 411	Military Science IV	3
MS 412	Military Science IV	4
Choose 6 Credits from Below (or 2 Courses Not Used Above):		
AS 101	The Foundations of the United States Air Force	1
AS 102	The Foundations of the United States Air Force	1
AS 201	The Evolution of USAF Air and Space Power	1
AS 202	The Evolution of USAF Air and Space Power	1
AS 311	Air Force Leadership Studies	3
AS 312	Air Force Leadership Studies	3
AS 411	National Security Affairs/Preparation for Active Duty	3
AS 412	National Security Affairs/Preparation for Active Duty	3
MS 111	Military Science I	1
MS 112	Military Science I	1
MS 211	Military Science II	2
MS 212	Military Science II	2
NS 121	Introduction to Naval Science	2
NS 122	Sea Power and Maritime Affairs	3
NS 131	Naval Science Laboratory	0
NS 221	Leadership and Management	3
NS 222	Navigation	3
NS 242	Marine Corps Weapons Systems	2
NS 321	Naval Ship Systems I	3
NS 322	Naval Ship Systems II	3
NS 331	Evolution of Warfare	3
NS 342	Small Unit Leadership Skills	2
NS 342L	Small Unit Leadership Skills Lab	1
NS 421	Naval Operations and Seamanship	3
NS 422	Leadership and Ethics	3
NS 435	Fundamentals of Maneuver Warfare	3
Choose 3 credits from:		
HI 121	American History Survey I	3

HI 122	American History Survey II	3
HI 214	History of the Middle East	3
HI 235	Military History I	3
HI 236	Military History II	3
HI 326	Nazi Germany and the Holocaust	3
HI 329	Modern Russian History, 1917 to the Present	3
HI 332	The American Revolution	3
HI 334	The Citizen-Soldier in American History	3
HI 338	U.S. Diplomatic History, 1776-1914	3
HI 339	U.S. Diplomatic History, 1914-present	3
HI 355	Colloquium in Modern Military History	3
HI 372	Military History of the United States I, 1775-1902	3
HI 373	Military History of the United States II, 1902-Present	3
Total Cr.		15

Military Studies Certificate--Naval Science

Certificate in Military Studies-Naval Science - Curriculum Map 2020-2021 Catalog

Choose 2 courses from:		
NS 122	Sea Power and Maritime Affairs	3
NS 221	Leadership and Management	3
NS 222	Navigation	3
NS 321	Naval Ship Systems I	3
NS 322	Naval Ship Systems II	3
NS 331	Evolution of Warfare	3
Choose 6 credits From Below (or 2 Courses Not Used Above):		
NS 121	Introduction to Naval Science	2
NS 131	Naval Science Laboratory	0
NS 242	Marine Corps Weapons Systems	2
NS 342	Small Unit Leadership Skills	2
NS 342L	Small Unit Leadership Skills Lab	1
NS 421	Naval Operations and Seamanship	3
NS 422	Leadership and Ethics	3
NS 435	Fundamentals of Maneuver Warfare	3
AS 101	The Foundations of the United States Air Force	1
AS 102	The Foundations of the United States Air Force	1
AS 201	The Evolution of USAF Air and Space Power	1
AS 202	The Evolution of USAF Air and Space Power	1
AS 311	Air Force Leadership Studies	3
AS 312	Air Force Leadership Studies	3
AS 411	National Security Affairs/Preparation for Active Duty	3
AS 412	National Security Affairs/Preparation for Active Duty	3
MS 111	Military Science I	1
MS 112	Military Science I	1
MS 211	Military Science II	2
MS 212	Military Science II	2
MS 311	Military Science III	3
MS 312	Military Science III	3
MS 411	Military Science IV	3
MS 412	Military Science IV	3
Choose 3 credits from:		
HI 235	Military History I	3
HI 236	Military History II	3
HI 332	The American Revolution	3
HI 333	Colloquium in Early American History	3
HI 334	The Citizen-Soldier in American History	3
HI 338	U.S. Diplomatic History, 1776-1914	3
HI 339	U.S. Diplomatic History, 1914-present	3
HI 340	Colloquium in Twentieth Century United States History	3
HI 341	U.S. Civil War Era, 1848-1877	3
HI 371	Nation-Building	3
HI 372	Military History of the United States I, 1775-1902	3
HI 373	Military History of the United States II, 1902-Present	3
PO 305	Geopolitics	3
PO 333	American Foreign Policy	3

PO 412	War and Peace	3
PO 415	International Law	3
Total Cr.		15

Music

Music offers courses in music appreciation and history, as well as instruction and performance opportunities for singing and instrumental work.

Note: Three sections of a 1-credit course may be combined to fulfill one 3-credit free elective towards graduation. No more than one free elective may be earned in this manner.

Neuroscience Curriculum Overview

Faculty:

Dana Professor Karen Hinkle, Professor Lauren Howard; Associate Professors Megan Doczi (Biology Chair & Neuroscience Program Coordinator), Scott Page; Assistant Professors Allison Neal and Simon Pearish; Lecturers David Ebenstein (Lab Coordinator), Mary Beth Klinger-Lawrence and Virginia Kunkel.

The Neuroscience major exposes students to a rapidly growing field at the intersection of biology and psychology. Educating students about the human nervous system in health and disease prepares them for managing the public health challenges of our global population, while exposing them to interdisciplinary learning at the earliest stages of their undergraduate careers. Neuroscience graduates draw knowledge from a variety of specialties, effectively mastering the human nervous system from cellular, molecular, biochemical, cognitive, and behavioral perspectives.

Through the inherently diverse nature of the Neuroscience field, students engage in a broad-based curriculum spanning multiple disciplines. During the first year of study, the Neuroscience curriculum introduces students to fundamental concepts in biology, psychology, chemistry, and mathematics, while developing communication skills through concurrent introductory English courses. Successful students will progress to intermediate level courses designed to provide a thorough background in the anatomy and physiology of the human nervous system, with an emphasis on cellular and molecular biology, and carbon compounds. The third year of the Neuroscience major builds upon the knowledge gained in previous years by engaging students in applied research methods courses, coupled with an analytical reasoning of the natural properties of the physical world. The third and fourth year curricula seek to refine the students' understanding through specialized courses detailing the human nervous system through health and disease. With five free electives, the third and fourth years of study also offer the flexibility for students to pursue a minor in a discipline of their choice.

Mission:

The mission of the Neuroscience curriculum is to provide undergraduate students with a working knowledge of the human brain and nervous system, while emphasizing a strong foundation in the natural sciences.

Goals:

- To educate students about the human nervous system in health and disease
- To prepare students to manage the public health challenges of our global population

Outcomes:

- Acquire a basic proficiency for information literacy and exercise effective written and oral communication skills.
- Conduct hands-on, experiential laboratory research, effectively exposing students to common experimental methodology, approach, and design within the Neuroscience discipline.
- Demonstrate a fundamental competency in Neuroscience via an array of disciplines including biology, psychology, chemistry, physics, and mathematics.

Careers for this Major:

- Healthcare
- Education
- Biotechnology
- Research and Development
- Pharmaceutical Industry
- Neuroimaging
- Neuropsychology
- Science Writing
- Medical Liaison

Major

Neuroscience (B.S.) – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
EN 101 Composition and Literature I	3		EN 102 Composition and Literature II	3	
BI 101 Principles of Biology I (General Education Lab Science) [1]	4		PY 211 Introduction to Psychology (General Education Social Science)	3	

CH 103 General Chemistry I (General Education Lab Science)	4		CH 104 General Chemistry II	4	
MA 107 Precalculus Mathematics	4		MA 108 Applied Calculus (General Education Math)	4	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	14	
SOPHOMORE					
Fall			**Spring**		
BI 215 Human Anatomy & Physiology I [1]	4		BI 226 Cell Biology [1]	4	
BI 303 Genetics [1]	4		General Education Literature (p. 9)	3	
CH 225 Organic Chemistry I	4		MA 232 Elementary Statistics (General Education Math)	3	
General Education Leadership (p. 9)	1-3		PY 263 Perception	3	
PY 230 Biopsychology	3		Free Elective	3	
Fall Semester Total Cr.:	16-18		Spring Semester Total Cr.:	16	
JUNIOR					
Fall			**Spring**		
BI 370 Introduction to Neuroscience [1]	4		PY 344 Cognition	4	
PS 201 General Physics I	4		PS 202 General Physics II	4	
BI 300-400 Elective OR	4-3		BI 300-400 Elective OR	3-4	
PY 313 Experimental Psychology I			PY 314 Experimental Psychology II		
Free Elective	3		General Education History (p. 9)	3	
			Free Elective	3	
Fall Semester Total Cr.:	15-14		Spring Semester Total Cr.:	17-18	
SENIOR					
Fall			**Spring**		
BI 415 Neuroanatomy (or in Junior year) [1]	4		BI 420 Diseases of the Nervous System (or in Junior year) [1]	4	
BI 401 Senior Seminar (General Education Capstone) [1] or PY 401 Senior Seminar	3		BI Elective [1]	4	
PH 215 Survey of Ethics (General Education: Goal 6)	3		General Education Arts & Humanities (p. 9)	3	
PY Elective	3		Free Elective	3	
Free Elective	3				
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	14	
TOTAL CREDITS FOR THIS MAJOR: 123-125					

1 Grade of C or higher required.

Minor

Neuroscience Minor 2020-2021 Catalog

The Neuroscience option is a Concentration for Psychology and Biology majors, a minor for all other students.

Grade of C or higher required for all courses.

BI 215	Human Anatomy & Physiology I	4
BI 370	Introduction to Neuroscience	4
PY 230	Biopsychology	3
PY 344	Cognition	4
Choose one Biology course from below: [1]		
BI 302	Embryology	4
BI 304	Physiology	4
BI 415	Neuroanatomy	4
BI 420	Diseases of the Nervous System	4
Choose one Psychology course from below: [1]		
PY 212	Abnormal Psychology	3
PY 220	Developmental Psychology	3
PY 263	Perception	3

PY 352	Learning and Memory	4
Total Cr.		22-23

1 Students may also choose the following two chemistry courses: CH 324, CH 325, in lieu of the additional biology/psychology courses. However, this option requires additional prerequisites: CH 103, CH 104 and either CH 205, CH 226 or concurrent enrollment in CH 226.

Nursing

Professor Paulette Thabault (Director);

Associate Professors Kate Healy and Llynne Kiernan; Assistant Professors Lyndsey Gates; Lecturers Sarah Manacek, Corey Bennett, Jamie Maxham-Robillard, and Elizabeth VanHorn. Assistant Director of Simulation and Assessment Kevin Scott; Clinical Placement Coordinator and Advisor for Special Programs Charity Cerminara.

The School of Nursing offers a program, accelerated, and RN-BS programs leading to the Bachelor of Science in Nursing (BSN). The traditional four-year and accelerated programs lead to eligibility to take the National Council Licensure Examination for Registered Nurses (NCLEX-RN).

Traditional Program

The first year of the Nursing program is dedicated to courses in the Humanities, Sciences, Social Sciences and two foundation courses in Nursing. The clinical experience begins in the Fall semester of the sophomore year and continues through the remainder of the program. By graduation, students will have practiced in a variety of settings, including hospitals, community/home health agencies, schools and clinics. Well equipped, modern, simulation laboratories provide on-campus learning labs for skill acquisition and health assessment practice. Morning, evening, and weekend hours are utilized for the clinical experience.

Accelerated Program

The School of Nursing also offers an accelerated program for students with a previous degree and who have met the accelerated track pre-requisites. Students in this track begin in the summer prior to the junior level courses and join the junior cohort in the fall. Students in this track begin in the summer and complete the Nursing Program in five consecutive semesters, including summer ending the following December.

Traditional and Accelerated Programs

Students will take a pre-NCLEX exam during senior-level Nursing courses to determine readiness for NCLEX exams. Students are required to purchase student uniforms. Students are responsible for their own transportation to and from clinical agencies. Nursing majors must have current “American Heart Association Basic Life Support (BLS) CPR & AED Training for Healthcare Professionals” certification in cardiopulmonary resuscitation (CPR) upon entering the sophomore year and through all subsequent nursing courses. All immunizations must be up to date including an annual Flu immunization and a tuberculosis skin test done annually.

RN-BS

The Register Nurse to Bachelor of Science (RN-BS) is for students with an associate degree in nursing. This program is entirely online and allows the students flexibility to complete courses at their own pace.

The RN-BS program is for currently licensed nurses, so they do not take any pre-license exams. Also, the curriculum is different for the purpose of enhancing the nurse’s current skill set. This program is entirely online, and does not involve in person clinical experiences, meaning the students do not need to complete the above clinical requirements.

Goals

- Integrate knowledge derived from nursing science, health-related sciences, and humanities when designing and providing patient-centered care.
- Provide patient-centered care in which the dignity, spirituality, and rights of the individual family and community are respected.
- Promote the profession’s obligation to legal, ethical and moral standards.
- Lead, based on the values of commitment, collaboration, critical thinking and creativity.
- Employ informatics to communicate, manage knowledge, mitigate error, and support decision-making.
- Communicate effectively in a manner that fosters respectful and collaborative decision making, thus enhancing patient satisfaction and health outcomes.
- Integrate political awareness, critical thinking, social justice and participation in the policy process with professional role behavior.
- Use the best current evidence coupled with clinical reasoning to minimize risk and improve the quality and safety of patient care.
- Value the pursuit of practice excellence, lifelong learning, and professional engagement to foster professional growth and development.

Outcomes

- Ethical behavior and clinical reasoning, promoting advocacy, collaboration and leadership in the patient care setting
- Professional accountability for nursing practice with an emphasis on patient safety
- Evidence-Based Practice skills with the ability to conduct basic research
- Patient centeredness with emphasis on families and communities.
- Connectedness, with strong peer advocacy in the workplace environment

Accreditation

The baccalaureate degree program in nursing at Norwich University is accredited by the Commission on Collegiate Nursing Education (CCNE) 655 K Street NW, Suite 750, Washington, DC 20001, (202)-887-6791. The baccalaureate degree program in nursing is and approved by the Vermont State Board of Nursing, Office of Professional Regulations, 89 Main Street 3rd Floor, Montpelier, VT 05520-2482, (802) 828-2396.

Philosophy

Nursing at Norwich University is grounded in the core essentials of baccalaureate education and predicated on the profession's ideals to meet the needs of a complex, dynamic healthcare environment. Inherent in professional practice are the emerging trends in population health, patient care technology, and cultural diversity. The Faculty believes that through direct patient care and simulated clinical experience students will acquire the knowledge base to ensure optimum health outcomes for our patients, families and communities.

The Faculty further believes that teaching and learning evolves, through a seamless progression, in competency-based nursing practice. Graduates become proficient in patient-centered care with an emphasis on quality improvement methods and patient safety. The responsibility of the professional nurse is complex, requiring expertise in leadership, communication and teamwork.

Traditional Program Admission standards

In addition to the university General Admission Requirements, nursing applicants must:

- Meet or exceed the SAT requirement of 1050 for Math and Reading combined
- Complete 4 years of high school (HS) math including a minimum of two of the following: Algebra, Geometry, Trigonometry or Pre-calculus or Calculus.
- Complete 3 years of HS science including Biology and Chemistry
- College-level GPA must be at a minimum of 3.0
- An applicant transferring from another nursing program must submit a letter of reference from the Chairperson/Dean of the transferring school prior to acceptance.
- Background screening is a requirement for admission and condition of both acceptance and progression in nursing
- Students must also submit to an intermittent background screening as required by clinical agencies. A criminal record deemed to be of consequence or the habitual intemperate use or addiction to habit-forming substances precludes enrollment in the Program.

Accelerated Program Admission Standards

In addition to the university General Admission Requirements (p. 143), nursing applicants must:

- Earned Bachelor's degree or Associate of Arts, Associate of Science, or Associate of Arts & Sciences.
- A minimum of a 3.0 GPA
- Courses in math, science, or psychology must be above a C+
- It is preferred that all, or most, of the prerequisites are complete at the time of admission

RN-BS in Nursing Program Admission Standards:

- An Associate degree in nursing from a regionally or nationally accredited institution and a nationally accredited nursing program.
- 46 credits of nursing equivalent courses (satisfied with an active, unencumbered RN license in the United States).
- An active, unencumbered license as a Registered Nurse in your U.S. state of practice.
- Associate's degree with a 2.75 GPA or higher

There is no SAT or ACT requirement due to an earned Associate's degree. Up to 46 credits in Nursing are satisfied by the Nursing License. Additional credits may transfer to meet degree requirements.

Progression and Graduation

First Requirement:

- Nursing students must earn a minimum grade of C+ in all nursing (NR) courses including theory and practicum courses. A nursing student who does not earn the required minimum C+ in a nursing course may repeat the course only once. A student must receive a grade of C+ or higher in the repeated nursing course to progress in the nursing program. If a student receives less than a C+ when repeating a nursing course, the student will be dismissed from the nursing program. Failure to achieve the minimum required C+ in two nursing courses will result in dismissal from the nursing program.
- Both the theory and clinical components of linked nursing courses must meet the grade requirement to progress in the nursing program. If the student does not achieve the minimum required C+ in one component, the student must retake both components for progression in the program.
- Each grade in a linked course will be recorded individually as achieved. If a student does not achieve the minimum required C+ in both components of a linked course, this is considered two nursing course failures and the student will be dismissed from the nursing program.

  ** Linked nursing courses: NR 215/NR 215L; NR 316/NR 316L; NR 331/NR331L; NR 341/NR 341L; NR 416/416L; NR 421/NR 421L; and NR 431/NR 431L.

Second Requirement:

- Nursing students must earn a minimum grade of C+ in all math and science courses: BI 215, BI 216, CH 101, CH 102, MA 232, Math 100 level or higher, BI 220.

- Nursing and science courses must be taken in the order presented on the curriculum map in the appropriate catalog. Deviation requires approval from the School of Nursing.Students who earn below a C+ in science or math courses may choose to repeat a course at an institution other than Norwich. The student must have the course approved by the advisor in advance. When the transfer transcript arrives, the new grade will be used only for progression purposes.
- Failure to achieve a grade of C+ on the second attempt of BI 215, BI 216, BI 220, CH 101, CH 102, MA 232, or Math 100 level or higher will result in dismissal from the program. These requirements apply to non-nursing major students seeking a transfer to the nursing program.
- The C+ minimum requirement for math and science courses is effective for students admitted to the nursing program for University catalog year 2016-17 and thereafter.

Dismissal from School of Nursing

Criteria for dismissal from NUSON:

- Failure to receive the required minimum of C+ in two nursing courses during enrollment in the nursing program.
- Failure to achieve a minimum grade of C+ in any repeated nursing course.Failure to maintain a cumulative GPA of 2.0.Unsafe laboratory/clinical practice as determined by NUSON.
- Violation of Professional Behavior Expectations.Violation of the ANA Code of Ethics and/or ANA Standards of Practice.Failure to achieve a C+ on the second attempt of BI 215, BI 216, BI 220, CH 101, CH 102, MA 232, or Math 100 level or higher.
- A student who has not been active in nursing major courses for one semester without prior approval of advisor and Director of Nursing.

Dismissal from the nursing program DOES NOT mean the student is dismissed from Norwich University. Upon dismissal from the nursing program, the student will receive a letter from the Director stating the reason for the dismissal. After receipt of the letter, if the student wishes to remain at Norwich they must meet with their advisor and select a new major.

If a student wishes to challenge a progression issue or dismissal, they should follow the NU grievance procedure outlined in the catalog.

Clinical Warning/Suspension

When a student has acted or performed in an unsafe or inappropriate manner, at the discretion and judgment of the clinical instructor, they will be removed from the clinical setting. These situations include, but are not limited to, evidence of recent alcohol or substance use that could impair judgment, patient or agency request, inadequate preparation for assignment, inability to demonstrate technical competence in a skill (previously certified in the laboratory setting), inappropriate dress, illness that may be considered contagious or could impair student's judgment, client endangerment, or violation of the ANA Nurses Code of Ethics.

See the School of Nursing B.S. in Nursing Student Handbook for further information.

Major Nursing

Nursing (B.S.) – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
BI 215 Human Anatomy & Physiology I (General Education Lab Science) C+*	4		BI 216 Human Anatomy & Physiology II C+*	4	
EN 101 Composition and Literature I	3		CH 101 Introduction to General Chemistry C+*	4	
NR 104 Focus on Nursing C+*	3		EN 102 Composition and Literature II	3	
PY 211 Introduction to Psychology (General Education: Goal 5)	3		MA 232 Elementary Statistics (General Education Math) C+*	3	
General Education History (p. 9)	3		NR 105 Nutrition and Health Promotion C+*	3	
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	17	
SOPHOMORE					
Fall			**Spring**		
CH 102 Introduction to Organic and Biochemistry (General Education Lab Science) C+*	4		BI 220 Introductory Microbiology C+*	4	
NR 206 Health Assessment Across the Lifespan C+*	3		NR 215 Client, Psychological/Mental Health Problems C+*	3	
NR 232 Technology and Informatics in Healthcare C+*	3		NR 215L Client, Psychological/Mental Health Problems C+ *	2	
PY 220 Developmental Psychology	3		NR 217 Simulation for Nursing Practice C+*	4	
MA Elective C+*	3		NR 365 Pathopharmacology for Nurses C+*	4	
SO Elective	3				
Fall Semester Total Cr.:	19		Spring Semester Total Cr.:	17	

JUNIOR					
Fall			**Spring**		
NR 225 Research For Evidence-Based Practice C+*	3		NR 321 Nursing Leadership (General Education Leadership) C+*	3	
NR 316 Care of the Adult 1 C+*	3		NR 331 Care of Women and Childbearing Family C+*	3	
NR 316L Care of the Adult 1 Practicum C+ *	3		NR 331L Care of Women-Childbearing Family Prac C+ *	2	
General Education Ethics (p. 9)	3		NR 341 Care of Children/Child Rearing C+*	3	
SO Elective	3		NR 341L Care of Children&Child Rearing C+ *	2	
			General Education Literature (p. 9)	3	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	16	
SENIOR					
Fall			**Spring**		
MG Elective	3		NR 421 Coordinator of Care C+*	3	
NR 416 Care of the Adult II C+*	4		NR 421L Coordinator of Care Practicum C+ *	4	
NR 416L Care of Adult II C+ *	4		NR 431 Promoting Health in Communities C+*	3	
NR 420 Care at End of Life C+*	2		NR 431L Promoting Health in Communities: Clinical Practicum C+ *	2	
General Education Arts & Humanities (p. 9)	3		NR 441 Nursing Capstone (General Education: Goal 7) C+*	4	
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	16	
TOTAL CREDITS FOR THIS MAJOR: 132					

C+ A grade of C+ or higher required

* Nursing, science, and math courses must be taken in the order presented in the curriculum map; deviation requires School of Nursing permission.

Major Nursing (Accelerated)

Nursing Accelerated (B.S.) – Curriculum Map 2020-2021 Catalog

Prerequisites required for the Accelerated Nursing BSN are listed below.

- Earned Bachelor's degree or Associate of Arts (AA) or Associate of Science (AS) or Associate of Arts & Sciences (AA&S) are required.
- The 21 Elective credits are accepted in transfer from one of the transfer degrees listed above. These 21 credits equate to all remaining General Education requirements not listed below.
- Biology, Chemistry and Math courses must have been completed within five years from the year admitted to the major

BI 215	Human Anatomy & Physiology I C+	4
BI 216	Human Anatomy & Physiology II C+	4
BI 220	Introductory Microbiology C+	4
CH 101	Introduction to General Chemistry (General Education Lab Science) C+	4
CH 102	Introduction to Organic and Biochemistry (General Education Lab Science) C+	4
MA 232	Elementary Statistics (General Education Math) C+	3
PY 220	Developmental Psychology C+	3
SO Elective C+		3
Electives		21
Total Credits (includes 82 cr. below)		
Total Cr.		132

Accelerated Nursing Major Requirements

Course	Cr.	Comp.	Course	Cr.	Comp.
	FIRST YEAR				
Semester 1			**Semester 2**		
NR 104 Focus on Nursing C+*	3				
NR 105 Nutrition and Health Promotion C+*	3				

NR 206 Health Assessment Across the Lifespan C+*	3				
NR 217 Simulation for Nursing Practice C+*	4				
NR 365 Pathopharmacology for Nurses C+*	4				
Semester 1 Semester Total Cr.:	17		Semester 2 Semester Total Cr.:		
SECOND YEAR					
Semester 1			**Semester 2**		
NR 225 Research For Evidence-Based Practice C+*	3		NR 215 Client, Psychological/Mental Health Problems C+*	3	
NR 232 Technology and Informatics in Healthcare C+*	3		NR 215L Client, Psychological/Mental Health Problems C+*	2	
NR 316 Care of the Adult 1 C+*	3		NR 321 Nursing Leadership (General Education Leadership) C+*	3	
NR 316L Care of the Adult 1 Practicum C+*	3		NR 331 Care of Women and Childbearing Family C+*	3	
General Education Ethics	3		NR 331L Care of Women-Childbearing Family Prac C+*	2	
			NR 341 Care of Children/Child Rearing C+*	3	
			NR 341L Care of Children&Child Rearing C+*	2	
Semester 1 Semester Total Cr.:	15		Semester 2 Semester Total Cr.:	18	
THIRD YEAR					
Semester 1			**Semester 2**		
NR 416 Care of the Adult II C+*	4		NR 421 Coordinator of Care C+*	3	
NR 416L Care of Adult II C+*	4		NR 421L Coordinator of Care Practicum C+*	4	
NR 420 Care at End of Life C+*	2		NR 431 Promoting Health in Communities C+*	3	
MG Elective	3		NR 431L Promoting Health in Communities: Clinical Practicum C+*	2	
SO Elective	3		NR 441 Nursing Capstone (General Education Capstone) C+*	4	
Semester 1 Semester Total Cr.:	16		Semester 2 Semester Total Cr.:	16	
TOTAL CREDITS FOR THIS MAJOR: 82					

C+ Grade of C+ or higher required to progress in the nursing program.

* Nursing courses must be taken in the order presented in the curriculum map; deviation requires School of Nursing permission.

RN-BS

RN-BS Curriculum Requirements

Foundational Courses, 26 credits

BI 215 Human Anatomy & Physiology I, BI 216 Human Anatomy & Physiology II, BI 220 Introductory Microbiology, CH 101 Introduction to General Chemistry, CH 102 Introduction to Organic and Biochemistry, MA 232 Elementary Statistics, PY 220 Developmental Psychology

RN-BS Curriculum, 33 credits

COMM 301 Business & ProfessionalWriting, NR 105 Nutrition and Health Promotion, NR 232 Technology and Informatics in Healthcare, NR 225 Research For Evidence-Based Practice, NR 321 Nursing Leadership, NR 365 Pathopharmacology for Nurses, NR 431 Promoting Health in Communities, NR 431L Promoting Health in Communities: Clinical Practicum, NR 441 Nursing Capstone, NR 420 Care at End of Life, PHLS 210 Ethics in the Modern World

An additional 46 credits in Nursing, of which can be transferred from previous Nursing coursework.

Philosophy

Associate Professor Brian Glenney; Assistant Professor Daniel Morris; and Lecturer Justin Kuster.

The program in philosophy provides an encounter with the major concepts of Western thought in both historical and contemporary perspectives. Eastern ideas and attitudes are related at crucial points of intersection.

The minor in philosophy provides a chance to engage in open-ended, critical thinking about basic ideas in ethics, politics, religion and science, both in relation to current debates, and as they have developed since the beginnings of philosophy in ancient Greece.

Minor

Philosophy Minor 2020-2021 Catalog

All requirements require a grade of C or higher.

PH 218	Global History of Philosophy	3
PH Elective		3
PH Elective		3
PH Elective		3
PH Elective		3
PH Elective		3
Total Cr.		18

Physical Education Curriculum Overview

Professor Amy Welch (Chair); Lecturers Kylie Blodgett, Angela Carpenter-Henderson, Kate Harney, and Scott Maxham

A major in Physical Education emphasizes principles, problems and procedures for the improvement of individual and community health. The program provides an introduction to the Physical Education profession, and includes historical and philosophical implications and modern trends in program design with an emphasis on the study of the human body. Professional ethics, client privacy and liability issues are stressed throughout the program.students have access to the facilities and equipment of the Department of Biology and Physical Education. There are various courses designed to develop the students' interest in both pedagogy and the fitness related field

Goals:

- Prepare students for teaching Physical Education in both elementary and secondary schools
- Show commitment to a standards-based approach in the development of beginning educators
- Recognize and incorporate safe programs and facilities, such as risk management and liability considerations within school-based programs
- Develop and implement assessment plans consistent with national and/or state standards
- Be knowledgeable in the area of accommodations for physical education programs to meet the needs of all individuals

Outcomes:

- Each student choosing to become a teacher is responsible for developing a portfolio for licensure. The portfolio is constructed throughout the tenure of the undergraduate experience thus demonstrating individual learning and growth to become proficient Vermont State regulations and standards for teacher preparation.

Careers for this Concentration:

- Elementary/Secondary Physical Education Teachers

Physical Education Major-Teacher Education Conc.

Physical Education-Teacher Education (B.S.) – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
BI 101 Principles of Biology I (General Education Lab Science)	4		EN 102 Composition and Literature II	3	
ED 104 Foundations of Education [c]	3		MA 232 Elementary Statistics (General Education Math)	3	
EN 101 Composition and Literature I	3		PE 265 Lifelong Motor Development [c]	3	
MA 101 Mathematics: A Liberal Art (General Education Math)	3		PY 211 Introduction to Psychology (General Education Social Science)	3	
PE 163 Scientific Foundations of Health and Wellness [c]	3		General Education History (p. 9)	3	
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	15	

SOPHOMORE					
Fall			**Spring**		
BI 215 Human Anatomy & Physiology I (General Education Lab Science)	4		BI 216 Human Anatomy & Physiology II	4	
General Education Literature (p. 9)	3		HE 200 Foods and Nutrition	4	
PE 223 Motor Skills Development I [c]	3		PE 224 Motor Skills Development II [c]	3	
PE 261 Foundations in Health Education [c]	4		PE 245 Assessment in PE & Sports	3	
PE 271 Outdoor Physical Education I	3		PE 272 Outdoor Physical Education II	3	
Fall Semester Total Cr.:	17		Spring Semester Total Cr.:	17	
JUNIOR					
Fall			**Spring**		
PE 341 Instructional Strategies for Physical Education in Elementary School [c]	4		PE 342 Instructional Strategies for Physical Education in Middle-Secondary School [c]	4	
PE 355 Coaching:Leadership in Sports (General Education Ethics) [c]	3		PE 371 Physiology of Exercise [c]	4	
PE 365 Kinesiology [c]	4		PE 375 Adapted Physical Activity	3	
General Education Leadership (p. 9)	1-3		PE 432 Organization and Administration in Physical Education [c]	3	
General Education Arts & Humanities OR SO 320 (p. 9)	3				
Fall Semester Total Cr.:	15-17		Spring Semester Total Cr.:	14	
SENIOR					
Fall			**Spring**		
ED 432 Curriculum & Methods of Instruction Capstone	4		ED 425 Student Teaching [1] or PE 426 Internship	12	
PE 406 Readings in Physical Education (Capstone) [c]	3				
SO 214 Racial and Cultural Minorities	3				
SO 320 Drugs and Society (OR)	3				
General Education Arts & Humanities (p. 9)					
Free Elective	3				
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	12	
TOTAL CREDITS FOR THIS MAJOR: 122-124					

c Grade of C or higher required.

1 To be eligible for ED 425, students must have a 3.0 cumulative GPA and have passed the Praxis II.

Certification in First Aid and CPR is required for graduation.

Physical Education Major-Recreation Management Conc.

Physical Education-Recreation Management Concentration (B.S.) – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
BI 101 Principles of Biology I (General Education Lab Science)	4		EN 102 Composition and Literature II	3	
ED 104 Foundations of Education	3		MA 232 Elementary Statistics (General Education Math)	3	
EN 101 Composition and Literature I (General Education Math)	3		PE 265 Lifelong Motor Development [c]	3	
MA 101 Mathematics: A Liberal Art (General Education Math)	3		PY 211 Introduction to Psychology (General Education Social Science)	3	
PE 163 Scientific Foundations of Health and Wellness [c]	3		General Education History (p. 9)	3	
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	15	

SOPHOMORE					
Fall			**Spring**		
BI 215 Human Anatomy & Physiology I (General Education Lab Science)	4		BI 216 Human Anatomy & Physiology II	4	
General Education Literature (p. 9)	3		BI 253	4	
PE 223 Motor Skills Development I [c]	3		PE 224 Motor Skills Development II [c]	3	
PE 261 Foundations in Health Education [c]	4		PE 245 Assessment in PE & Sports [c]	3	
PE 271 Outdoor Physical Education I	3		PE 272 Outdoor Physical Education II [c]	3	
Fall Semester Total Cr.:	17		Spring Semester Total Cr.:	17	
JUNIOR					
Fall			**Spring**		
AC 201 Introduction to Accounting and Financial World	3		MG 101 Introduction to Business	3	
PE 341 Instructional Strategies for Physical Education in Elementary School (OR) [c] or 342 Instructional Strategies for Physical Education in Middle-Secondary School	4		PE 342 Instructional Strategies for Physical Education in Middle-Secondary School (OR) [c] or 341 Instructional Strategies for Physical Education in Elementary School	4	
General Education Arts and Humanities (p. 9)	3		PE 375 Adapted Physical Activity [c]	3	
PE 355 Coaching:Leadership in Sports [c]	3		PE 432 Organization and Administration in Physical Education [c]	3	
PE 441 Advanced Exercise Physiology and Prescription [c]	4		Free Elective	3	
General Education Leadership (p. 9)	1-3				
Fall Semester Total Cr.:	18-20		Spring Semester Total Cr.:	16	
SENIOR					
Fall			**Spring**		
MG 309 Management of Organizations	3		PE 426 Internship (OR) [c]	12	
MG 341 Business Law I (General Education Ethics)	3		Free Elective		
PE 333 Management Sports Facilities [c]	3				
PE 406 Readings in Physical Education (General Education Capstone) [c]	3				
SO 214 Racial and Cultural Minorities	3				
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	12	
TOTAL CREDITS FOR THIS MAJOR: 126-128					

[c] Grade of C or higher required.
Certification in First Aid & CPR is required for graduation.

Coaching Minor

Coaching Minor 2020-2021 Catalog

Physical Education majors can declare a Concentration in Coaching.

The concentration or minor is designed to meet proposed national standards preparation in coaching for elementary through high school level. The primary goals are to teach coaching fundamentals, injury prevention, health awareness, motor skill development, adolescent behavior, and youth leadership skills. The following courses are required:

All courses must be passed with a grade of C or higher.

PE 163	Scientific Foundations of Health and Wellness	3
PE 224	Motor Skills Development II	3
PE 355	Coaching:Leadership in Sports	3
PE 432	Organization and Administration in Physical Education	3
Two courses from the following list:		**7-8**
PE 223	Motor Skills Development I	3
PE 341	Instructional Strategies for Physical Education in Elementary School	4
PE 342	Instructional Strategies for Physical Education in Middle-Secondary School	4
PE 371	Physiology of Exercise	4
PY 324	Adolescent Psychology	3
Total Cr.		19-20

Health Minor

Health Minor 2020-2021 Catalog

Physical Education majors can declare a Concentration in Health.

This concentration or minor is designed to add depth and breadth to a student's education in health and wellness, develop healthy lifelong patterns, and increase the marketability of graduates. Students must complete:

All courses must be passed with a grade of C or higher.

PE 163	Scientific Foundations of Health and Wellness	3
HE 200	Foods and Nutrition	4
Four additional courses from the following list:		**7-8**
BI 220	Introductory Microbiology	4
BI 330	Immunology	4
HE 310	Pathophysiology in Sports Medicine	4
PE 261	Foundations in Health Education	4
PE 365	Kinesiology	4
PE 371	Physiology of Exercise	4
PY 211	Introduction to Psychology	3
PY 220	Developmental Psychology	3
PY 324	Adolescent Psychology	3
SO 320	Drugs and Society	3
Total Cr.		19-20

Physics Curriculum Overview

Associate Professors: Robert Knapik (Chair); Assistant Professors: Jean Sebastien Gagnon, K. Tabetha Hole and David Jacobs Lecturers: Elisabeth Atems and Robert Stockett (Lab Coordinator)

Physics is a mathematical science and as such is rigorous and demanding. It presents a challenge found in few other disciplines. At Norwich University, the Bachelor of Science in Physics is offered to students desiring an excellent schooling in the fundamentals of physics. The program encompasses a complete curriculum comprised of classical and quantum physics ranging from the properties of particles to the dynamics of the universe. All disciplines in science and engineering turn to physics to address the foundation of their fields.

Hallmarks of a Norwich education include experiential learning and leadership development. The Department of Physics therefore not only accentuates laboratory work but also insists upon peer collaboration throughout the curriculum. Physics majors, having the advantage of a 3-to-1 student-to-faculty ratio, develop close working relationships with their faculty mentors culminating in original research conducted in a faculty laboratory. Physics majors regularly present the results of their research at regional and national conferences. Currently, the research interests of the faculty include particle physics, material science, astrophysics and geophysical fluid dynamics.

Goals:

- The Department is committed to developing the maximum potential of every individual majoring in physics. It is devoted to the proposition that physics majors will, upon graduation, have a well-founded understanding of the physics that underlies all aspects of the physical universe. Such an education will insure that Norwich graduates have open to them and are successful in a full range of satisfying career opportunities.

Outcomes:

- Graduates understand fundamental physical processes from classical mechanics, quantum mechanics, electricity and magnetism, and statistical mechanics and thermodynamics.
- Graduates are able to apply and interpret the mathematics used in modeling physical situations.
- Graduates are able to apply sound research methods to address questions they develop and those posed by others.
- Graduates function as effective communicators, both in spoken and written words.
- Graduates are prepared for successful employment in physics and related fields or for entry into graduate and professional schools.
- Graduates are prepared to function as members of inter- and cross-disciplinary teams that formulate and execute solutions to complex, open-ended problems.

Careers for this Major:

- Industry
- Government
- Graduate work in physics and other physical sciences
- Military

Major

Physics (B.S.) – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
CH 103 General Chemistry I (General Education Lab Science)	4		CH 104 General Chemistry II (General Education Lab Science)	4	
EN 101 Composition and Literature I	3		EN 102 Composition and Literature II	3	
MA 121 Calculus I (General Education Math)	4		MA 122 Calculus II (General Education Math)	4	
PS 107 Solar System Astronomy	4		PS 108 Stellar and Galactic Astronomy	4	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	15	
SOPHOMORE					
Fall			**Spring**		
General Education Ethics (p. 9)	3		General Education History (p. 9)	3	
General Education Leadership (p. 9)	1-3		General Education Social Science (p. 9)	3	
MA 223 Calculus III	4		MA 224 Differential Equations	4	
PS 211 University Physics I	4		MA 241 Mathematical Computation and Modeling	3	
General Education Literature (p. 9)	3		PS 212 University Physics II	4	
Fall Semester Total Cr.:	15-17		Spring Semester Total Cr.:	17	
JUNIOR					
Fall			**Spring**		
General Education Arts & Humanities (p. 9)	3		Mathematics Elective [2]	3	
Mathematics Elective [2]	3		PS 334 Classical Mechanics [1] or 356 Thermal & Statistical Physics	3	
PS 341 Modern Physics [1] or 426 Electricity and Magnetism	3		PS 374 Junior Laboratory II	2	
PS 373 Junior Laboratory I	2		PS 444 Quantum Physics [1] or 428 Electrodynamics & Optics	3	
Free Elective	3		Free Elective	3	
Free Elective	3				
Fall Semester Total Cr.:	17		Spring Semester Total Cr.:	14	
SENIOR					
Fall			**Spring**		
PS 426 Electricity and Magnetism [1] or 341 Modern Physics	3		PS 356 Thermal & Statistical Physics [1] or 334 Classical Mechanics	3	
PS 451 Seminar I	1		PS 428 Electrodynamics & Optics [1] or 444 Quantum Physics	3	
PS 473 Senior Laboratory I	3		PS 452 Seminar II	1	
Free Elective	3		PS 474 Senior Laboratory II (Capstone)	3	
Free Elective	3		Free Elective	3	
Free Elective	3				
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	13	
TOTAL CREDITS FOR THIS MAJOR: 122-124					

1 This course is offered in alternate years. Both courses listed are required. For the years these courses are offered, see Course Descriptions.

2 The approval of the Department of Physics is required.

Minor

Physics Minor 2020-2021 Catalog

PS 211	University Physics I	4
PS 212	University Physics II	4
PS Elective		3
PS Elective		3
PS Elective (300 level or higher)		3

PS Elective (300 level or higher)	3
Total Cr.	20

Political Science

Program Coordinator: Jason F. Jagemann

Associate Professors Michael Andrew, Jason Jagemann, and Yangmo Ku; Assistant Professor Michael Thunberg.

Mission:

The Political Science program emphasizes the objectives of the liberal arts, which are to help the student cultivate powers of analysis and exposition in reading, writing, and communication; to expand the student's intellectual horizons; and to increase the student's knowledge and curiosity. The program explores the realm of politics; its vocabulary, its principal concepts and strategies, its ethics, and its expediencies. To do so, the program encourages students to appreciate and understand theories about government and politics, as well as the methods of the discipline.

Goals:

- Develop skills that enable students to have successful and rewarding careers.
- Provide students with a working knowledge of the vocabulary, concepts, ethics, and strategies of politics as well as an appreciation of how politics and public policy impact the lives of people locally, nationally, and globally.
- Give students the opportunity to do independent research and develop their own ideas in the field of political science by being mentored by professional political scientists.

Outcomes:

- Students initiate and complete research projects as well as cogently present research findings.
- Students apply the skills they learn in the classroom to understand and evaluate political and policy processes and outcomes.
- Students demonstrate an understanding of the political and policy processes in a variety of domestic and international settings.
- Students are prepared for the job market and/or graduate or law school.

Careers in this Major:

- Military Officer
- Lawyer
- Intelligence Officer
- Political Scientist
- Public Administrator
- Policy Analyst
- Foreign Service Officer

Internships:

The Political Science Program has a strong record of supervising internships for students throughout the United States. The intent of the internship is to provide students with opportunities to apply their classroom learning and to enhance their academic programs through practical experience. Students find internships as an invaluable experience through which they can explore potential careers and examine the links between the theory and practice of politics and government.

Norwich University also maintains an institutional affiliation with **The Washington Semester Program (WSP)**, which is the oldest, most prestigious, and well-known experiential education program in the world. This is a dynamic program that takes you outside of the classroom and into the real world. You *gain experience* and *contacts* to jump-start your *career* and get a taste of professional life while you *experience* the bustling pace of the capital city. Whatever your career interests, the WSP **offers a variety of unique and intensive programs** that will provide you with a learning opportunity that challenges your mind and will change your life.

Major

Political Science (B.A.) – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
EN 101 Composition and Literature I	3		EN 102 Composition and Literature II	3	
HI 121 American History Survey I (General Education History)	3		HI 122 American History Survey II	3	
PO 105 American Politics [c,6,9]	3		PO 106 Introduction to Public Policy and Administration [c,9]	3	
Modern Language (p.)	4		Modern Language (p.)	4	
			Free Elective	3	

Fall Semester Total Cr.:	13		Spring Semester Total Cr.:	16	
SOPHOMORE					
Fall			**Spring**		
PO 220 Research Methods [c,9]	3		PO 202 Introduction to Comparative Politics [c,8,9]	3	
PO 215 International Relations [c,7,9]	3		MA 232 Elementary Statistics ((General Education Math))	3	
BA Intercultural History Elective (p. 5)	3		EC 201 Principles of Economics (Macro) (General Education Social Science) or 202 Principles of Economics (Micro)	3	
General Education Math (p. 9)	3		BA Intercultural Elective (p. 5)	3	
Free Elective	3		General Education Leadership (p. 9)	1-3	
			Free Elective	3	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	16-18	
JUNIOR					
Fall			**Spring**		
PO 303 Political Philosophy [c] or 330 American Citizenship	3		PO International Relations Elective [2,7,9]	3	
EN 112 Public Speaking	3		PO American Politics Elective [3,6,9]	3	
General Education Ethics (p. 9)	3		General Education Arts & Humanities Elective (p. 9)	3	
General Education Lab Science (p. 9)	4		General Education Lab Science Elective (p. 9)	4	
Free Elective	3		Free Elective	3	
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	16	
SENIOR					
Fall			**Spring**		
PO Comparative Politics Elective [c,8,4,9]	3		PO 410 Capstone Seminar in Political Science (General Education Capstone) [c,9]	3	
Free Elective	3		PO Elective (300-400 level) [5,9]	3	
Free Elective	3		PO Elective (300-400 level) [5,9]	3	
Free Elective	3		General Education Literature (p. 9)	3	
Free Elective	3		Free Elective	3	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	15	
TOTAL CREDITS FOR THIS MAJOR: 122-124					

c Grade of C or higher required.

2 International Relations Elective: Choose one from PO 301, PO 305 , PO 405, PO 415 or PO 412. Grade of C or higher required.

3 American Politics Elective: Choose one from PO 312, PO 313, PO 314,PO 315, PO 321 or PO 331. Grade of C or higher required.

4 Comparative Politics Elective: Choose one fromPO 310,PO 320, PO 333PO 340 or PO 348 Grade of C or higher required.

5 Must be PO 300 or higher. Grade of C or higher required.

6 PO 105: Pre-requisite for American Politics Electives

7 PO 215: Pre-Requisite for International Relations Electives.

8 PO 202: Pre-Requisite for Comparative Politics Electives.

9 100 Level courses open to freshmen except by permission of the department chair or if a requirement for another major or program. 200 Level courses closed to freshmen except by permission of the department chair. 300 Level classes for upper-class students, except by permission of the department chair. 400 Level classes require permission.

Pre-Health Professions Curriculum Overview

Preprofessional Programs

Preprofessional programs are those in which a student completes college as a prerequisite for admission to a professional school. **Preprofessional programs are career choices, not majors.** Most preprofessional course requirements can be met at any accredited college or university. However, preprofessional advising at Norwich University is one of the strengths of the Preprofessional Program. The university maintains a strong advising program for preprofessional

students. The advisor and student will develop a list of appropriate electives along with the major curriculum map and extra-curricular activities. The preprofessional advising program it is designed to enhance professional school admission opportunities and facilitate a student's transfer into professional school.

The Preprofessional Program implements structured curricula and specialized advising for numerous career areas. Each curriculum incorporates the courses required by the professional schools into the strong Norwich University liberal arts curriculum. These courses facilitate development of reading, writing, and critical thinking skills that provide the key to successful performance in professional schools and life-long learning. Sound preprofessional advising, the accessibility of the individual advisers, and frequent contact with professional school representatives keep students well informed about the admission requirements and the application process for each program.

Choosing a Major

Preprofessional programs are career choices, not majors.

The majors that successful professional school applicants select are as diverse as the students themselves. Very few professional schools require, or even necessarily prefer, that applicants come from any particular undergraduate major. However, the liberal arts education that students receive at Norwich is an asset to any professional school applicant.

Preprofessional students should major in a subject that they enjoy and are thus more likely to perform well academically. A wise choice of major should take into account (1) what field holds the most interesting career prospects in the event that professional school plans do not materialize, and (2) the fact that majoring in something one enjoys, rather than feels compelled to pursue, is likely to stimulate the superior academic performance that is of utmost importance in professional school admission.

Pre-Professional Concentration	Suggested Majors
Pre-Medicine	Any major is acceptable: Biology & Biochemistry are popular
Pre-Denistry	Any major is acceptable; Biology & Biochemistry are popular
Pre-Physician Assistant	Any major is acceptable; Biology & Biochemistry are popular
Pre-Anesthesiologist Assistant	Any major is acceptable; Biology & Biochemistry are popular
Pre-Medical Technology	Biology, Biochemistry or Chemistry
Pre-Pharmacy	Biochemistry or Chemistry
Pre-Occupational Therapy	Health Sciences
Pre-Physical Therapy	Biology or Health Sciences
Pre-Optometry	Biology or Chemistry
Pre-Veterinary Medicine	Biology

Psychology

Charles A Dana Professor Emeritus Carole Bandy; Professor Kevin Fleming (Chair); Associate Professor Matthew Thomas; Assistant Professors Mark Stefani, Helene Sisti; Lecturers John Dulmage, Heather Porter

Mission:

Psychology is a scientific enterprise that attempts to articulate principles of human and animal behavior. These principles are formulated within the context of biological, socio-cultural, and environmental factors. Psychology is both a field of scientific inquiry and a professional activity: it shares its subject matter and its methods with the biological and social sciences, while simultaneously sharing some of the same concerns of the arts; namely, human motivation, emotion, aesthetic appreciation and experience, creativity, and the individual's relations to the world and humankind. Students may explore the discipline from experimental, personality/social, developmental, and/or clinical perspectives. A research-based senior thesis is required, along with an oral presentation at a regional undergraduate research conference. Upper level practica, internships, or field placements that provide practical work experience in a special interest area are encouraged.

Goals:

- To expose students to the full range of ideas in the field of Psychology.
- To give students the opportunity to experience the process of being and acting like a professional in the field of Psychology.
- To prepare students for lifelong career development.

Outcomes:

- To demonstrate understanding and knowledge of the content of Psychology including its major concepts, theoretical perspectives, empirical findings, and historical trends.
- To perform research independently and competently in the process of literature review, experimental design, data collection, and statistical analysis, as well as completion of the written and oral senior thesis.
- To communicate effectively in both written and oral formats at local and regional undergraduate research conferences.
- To prepare for successful graduate work and/or employment in professions requiring a Psychology background and/or in professions requiring critical thinking.

Graduate School Preparation:

The Psychology Major is an excellent preparation for most professional schools in:

- Law
- Medicine

- Education
- Business
- Psychology

Careers for this Major:

Careers at the BA level include:

- Army Mental Health Specialist
- Child Development Specialist
- Employee Relations Specialist
- Probation/Parole Officer
- Substance Abuse Counselor

Careers with advanced degrees include:

- Applied Statistician
- Clinical Social Worker
- Guidance Counselor
- Military Counselor
- Neuropsychologist
- School Psychologist
- Speech Pathologist

Major (B.A.)

Psychology (B.A.) – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
EN 101 Composition and Literature I	3		EN 102 Composition and Literature II	3	
General Education Math (p. 9)	3		MA 232 Elementary Statistics (General Education Math)	3	
Modern Language (p.) *	4		Modern Language (p.) *	4	
PY 211 Introduction to Psychology c	3		PY 220 Developmental Psychology c	3	
Fall Semester Total Cr.:	13		Spring Semester Total Cr.:	13	
SOPHOMORE					
Fall			**Spring**		
BA Intercultural Elective (p. 5)	3		BA Intercultural Elective (p. 5)	3	
BI 101 Principles of Biology I (General Education Lab Science)	4		General Education Lab Science (p. 9)	4	
PY 230 Biopsychology	3		PY 241 Introduction to Personality Theory	3	
PY 240 Introduction to Social Psychology	3		PY 263 Perception	3	
PY 313 Experimental Psychology I c	3		PY 314 Experimental Psychology II c	3	
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	16	
JUNIOR					
Fall			**Spring**		
General Education Arts & Humanities (p. 9)	3		PY 344 Cognition	4	
General Education Leadership (p. 9)	1-3		PY 398 Thesis Preparation c	3	
General Education Literature (p. 9)	3		PY 402 Conference s	0	
General Education Social Science (p. 9)	3		General Education History (p. 9)	3	
PY 212 Abnormal Psychology or 324 Adolescent Psychology	3		Free Elective	3	
Free Elective	3		Free Elective	3	
Fall Semester Total Cr.:	16-18		Spring Semester Total Cr.:	16	
SENIOR					
Fall			**Spring**		
PY 360 History and Systems of Psychology (General Education Ethics) c	3		PY 401 Senior Seminar (General Education Capstone) c	3	
PY 498 Senior Thesis c	3		PY 403 Presentation s	0	
Free Elective	3		Free Elective	3	

Free Elective	3		Free Elective	3	
Free Elective	3		Free Elective	3	
			Free Elective	3	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	15	
TOTAL CREDITS FOR THIS MAJOR: 120-122					

c Grade of C or higher required
s Grade of Satisfactory required
* If BA Modern Language Requirement is completed with fewer than 4 credits, then additional credits must be taken to meet 120.

Major (B.S.)

Psychology (B.S.) – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
EN 101 Composition and Literature I	3		EN 102 Composition and Literature II	3	
BI 101 Principles of Biology I (General Education Lab Science)	4		BI 102 Principles of Biology II (or General Education Lab Science)	4	
MA 107 Precalculus Mathematics (or General Education Math)	4		MA 232 Elementary Statistics (General Education Math)	3	
PY 211 Introduction to Psychology	3		General Education Leadership (p. 9) *	3	
			Free Elective	3	
Fall Semester Total Cr.:	14		Spring Semester Total Cr.:	16	
SOPHOMORE					
Fall			**Spring**		
PY 212 Abnormal Psychology or 324 Adolescent Psychology	3		PY 220 Developmental Psychology	3	
PY 230 Biopsychology	3		PY 263 Perception	3	
PY 313 Experimental Psychology I	3		PY 314 Experimental Psychology II	3	
General Education Literature (p. 9)	3		General Education Social Science (p. 9)	3	
General Education History (p. 9)	3		General Education Arts and Humanities (p. 9)	3	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	15	
JUNIOR					
Fall			**Spring**		
PY 240 Introduction to Social Psychology	3		PY 241 Introduction to Personality Theory	3	
PY 344 Cognition	4		PY 360 History and Systems of Psychology (General Education Ethics)	3	
PY 398 Thesis Preparation	3		PY 498 Senior Thesis	3	
Free Elective	3		Free Elective	3	
Free Elective	3		Free Elective	3	
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	15	
SENIOR					
Fall			**Spring**		
PY 401 Senior Seminar	3		PY 403 Presentation S	0	
PY 402 Conference S	0		Free Elective	3	
Free Elective	3		Free Elective	3	
Free Elective	3		Free Elective	3	
Free Elective	3		Free Elective	3	
Free Elective	3		Free Elective	3	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	15	
TOTAL CREDITS FOR THIS MAJOR: 121					

s Grade of Satisfactory required
* If General Education Leadership requirement is met with less than 3 credits, then additional credits must be taken to meet 120.

Minors

Cross-Cultural Psychology Minor 2020-2021 Catalog

PY 211	Introduction to Psychology	3
PY 236	Cross-Cultural Psychology	3
PY 240	Introduction to Social Psychology	3
PY 344	Cognition	4
SO 214	Racial and Cultural Minorities	3
SO 212	Cultural Anthropology	3
Choose ONE of the following:		
PY 241	Introduction to Personality Theory	3
PY 263	Perception	3
PY 321	Organizational Psychology	3
PY 352	Learning and Memory	4
Total Cr.		22-23

Engineering Psychology Minor 2020-2021 Catalog

PY 211	Introduction to Psychology	3
PY 232	Engineering Psychology	3
PY 344	Cognition	4
PY 350	Environmental Psychology	3
Choose ONE of the following:		
PY 230	Biopsychology	3
PY 263	Perception	3
PY 352	Learning and Memory	4
Choose ONE of the following:		
PY 220	Developmental Psychology	3
PY 240	Introduction to Social Psychology	3
PY 241	Introduction to Personality Theory	3
PY 321	Organizational Psychology	3
Total Cr.		19-20

Forensic Psychology Minor 2020-2021 Catalog

PY 211	Introduction to Psychology	3
PY 234	Forensic Psychology	3
PY 355	Psychology and the Law	3
Choose TWO of the following:		
PY 212	Abnormal Psychology	3
PY 220	Developmental Psychology	3
PY 240	Introduction to Social Psychology	3
PY 241	Introduction to Personality Theory	3
Choose TWO of the following:		
PY 230	Biopsychology	3
PY 263	Perception	3
PY 344	Cognition	4
PY 352	Learning and Memory	4
Total Cr.		21-23

Political Psychology Minor 2020-2021 Catalog

PY 211	Introduction to Psychology	3
PY 238	Political Psychology	3
PY 240	Introduction to Social Psychology	3
PY 344	Cognition	4
PO 105	American Politics	3
Choose ONE of the following:		
PO 315	Public Opinion and Political Behavior	3
PO 333	American Foreign Policy	3
Choose ONE of the following:		
CM 304	Principles and Practices of Corporate Communications	3
PY 241	Introduction to Personality Theory	3
Total Cr.		22

Psychology Minor 2020-2021 Catalog

PY 211	Introduction to Psychology	3
PY 313	Experimental Psychology I	3
Choose two of the following:		

PY 212	Abnormal Psychology	3
PY 230	Biopsychology	3
PY 240	Introduction to Social Psychology	3
PY 241	Introduction to Personality Theory	3
PY 263	Perception	3
PY 344	Cognition	4
PY 352	Learning and Memory	4
One course at the 200 level		**3**
One course at the 300 or 400 level		**3**
Total Cr.		18-24

Sociology

Professor Aimee Vieira; Associate Professor Min Li, Lecturer Ben Maniscalco

The Sociology minor, offered through the School of Justice Studies and Sociology, provides students with a distinctive social perspective on the realities of everyday life and the relationships within societies, institutions, organizations, and groups. Students are introduced to methods of social science research and the social, cultural, and political dimensions of domestic and global issues. Students are also exposed to the interstices between sociology and other social and behavioral sciences.

Minor

Sociology Minor 2020-2021 Catalog

SO 201	Introduction to Sociology [c]	3
SO 214	Racial and Cultural Minorities [c]	3
Choose 1 course from:		
HI 249	Historical Methods [c]	4
PO 220	Research Methods [c]	3
PY 313	Experimental Psychology I [c]	3
PY 314	Experimental Psychology II [c]	3
SO/CJ 209	Methods of Social Science Research [c]	4
SO elective, any level, (PY 240 may be used) [c]		3
Two Sociology electives, SO 300 or higher [c]		6
Total Cr.		18/19

c Course requires a grade of C or higher

Criminal Justice majors pursuing a Sociology minor cannot count cross-listed courses other than CJ 209/SO 209 for both the major and minor.

Spanish

Professor H. Stewart Robertson; Associate Professor Judith Stallings-Ward (Program Director); Assistant Professor Miriam Romero, Kaitlin Thomas; Lecturers Robert Bartlett and Susan Nevins

The Spanish student pursuing the major or the minor has access to a wide range of courses designed to build a solid foundation in the language, perfect speaking and compositional skills, teach literature in tandem with the culture of both Spain and Hispanoamerica, focus on special topics in Latino studies, cinema, women authors, or literary genres, and culminate in a senior capstone course, typically dealing with an eminent writer, such as Cervantes or García Márquez. The senior portfolio incorporates assessment of writing and speaking proficiency with samples of student work toward the major. All students are encouraged to participate in the program´s on-campus cultural activities and to study abroad for a summer or semester in an approved overseas program to experience language immersion and explore *in situ* a Hispanic culture.

Students who have completed more than one year of high school Spanish, or the equivalent, must take the foreign language placement test before registering for their first Norwich course in Spanish.

Goals:

Students achieve advanced language proficiency, expand their cultural understanding of the Hispanic world, develop critical expertise in works of literature written in Spanish, strengthen critical thinking skills, and experience personal transformation. This educational growth will empower students to connect with and impact a diverse world in a meaningful way.

Outcomes:

At graduation, Spanish majors will present test results and written work in a senior portfolio showing the abilities

- To listen, speak, and write with advanced proficiency and produce different styles of writing;
- To read literary and popular texts in Spanish and discern moral, cultural, aesthetic values, literary movements, and historical periods informing the conditions in which those works are produced;

- To demonstrate a comprehension and appreciation of the differences and similarities among the three Hispanic cultures Spain, Latin America, and the U.S. Latino population as they compare to other cultures;
- To conduct research on and think critically about works of literature, film, and art produced by Hispanic cultures and identify leadership qualities and discuss ethical questions in the works.

Graduate School Preparation:

The Spanish major strengthens verbal and critical thinking skills, cultural awareness, international experience, and foreign language competency necessary to excel in graduate study in all professional schools.

Careers for this Major:

The Spanish major provides a competitive edge in national and international job markets where Spanish is the second most widely spoken language in the world. When combined with a second major, it doubles the value of the college degree and strengthens the curriculum vitae. Among the many job opportunities awaiting the Spanish major are those found in

- Law Enforcement
- Military Service
- Diplomacy
- Education
- Business
- Social Services
- Health Care
- Politics
- Environmental Science
- Advertising and Mass Media

Major

Spanish (B.A.) – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
EN 101 Composition and Literature I	3		EN 102 Composition and Literature II	3	
SP 121 Beginning Spanish I [c]	4		SP 122 Beginning Spanish II [c]	4	
General Education History (p. 9)	3		General Education Math (p. 9)	3	
General Education Leadership (p. 9)	1-3		General Education Social Science (p. 9)	3	
General Education Math (p. 9)	3		Free Elective	3	
Fall Semester Total Cr.:	14-16		Spring Semester Total Cr.:	16	
SOPHOMORE					
Fall			**Spring**		
SP 205 Intermediate Spanish I [c]	3		SP 206 Intermediate Spanish II [c]	3	
General Education Ethics (p. 9)	3		General Education Arts & Humanities (p. 9)	3	
General Education Lab Science (p. 9)	4		General Education Lab Science (p. 9)	4	
Free Elective	3		Free Elective	3	
Free Elective	3		Free Elective	3	
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	16	
JUNIOR					
Fall			**Spring**		
SP 300-Level Elective (Study Abroad) [c]	3		SP 302 Advanced Spanish II [c, 1]	3	
SP 300-Level Elective (Study Abroad) [c]	3		BA Intercultural Elective (p. 5)	3	
SP 300-Level Elective (Study Abroad) [c]	3		Free Elective	3	
Free Elective	3		Free Elective	3	
Free Elective	3		General Education Literature (p. 9) [c]	3	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	15	

SENIOR					
Fall			Spring		
SP 300-Level Elective [c]	3		SP 415 Seminar: Topics in Spanish Literature and Culture (General Education Capstone) [c, 1, 2, 3]	3	
SP 300-Level Elective [c]	3		SP 300-Level Elective [c]	3	
BA Intercultural Elective	3		Free Elective	3	
Free Elective	3		Free Elective	3	
Free Elective	3		Free Elective	3	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	15	
TOTAL CREDITS FOR THIS MAJOR: 122-124					

c Grade of C or higher required.
1 Must be completed at Norwich.
2 Study abroad must be completed before taking SP 415.
3 One semester of study in a Spanish-speaking country is required for the major; see Spanish Program Director.

Minor

Spanish Minor 2020-2021 Catalog

All courses require a grade of C or higher. The courses required to complete the minor depend on the foreign-language proficiency level of the incoming student. See tracks A and B below:

A. The following is the track to complete the minor for those who enter Norwich at or below the intermediate level:

SP 205	Intermediate Spanish I	3
SP 206	Intermediate Spanish II	3
SP Elective (250 or higher)		3
SP Elective (301 or higher)		3
SP Elective (301 or higher)		3
SP Elective (301 or higher)		3
Total Cr.		18

B. Track B is to be completed by students who place above the intermediate level:

SP Elective (301 or higher)		3
SP Elective (301 or higher)		3
SP Elective (301 or higher)		3
SP Elective (301 or higher)		3
SP Elective (301 or higher)		3
SP Elective (301 or higher)		3
Total Cr.		18

Sports Management

Professor D. William Jolley; Associate Professors Andrew Bargerstock, Nasim Hosein and Thomas Yandow; Adjunct Instructor Daniel Alcorn.

This minor provides students with the knowledge and skills needed to work as managers in sport or recreation positions such as athletic, recreation, or camp directors, or as directors of sports facilities, or commercial and/or workplace wellness programs. Students take courses in sport leadership, business management, and sport facilities management, including a sports management internship.

Minor

Sports Management Minor 2020-2021 Catalog

- Students seeking a minor in Sports Management must obtain the approval of the School Director.
- All 6 courses require a grade of C or higher.

AC 201	Introduction to Accounting and Financial World	3
MG 314	Marketing Management	3
MG 441	Integrated Marketing Communications	3
MG Elective [1]		3
PE 333	Management Sports Facilities	3
PE 426	Internship (Sports Management Placement)	6,12
Total Cr.		21-27

1 Choose from the subjects/courses listed below:
AC, CN, CS, DF, EC, FN, FR, GR, MG, QM, SP AS 311, AS 312, AS 411, AS 412, DF 242, IA 241,MA 240, MA 318, MA 370, MS 311, MS 312, MS 411, MS 412, NS 321, NS 342, NS 421, NS 422, PY 210

Studies in War and Peace

Program Coordinator: Miri Kim

Mission:

The Studies in War and Peace (SWAP) program examines the origins and development of military institutions and the impact of these institutions upon the social order. Intellectually, the program promotes critical analysis of phenomena relating to military and diplomatic affairs.This academic program is equally suitable for civilian students or cadets; providing an interdisciplinary examination of the enduring and close interconnections among military, political, economic, and social institutions. The SWAP program is an extension of the Norwich University tradition of producing educated citizens who are prepared for either military or civilian pursuits, and who are knowledgeable about diplomatic and military affairs.

Goals:

- Develop the skills which enable students to have successful and rewarding careers.
- Develop understandings of how global political, economic, and social forces affect the growth and interplay of military and political institutions.
- Acquire an understanding of how different cultures engage in warfare and seek to create the conditions for peace.

Outcomes:

- All graduates will have a broad understanding of how global political, economic, and social developments affects the growth and interplay of military institutions.
- All graduates will have a solid understanding of critical thinking skills as demonstrated in an original research paper.
- Graduates will be satisfied with the overall quality of the program and that the program provided a good preparation for the job market and/or additional education and training.

Careers in this Major:

- Military Officer
- Lawyer
- Historical or Political Scientist
- Teacher
- Intelligence Officer
- Any career that requires critical thinking, analytical, problem solving, and communications skills.

Major

Studies in War and Peace (B.A.) – Curriculum Map 2020-2021 Catalog

Course	Cr.	Comp.	Course	Cr.	Comp.
FRESHMAN					
Fall			**Spring**		
EN 101 Composition and Literature I	3		EN 102 Composition and Literature II	3	
HI 105 First Year Seminar [1] or 107 The History of Civilization I or 108 The History of Civilization II or 121 American History Survey I or 122 American History Survey II	3		HI 107 The History of Civilization I [1] or 108 The History of Civilization II or 121 American History Survey I or 122 American History Survey II	3	
PO 105 American Politics (General Education Social Science) [1]	3		Modern Language (p.)	3-4	
Modern Language (p.)	3-4		General Education Leadership (p. 9)	1-3	
General Education Arts & Humanities (p. 9)	3		Free Elective	3	
Fall Semester Total Cr.:	15-16		Spring Semester Total Cr.:	13-16	
SOPHOMORE					
Fall			**Spring**		
HI 235 Military History I [1,6]	3		HI 236 Military History II [1,6]	3	
PO 202 Introduction to Comparative Politics [1,8] or 215 International Relations	3		External Elective [2]	3	
BA Intercultural Elective (p. 5)	3		BA Intercultural Elective (p. 5)	3	
General Education Math (p. 9)	3		General Education Math (p. 9)	3	

Free Elective	3		Free Elective	3	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	15	
JUNIOR					
Fall			**Spring**		
Core Elective [1,3,6,8]	3		Core Elective [1,3,6,8]	3	
International Affairs Elective [1,4,6]	3		General Education Lab Science (p. 9)	4	
PH Elective (General Education Ethics)	3		General Education Literature (p. 9)	3	
General Education Lab Science (p. 9)	4		Free Elective	3	
Free Elective	3		Free Elective	3	
Fall Semester Total Cr.:	16		Spring Semester Total Cr.:	16	
SENIOR					
Fall			**Spring**		
Capstone Seminar [1,5,7]	3		Core Elective [1,3,6,8]	3	
Core Elective [1,3,6,8]	3		International Affairs Elective [1,4,6]	3	
International Affairs Elective [1,4,6]	3		Free Elective	3	
Free Elective	3		Free Elective	3	
Free Elective	3		Free Elective	3	
Fall Semester Total Cr.:	15		Spring Semester Total Cr.:	15	
TOTAL CREDITS FOR THIS MAJOR: 120-124					

1 Grade of C or higher required.

2 Choose one of the following: EN 112, EC 106, EC 201, EC 202, SO 201, CM 261.

3 Choose four of the following
- Chose at least one from: HI 230, HI 332, HI 334, HI 338, HI 339, HI 341, HI 355, HI 371, HI 372, HI 373
- Choose at least one from: PO 305, PO 310, PO 330, PO 333, PO 340,PO 348, PO 405, PO 415, SO 330
- HI Colloquia may also be used if designated as SWAP electives.

4 Choose three from European History, Non-Western History, or Pre-Modern History, only one of which may be a 200 level HI course and one must be either Pre-Modern or Non-Western History.
- European History: HI 223, HI 224, HI 227, HI 322, HI 326, HI 329, HI 361, HI 431.
- Non-Western History: HI 211, HI 212, HI 214, HI 218, HI 315HI 317, HI 319, HI 345HI 363, HI 433.
- Pre-Modern History (prior to 1600 C.E.): HI 201, HI202, HI 303, HI 304,HI 321, HI 362, HI 432

5 SWAP Capstone may NOT double-count as Capstone for another major. Choose one of the following: HI 491, HI 43X: SWAP designated seminar, PO 491, or PO 410: SWAP designated seminar. Note: HI 490 is a pre-requisite for HI 491 and PO 490 is a pre-requisite for PO 491

6 Students must complete a 200 level HI course with a grade of C or higher, or have instructor's permission to complete 300 and 400 level HI courses.

7 Permission required.

8 PO 202 Comparative Politics and PO 215 International Relations are prerequisites for 300 and 400 level PO courses in Comparative Politics and International Relations.

Transnational Crime

Non-state actors engaged in organized and transnational crime (the corruption of government officials; trafficking in persons, drugs, and arms; money laundering; international terrorism) threaten the security of the US and key economic partners. This minor prepares recipients for positions in law enforcement and security agencies working to neutralize these threats. International crimes are those violations against the law of nations for which there is universal jurisdiction, and which are typically tried by international war crimes tribunals—genocide, for example. Transnational crimes are those which a domestic jurisdiction will prosecute when they are impacted, regardless of where they occur—terrorism, for example. A study of these two areas will interest students from a wide variety of disciplines.

Minor

Transnational Crime Minor 2020-2021 Catalog

Students must earn a total of 18 credits for this minor.

Required Course		
CJ 101	Introduction to Criminal Justice	3
CJ 318	Transnational Crime	3
CJ 405	Internship (minimum 120 hours)	3
Select one course from each of the following categories: [1]		
Choose one course from:		

CJ 330	Terrorism	3
CJ 341	Cyber Law and Cyber Crime	3
CJ 421	Comparative Criminal Justice Systems	3
CJ 430	Homeland Security	3
Choose one course in International Relations, Economics or Accounting from:		
PO 202	Introduction to Comparative Politics	3
PO 215	International Relations	3
EC 106	The Structure and Operation of the World Economy	3
EC 202	Principles of Economics (Micro)	3
AC 201	Introduction to Accounting and Financial World	3
Choose one course in Regional Exploration from:		
HI 212	Modern East Asian Civilizations	3
HI 214	History of the Middle East	3
HI 218	Survey of Sub-Sahara Africa	3
HI 224	Modern European History	3
HI 371	Nation-Building	3
SO 212	Cultural Anthropology	3
Choose a Modern language course 205 or higher (recommended)		
Total Cr.		18

1 Some courses have prerequisites, plan accordingly.

Writing

The Writing Minor or Concentration exposes students to a plethora of cross-disciplinary writing opportunities. Students will develop the skills necessary for writing in all realms: civic life, employment, graduate school, and beyond. They will increase their creativity and innovation in all writing undertakings. Students will gain experience in collaboration, problem solving, innovation, and new media literacy. This minor/concentration permits students to document formally their acquisition of these rhetorical skills

Concentration & Minor

Writing Concentration and Writing Minor 2020-2021 Catalog

The writing concentration is offered to English majors who wish to focus their studies on writing. Although the requirements are the same, English majors will pursue a Writing concentration, rather than a Writing minor.

Communications majors who pursue a Writing minor may only use three courses that satisfy both the Communications major and the Writing minor.

Complete SIX courses from below:		
EN 203	Advanced Composition	3
EN 204	Professional and Technical Writing	3
EN 272	Veterans' Literature and Writing	3
EN 274	Introduction to Creative Writing	3
EN 276	Environmental Writing	3
EN 278	Writing for the Web	3
CM 207	Journalism I: News Gathering	3
CM 208	Journalism II: Advanced News Gathering and Design	3
CM 209	Broadcast Writing	3
Choose ONE 300 level course (may be used above)		
CM 335	Television Criticism	3
EN 362	Rhetorical Criticism	3
EN 364	Intermediate Creative Writing	3
Total Cr.		18

University Resources

The University offers many support services to aid each student in their academic career. The following section highlights those services and each student is encouraged to visit each areas website both externally and through the internal websites or reach out to those individuals within each department. The academic advisor may also serve as a resource to navigating the support services as well as the Center for Student Success and the Academic Achievement Center.

Academic Achievement Center

The **Academic Achievement Center** (AAC) provides individualized assistance to residential Norwich students for most facets of academic performance and college learning. The AAC helps Norwich students develop strategies, tools, mindset, and resources for academic success in a supportive, personalized, and student-centered atmosphere. All AAC services and programs are included in student tuition.

Norwich students enrolled in campus-based programs may voluntarily choose from AAC service options, listed below, to achieve their academic goals:

- time management assistance
- planning, and organizational skills
- instruction in fundamental study skills and learning strategies
- reading, research, and project management strategies
- memorization and exam preparation strategies

- one-on-one tutorials and review sessions in selected course and subject areas
- academic coaching

Services are provided by a professional staff consisting of a full-time Director, Program Coordinators, and Learning Specialists supplemented by a trained, supervised staff of peer tutors who provide subject-area tutorials in math, lab sciences, foreign languages, and other courses.

The AAC's **Math Specialists** provide one-on-one and group tutoring for students enrolled in all NU math courses, as well as math skills and topics workshops. The AAC's **Liberal Arts Specialists** provide one-on-one and group tutoring for students enrolled in College of Liberal Arts courses, as well as study skills and topics workshops open to all.

The AAC coordinates two peer academic mentoring programs providing academic support and student academic leadership opportunities. The **Corps/Civilian Academic Mentoring Program (CAM)** provides critical transitional academic support and training for all incoming Freshmen during their first semester. CAM sessions are led by trained mentors from the same lifestyle and academic major as their mentees. The sessions focus on academic skills, accessing NU resources, and effectively transitioning to college life. The **Peer Tutoring Program** recruits, trains, and supervises student tutors who provide course-specific tutoring to fellow students in one-on-one or group tutoring sessions. Both programs are supervised by the AAC's **Coordinator of Peer Academic Mentoring Programs** and are designed to benefit both mentors and mentees.

The AAC provides tutoring, mentoring, coaching, and programming for all international and American students for whom English is not their first language. The AAC's **Coordinator of Multilingual Student Services** helps multilingual students become more fluent in English, understand US academic culture, connect to available campus resources, and improve academic performance in reading, listening, speaking, and writing. Students can meet on an as-needed or regular basis with the Coordinator. Multilingual students can also qualify for English Language accommodations by working with the Coordinator and the English department.

The AAC's **Coordinator of Accessibility Services** supports residential students with learning, physical, psychological, or other disabilities, assisting them with:

- determining eligibility for disability support services;
- establishing approved Academic Accommodations through an individualized Educational Profile;
- communicating and working with faculty and students regarding accessing approved accommodations;
- proctoring tests for students with approved test-taking accommodations; and
- using assistive technology and other resources.

The Accessibility Coordinator also meets with students with disabilities on an as-needed or regular basis and can provide academic coaching and tutoring to students upon request. For more information, refer to the "Americans with Disabilities Act (p. 18)" section of the Academic Policies of this catalog.

The AAC also coordinates Norwich University's mandatory program for students at academic risk--i.e., students on Academic Probation, and students who have been Re-admitted to the university after having been Academically Dismissed. The **Coordinator for Academic Enhancement**, working with our **Academic Probation Specialist**, coaches and mentors students at academic risk to develop educational plans and goals to improve academic performance; to improve time management, organizational, and study skills essential to academic success; and to access academic and other support resources available on campus.

AAC personnel works closely with academic advisers, course instructors, Academic Affairs, and Student Affairs staff to create a comprehensive support system for students choosing to enhance their academic achievement in order to excel at Norwich. Services are primarily voluntary and arranged by appointment. Both day and evening hours are maintained to provide access for students in all programs.

For more information, please contact the Academic Achievement Center at 802-485-2130, aac@norwich.edu, or in person at the AAC's offices on the 4th floor of the Kreitzberg Library during business hours.

Admissions

The admission of students to Norwich University is competitive. Each applicant's file is carefully reviewed by the Office of Admissions. Norwich University is a rolling admissions school, which means that while applications and deposits may be received past the deadlines outlined below, they are accepted only on a space-available basis.

Application Preferred Deadline:

- Fall Enrollment: February 1
- Spring Enrollment: November 15

Deposit Deadline:

- Fall Enrollment: May 1
- Spring Enrollment: December 1

High School Applicants:

Students entering, or during the course of, their senior year are encouraged to submit an application (http://www.norwich.edu/apply/) to Norwich University. In addition to the application, students must submit the following:

- High School Transcript (including senior year courses and/or senior year grades)
  - Competitive applicants should have completed:
    - four years of English;
    - four years of mathematics;
    - three years of social sciences/history;
    - three years of lab-based sciences;
    - two years of modern languages.
  - Each applicant's file is reviewed considering the academic program that the student has applied for; because some programs are more challenging in certain academic areas than others, the courses and grades earned in each course is carefully scrutinized to ensure that the accepted student is ready for the university coursework
- SAT or ACT Scores (Norwich's SAT Code is 3669; ACT code is 4308)
  - Students applying for the nursing degree must supply SAT or ACT scores. Applicants for other majors are encouraged to submit scores, though are not required to.
  - Norwich "super-scores" each test, and records only the best scores that the applicant has received.
- Applicants are also highly encouraged, though not required, to submit:
  - Letters of Recommendation; two or three letters are preferred. Students should choose teachers, coaches, employers, mentors, etc., who know both their academic abilities and their personality.
  - Essay; a 300-500 word open-topic essay may also be submitted.

Transfer Applicants:

Students who have completed high school and are enrolled in, or have attempted, 12 or more college/university credits, are considered transfer applicants. Transfer applicants must submit:

- An application (http://www.norwich.edu/apply/) to Norwich
- Final High School Transcript
- College Transcripts
  - Any/all college transcripts must be received to properly review a student's file. If a student has attempted credits at more than one institution, they must submit a transcript from each institution. In order to be evaluated for transfer credit, college transcripts must be official.
  - If a student's attempted credits are from an institution outside of the United States, the student must provide a course description and syllabus for each course to be evaluated for transfer credit.
- Applicants are also highly encouraged, though not required, to submit:
  - Letters of Recommendation; two or three letters are recommended. Students should choose teachers, coaches, employers, mentors, etc., who know both their academic abilities and their personality. Essay; a 300-500 word open-topic essay may also be submitted.
  - Essay. A 300-500 word open-topic essay may also be submitted.

Homeschooled Applicants:

Students entering, or during the course of, their senior year are encouraged to submit an application (http://www.norwich.edu/apply/) to Norwich University. In addition to the application, students must submit the following:

- High School Transcript (including senior year courses and/or senior year grades)
  - Competitive applicants should have completed:
    - four years of English;
    - four years of mathematics;
    - three years of social sciences/history;
    - three years of lab-based sciences;
    - two years of modern languages.
  - Each applicant's file is reviewed considering the academic program that the student has applied for; because some programs are more challenging in certain academic areas than others, the courses and grades earned in each course is carefully scrutinized to ensure that the accepted student is ready for the university coursework
- SAT or ACT Scores (Norwich's SAT Code is 3669; ACT code is 4308)
  - Students applying for the nursing degree must supply SAT or ACT scores. Applicants for other majors are encouraged to submit scores, though are not required to.
  - Norwich "super-scores" each test, and records only the best scores that the applicant has received.
- Home school instructors must send a copy of student enrollment, certification, or documents that state the student is home-schooled.
- Applicants are also highly encouraged, though not required, to submit:
  - Letters of Recommendation; two or three letters are preferred. Students should choose teachers, coaches, employers, mentors, etc., who know both their academic abilities and their personality.
  - Essay; a 300-500 word open-topic essay may also be submitted.

International Applicants:

Applicants who are not United States Citizens, or Permanent Residents of the United States, are considered international applicants. International applicants must submit:

- An application (http://www.norwich.edu/apply/) to Norwich
- Transcripts
  - Secondary school (high school) transcripts for entering freshman. If the transcript is not in English, the applicant must also submit a translated copy.
  - International transfer applicants are required to submit official college transcripts. If the transcript is not in English, the applicant must also submit a translated copy. If a student's attempted college-level credits are from an institution outside of the United States, the student must submit post-secondary transcripts through a National Association of Credential Evaluation Services (NACES) approved agency with the degree statement and a course-by-course evaluation when not in English.
- Proof of English Proficiency
  - Students must submit English language proficiency requirements in one of the following ways:
    - The applicant is a citizen of Antigua and Barbuda; Australia, The Bahamas; Barbados; Belize; Canada (except Quebec); Cook Islands; Dominica; Ghana; Grenada; Guyana; Ireland; Jamaica; Kenya; Namibia; New Zealand; Nigeria; Norway; St. Kitts and Nevis; St. Lucia; St. Vincent and the Grenadines; Sweden; Trinidad and Tobago; Uganda; United Kingdom; Zimbabwe.
    - Submitting TOEFL or IELTS scores.
    - The applicant has successfully completed an academic English program at an institution approved by Admissions.
    - The applicant has graduated, or is on track to graduate, from a foreign institution where the language of instruction for the secondary and/or post-secondary degree(s) was English.
    - The applicant has graduated, or is on track to graduate, from a US accredited school abroad with English as the medium of instruction.
    - The applicant has graduated, or is on track to graduate, from a secondary school in the US that he/she attended for a minimum of one year and that included at least one unit of college preparatory English.
    - The applicant has earned a bachelor's degree from an accredited institution of higher education in the US or has completed at least 12 or more credits at an accredited institution of higher education in the US.
- SAT or ACT Scores (Norwich's SAT code is 3669; ACT code is 4308)
  - Students applying for the nursing degree must supply SAT or ACT scores. Applicants for other majors are encouraged to submit scores, though are not required to.
  - Norwich "superscores" each test, and records only the highest section-level scores that the applicant has received, even if they are from different tests.
- Applicants are also highly encouraged, though not required, to submit:
  - Letters of Recommendation; two or three letters are preferred. Students should choose teachers, coaches, employers, mentors, etc., who know both their academic abilities and their personality.
  - Essay; 300-500 word open-topic essay may also be submitted.

Flexible Pathways:

Norwich University participates in the State of Vermont Agency of Education Flexible Pathways Initiative: Early College Program (ECP) and Dual Enrollment Program.

Early College: Students must be accepted into full-time programs that are developed and operated by one of the Vermont State Colleges or an accredited private

postsecondary school located in Vermont, and that are approved for operation by the Secretary of Education.

Eligibility

- High school transcript, minimum GPA of a 3.0
- Letter of recommendation from Guidance Counselor
- Essay
- Principal Authorization Form
- Resident of Vermont
- High school senior enrolled in a school that is publicly funded including a Vermont career technical center, approved independent high school and are publicly funded by their hometowns, High School Completion Program, and Home Study students

Optional

- Additional letters of recommendation
- SAT/ACT scores

Dual Enrollment: Includes up to two college courses for eligible Vermont high school students. The Agency of Education has oversight of the dual enrollment program and will work with Norwich University to manage the delivery to students. Dual enrollment courses provided for in this pathway can be offered on a college campus and on-site at a participating high school.

Eligibility

- Resident of Vermont
- High school junior or senior
- Students who attend a school that is publicly funded including a Vermont career technical center
- Students who attend an approved independent high school and are publicly funded by their hometowns
- Students who are assigned to a public school through the High School Completion Program
- Students who are Home Study students

Interested in Admissions:

All students seeking admission to Norwich University are highly encouraged to contact our office. In addition to phone/email contact, students and families should consider visiting our campus to get a better feel of the university and the opportunities offered to prospective students. Day visits (http://www.norwich.edu/admissions/visit/) can be scheduled during the week, Monday-Friday, and families are asked to kindly schedule with two weeks advance notice.

Office of Admissions:

Address: Norwich University, 27 I.D. White Avenue, Northfield, VT 05663; Phone: 802.485.2001; Email: admissions@norwich.edu, Web: www.norwich.edu/admissions (http://www.norwich.edu/admissions/)

Athletics

Vision:
The Department of Athletics' vision is to create and support an environment where student-athletes, both in our Corps of Cadets and Civilian lifestyle, can achieve athletic success at the University, Regional and National levels while maintaining a high degree of academic achievement. It is also our goal to nurture loyalty among our graduates through their experiences in athletics.

Mission:
The Department of Athletics' mission is to provide well-rounded and competitive athletic programs as integral parts of the educational process of the University. We offer equal opportunities for male and female student-athletes to participate in a wide variety of intercollegiate sports programs and adhere to the NCAA Division III rules and philosophy. We monitor the academic progress of our student-athletes and support them in their quest to achieve academic success at the University. We provide services and activities to promote positive health and well-being of all our student-athletes and administer our athletic programs in a way that contributes to the personal development of our student-athletes through the whole-person concept by fostering the growth of fair play and amateur competition, sportsmanship, leadership, self-discipline, personal integrity and social responsibility.

Facilities:
The Athletic facilities at Norwich are among the very best in the Northeast. Andrews Hall, the Health, Physical Education, and Sports Center, houses a varsity athletics weight room, classrooms, training, and physical therapy rooms, locker rooms and a 1200-seat basketball arena. The Jacob Shapiro Field House contains a 200-meter, four-lane track; four tennis courts; and a climbing wall. Plumley Armory houses Goodyear Swimming Pool, weight and fitness rooms, a wrestling room, an indoor track, and four basketball courts. Kreitzberg Arena, home to the men and women's ice hockey teams, is a state of the art arena which seats 1410 and can accommodate 5000 spectators for multipurpose events. Sabine Field, an artificial turf field with lights and a 3-lane recreational track, is used for football, soccer and lacrosse. The Dog River Rugby pitch, Garrity Baseball Field, a softball field and several practice fields for athletics and intramural sports complete our athletic facilities.

Varsity Sports:
The University sponsors 20 varsity sports for its students, 11 for men and 9 for women. All of the varsity sports teams, with the exception of men's rugby, compete at the NCAA Division III level and are affiliated with one of seven athletic conferences. Norwich is a member of the NCAA, New England Hockey Conference, Great Northeast Athletic Conference, the New England Women's and Men's Athletic Conference for football, the New England Wrestling Conference, the Rugby Northeast Conference for men, and the National Intercollegiate Rugby Association for women. In recent years, Norwich teams have been regularly found in the national rankings, have won conference titles, and won national championships in men and women's ice hockey, and women's rugby. Sports that are sponsored by Norwich are:

Men's Sports	Women's Sports
Cross Country	Cross Country
Basketball	Basketball
Baseball	Softball
Football	
Ice Hockey	Ice Hockey
Lacrosse	Lacrosse
Tennis	
Rugby	Rugby
Soccer	Soccer
Swimming & Diving	Swimming & Diving
Wrestling	Volleyball

Club Sports/Intramurals:

Club sports at Norwich University (p. 147) do not have varsity status, but participants do travel and compete with teams from outside the University. Recreational clubs offer students an opportunity to pursue other enjoyable athletic activities. Intramural sports allow students to participate in athletic and activities throughout the school year.

Office of the Bursar

The Office of the Bursar is responsible for:

- generating student tuition statements
- issuing financial clearance for enrollment

- enforcing university fees and financial policies
- check cashing

The account counselors of the Office of the Bursar assist students and parents with understanding student accounts and ensuring student financial responsibilities are met.

Bursar hours of operation are from 8:00 am to 4:00 pm, Monday – Friday (walk-in or by appointment).

The office of the Bursar's email address is nubursar@norwich.edu. The phone number is 802.485.2055. The location is Jackman Hall room 204.

Visit the Bursar's website (http://www.norwich.edu/bursar/) for more detailed information regarding Bursar policies, fees and services.

Career & Internship Center

The Career & Internship Center (http://careers.norwich.edu/) (CIC) is pleased to offer our website resources to Norwich alumni, traditional students and the College of Graduate and Continuing Studies students. You can access most resources on our website, norwich.joinhandshake.com (https://norwich.joinhandshake.com/), with your “A” number or other code listed in the instructions. If you are having trouble accessing a resource, please call our office at 802-485-2125 or email careers@norwich.edu.

Undergraduate bachelor’s degree students of the traditional, on-campus programs can also receive individual counseling while they are enrolled in classes and until January 31 of the year immediately following their graduation. For example, a May 2021 graduate can receive career coaching until Jan. 31, 2022. As an undergraduate, you'll benefit from our four-year plan to jump-start your career readiness. Visit the CIC and let us help you develop your career education program and plan.

In support of our mission to educate and counsel our clients to make informed decisions about career opportunities, we offer a broad range of programs and services, including:

- Career exploration resources
- Assistance with resume and cover letter preparation
- Internship and job search resources
- Networking know-how
- Mock interviews
- Personal branding
- Job postings via Handshake
- Class presentations
- Career fairs, and
- Tips and announcements via Instagram and Facebook

Please contact our friendly and experienced staff to get started on your career path!

Center for Civic Engagement (Service Learning & Volunteer Opportunities)

Service-Learning Opportunities
Students are encouraged to explore both credit-bearing and co-curricular service-learning opportunities that are tied to their academic interests and learning objectives. Service-learning allows students to apply what they’re learning to the real world, in real time, and with real outcomes that affect the community the students are serving. To learn more about potential projects both within and outside the classroom, contact the CCE Director (see below).

Volunteer Opportunities and Programs
In keeping with the mission and tradition of Norwich University, students, staff, and faculty engage in a variety of public service activities throughout the entire calendar year. All students and student groups are encouraged to participate in a variety of volunteer opportunities during the week (outside of their academic schedule), weekends and even during holiday breaks. In conjunction with the Student Activities Fair at the beginning of each academic year, a Volunteer Fair is held on campus, which allows the University community to learn more about volunteer activities directly by meeting representatives of local community-based organizations.

Students who wish to volunteer with a local nonprofit organization on a one-time or on-going basis are encouraged to register as an NU volunteer by visiting and creating a profile at http://getconnected.norwich.edu/ or by visiting the Center for Civic Engagement. Leadership and service projects are local, national and international in scope and consist of work with the elderly, youth, homeless, hungry, and economically disadvantaged. All students are encouraged to become active volunteers as part of their college experience, with the aim of developing graduates who are "ready, not reluctant" to serve their community and nation. Student-led service groups include:

- NUEMS (Norwich University Emergency Medical Service)
- Rotaract (Service Leadership team affiliated with Rotary International)
- Buddy Up Youth Mentoring Program
- NU Scouting Association (for all Boy Scout and Girl Scout program participants)
- VIPA (Violence Intervention Peer Advocates)
- Unify (NU's Special Olympics Club)
- Habitat for Humanity (NU's Collegiate Chapter)
- Girls Who Code
- Amnesty International (NU's Collegiate Chapter)

Additional Programs offered through the CCE include:

- Volunteer Income Tax Assistance (VITA) training and certification through the Internal Revenue Service
- The Legacy March (a fifty-mile march from Norwich to Northfield, Vermont resulting in raised funds for the Vermont Veterans' Place)
- Civic Scholars Program
- Community-based Work-Study

Annual volunteer events include bi-annual blood and bone marrow registration drives, the Penguin Plunge fundraiser benefiting the VT Special Olympics; the Crop Walk for Hunger; various food, book, clothing and supply drives; and annual clothing re-use programs, to include the Annual Clothing Drop 'N Swap, as well as the annual, end-of-the-year “Trash to Treasure” re-use program for unwanted, quality items donated by students leaving campus. One-time and on-going opportunities to help organizations like the VT Food Bank, Habitat for Humanity, the Northfield Veterans’ Place, Vermont Cross Trail, Mayo Health Center, Bridges After School Program, and many others take place each week!

Additionally, domestic Alternative Break volunteer trips take place over Thanksgiving and Spring Breaks, while the NU VISIONS Abroad program features international trips during summer vacation. In some instances, academic credit can be arranged in advance for students’ participation in these trips, but this must be initiated by the student and supported by their academic advisor.

Services that the CCE offers:

- Free shuttle service to and from voting polls
- Volunteer Income Tax Assistance to income-eligible individuals and families
- Volunteer referrals
- Community restitution referrals
- Service-learning curriculum development assistance

- Charitable giving assistance through an external fundraising account for student groups wishing to fundraise for a particular cause or organization.

Contact Information:
Office: Center for Civic Engagement, Wise Campus Center, Room 230; Phone: 802-485-2644; Email: 4achange@norwich.edu; Find us on Facebook!

Center for Student Success

The Center for Student Success (CSS) provides guidance, support, and advocacy for all students to significantly improve the academic and social integration necessary to enhance the quality of their college experience.

CSS assists students as they matriculate, from year to year, with programs that provide social adjustment, academic and financial support, advising, coaching and mentoring. CSS's focus is on the support, success and satisfaction of all Norwich students while assisting them with all of the necessary resources to successfully graduate.

On an institutional level, CSS explores academic and social trends derived from data to create new initiatives and assist the university to improve the overall student experience.

The Center for Student Success has two major areas of focus:

Overall student experience to include:

- Transition from high school to college
- Provide guidance, support, and advocacy for students on various issues; i.e social, personal, and financial well being
- Identifying struggling students and outreaching to create individualized solutions

Overall student Veterans' experience to include:

- Transition from the military to civilian life
- Certification and military educational benefits
- Finances and paying for college
- Transition to collegiate academics
- Counseling services
- Academic success planning

Chaplain's Office

Norwich is non-sectarian. However, believing that acquisition of and/or affirmation of one's own personal spiritual convictions is an essential part of each individual's character development and education, the University provides religious services in the Eugene L. White Memorial White Chapel throughout the year.

Two Roman Catholic masses and at least one Non-denominational Protestant Worship Service are conducted weekly. A part-time Roman Catholic Priest and a full-time Non-Denominational Protestant Chaplain serve the campus. An Islamic prayer room is available in the basement of White Chapel, and Jewish students avail themselves of the local synagogues in Montpelier and Stowe.

Local houses of worship for different faiths and denominations, including addresses, phone numbers, and identification of spiritual leaders, can be found in a pamphlet located in the literature rack immediately inside the entrance to the Chapel sanctuary. Many religious groups offer free transportation for students to attend services. After the initial week of training, recruits/rooks may leave campus to attend such religious services.

Further information can be obtained by contacting the Chaplain's Office:

- Chaplain's Office Telephone: 802.485.2128
- Chaplain's Home Telephone: 802.485.7877
- Chaplain's Cell Phone 802.272.0585
- Email: wwick@norwich.edu (chaplain@norwich.edu)

Clubs (Academic & Special Interest)

Academic Clubs (AC)
A variety of academically related clubs, societies, and organizations are available for Norwich students. This enables students with similar interests to enjoy and collaborate on academic subjects and take part in professional activities.

Special Interest Clubs (SI)
The list of sanctioned clubs at Norwich is driven by student interest. Some groups, like the Christian Fellowship and Ballroom Dance Club, have been established for quite some time and are enthusiastically supported by the faculty, staff, and student body. Other clubs may be less traditional, and are formed to explore the special interests of a small group of students. To learn how to create a club--and receive funding from the University--contact Student Activities at studentclubs@norwich.edu.

Club Sports Teams (CST)
Sports teams with the opportunity to compete against other colleges and universities in league and tournament contests on campus and at other institutions.

Airsoft Division (SI)
The intent of NUAD is to bring students of all grades and skills together and take part in local airsoft scenarios, games, and team training that take place on campus. All that we ask is that participants be prepared to learn. There is no need for prior knowledge or experience; we will teach you the tools for success.

Arnold Air Society (SI)
An Air Force ROTC based society that focuses on military professionalism, academic success, and civic engagement.

NU Alliance (SI)
The NU Alliance is a club that is dedicated to serving students of all orientations and lifestyles and specifically catering towards the needs and well-being of Norwich University's LGBTQ individuals and their allies. The meetings of the club are focused on providing a safe and encouraging environment for students to discuss and learn about LGBTQ issues and focus on the role of LGBTQ students and their allies in creating a better campus climate for diversity. Meetings are open, fun, and everyone is welcome.

Alpha Chi (all disciplines) (AC)
This is the national college honor society for all academic disciplines.

Alpha Nu Omega (AC)
This is the local Norwich chapter of Alpha Phi Sigma National Criminal Justice Honor Society. Official national web site: www.alphaphisigma.org (http://www.alphaphisigma.org).

American Chemical Society Student Chapter (ACS) (AC)
The mission of the ACS shall be to afford an opportunity for students of chemistry, biochemistry and allied disciplines to become better acquainted, to secure the intellectual stimulation that arises from professional association, to obtain experience in preparing and presenting technical material before chemical audiences, to foster a professional spirit among the members, to instill a professional pride in the chemical sciences, and to foster an awareness of the responsibilities and challenges of the modern chemist. Official ACS web site: www.acs.org (http://www.acs.org).

American Institute of Architecture Students (AIAS) (AC)

A national student organization that promotes excellence in architecture, education, training, and practice; fosters appreciation of architecture and related disciplines; and organizes architecture students and combines their efforts to advance the science of architecture. This is a club for the architecture students of Norwich University. NU AIAS strives to inspire young designers, encourage networking, and display opportunities in the field of architecture. To do this, the students travel to architectural conferences, host lecture and film series, and participate in design charettes. Official AIAS web site: www.aiasnatl.org (http://www.aiasnatl.org).

American Society of Civil Engineers (ASCE) (AC)
The aim of this chapter is to afford the civil engineering student association with others who share the interest in civil engineering profession, and thus prepare for entry into the profession and the national society. The objective of the Norwich University American Society of Civil Engineers (NU ASCE) Student Chapter is to provide hands-on engineering experience to civil and environmental engineering and construction engineering management students. The club contributes to Norwich University by allowing students to gain engineering experience outside of the classroom. Students who have participated in NU ASCE will be more knowledgeable than their peers after graduation. The club competes in several annual competitions, representing Norwich University on a regional and national level. The club also promotes the NU civil engineering department by hosting a High School Popsicle Stick Bridge Competition. This competition allows high school students to design, build, and test a model bridge while interacting with students in Norwich's civil engineering department. Official ASCE web site: www.asce.org (http://www.asce.org).

American Society of Mechanical Engineers (ASME) (AC)
The Norwich University student chapter of the American Society of Mechanical Engineers (ASME) is an organization that seeks to promote and explore opportunities in engineering. ASME offers students, faculty, alumni, and community members the ability to interact, network with engineering professionals, and provide civil service to the surrounding area. ASME combines scholastic principles with fundamental real-world applications to enhance engineering knowledge and awareness. Students with a strong interest in mechanical engineering gain such benefits as a subscription to cutting-edge technology information in ME Magazine, scholarship opportunities, mentoring within the profession, free conference attendance, etc. Official web site: www.asme.org (http://www.asme.org).

Anime Society (SI)
This club was founded to foster the interest of anime among Norwich students. The Anime Society participates in conventions throughout the northeast.

Association for Computing Machinery (ACM) (AC)
ACM members do their best to make Norwich University a better place to study computers and related technology. To promote exploration of the world of computer science and engineering, and the creation and sharing of knowledge with one another and the larger ACM community, the Club regularly hosts events such as LAN parties and guest presentations by industry leaders and faculty.

Ballroom Dance Club (SI)
Our goal with the Norwich Ballroom Dance Club is to present students with the opportunity to learn a valuable skill for their future plans while still having fun. We want to extend the opportunities beyond just learning and practicing by providing experience outside of our campus meeting place through ballroom dance competitions. The Ballroom Club allows people to dance with a variety of partners, of which many will become lifelong friends; it is a way for students in different courses of study to meet new people who share a similar interest. Ballroom dancing is also a beneficial skill to learn for the future, whether our members are joining the armed forces or entering the business career field upon graduation.

Beta Beta Beta (BBB) (AC)
An honor and professional society affiliated with the American Association of the Advancement of Science, for all students interested in biological sciences. Activities include sponsoring speakers, and attending conferences, field trips, and social activities. Official BBB web site: www.tri-beta.org (http://www.tri-beta.org).

Chi Epsilon (AC)
This is a national honorary civil engineering fraternity.

Chinese Cultural and Language Club (SI)
NU Chinese Club is an organization that focuses on Asian and primarily Chinese culture, customs, and language. The members of the Club will learn certain Chinese values and manners that will greatly develop them as global citizens and aid them in case of studying abroad, as well as go through hand-on applications of culture, such as calligraphy, Chinese games, music, movies, and more. The NU Chinese Club also takes an active part in and helps to sponsor University-wide events such as the Moon Festival and Chinese New Year celebration. This year, for active members, the Club is also hoping to sponsor a cultural trip for its members to experience Chinese culture and influence in Montreal, Canada.

Club Golf Team (CST)
The club golf team hires the Northfield Country Club PGA Pro, and competes in a fall season against other colleges and universities. Our top six golfers can compete in each match during our Fall season. The main goal of the team is to have fun and continue to develop Norwich Golf.

Club Men’s ACHA Ice Hockey Team (CST)
The Norwich University ACHA (Club) Hockey team is a Division 1 member of the American Collegiate Hockey Association and North East Collegiate Hockey Association. The team competes with other ACHA and NECHA sanctioned teams and prep schools throughout New England and Eastern New York. The team competes for a NECHA title as well as a spot into the ACHA regional and national tournaments. The team holds tryouts every October and anyone interested is encouraged to contact the club.

Club Women’s ACHA Ice Hockey Team (CST)
The purpose of the Women’s Club Ice Hockey Team is to establish a team to play a competitive schedule of games against other club hockey teams in the IWCHL. The team will also practice multiple times a week at Kreitzberg Arena. The team holds tryouts each year and carries a roster of 25 players.

Consulting Club (SI)
The Norwich Consulting Club is a student-run organization that intends to provide information, education, and practice for students interested in consulting. A career in consulting can be very rewarding due to the inherent leadership development, diverse learning opportunities, career development, and compensation. Our goal is to provide information to students about the possibilities that exist and how to successfully pursue a career in consulting. This will be done by providing members with general information, studying actual consulting frameworks, and practicing real case studies.

Soccer Club (SI)
The Norwich University Soccer Club is dedicated to allowing anyone to enjoy the sport of soccer. We provide a friendly but competitive environment for anyone that is interested in playing. We compete in local leagues in indoor and outdoor seasons, with practice being optional and every day. Come out and enjoy the music and the game.

Club Track Team (CST)
The Norwich University Club Track Team was founded many years ago and was revived in 2012. The events for the club range from running the 50m dash to the 5k race. Also, the only field event as of now is the shot-put (men’s and women’s). The Track Team is open to any NU

students interested and there are no qualification times or distances. We meet three times a week for practice and have several planned races. Currently, there are roughly 50 students who are members of NUTF; the NUTF has the goal of becoming a varsity sport for the University. “From many events, one team”.

Ultimate Frisbee (SI)
The purpose of the Club Ultimate Frisbee Team is to provide students who are interested in playing, or learning to play, Ultimate Frisbee a place to do so. Activities include contests at events and tournaments at other colleges and universities. The team also provides students an outlet to get to know new members of the Norwich Community as well as to hopefully branch out to other schools in the area as well. Ultimate is a noncontact, self-refereed sport and therefore helps with physical health but also helps to build character. Because of its 'Spirit of the Game' rules, players are taught negotiation, leadership, and communication skills. But most importantly, it is about having fun in a safe environment.

Norwich Shooting Association (NSA) (SI)
The Club Shooting Team is comprised of students from all shooting disciplines and abilities, from those who have never shot a firearm before to those who can complete at the highest levels in their chosen events. The team currently has a wide variety of firearms and is always working to find new and different ways to compete. The team shoots at a fifty-foot indoor range located 5 miles from the University.

Norwich University Construction Engineering Management (NUCEM) (SI)
The Norwich University Construction Engineering Club aims to further the knowledge, experience, and professional pursuits of every member at Norwich University. Hands-on experience will be promoted for all members through field trips, volunteer projects and internships. The Construction Engineering Club will be open to any and all students regardless of prior experience or skill level. The Club strongly encourages new members, especially those willing to learn about and eventually go into the field of Construction Engineering Management. But most importantly, it is about having fun in a safe environment. Club Membership is open to all current Norwich Students.

Criminal Justice Student Association (CJSA) (AC)
Founded in 1986, the Criminal Justice Student Association was developed as an educational and social organization for all criminal justice majors. Club members share a genuine interest in justice studies and federal law enforcement, encompassing the pursuit of knowledge and career opportunities beyond the classroom. The club consistently works on projects as a team, which allows it to consistently surpass its goals as a club. The CJSA is also involved in helping others through community outreach. The CJSA has organized educational trips to forensic labs, participated with the FBI in SWAT simulations, sponsored guest speakers, and organized an annual field trip to Washington, D.C. to meet with top federal law enforcement officials. The networks the organization develops with Norwich alumni provide students with special opportunities in their future criminal justice careers.

Delta Mu Delta (AC)
This is the national honor society in business administration. Official national web site: www.deltamudelta.org (http://www.deltamudelta.org).

Digital Forensics Team (AC)
The Digital Forensics Team looks to gain knowledge on digital forensics, ethics, and technical skills through hands-on experience lectures, and guest speakers.

Education Club (AC)
A club tailored for education majors, but open to all current Norwich students, and has developed an annual service-learning trip to volunteer at an inner-city elementary school in New York during spring break.

Enlisted Club (SI)
This club's main goal is to help the enlisted personnel on campus out in the field as well as in the classroom.

Entrepreneurship Club (SI)
The Entrepreneurship Club’s goal is to assemble students with multifarious educational backgrounds in a consultative environment through which business concepts are supported and launched. The club will support individuals and teams working on projects, and embrace the idea of continual education by providing students with access to diverse speakers and seminars spanning the spectrum of innovation and entrepreneurship. The club stresses that students should pursue projects outside normal course curriculum, and work with members to develop their projects in a collaborative setting.

Eta Kappa Nu (electrical and computer engineering) (AC)
This is the Electrical and Computer Engineering Honor Society. Official national web site: www.hkn.org (http://www.hkn.org).

Equestrian Club (SI)
The Equestrian Club is open to all current NU students that want to learn more about equine interests and activities. Members will have the opportunity to participate in club events and take lessons to learn how to ride or improve skills. The club is open to all levels of horsemanship and riding ability. Currently, the club takes lessons from East Hill Farm in Plainfield VT. Their wonderful, and knowledgeable staff teach both beginners and high-level riders mainly in the classical style of dressage but also do a bit of jumping. To learn more about the farm, trainers and owner visit the link http://www.easthillfarm.org/. The Equestrian Club also offers a competitive IHSA riding opportunity. We encourage beginners to advanced level riders. If you have an interest in competitive riding with a great group of students, the club IHSA Team is for you!

IHSA Equestrian Team (SI)
The IHSA Equestrian Team is a group of equestrians at Norwich University that like to pursue training in the Hunt Seat on the flat and over fences discipline. We compete yearly in the IHSA organization against other colleges and universities in our Zone 1 Region 2. We have weekly riding lessons and a show season consisting of 6-7 shows in the fall and 1 in the spring. When you gain enough points in your division you will ride in Regionals and possibly Zones and Nationals based on your performance at the previous show, then your next season you will advance to a higher show level. There are 5 riding levels from walk, trot to Open.

Investment Club (SI)
Greetings from the Norwich University Investment Club! Are you interested in learning how the world of investment works? If so, then the Norwich University Investment Club is right for you. Our members are dedicated to passing their knowledge to others. With dedication, you will learn and can apply it to your future.

Fishing Club (SI)
Norwich University Fishing Club is a club to introduce students to all types of fishing. This includes learning about different types of fishing and fishing skills.

French Club (AC)
This is a club for all students who are interested in pursuing further the language of French. All levels of knowledge of the language are accepted. The goal of this club is to enrich the Norwich student's knowledge of the French language and Francophone culture in a stimulating and supportive environment. The activities of the Club also help address Norwich’s goal to internationalize the campus; offer diversity and opportunities to develop a more global perspective. The club encourages the participation of all students, faculty and staff of the Norwich University Community.

Golden Anchor Society (SI)
The Golden Anchor Society is a highly motivated Norwich University club driven to improve the academic,

physical, mental, and moral development of its members, through physical training, team-building exercises, Naval information briefs, organization of Naval themed events, and club trips that directly relate to the expansion of naval motivation and knowledge. Members of the Golden Anchor Society club will expand naval knowledge through both the study of Navy and Marine Corps traditions, history, weapon systems, tactics, and study important people in their history through the presentation of their lives and actions that directly furthered the values and mission of both the Navy and Marine Corps. The Club motto Give it All, challenges its members throughout their time in the Golden Anchor society to live the motto in every aspect of their lives.

Grenadiers Jazz Ensemble (SI)
The Grenadiers is Norwich University's very own Jazz band. The band plays a variety of swing, blues, and more. The band also performs both on and off-campus. This includes major balls, dinners, concerts, etc. The Jazz Band is open to both Corps and Civilian students through audition.

Hillel (SI)
The Norwich University Hillel is a Jewish community on campus. It supports and encourages Jewish Life at Norwich.

Hip Hop Dance Club (SI)
This club provides a fun, learning environment for members to learn new hip hop routines, and explore different genres of dance. Focusing on the Hip Hop style, this club will look to remix different songs for the members to perform.

***The Norwich Guidon* (student newspaper) (SI)**
The Norwich Guidon is the student newspaper of Norwich University, it is published twice monthly and has won numerous awards for excellence in its class. Reporters, editors, and managers for *The Norwich Guidon* are students at the University who work under the guidance of a Communications faculty advisor.

Institute of Electrical and Electronic Engineers (IEEE) (AC)
The purpose and scope of IEEE and the IEEE Computer Society at NU is to advance the theory, practice, and application of computer and information processing science and technology and the professional standing of its members. The IEEE Computer Society club at NU strives to fulfill these objectives through community service, networking opportunities, distinguished IEEE guest speakers, scholarship, access to technology and cross-disciplinary engagement. This club is open to all students and intends to offer fun, professionally enriching and educational opportunities to its members.

Intercultural Students Organization (ISO) (SI)
The Intercultural Students Organization aims to enrich the cultural experience of students at Norwich University by organizing events in which international students can interact with the American students and members of the community. The ISO also organizes activities to give students the opportunity of learning about different cultures, meeting new people, sharing experiences and bringing diversity to our campus.

Investment Club (SI)
Greetings from the Norwich University Investment Club! Are you interested in learning how the world of investment works? If so, then the Norwich University Investment Club is right for you. Our members are dedicated to passing their knowledge to others. With dedication, you will learn and can apply it to your future.

Jui-jitsu Club (SI)
This is a club that focuses on self-defense and an art that requires discipline and dedication. It is a great work out and will test your abilities and mental strength. It is safe and in a stress-free environment where everyone is equal with the same goal, to learn. If you feel up to the challenge and the work out then I will see you there and in the end, you will be stronger for it mentally and physically. We are here to learn and create a brotherhood where everyone is equal.

Latin Dance Cub (SI)
This club is for anyone who wants to learn how to dance Latin music (no need to know how to dance). Learning from salsa, bachata, to merengue and more. Not only will we be learning the dances, but the meaning behind the dance as well.

League of Legends (SI)
The Norwich University League of Legends Club is dedicated to bringing together students at Norwich in the League of Legends community. During meetings we will have custom games for students to play head-to-head as well as games for regular modes. The club also selects members to participate in the annual college tournament put on by riot for league of legends.

Maroon and Gold Key (SI)
These students assist in the recruitment and retention of students. The organization conducts tours of the campus for all guests, hosts overnight visits of prospective students, and assists at Open Houses and some off-campus recruitment events.

Model United Nations (SI)
The purpose of the Norwich University Model United Nations Club is to prepare and teach Norwich students about the function of the United Nations and other international organizations and issues by training and providing opportunities for Norwich students to participate in Model United Nations conferences and other international simulations across the country and around the world.

Navy Special Warfare (SI)
A club looking to get like-minded individuals interested in joining the Navy Special Warfare community together to pool knowledge of training and career paths within the community.

Northfield Experimental Radio Society (SI)
Armature Radio club is open to all students who are interested in amateur radio and emergency communications. Dedicated to getting students their amateur radio license and on the air

Neuroscience Journal and Outreach (SI)
This club will be modeled after a graduate student journal club. Meetings every other week will showcase student presentations on current publications in neuroscience journals. In addition, students will also have the opportunity to perform service activities with local elementary, middle, and high schools. Groups of students will travel and give lessons to all ages on the nervous system. The club will also expose students to professional organizations within the field of neuroscience, preparing students for graduate school and careers in neuroscience.

Orthodox Christian Fellowship (SI)
To support fellowship on campus, to experience and witness the Orthodox Christian Church through community life, prayer, service to others and study of the Faith (Acts 2:42). Furthermore, OCF will work to nurture and strengthen love for Jesus Christ and His Church in its fullness at this most critical juncture of human life and offer an opportunity for Orthodox Christian students and those interested in the Orthodox Christian Church to become more fully acquainted with and informed about their Orthodox heritage.

Paranormal Society (SI)
An organization of amateur paranormal researchers, interested in researching the history of legends, hauntings, and myths surrounding Norwich University and the state of Vermont.

Pre-Health Professions (SI)
Student members will congregate to discuss the pre-requisites and practice skills that will prepare them for their future health professions. It will be achieved through but

not limited to field trips, lectures, and information sessions, etc.

Rock Climbing Club (SI)
Mountaineering Rock Climbing Club is for those who like the outdoors and want to learn a new skill. There are several trips run throughout the year to places all over New England, run by students and faculty alike.

Norwich Christian Fellowship (NCF) (SI)
Members of Norwich Christian Fellowship strive to create a place where students and faculty can praise and worship God in a non-denominational Christian atmosphere that encourages fellowship and dialogue.
NCF answers questions of those seeking God, nurtures young Christians, supports mature Christians and trains world-changers to operate in the military and civilian sector.

Omicron Delta Epsilon (economics) (AC)
This is the national economics fraternity. Official national web site: www.cba.ua.edu/~ode/ (http://www.cba.ua.edu/~ode/).

Paintball Club (SI)
The Norwich University Paintball club operates and plays on the campus paintball field as well as traveling to big games, scenarios and tournaments all over the North East.
There truly is something for every style of play with our competitive speedball team competing in the NCPA, a pump team competing in the Gravity League and a well-known scenario team that travels to big games such as Castle Conquest, and The West Point Combat Classic.

Pegasus Players (SI)
The Pegasus Players is the resident theater company for Norwich University. It is composed of students, faculty, and community members. This club provides opportunities to act, design, build sets, and make costumes. Through their work in Pegasus, have the chance to learn the basic skills of theater and earn academic credit (EN 242).

Physical Education Club (AC)
The main purpose of the Physical Education Club is to educate our members on the importance of a healthy and active lifestyle by teaching lifelong sports and activities. Moreover, the club provides hands-on experience in the field of Physical Education and helps build one's resume through conferences and certifications. The club provides a positive learning environment for all its members.

Pi Gamma Mu (AC)
This is an honor society broadly concerned with the social sciences. Its primary objectives are to encourage the study of the social sciences among graduate and undergraduate students and faculty members throughout the world, and to recognize outstanding achievement. Official web site: www.pigammamu.org/ (http://www.pigammamu.org/).

Pi Sigma Alpha (AC)
This is the Political Science Honor Society. The objectives of this organization are to: stimulate productive scholarship and intelligent interest in the subject of government, politics, and policy; seek to promote a better understanding of government, politics, and policy among its members; promote worthwhile curricular and extracurricular activities related to political science; advance and diffuse knowledge and interest in political science; to organize and conduct seminars, conferences, research, discussion groups, and publications in the subject of political science. Official website: www.apsanet.org/~psa/ (http://www.apsanet.org/~psa/).

Pipes and Drums Band (SI)
The Norwich University Pipe Band is dedicated to learning and performing Highland music to the best of its abilities. In particular, the band is looking for players of the bagpipes, snare, Scottish tenor, and bass drums.
Experience is preferred, but not required. The band plays both locally and regionally. MU230 and MU200 are accompanying 1-credit classes that may be taken as humanities electives.

Political Science Club, *Politeia (AC)*
The Political Science Club is dedicated to promoting the interest of domestic and international politics to our student body. Our goal is to both educate and debate the issues pertaining to our nation. We want to inform our club members of the important decisions being faced in Congress. Most importantly as a senior military college it is our job to remain on top of the politics going on in Washington. As many of our students will go on to serve and be our nation's next leaders it is only appropriate that we understand what our nation is fighting for.

Pre-Law Society (AC)
The purpose of the *Pre-Law Society* is to advance the scholarly study of law and to facilitate the implementation of such study to benefit our society. It is the vision of the *Pre-Law Society* to offer assistance to students at Norwich University by helping them make informed decisions in selecting law as a career, the application process, determining a law school, and the practice law in any law-related profession.

Pre-Med Club (AC)
The Pre-Medical Club serves to educate and prepare Norwich University students who desire to enter medical, dental, or veterinary school after graduation. Some of the opportunities that club members will have are: preparing for graduate entrance exams, exploring career choices, medical professional shadowing opportunities, and networking with alumni. Meetings are typically Sundays at 7 pm.

Psi Chi (psychology) (AC)
This is an honor society and scholarship society for psychology. Official web site: www.psichi.org/ (http://www.psichi.org/).

Rotaract (SI)
A service-oriented club working in conjunction with the Center for Civic Engagement to raise funds for select projects throughout the year. Some of the larger events include the student leadership of the Penguin Plunge and working with Rotary and Interact to build a residential and vocational center in Pommerin, Tanzania.

Semper Fidelis Society (SI)
The Semper Fidelis Society's mission is to assist in the development of future leaders by promoting leadership through professional military education, physical, and mental excellence, community service, fundraising, and observance of the Marine Corps' lasting traditions. The Society will reinforce the Marine Corps' values of honor, courage, and commitment.

Semper Paratus Society (SI)
The Semper Paratus Society is built around the ideals of teaching, preserving, and perpetuating the lessons and lifestyle of a coastguardsman. We uphold the standards of the professional rescuer and strive to make greater strides in stature and professional etiquette. We aim to teach the average student the basics and traditions of a professional coastguardsman as well as develop an understanding of what the Coast Guard is as a branch of the Department of Homeland Security. We venture to educate those who join the Society on the Coast Guard missions, opportunities, and traditions so as to better understand the importance of the Coast Guard and its foundations.

Sigma Iota Rho (AC)
This is the honor society for international studies. Open to undergraduate and graduate international studies students. Official web site: www.sigmaiotarho.org (http://www.sigmaiotarho.org).

Sigma Tau Delta (AC)
This is the national English honor society. Official national web site:www.english.org/sigmatd/ (http://www.english.org/sigmatd/).

Ski and Snowboard Club (SI)
The Norwich University Ski and Snowboard Club was founded in 2010 by a group of students dedicated to the sports of skiing and snowboarding. This group of individuals made it their goal to bring all Norwich University

skiers and snowboarders together to cultivate a common interest. The club looks to create bonding, fundraisers, and events through this common interest. Visit us on Facebook http://www.facebook.com/groups/301666149853792/.

Student Government Association (SGA) (SI)
The Norwich University Student Government Association is a group of students representing the entire student body and is responsible for voicing interests of the student body to the administration. The main goal of SGA is to promote the general welfare of all students and to foster positive improvements on campus.

Society of Physics Students (SI)
The Society of Physics students is aimed toward making a fun and useful community of peers who share a common interest in science. We are striving to make academics and physics more fun and inclusive across class years and lifestyles. Our main goal is to generate a safe and organized space for students to explore their interest in physics outside of the classroom.

Society of Women Engineers (SWE) (AC)
The Norwich chapter of the Society of Women Engineers (http://societyofwomenengineers.swe.org) (SWE) brings members together to forge friendships explore the professional world of engineering. While SWE is focused on issues of interest to women specializing in engineering and technical careers, it is not an inclusive group and is not limited to only female engineers. Events for this club include pumpkin carving, engineering day for the areas Girl Scouts, the He and Me Dance, and other team-building activities such as professional field trips, apple picking, and ice-cream socials.

Spanish Club (SI)
In the Spanish Club we will learn about Latin American and Spanish current events and culture, including food, music, language, and dances. The Club is open to all students and faculty.

Sports Medicine Society (AC)
A club for all students with a special interest in Sports Medicine or Athletic Training.

Student Nurses' Association (SNA) (AC)
Members participate in a number of University activities, organize American Red Cross blood drives, tutor underclassmen, and participate in fund-raisers for a spring dinner with professional speakers in various Nursing disciplines. Official National Student Nurses' Association web site: www.nsna.org (http://www.nsna.org).

Student Veteran's Council (SI)
The Norwich Student Veterans Council (SVC), the official local chapter of the national Student Veterans of America (SVA), is an organization of military and veteran students dedicated to living out our motto, "Camaraderie, Excellence, Service." SVC is a diverse advocacy and fellowship organization, and all military and veteran students in any status, including delayed entry enlistees, are welcome.

NU Tactical Society (NUTS) (SI)
The NU Tactical Society seeks to relieve the stress of the college environment by providing students with a creative outlet. The historic war games are designed in a realistic military format and allow for multiple players to test their tactical skills.

Tau Beta Pi (engineering) (AC)
Tau Beta Pi is the nation's second-oldest honor society. Unlike other engineering organizations, Tau Beta Pi is the only engineering society that includes all of the disciplines in the engineering profession. Students that are elected into TBP have brought honor to their Alma Mater through distinguished scholarship and exemplary character. There are collegiate chapters at 241 American colleges and universities, 32 alumni chapters, and an estimated 545,000 initiated members. At Norwich, distinguished engineering students who have demonstrated good character and a strong commitment to the engineering profession are welcomed into Tau Beta Pi. The group meets weekly to discuss upcoming events and plan activities that can help strengthen the David Crawford School of Engineering. Tau Beta Pi plays a crucial role in organizing events that include all of the engineering disciplines at Norwich University. Engineering Week is one of the best examples of the leadership role TBP takes in bringing together all of the engineering disciplines. Members of Tau Beta Pi Engineering Honor Society at Norwich University Strive to become leaders both in and out of the classroom. The society has a long history of producing leaders in the engineering profession, and at Norwich out members work very hard to continue this.

Triathlon Club (SI)
Norwich University Triathlon Club's main goal is to provide a unique training environment that enables members to be competitive in triathlons while maintaining a safe and fun atmosphere. Overall we support a healthy lifestyle while encouraging others to pursue their goals. The Club strongly encourages new members, especially those willing to learn about and eventually compete in triathlons.

Upsilon Pi Epsilon (AC)
UPE (http://upe.acm.org) recognizes academic excellence at both the undergraduate and graduate levels in the Computing and Information Disciplines.

Venture Crew Club (SI)
Venturing is a continuation of the Boy Scout and Girl Scout Program that offers all Norwich students to continue their scouting careers. The crew focuses on activities such as camping, hiking, and other outdoor activities.

Water Polo Club (SI)
The Norwich University Water Polo Club main goal is to provide students the ability to train and compete in Water Polo games in the area as well as be an outlet to get to know members of the Norwich Community and branch out to other schools and meet other Water Polo athletes in the area. The Club strongly encourages new members, especially those willing to learn about and eventually compete in Water Polo games and tournaments. But most importantly, it is about having fun in a safe environment. Club Membership is open to all current Norwich Students.

WNUB (radio station) (SI)
WNUB is a non-commercial, educational FM radio station licensed by the Federal Communications Commission to the Trustees of Norwich University and broadcasts at a frequency of 88.3 MHz in stereo with a power of 285 watts. It is managed and operated by a student staff under the guidance of a Communications faculty advisor. Its broadcast studios and business office are located in the Communications Center. In addition to its popular music programming, WNUB broadcasts regular newscasts (using its AP radio news wire), public service announcements, special educational programming, and live Norwich sports. Nearly 100 students from all class years participate in WNUB, both as a Communications course requirement and as an extracurricular activity.

***War Whoop* (SI)**
The Norwich University yearbook, *War Whoop*, is produced by a voluntary student organization.

Corps of Cadets & ROTC

Corps of Cadets

For two centuries, Norwich University has prepared its graduates, America's leaders, for roles as "citizen soldiers."

When Captain Alden Partridge founded the university at Norwich, Vermont in 1819, he established the first private military college in the United States. Today, the U.S. Army officially credits Captain Partridge's "citizen soldier" concept as the forerunner of Reserve Officer Training Corps (ROTC).

The Norwich University Corps of Cadets is a leadership laboratory. The program transforms high school graduates into adaptive leaders of character for the nation through

a Four Year Progressive Leadership Experience which prepares them to live honorable lives and assume the most challenging roles in the military, government, industry, and business. During the first year, through an intensive military model, cadets develop the basic skills of time management, organization, and attention to detail while building confidence, courage and mental toughness. During the second year they learn all the fundamental principles of leadership required to assume an actual leadership role during their third and fourth years. During the last two years, the cadets lead their own under the close supervision, coaching and mentorship of military professionals who provide essential feedback and counseling on their performance and leader development. All cadets are required to take four progressive semesters of ROTC in either Army, Naval or Air Force ROTC to maintain membership in the Corps. To be eligible to receive a Military College of Vermont (MCV) diploma at graduation, a Cadet must have:

- completed all Rook training required for recognition as a first year Cadet
- successfully complete, or receive credit for 4 progressive semesters (2 years) of ROTC courses and participated in the ROTC PT and leadership laboratory to the maximum allowed by the ROTC Unit
- lived on campus for 8 semesters (4 years), the last 6 semesters must be as a Cadet
- passed the Norwich Corps of Cadets Physical Fitness test each year or received an accommodation or waiver
- completed all disciplinary sanctions prior to Reading Day preceding the graduation term and be in good standing (not on disciplinary hold).

Cadets seeking a commission in the military are required to complete a third and fourth year of ROTC and meet all other requirements established by the commissioning service.

The ROTC programs exist to commission well-educated officers into the Army, Air Force, Navy, and Marine Corps in sufficient numbers to meet the requirements of these services. The general objectives of the programs are to provide understanding of the principles of military, aerospace, and naval science; to develop comprehension of associated professional knowledge; to build attitudes of integrity, honor, and individual responsibility; and to encourage appreciation of national security requirements. The Norwich Corps of Cadets supports and enhances the respective ROTC's mission and better prepares Cadets for service to the Nation.

ROTC Requirement

Corps students have priority for enrollment in ROTC courses. Civilian students who wish to enroll on a space-available basis may do so with instructor permission. Participation in ROTC physical training and military labs will be at the discretion of the applicable ROTC unit. To pursue a commission through ROTC at Norwich University, a student must be a member of the Corps, unless he or she meets the veteran exemption as delineated in the following paragraph.

Student veterans who have honorably and faithfully served our nation as a member of the Armed Forces of the United States, as evidenced by either the award of an honorable discharge certificate (DD214), or the completion of three years of honorable service in the active component, the reserve component (drilling member), or a combination of both as evidenced by a letter from the individual's commanding officer, and has achieved the age of at least 22 years as of 1 September of the year of matriculation, may apply for enrollment in the Norwich University ROTC program of their choice with the intent of pursuing a commission as a civilian student. The applicable ROTC Department Chair the Dean of College of National Services, and the Commandant of Cadets will review the applicant’s file to ensure all eligibility criteria are met.

Cadets contracted for Commission

The Norwich University Board of Trustees has directed that all members of the Corps, who are contracted for commission, be required to take four years of ROTC courses; one course per semester. The ROTC courses must include each of the two courses offered at each of the four levels (100, 200, 300, 400). Branch of service transfers will be allowed (prerequisites permitting) during the first two years of the requirement.

Non-contracted Cadets

Non-contracted Cadets are required to complete four semesters of ROTC courses and participate in physical training and military lab to the extent allowed by the ROTC unit. The ROTC courses must be progressive. Students remain responsible for all established degree requirements.

Students transferring into the Corps are required to meet the ROTC requirement for membership in the Corps.

Counseling & Wellness Center

The Counseling and Wellness Center (https://www.norwich.edu/counseling/) (CWC) staff provides support for the mental health needs of the university population. Individual and group counseling for students is available in a confidential setting. In addition, thematic groups and psycho-educational workshops can be provided in response to specific needs. These services are conducted by a highly trained staff of licensed clinicians and supervised master's level interns. Counseling services are free to NU students.

The CWC also provides wellness programming, services, and outreach including acupuncture, massage, yoga, therapy dog visits, light therapy, and access to a virtual self-help resource called WellTrack (https://app.welltrack.com/) (available to all students through their NU email address). During the semester, the CWC will host depression and mental health screening opportunities, and bring guest lecturers and movies to campus to provide a broader understanding of relevant issues surrounding college mental health and wellness.

It is the CWC's primary purpose to provide holistic support to students as they pursue their academic and personal goals, enhancing the student experience at Norwich.

For more information contact the CWC via email cwc@norwich.edu, phone 802-485-2134, or drop by our office on the 4th floor of the Kreitzberg Library during regular business hours 8-4:30 pm Monday through Friday.

For updated event postings: https://norwich0.sharepoint.com/sites/counselingwellness/SitePages/Home.aspx

or Find us on Facebook @ NU Counseling Wellness (https://www.facebook.com/pg/NUCounselingWellness/)

Dining (Food Service)

Some students call the place they eat a dining hall, some a mess hall--either way, it is a focal point on the campus. The dining hall is open continuously on weekdays from 6:45 a.m. to 8:00 p.m. Brunch and dinner are provided on most Saturdays and Sundays with breakfast, lunch and dinner provided on some select Saturdays.

- The residential dining plan for all rooks and freshmen provides 19 meals a week as well as snacks any time the dining hall is open.
- The Corps Freshmen (Rooks) and some of their leaders eat separately on the upper deck of the dining hall. All other students (sophomores, juniors, seniors, corps, civilian, and commuter students on a meal plan) eat together on the main floor.

Sophomores, juniors and seniors residing on campus may choose one of the following meal plan options:

- 19 meals per week as described above
- 15 meals per week and $100 per semester to use in The Mill, Dunkin' Donuts (http://www.dunkindonuts.com/dunkindonuts/en.html) or The Daily Grind.
- 12 meals per week and $200 per semester to use in The Mill, Dunkin' Donuts or The Daily Grind.

"The Mill" snack bar offers a wide variety of food and beverages to eat in the Snack Bar or "to go". "The Mill" operates with extended hours during the academic year; hours are posted.

The full Dunkin Donuts menu is offered with extended hours during the academic year; hours are posted.

The Daily Grind, a cafe located at Kreitzberg Library, provides a wide variety of beverages, smoothies, salads, wraps and other food to eat in the library or "to go".

Financial Aid

Norwich University is an approved institution for Title IV Federal Student Aid programs such as the Federal Pell Grant, Direct Loans, Federal Work-Study, and Supplemental Education Opportunity Grant. Norwich students receive funding from a variety of federal, state, local, private and institutional programs. Norwich students also receive funding based on their own, or their parent's military service; or from scholarships offered by organizations outside the University.

Students with questions about the financial aid application process or available programs may contact the Office of Financial Aid for assistance via e-mail at nufinaid@norwich.edu (nufinaid@norwich.edu), or by phone at (802) 485-2850.Scholarships are awarded on a funds-available basis, and all students who apply are evaluated for eligibility. Eligibility for scholarship is determined by a number of factors and students will receive the scholarships for which they are most eligible and may receive only one of the premier scholarships recognized by the University. Scholarships and other financial aid may pay for tuition, fees, room and board, as well as other university expenses.

All US citizens, permanent residents and eligible non-citizens are encouraged to file the Free Application for Federal Student Aid (FAFSA) each year of enrollment. Additional information for eligible non-citizens may be found on the FAFSA website (https://studentaid.ed.gov/sa/fafsa/). The FAFSA may be filed online each year starting October 1 for the next award year.

International students seeking first time enrollment in programs offered at the Northfield, Vermont campus only, are encouraged to file the International CSS Profile prior to their entry term of enrollment. The International CSS Profile will assist Norwich University in determining eligibility for institutional need-based grant funding.

Students are invited to review the Financial Aid website (https://www.norwich.edu/financial-aid/) for additional information about specific aid programs, key eligibility requirements, and federal rules and regulations.

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Satisfactory Academic Progress (SAP) Policy

Federal regulations require schools to have a Satisfactory Academic Progress (SAP) policy to enforce the statutory requirement that a student must be meeting satisfactory academic progress toward degree completion to remain eligible for Federal Student Aid funding. Specific rules for State and institutional programs will vary.

The policy is based on cumulative outcomes and includes transfer credits and all periods of enrollment during which the student is enrolled in Norwich University courses. This regulation applies to all students regardless if they are seeking or receiving aid for the period of enrollment. This policy is fully separate from the Norwich University Academic Probation and Suspension process. *(Please see Academic Standing, Class Levels, Re-Admission section for more details)*

The Norwich University SAP policy applies to all Norwich University Students and includes the following:

- Qualitative measure – the cumulative grade point average of 2.0 or higher at the second year. See chart in Undergraduate programs for specific measures.
- Quantitative measure of progress – 67% percentage of attempted credit hours applicable to the students' degree are completed
- Maximum time frame – Students are given 150% of the published program length of the student's current degree program to complete all degree requirements

The SAP policy at Norwich University has been developed to ensure that the financial aid program at Norwich University adheres to the requirements set forth by federal aid regulations. An assessment of SAP will be made after each term of enrollment for all students.

Qualitative Measures – Required GPA
Course withdrawals, incomplete courses, and pass/fail graded courses are not counted in the student's grade point average and are not counted in the qualitative measure of the SAP policy. Incomplete grades will be counted as failed grades for financial aid Satisfactory Academic Progress review purposes after 30 days from the end of each term. If a grade is changed prior to the start of the next term the student may be reevaluated.

Undergraduate programs require the following grade point average to be considered in good standing, based on the progression of credits earned by the student.

Number of Credits Earned	Minimum Cumulative GPA
1-29	1.6
30-44	1.7
45-59	1.8
60+	2.0

Graduate program students must achieve and maintain a 2.0 cumulative GPA requirement to remain eligible for financial aid. Students may be expected to achieve and maintain a higher cumulative GPA (3.0 in most majors) to be considered eligible for continued enrollment in their academic program. Students who become ineligible for enrollment as a degree-seeking student also become ineligible for financial aid funding regardless of cumulative GPA.

Quantitative Measures – Attempted/Earned Credits
The quantitative measurement of SAP is monitored according to the following guidelines:

- Pace of Progress: Students must complete at least 67% of their attempted courses throughout enrollment to sustain a proper "pace of progress" toward degree attainment. This measurement includes withdrawals, incomplete courses, and failed graded courses. This measurement indicates whether or not the student's academic outcome trajectory makes it possible for them to complete their degree requirements prior to attempting 150% of the total credits needed for program degree requirements (also see Maximum Time-frame).
  - Undergraduate students must maintain the 67% "Pace of Progress" throughout enrollment.
  - Graduate students must meet the 67% Pace of Progress after attempting 18 credit hours and they must maintain the 67% Pace of Progress throughout the remainder of enrollment beyond 18 attempted credit hours.
    - Example: For a program requiring 124 credits, the student must complete their program by the time they have attempted 186 credits. If a student in this program has completed only 80

credits of the first 150 attempted, they would no longer be eligible for aid because they have 44 required credits remaining (124 minus 80) but only 36 remaining credits of financial aid eligibility.

- Course withdrawals and incomplete courses are counted in the credit hours attempted, but not credit hours earned
- Transfer-in credit hours are included in the review of quantitative SAP measurements
- An attempted credit is any credit hour that remains on the student's registration transcript at the end of the scheduled add/drop timeframe for a term
- A completed credit indicates that the student attended the full term and received a grade other than Incomplete or fail. A completed credit can be either a pass/fail grade or an A through F letter grade
- Pass/Fail graded courses count as attempted and/or completed credits for quantitative measurement purposes

Maximum Timeframe

- Maximum Time-frame: Students are eligible for Federal Student Aid Program funding for maximum time-frame lasting 150% of the normal time needed to complete their program of study. This measurement is based on a comparison of the number of credit hours completed in relation to the number of credits attempted toward degree requirements, quantitative measures. The measurements are not based on calendar dates.
  - General examples: Undergraduate students may receive aid for up to six years of enrollment toward attainment of a four-year degree and graduate students may receive aid for up to three years toward attainment of a two-year degree.
  - Specific example: Undergraduate students in programs requiring 120 credits to graduate are eligible for aid for up to 180 attempted credits.
- Students with Pace of Progress trajectories indicating it is no longer mathematically possible to complete their degree within the 150% maximum time-frame requirement become ineligible financial aid regardless of GPA at the time it is discovered degree attainment is no longer mathematically possible within the maximum timeframe.

Good Standing

To be considered in Good Standing for financial aid SAP, students must be meeting both the qualitative and the quantitative SAP requirements for their academic program within the maximum timeframe requirements.

When Students Fall Below Standards
Students not meeting the qualitative or quantitative measurements receive information describing how their academic measures impacts their eligibility for funding. Here are key terms related to the SAP policy and procedures.

Maximum Timeframe – 150%

Once the institution becomes aware that a student will not complete their degree requirements within 150% of the published program length, the student becomes ineligible to receive Federal Student Aid funding.

Warning
After the first semester not meeting the standard on either qualitative or quantitative measurements, the student receives a Warning Letter. The purpose of this letter is to remind the student of Satisfactory Academic Progress requirements and to provide information about the campus-based resources available to help them succeed in the classroom. The student is not required to submit any documentation at this stage. Funds for the next term are disbursed at the scheduled times.

Suspension

A student in Warning status that does not return to Good Standing in both the cumulative qualitative and quantitative measurements, and is not outside of the maximum timeframe requirement, after enrollment in a subsequent term, the student is ineligible for financial aid and is placed in suspension status. This may be due to not meeting either the cumulative qualitative or quantitative measurement for the 150% maximum timeframe requirement.

Financial Aid SAP Suspension status is effective immediately. For example, if a student is ineligible based on the review at the end of Fall Semester, aid is suspended for financial aid for the next term of enrollment (typically Spring) and moving forward until the student is meeting SAP again.

Students placed in Suspension status are notified of the reason they are ineligible to receive aid. The suspension letter includes information related to academic progress expectations and describes the process for filing a petition/appeal for reinstatement if unusual circumstances have impacted the student's ability to succeed in class.

Students ineligible for financial aid in suspension status are considered to be self-pay students for any period of enrollment they attend prior to receiving approval of their Petition for Reinstatement.

Petition for Reinstatement
Students placed into SAP Suspension status who have unusual circumstances are encouraged to file their appeal immediately after being notified of their Suspension status.

The petition form directs the student to provide a signed statement indicating the reasons that impacted their inability to remain in Good Standing and what they have done to eliminate the barriers to success. The student must meet with their Academic Advisor or the Academic Achievement Center to discuss their academic support needs. An advisor/Academic Achievement Center signature is required on the form. The student must also obtain and provide a copy of an updated academic plan which describes the remaining required courses and other academic requirements for their degree.

If the student's petition is approved, the approval may be effective immediately. This means that the student could be eligible for funding for the term during which the petition is approved or for their next term of enrollment.

Not all petitions are approved. Students cannot receive approval for multiple petitions which are based on the same rationale or circumstance.

Probationary Period
Students with approved petitions receive financial aid on a probationary basis and are placed in a Probation status. Part of the appeal process is providing individual outcome requirements that must be met each term in order to remain eligible for aid until returning to Good Standing, meeting SAP. Students who do not meet the documented expectations by the end of their probationary term, are then ineligible for aid moving forward and placed back in Suspension status. An example of an individual probationary expectation is that a student may be expected to complete all of their attempted credits and receive at least a 2.0 undergraduate, or 3.0 graduate, GPA for each semester of enrollment until the student returns to "Good Standing" levels.

Regaining Eligibility
In addition to successfully appealing for reinstatement, students may regain eligibility for federal aid when they return to Good Standing based on attendance as a self-pay student.

Students demonstrating the ability to meet Good Standing expectations through completion of courses taken at another school which are transferable to their Norwich University degree may also request a reinstatement review, even if the student has had two prior Petition approvals as allowed by the SAP policy. These students are also encouraged to discuss their remaining eligibility

with Financial Aid as it relates to maximum timeframe eligibility (150% of program) concepts.

Honors Program

Director: Michael Thunberg.

The mission of the Honors Program is to support an enriched university experience for highly motivated students with demonstrated academic abilities and strong interests in research, service, and leadership.

The University Honors Program is a merit-based, highly selective academic track for outstanding undergraduates, comprising less than 5% of the graduating class. It provides a framework for an advanced education experience encompassing the following core elements:

- Customized opportunities for enhanced academic growth
- One-on-one faculty mentorship over the participant's tenure in the Honors Program
- Individualized hands-on research experience
- Learning community of like-minded motivated peers
- Prestigious Honors designation on the diploma and transcript upon graduation

The Norwich University Honors Program is designed with the understanding that most of our students have very tight curriculum maps and do not have many free electives.

The Honors Program has a two-wave admission model.

- First wave. The top 15% of first-year applicants are invited to apply to the program. If they choose to pursue this opportunity, then the student must submit an Honors Program application that consists of two letters of recommendation from an educator familiar with the student's academic profile; a resume outlining the student's academic achievements, work experience, and service credentials; and, a response essay to a writing prompt. The Norwich University Honors Council considers the credentials of each applicant and makes acceptance decisions on a case-by-case basis.
- Second wave. Students completing their first semester at Norwich with a 3.2 GPA or higher and showing outstanding academic aptitude are invited to apply to the program. Nominations are also solicited from faculty teaching freshmen courses. Second wave students follow an application process that is similar to that of first wave applicants.

Housing

On-campus housing offers four residential housing areas which include the Upper Parade Ground, Crawford Hall, Dalrymple and South Halls.

The Upper Parade includes eight Corps of Cadet barracks located around the Upper Parade ground; where the fall and spring parades and ceremonies take place. Crawford Hall, a short walk from the Upper Parade ground houses additional members of the Corps of Cadets.

Dalrymple and South Halls house Residential Civilian students in single and double rooms. Currently, one professional staff member resides in South Hall and oversees all Residential Civilian students under the supervision of the Director of Residence Life & Civilian Housing. Each hall is additionally supervised by 10 trained upper-class student staff. Our residential communities offer a residential programming model, fitness centers, laundry and vending, community lounges, and study rooms.

Norwich currently has approximately 2100 residential beds on campus. All Corps of Cadets and Residential Civilian students currently have a 4 year on-campus living requirement.

Information Technology

The Norwich University Information Technology department supports all academic and administrative computing and telecommunications. Information Technology is comprised of the User Support Services Department, the Telecommunications Department, the Academic Computing Department, the Administrative Computing Department and the Systems and Operations Department.

User Support Services operates a Help desk located at 115 Partridge Hall and a Help desk phone line/email. The Help desk offers computing help, network services, e-mail accounts, and training to students, faculty and the administration of the university. Computer Services provides a robust network computer environment including student computer labs, the campus network (both wired and wireless), help desk services, and administrative computing.

Public student computing labs are located in Partridge Hall, Cabot Hall, Kreitzberg Library, Dewey Hall and Webb Hall. The student computer labs are configured with common software and interface as well as network authentication, which allows students to accomplish academic computing tasks at any lab on campus.

Students receive network and electronic mail accounts for academic use. The Telecommunications Department provides telephone services for students, faculty, and staff. Student residence halls are equipped with hall phones on each floor in the dorms, with the ability to make on-campus and local calls.

The Academic Computing Department provides training for faculty and other development opportunities in addition to assisting faculty with integrating technology into the curriculum.

International Center

The International Center, under the leadership of the Assistant Vice President for International Education, is responsible for partnering with a wide range of internal and external stakeholders to advance the comprehensive internationalization of the university through the alignment and integration of policies, programs, and initiatives designed to position the university as more globally oriented and internationally connected. The work of comprehensive internationalization takes place over a broad range of domains, including but not limited to the following:

- Education Abroad
- International Students
- International Scholars
- International Partnerships

Education (Study) Abroad

The International Center provides a wide range of programs and services related to the design, development, implementation, and evaluation of programs for students seeking, engaged in, or who have returned from overseas programs. Programs are offered at a variety of times throughout the year, at a variety of costs, and in a variety of disciplines and locations in order to suit the full spectrum of Norwich students. In addition to programs through external partners, the International Center also works with Norwich faculty to develop program offerings that are specifically designed with Norwich students in mind. There are also opportunities for Norwich students to participate as an exchange student through one of the many exchange agreements that the university maintains with institutions abroad.

To participate in an Education Abroad/Study Away program for credit toward an undergraduate degree, students must:

- Have a cumulative grade point average of 2.5 or higher at the time of application
- Demonstrate satisfactory academic progress as determined by the Registrar and Student Financial Planning
- Have no financial, disciplinary, or academic holds on their account
- Receive acceptance from a recognized Education Abroad program, International University or a domestic Study Away program
- Be approved for their chosen Education Abroad/Study Away program by their Academic Advisor and the NU International Center
- Visit the International Center or attend a scheduled Education Abroad Information Session presented by the International Center, for the most current application procedures
- ROTC contracted students must make specific arrangements with their ROTC Unit to complete their ROTC requirements to continue their contracted status.

A student who receives approval for Study Abroad/Study Away will be considered as an enrolled full-time Norwich student.

International Students

The International Center provides a wide range of programs and services related to the full life cycle of an international student, including but not limited to the issuance of initial immigration documents, pre-arrival outreach and communications, orientation and ongoing social and cultural programming, immigration advising, and general support services and programs to ensure academic success and retention. The International Center coordinates a comprehensive, multi-day orientation for new international students, helps students maintain their immigration status once they are in the US and at the university, offers a variety of programs and activities, and advises students on everything from adjusting to a new culture to applying for work authorization. The International Center also works closely with academic advisers and student services offices to ensure the success of international students.

International Scholars

The International Center facilitates the process of bringing international visiting scholars to the university to engage in joint teaching and/or research projects with the faculty. The university regards the presence of international visiting scholars as being of strategic importance to fostering international education and the internationalization of the institution.

International Partnerships

The International Center works closely with academic and administrative units throughout the university to develop and maintain a wide array of sustainable international partnerships designed to enhance the internationalization of teaching and learning at the university and to facilitate the discovery and sharing of knowledge between Norwich University and the world. These partnerships include, but are not limited to, faculty exchange agreements, student exchange agreements, joint research agreements, joint or dual degree programs, etc.

The International Center is also responsible for ensuring university-wide compliance with a wide range of federal regulations relating to the enrollment and/or employment of international students. Staff members in the International Center who work with international students must be certified by and registered with the US Department of Homeland Security and the US Department of State as Designated School Officials (DSO) and Responsible Officers (ROs).

Office of Leadership and Student Engagement

Mission

The Office of Leadership and Student Engagement supports the intellectual, personal, and leadership development of all students. The Office offers skill development opportunities to enhance academic success that prepares students for leadership roles in a diverse, dynamic, and global society. The Office of Leadership and Student Engagement remains committed to promoting and practicing the Norwich University guiding values; infusing these ideals into our programs and relationships with students.

Leader Development at Norwich

To continue the Norwich tradition of producing the best leaders in the nation, students participate in a leader development program, whether Corps or Civilian. Students are required to have a basic understanding of leadership theory and principles which is accomplished through Leadership 101, and will have additional opportunities to engage in challenging leadership positions throughout their time at Norwich. Students may choose to continue their leadership learning through the Advanced Leadership Seminars. Students who complete the Advanced Leadership Certification are recognized at graduation for their efforts and have the opportunity to apply for membership in Omicron Delta Kappa, the National Leadership Honor Society. The Office of Leadership and Student Experience and the proposed Norwich Leadership and Change Institute, in conjunction with the Norwich Master of Science in Organizational Leadership program, offers the following:

- **Norwich Principles of Leadership Mastery (LD 101) 1 credit**: An introductory course required for graduation that is delivered online using the NUoodle digital learning platform and offered by the Master of Science in Organizational Leadership faculty within the College of Graduate and Continuing Studies.

- **Ascend Seminar (Personal Mastery)**: This seminar required for Advanced Leader Certification consists of four 2-hour blocks of instruction offered several times each semester. The seminar focuses on understanding of self within the context of social and leadership styles. Topics include Refining your Leadership Philosophy, Personal Accountability, Victim vs. Victor thinking, and MBTI.

- **Peak Seminar (Interpersonal Relationships)**: This seminar required for Advanced Leader Certification consists of four 2-hour blocks of instruction offered several times each semester. The seminar focuses on recognizing the diversity of thought processes among our peers and how to effectively work with others. Topics include Compass of Leadership, Having Difficult Conversations, Emotional Intelligence and HBDI Learning Styles. Prerequisite: Personal Mastery Seminar.

- **Summit Seminar (Leading Others)**: This seminar required for Advanced Leader Certification consists of four 2-hour blocks of instruction offered several times each semester. The seminar focuses on leveraging diversity of thought and social styles to create effective, efficient teams. Topics include Creating Exceptional Teams, Character-based Leadership, Leading Change, and an introduction to the E-portfolio process. Prerequisite: Interpersonal Relationships Seminar.

- **Leadership E-Portfolio**: Students who are applying for the Advanced Leadership Certification will be required to submit a digital Leadership E-portfolio two months

prior to their projected graduation. The E-Portfolio is required for the Advanced Leadership Certification whether pursued through the Leadership Seminars or an Alternate Path.

- **Alternate Paths to Certification**: At Norwich there are many ways to gain leader development and experience. Students have the option to submit requests for approval of Alternate Path activities. Significant leadership positions on campus, Active or Reserve military service, sports team leadership positions or programs such as Military Arnis serve as good examples of Alternate Paths to an Advanced Leader Certification.

Library (Kreitzberg) & University Archives

The Kreitzberg Library (https://guides.norwich.edu) is a full-service academic library, open seven days a week during the fall and spring semesters. The Kreitzberg Library building, named for principal donors Barbara and Fred Kreitzberg ('57), offers six comfortable and attractive floors for collections, research and study. There are spaces for individual and group study, the Todd Multipurpose Room, computer labs with access to the Norwich University network, two library instruction rooms, wireless internet throughout the building, photocopiers, scanners, and a media viewing room. A café is located on the main floor.

The library collections include print books, e-books, magazines, e-journals, DVDs, streaming videos, and much more. The library is a selective depository for federal government publications. Professional librarians and support staff offer the full range of academic library services, including reference service, interlibrary loan, and individual and group library instruction. The Kreitzberg Library's catalog, databases and online journals are accessible both on- and off-campus, providing easy access for students in their dormitories or across the world. During the academic term, the library is open until midnight five days a week, and reference librarians are available in person or via email every day.

Norwich University Archives and Special Collections (http://archives.norwich.edu) on the 5th floor of the Kreitzberg Library provides access to the library's rare book collection, as well as written records and photographs documenting the history of Norwich and the accomplishments of its alumni, faculty, staff, and students. All are welcome to access these materials in the reading room on the 5th floor of the Kreitzberg Library or by browsing our digital archives (http://archives.norwich.edu/digital/).

The library building also houses the Academic Achievement Center and the Counseling and Wellness Center on the fourth floor.

Sullivan Museum & History Center

The Sullivan Museum and History Center (http://www.norwich.edu/museum/), a 16,000-square-foot building designed for both permanent and rotating exhibits, contains a theater, exhibit preparation areas, offices, and an instruction room. This modern facility is dedicated to telling Norwich University's story through the careful preservation of the university's rich history and growing collection of nearly 20,000 objects.

A museum has been located on the Norwich University campus since 1902. The first museum was located in Dewey Hall, which then moved to the Carnegie Library (the present-day Chaplin Hall) in 1908. The museum relocated to the basement of White Chapel in 1955 where it remained until the museum's new, permanent home, The Sullivan Museum and History Center, adjoining the Kreitzberg Library, officially opened in January 2007.

Explore our website (http://www.norwich.edu/museum/) for upcoming, current, and past exhibitions and follow us on Facebook (https://www.facebook.com/SullivanMuseum/)!

Course Descriptions

Course descriptions are to assist the student to better understand the content within each course, any prerequisite or corequisite requirements, and may include the semester(s) in which the course is offered to aid in academic planning. To prepare an academic schedule the student will use the online academic portal (BannerWeb) to review the Schedule of Classes which is also available on the Registrar's website.

Accounting (AC)

Courses

AC 188 No Norwich Equivalent 6 Cr.

AC 199 Pilot Course 3 Cr.

AC 1XX Accounting Elective 3 Cr.
This course is used for transfer when no equivalent for Norwich course exists.

AC 201 Introduction to Accounting and Financial World 3 Cr.
Designed strictly for the non-business major. A survey course of accounting and financial concepts, including the basic accounting equation, financial statement structure, financial statement analysis, cost structures (fixed/variable/break-even analysis/overhead), cost systems, an introduction to basic capital markets, working capital management and present value concepts. Whenever possible the materials used in this class will use the context of the individual student's major area of study or future professional area of employment. 2 lecture hours and 2 laboratory hours.

AC 205 Principles of Accounting-Financial 4 Cr.
Introduction to accounting principles and theory for the sole proprietorship. The recording of business transactions through the accounting cycle, from journal entry, posting, adjusting, and closing entries through work papers and preparation of financial statements, is studied. Related topics include: internal control, receivables and payables, the control of cash transactions, inventories, depreciation, intangible assets, and payroll accounting. Ethical business practices and client privacy issues are stressed throughout all phases of the course.

AC 206 Principles of Accounting-Managerial 4 Cr.
The completion of the study of financial accounting and an introduction to and emphasis on managerial accounting. Topics covered include: partnerships, corporations, earnings per share, dividends, bonds payable, the Statement of Cash Flows, the analysis and interpretation of financial statements, the budgeting process and cost accounting concepts. Protection of proprietary information and information security is re-enforced throughout the course. Prerequisite: AC 205.

AC 288 No Norwich Equivalent 6 Cr.

AC 335 Intermediate Accounting I 3 Cr.
Building on the foundations of Principles of Accounting the course provides a more in-depth study of accounting theory and practice. Beginning with a brief review of the accounting process, the course delves into the conceptual framework for accounting, the accounting standards setting process, and the hierarchy of accounting pronouncements. The course then explores the components of the financial statement package including such issues as the quality of earnings and the measurement and reporting of unusual, infrequent, and non-operating items; the Statement of Cash flows is also studied in depth. Accounting, reporting, and valuation issues surrounding cash, receivables, inventory and long-term assets are also covered including the impairment of tangible and intangible assets. Prerequisite: Grade of "C" or better in AC 205 and AC 206.

AC 336 Intermediate Accounting II 3 Cr.
A continuation of the in-depth study of accounting theory and practice begun in Intermediate Accounting I. The course addresses the valuation, accounting, and reporting of both short and long-term investment securities, current and contingent liabilities, notes and bonds payable, and shareholders' equity. In addition, the accounting for leases, income taxes, pensions, stock-based compensation, earning per share, and accounting changes are also studied. Prerequisite: AC 335 or AC 205 and AC 206 with a grade of "C" or better and permission of the instructor.

AC 388 No Norwich Equivalent 6 Cr.

AC 419 Taxation I 3 Cr.
Designed to introduce the student to certain elementary tax concepts: tax rate structure, exemptions, deductible versus non-deductible expenses, depreciation basis, capital gains and losses, tax credits, withholding, and computation of the personal income tax. Within the context of the personal income tax, planning considerations will be stressed as well as legal and ethical issues concerning client confidentiality. Prerequisites: Grade of "C" or better in AC 205 and AC 206.

AC 428 Auditing 3 Cr.
A study of the auditing environment, including legal liability and professional ethics begins with the concept of auditing and the auditing profession. Additional topics concerning the audit process, including internal control, evidence, sampling and EDP auditing and specific audit procedures are examined. In addition the nature and types of auditors' reports are studied. 3 lecture hours. Prerequisites: AC 336.

AC 441 Cost Accounting 3 Cr.
A study of the basic elements of cost accounting concepts and procedures. Emphasis is on how cost data can be used as management tools. Cost behavior and control, cost-volume-profit relationships, job and process costing, activity-based accounting, budgeting and responsibility accounting, flexible budgeting and standards, income effects of alternative costing methods and cost behavior, costs and the decision process, and philosophy and organization of the master budget are analyzed. Prerequisite: AC 206.

AC 442 Advanced Accounting 4 Cr.
An advanced course emphasizing accounting theory and practical applications in selected areas. Such areas include: partnerships, branches, business combinations, consolidated financial statements, segment reporting, forecasts, multinational companies, bankruptcy, and accounting for governmental units and other non-profit entities. Prerequisite: AC 336.

AC 450 Internship in Accounting 3 Cr.
The internship program is designed for students who want to apply their studies by working in a public accounting firm or in private accounting within a business, industry, or public agency. The student will be required to work closely with a faculty supervisor to develop and implement a structured experience tailored to the career goals of the student. Prerequisites: junior or senior standing and written consent of the department chair and internship committee.

AC 488 No Norwich Equivalent 6 Cr.

Architecture (AP)

Courses

AP 106 Architectural Drafting 3 Cr.
The various graphic tools, techniques, and conventions are presented and the rationale behind their use is explained. In addition to the basic graphic constructions and multi-view projections, the methods of developing architectural plans, elevations, and sections are addressed. This course is for students who have had little or no prior introduction to mechanical and architectural drafting. 1 lecture hour 3 studio hours.

AP 111 Fundamentals of Architecture 4 Cr.
Introduction to the basic principles and skills of architecture. A series of two and three dimensional graphic exercises is used to gain an understanding of architectonics, the intentional arrangement of space and enclosure to communicate human values while also introducing graphic techniques for communicating concepts and solutions. 1 lecture hour, 27 studio hours. (Fall).

AP 118 Fundamentals of Architecture II 4 Cr.
A continuation of the fundamental processes and technologies of architecture. Students learn the design process, explores interactive computer graphics (CAD) as a design tool, and apply these principles, processes, and skills to an architectural design problem. 1 lecture hour, 9 studio hours. Prerequisite: AP 111. (Spring).

AP 188 No Norwich Equivalent 1-6 Cr.

AP 211 Architectural Design I 5 Cr.
The first in a sequence of design studio courses introducing the processes, judgment, and communications involved in the synthesis of architectural form. The influences of the human and physical contexts on form are explored. 1 lecture hour, 12 studio hours. Prerequisite: AP 118. (Fall).

AP 212 Architectural Design II 5 Cr.
Second semester in a sequence of design studio courses emphasizing the processes, judgment, and communications involved in the synthesis of architectural form. The influences of functional requirements on form are explored. 1 lecture hour, 12 studio hours. Prerequisite: AP 211. (Spring).

AP 221 Site Development and Design 3 Cr.
Course addresses engineering principles and design considerations involved with site design. Earth shaping, drainage, roadway alignment, parking lot layouts, code requirements and environmental factors are studied prior to and after design changes. 2 lecture hours, 2 studio hours. (Occasionally).

AP 222 Human Issues in Design 3 Cr.
An introduction to the psychological, sociological, and physical factors that influence the design of architectural space. The fields of anthropometric data, ergonomics, and proxemics are addressed, as well as considerations for barrier-free environments. 3 hours of lecture. (Occasionally).

AP 225 Introduction to Passive Environmental Systems 3 Cr.
Introduction to the impacts of environmental energies on architectural form. Emphasis is on the processes architects orders light, climate, gravity, and sound responses to achieve building geometry. Also addressed are concepts and strategies for responding to environmental hazards, and designing healthy buildings and green architecture. 3 lecture hours. Prerequisite: AP 118 or EG 110. (Fall).

AP 241 Architectural Delineation 3 Cr.
A studio course in advanced graphic methods. Various rendering techniques, definitive design development, and the principles of construction drawings and architectural detailing are presented and explored through individual projects. 1 lecture hour, 4 studio hours.

AP 288 No Norwich Equivalent 1-8 Cr.

AP 311 Architectural Design III 5 Cr.
The development of the comprehensive building process as a synthesis of spatial, functional, and contextual concerns with emphases on building systems and materials are discussed. Individual and group problems, of a limited and defined scope are explored. 1 lecture hour, 12 studio hours. Prerequisites: AP 212, AP 325. (Fall).

AP 312 Architectural Design IV 5 Cr.
The fourth course in the design studio sequence continues the development of a comprehensive building design process with problems of complex, but limited scope. The synthesis of spatial, functional, and contextual concerns, as directly linked to the understanding and employment of building systems, continues to provide a framework. 1 lecture, 12 studio hours. Prerequisite: AP 311.(Spring).

AP 325 Materials, Construction, and Design 3 Cr.
Construction materials and systems are evaluated, selected, incorporated, and detailed in building design. Both measurable and immeasurable design responses to environmental energies are explored in soils, concrete, masonry, wood, and metals. 3 lecture hours. Prerequisite: AP 225. 3 lecture hours. (Spring).

AP 327 Active Building Systems I 3 Cr.
A survey of contemporary mechanical building equipment and systems, including heating, ventilation and air conditioning. Emphasis on comparisons of design parameters, interfaces, and impacts on overall building form. Energy efficiency is addressed. 3 lecture hours. Prerequisite: AP 225, MA 107. (Fall).

AP 328 Active Building Systems II 3 Cr.
A continuation of Active Building Systems, surveying contemporary electrical, lighting, and plumbing equipment and systems. Emphasis on comparisons of design parameters, interfaces, and impacts on overall building form. Energy efficiency and building codes are addressed. 3 lecture hours. (Spring).

AP 388 No Norwich Equivalent 1-6 Cr.

AP 403 Architectural Seminar in History and Theory 3 Cr.
Focuses on one or more topics regarding the historic and philosophical contexts that influence architecture today. Topics range from the study of specific historic periods' design to the diverse trends in current architectural thinking. This course may be repeated for credit. 3 lecture hours. (Occasionally).

AP 411 Architectural Design V 5 Cr.
The extension of the comprehensive design includes problems of an expanded scope and large scale, including building complexes and urban design. Individual and group problems emphasize of environmental factors, human concerns, and architectural form. A design portfolio, covering all seven semesters of studio work, including a written paper, is required. 1 lecture hour, 12 studio hours. Prerequisite: AP 312. (Fall).

AP 412 Architectural Design VI 5 Cr.
The extension of the comprehensive design process to include problems of expanded scope and large scale, including building complexes and urban design. Individual and group problems emphasize the complex interrelationships of environmental factors, human concerns, and architectural form. 1 lecture hour, 12 studio hours. Prerequisite: AP 312. (Spring).

AP 414 Architectural Seminar In Design 3 Cr.
Investigates one or more specific concepts, issues, or topics related to architectural design and its associated disciplines, such as urban, landscape, interior, and visual design. Requires a graduate level paper or project. Permitted to be repeated once under a different topic. Cross-listed with AP 514; not permitted to earn credit in both AP 414 and AP 514. 3 lecture hours. Prerequisite: instructor permission. (Occasionally).

AP 424 Architectural Seminar in Technology 3 Cr.
Focuses on one or more of the specific issues, topics, or skills related to technologies in architecture today. Topics range from advanced materials and construction systems to energy-conserving design; from environmental issues to hands-on building experiences. Permitted to be repeated once under a different topic. Cross-listed with AP 520; not permitted to earn credit for both AP 424 and AP 520. 3 lecture hours. Prerequisite: AP 325. (Occasionally).

AP 431 Design Thinking and Innovation 3 Cr.
Examines creativity as the ability to turn ideas into action in development, management, evolution, and broad context of emerging technologies and associated ventures. Students gain an understanding of the key tenets of design thinking and a sense for ways they can incorporate them into their work using 'visual brand languages' for emerging technologies, foundation exercises in creativity, and case studies based on pivotal products from the past 50 years. Prerequisite. Sophomore or higher. (Spring).

AP 434 Architectural Seminar in Process 3 Cr.
Focuses on one or more specific topics regarding the current and future practice of architecture: what architects do, and how they do it. Topics range from design techniques to office management and from specialties within the practice, to the legal environmental, and social forces that influence it. Permitted to be repeated once under a different topic. 3 lecture hours. Prerequisite: instructor permission. Cross listed with AP 534. (Occasionally).

AP 436 Project Delivery and Documentation 4 Cr.
Relationships between the formal methods of project delivery and the architectural office are discussed. The project delivery process and the methods of communication and the documentation involved provide a detail study of typical office procedures. The studio component provides practical experience of the typical project delivery process. Student learn communication is multi-layered acting as a foundation for the production of contemporary architecture. Various tools ranging from computer aided design to conceptual organization schema in both the practice of typical architectural project delivery and the development of new means of communication and production are used. 2 lecture hours, 4 studio hours. (Occasionally).

AP 455 Special Projects in Architecture 1-3 Cr.
An execution of a student-selected project related to architectural design, history/theory, process, or technology focuses on in-depth independent research, development, and a formal written and/or graphic presentation of an architecturally-related topic not otherwise covered in course offerings. The student must secure a faculty member who will agree to serve as advisor/evaluator for the project. Number lecture hours based on credits sought. This course may be repeated up to 9 credits. Prerequisite: Junior, Senior status. (Occasionally).

AP 456 Senior Project 4 Cr.

AP 488 No Norwich Equivalent 1-6 Cr.

AP 501 Architectural Theory 3 Cr.
A course that introduces implicit and hidden motivations that influence architecture. Basic human values and beliefs leading to classic philosophies and aesthetics are explored. Major historic and contemporary propositions on architecture are surveyed. Requires a graduate-level paper or project. 3 lecture hours. Pre-req: FA 202, Master in Architecture major.

AP 504 Architectural Seminar in History and Theory 3 Cr.
Focuses on one or more specific issues and topics regarding the historic and philosophical contexts that influence architecture today. Topics range from the study of specific historic periods or schools of thought regarding design to the diverse trends in current architectural thinking. Requires a graduate-level paper or project. This course may be repeated for credit. 3 lecture hours. Pre-reqs: FA 202, FA 308 Master in Architecture major. Cross listed with AP403. Offered: Occasionally.

AP 511 Architectural Studio VII 5 Cr.
Introspective problems intended to broaden and deepen individual understanding of the processes, theories, and systems that influence the design of the built environment are discussed. Emphasis is on thorough examination of all aspects of building. Includes the identification, program preparation, and approval of the capstone project(s) to be undertaken in AP 512. 1 lecture hour, 12 studio hours. Pre-req: Master in Architecture major. Offered: Fall.

AP 512 Architectural Studio VIII 5 Cr.
Introspective problems are intended to broaden and deepen individual understanding of the processes, theories, and systems that influence the design of the built environment are discussed. Emphasis is on thorough examination of all aspects of building. A single comprehensive design project that represents a capstone experience for the 5-year design sequence is required. 1 lecture hour, 12 studio hours. Pre-req: AP 511. Master in Architecture major. Offered: Spring.

AP 514 Architectural Seminar in Design 3 Cr.
Investigates one or more specific concepts, issues, or topics related to architectural design and its associated disciplines, such as urban, landscape, interior, and visual design. Requires a graduate level paper or project. This course may be repeated for credit. 3 lecture hours. Pre-req: Instructor approval. Cross listed with AP 414. Master in Architecture major. Offered: Occasionally.

AP 520 Architectural Seminar in Technology 3 Cr.
Focuses on one or more of the specific issues, topics, or skills related to technologies in architecture today. Topics range from advanced materials and construction systems to energy-conserving design; from environmental issues to hands-on building experiences. Requires a graduate level paper or project. This course may be repeated for credit. 3 lecture hours. Pre-reqs: AP 114, AP 325, Master in Architecture major. Cross listed with AP 424. Offered: Occasionally.

AP 525 Architectural Thesis Research 5 Cr.
The course is independent research to display a mastery of defining an architectural problem, including the investigation and discussion of the procedural, physical, and intellectual limits of this problem. The course culminates with the publication of an architectural program and a theoretical statement as well as the generation of all contextual information and design strategies as the basis for AP 526,. 3 lecture hours 6 studio hours. Pre-reqs: Instructor approval and Master in Architecture major. Offered: Fall.

AP 526 Architectural Thesis 5 Cr.
Execution of a singular design or design-related project based on independent research and preliminary design work produced in AP 525 and of sufficient depth and breadth to display a mastery of design skills and comprehensive understanding of the architectural issues related to form, process, judgment, representation, and communication. The work is done under the guidance of a thesis advisor chosen by the student. 2 lecture hours 12 studio hours. Pre-req: AP 525 with a grade of C or higher, Master in Architecture major. Offered: Spring.

AP 531 Architectural Internship 6 Cr.
This course is a bridge between academic experience and professional practice. The learning experience moves in both directions. Students apply knowledge learned in the classroom to bring practical experience. Students secure a position with an architectural, or an architecturally-related/ construction-related, firm for a period of at least eight weeks. This position must be approved by the course instructor. The firm must be willing to submit periodic and final evaluations of the student's performance. Students must maintain a journal and write a paper related to professional practice. XX lecture hours. Pre-req: Master in Architecture major. Offered: Occasionally.

AP 533 Professional Practice 3 Cr.
Investigation into the issues related to the professional practice of architecture in contemporary American society. Topics include project management, finance and economics; business and practice management; and laws and regulations governing the profession. Three hours of lecture per week. Pre-req: Master in Architecture major. Offered: Occasionally.

AP 534 Architectural Seminar in Process 3 Cr.
Focuses on one or more specific topics regarding the current and future practice of architecture: what architects do, and how they do it. Topics range from design techniques to office management and from specialties within the practice, to the legal environmental and social forces that influence it. This course may be repeated for credit. 3 lecture hours. Pre-req: Instructor's approval, Master in Architecture major. Cross listed with AP 434. Offered: Occasionally.

AP 555 Special Projects in Architecture 1-3 Cr.
An execution of a singular project related to architectural design, history/theory, process or technology selected by the individual student. Students, independently research, development, and a provide a written and/or graphic presentation of an architecturally-related topic not otherwise covered in course offerings. Students must secure a faculty member who agrees to serve as advisor/ evaluator for the project. Number lecture hours depends on the credits sought. Pre-req: Master in Architecture major. Offered: Occasionally.

AP 558 Global Issues in Architecture 3 Cr.
This course provides an in-depth analysis, discussion, and research into contemporary issues that impact the profession of architecture and architectural design. The nature of the material is relevant to the complex, changing nature of the profession. Topics include global concerns such as sustainability, cultural changes, conservation and preservation, information technology, and the emerging role of the architect. The course reflects the values embodied in the profession, the architecture program, and the university. Course material is synthesized and applied to demonstrates critical thinking, teamwork, creativity and community service. 3 hours of seminar. Pre-req: Master in Architecture major. Offered: Occasionally.

AP 604 History & Theory of 20th-Century Architecture 3 Cr.
Surveys global architectural history and theory from the 1920s through the 1980s, including modernism and its variants, receptions, reactions, and critiques. Introduces architectural criticism and research methods for the built environment. Includes case studies, substantial research and writing, and discussion of texts in seminar format. 3 lecture hours. Pre-req: AP 605 Analysis of Architectural Icons. Restriction: MArch III majors. Offered: Spring.

AP 605 Analysis of Architectural Icons 3 Cr.
Students study and analyze select examples from architectural history and theory (pre-history through the early decades of the 20th century). Students achieve a global and comparative familiarity with a representative range of buildings, urban forms, and major aspects of architectural culture. Emphasis is on understanding and applying the core concepts and analytical tools relevant for architectural discourse and interpretation. 3 lecture hours. Restricted: M.Arch. III majors. Offered: Fall.

AP 611 Architectural Design I 5 Cr.
Students learn and practice the basic principles and skills that constitute the discipline of architecture. Students investigate the design process and urban analysis, explore interactive computer graphics (CAD) as a design tool, and apply these principles, processes, and skills to an architectural design problem. 1 lecture hour and 12 hours of studio per week. Restriction: M.Arch. III majors. Offered: Fall.

AP 612 Architectural Design II 5 Cr.
The second Masters level design studio course introduces the processes, judgment, and communications involved in the synthesis of architectural form. Through a focused series of individual and group projects, students explore and understand the influences of human and physical contexts as well as functional requirements on architectural form. One hour of lecture and three 4-hour studios per week. 1 lecture hour and 12 hours of studio per week. Restriction: M.Arch. III majors. Offered: Spring.

AP 613 Architectural Design III 5 Cr.
The development of the comprehensive building process at the graduate level as a synthesis of spatial, functional, and contextual concerns with emphases on building systems and materials. Individual and group problems are of a limited and defined scope. 1 lecture hour and 12 hours studio per week. Pre-req: AP 612 Architectural Design II MArch. Restriction: MArch III majors. Offered: Fall.

AP 614 Architectural Design IV 5 Cr.
Elective problem-oriented studios offered to fourth year students by various faculty members. The extension of the comprehensive design process to include problems of expanded scope and large scale, including building complexes and urban design. Individual and group problems emphasize the complex interrelationships of environmental factors, human concerns, and architectural form. 1 lecture hour and 12 studio hours. Pre-req: AP 613 Architectural Design III MArch. Restriction: MArch III majors. Offered: Fall.

AP 621 Site Development and Design 3 Cr.
Students learn the engineering principles and design considerations involved with site design. Earth shaping, drainage, roadway alignment, parking lot layouts, code requirements and environmental factors are studied prior to and after design changes. 2 Lecture hours. 2 Studio hours. (Fall).

AP 625 Introduction to Passive Environmental Design 3 Cr.
Through coordinated lectures, demonstrations, and projects, the impacts of environmental energies on architectural form and the greater environment are introduced and explored. Emphasis is given to the processes by which the architect orders light, climate, gravity, and sound responses to achieve building geometry. The course also addresses concepts and strategies for responding to environmental hazards, and designing healthy buildings and green architecture. 3 lecture hours. Restriction: M.Arch. III majors. Offered: Fall.

AP 626 Materials, Design, and Construction 3 Cr.
An introduction to the processes by which construction materials and systems are evaluated, selected, incorporated, and detailed in building design. Both measurable and immeasurable design responses to environmental energies are explored in soils, concrete, masonry, wood, and metals. 3 lecture hours. Restriction: MArch III majors. Offered: Fall.

AP 627 Active Building Systems I 3 Cr.
A survey of contemporary mechanical building equipment and systems, including heating, ventilation and air conditioning. Emphasis is placed on comparisons of design parameters, interfaces, and impacts on overall building form. Energy efficiency is addressed. Students pursue independent research in support of coursework. 3 lecture hours. Pre-req: AP 625 Introduction to Passive Environmental Systems MArch. Restriction: M.Arch. III majors. Offered: Fall.

AP 630 Wood, Steel and Concrete Structures 4 Cr.
This course builds directly on the material learned in Statics and Mechanics of Materials and is specifically direct to the study of the response of structural systems to various loadings. Gravity and lateral loads as well as load combinations on a structure are developed using appropriate building codes. The response of the structural system to imposed loading is studied by classical and computer analysis techniques. This course introduces the students to applications; the design of simple structures of wood, steel, concrete and other materials that meet the appropriate building code. Students will create a design project at the graduate level that evidences a comprehensive and holistic understanding of structural engineering for architectural projects. 4 Lecture hours. Prerequisites: CE 351, AP 632 (Spring).

AP 632 Statics and Mechanics Materials 4 Cr.
A study of elementary, primarily two dimensional engineering mechanics. Fundamental concepts and basic laws of statics, force systems, structures, and support reactions for loading patterns. Stress-strain relationships to forces: concepts and applications. Consideration of engineering materials and their suitability in various structures and mechanisms. Students will create a design project at the graduate level that evidences a comprehensive and holistic understanding of two dimensional engineering mechanics. 4 Lecture hours. Prerequisites: MA 107, PS 201 (Spring).

AP 636 Project Delivery and Documentation 4 Cr.
This course introduces the basic history and theory of architectural programming, production and trends in the architectural office, including technology and sustainability. The project delivery process, and the methods of communication and documentation it involves, provides an opportunity for students to study typical office procedures. Students examine architect's professional conduct as related to various ethical conundrums which present themselves during everyday practice. 4 Lecture hours and 2 hours of lab per week. Restriction: MArch III majors. Offered: Fall, Spring.

Aerospace Studies (AS)

Courses

AS 101 The Foundations of the United States Air Force 1 Cr.
Basic introduction to the United States Air Force and Air Force Reserve Officer Training Corps. Topics: mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force opportunities, group leadership problems and communication skills. One hour lecture. Corequisite: Students pursuing an Air Force commission must also register for AS 101 LL1 (which includes 2 hours of Leadership Laboratory and up to three hours of Physical Training, weekly). Prerequisite: Freshman, Sophomore status.

AS 102 The Foundations of the United States Air Force 1 Cr.
A continuation of AS101, introducing the United States Air Force and Air Force Reserve Officer Training Corps. Topics: mission and organization of the Air force, officership and professionalism, military customs and courtesies, Air Force opportunities, group leadership problems and communication skills. One hour lecture. Corequisite: Students pursuing an Air Force commission must also register for AS 102 LL1 (which includes 2 hours of Leadership Laboratory and up to three hours of Physical Training, weekly). Prerequisite: AS 101 (or equivalent) with a C- or higher. Prerequisites: Freshman, Sophomore status.

AS 188 No Norwich Equivalent 1-6 Cr.

AS 199 Aerospace Science Pilot Ground School 1-6 Cr.

AS 201 The Evolution of USAF Air and Space Power 1 Cr.
A focus on the history of airpower and the military doctrine for its employment. Topics: Air Force heritage, Air Force leaders, general aspects of air and space power and communication skills. One hour lecture. Corequisite: Students pursuing an Air Force commission must also register for AS 201 LL1 (which includes 2 hours of Leadership Laboratory and up to three hours of Physical Training, weekly). Prerequisite: Sophomore status, and AS 102 (or equivalent) with a C- or higher.

AS 202 The Evolution of USAF Air and Space Power 1 Cr.
A continuation of AS 201, focusing on the history and uses of airpower through the late 20th century and into the 21st century. Topics: airpower doctrine and strategy, and communication skills. One hour lecture. Corequisite: Students pursuing an Air Force commission must also register for AS 202 LL1 (which includes 2 hours of Leadership Laboratory and up to three hours of Physical Training, weekly). Prerequisite: AS 201 (or equivalent) with a C- or higher. Sophomore status.

AS 288 No Norwich Equivalent 1-6 Cr.

AS 311 Air Force Leadership Studies 3 Cr.
A study of leadership and management fundamentals, professional knowledge, ethics and communication skills required of an Air Force officer. Three hour lecture. Corequisite: Students pursuing an Air Force commission must also register for AS 311 LL1 (which includes 2 hours of Leadership Laboratory and up to three hours of Physical Training, weekly). Prerequisite: AS 202 with a C- or higher.

AS 312 Air Force Leadership Studies 3 Cr.
A continuation of AS 311 focusing on leadership and management fundamentals, professional knowledge, ethics and communication skills. Three hour lecture. Corequisite: Students pursuing an Air Force commission must also register for AS 312 LL1 (which includes 2 hours of Leadership Laboratory and up to three hours of Physical Training, weekly). Prerequisite: AS 311 with a C- or higher.

AS 388 No Norwich Equivalent 1-6 Cr.

AS 411 National Security Affairs/Preparation for Active Duty 3 Cr.
Examines the national security process, regional studies, advanced leadership ethics and Air Force doctrine. Topics: officership as a profession, military justice, civil-military relations, preparation for active duty and current issues affecting the military profession. Three hour lecture. Corequisite: Students pursuing an Air Force commission must also register for AS 411 LL1 (which includes 2 hours of Leadership Laboratory and up to three hours of Physical Training, weekly). Prerequisite: AS 312 with a C- or higher.

AS 412 National Security Affairs/Preparation for Active Duty 3 Cr.
A continuation of AS 411 focusing on the national security process, regional studies, advanced leadership ethics and Air Force doctrine. Topics: officership as a profession, military justice, civil-military relations, preparation for active duty and current issues affecting the military profession. Three hour lecture. Corequisite: Students pursuing an Air Force commission must also register for AS 412 LL1 (which includes 2 hours of Leadership Laboratory and up to three hours of Physical Training, weekly). Prerequisite: AS 411 with a C- or higher.

AS 488 No Norwich Equivalent 1-6 Cr.

Biology (BI)

Courses

BI 101 Principles of Biology I 4 Cr.
Designed for science majors, an introduction to biochemistry, cell structure, metabolism, and protein synthesis, as well as human anatomy and physiology. Dissection of living and preserved animals is required. Credit may not be earned for both BI 101 and BI 122. 3 lecture hours, 2 laboratory hours. Goal 4. (Fall).

BI 102 Principles of Biology II 4 Cr.
This course explores genetics, evolutionary theory, diversity of life on earth, history of life on earth, and ecology. Dissection of preserved animals is required. 3 lecture hours, 2 laboratory hours. Prerequisite: BI 101. Goal 4. Offered Spring.

BI 122 Concepts in Biology 4 Cr.
A lab science course exclusively for non-science majors that aims to give students an appreciation of the major concepts and current topics in biology. Concepts include cell structures, photosynthesis, cellular respiration, genetics, evolution and ecology as well as human anatomy and physiology. Current topics may include stem cell research, nutrition, diseases, steroid abuse, traumatic brain injury, global climate change, and other pertinent issues. Dissection of preserved animals is required. Credit may not be earned for both BI 101 and BI 122. 3 lecture hours, 2 laboratory hours. Goal 4. (Fall, Spring).

BI 188 No Norwich Equivalent 6 Cr.

BI 1XL Biology Lab Transfer Elective 4 Cr.
This course is used for transfer when no equivalent Norwich course exits.

BI 1XX Biology Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

BI 203 Introduction to Scientific Method & Bioscientific Terminology 1 Cr.
An introduction to the philosophy of science, the scientific method and bioscientific terminology including an analysis of data and interpretation of scientific and science-related popular press articles. Includes exposure to various forms of scientific communication. Prepares students majoring in the biological sciences. 1 lecture hour. Prerequisite: Biology major. (Spring).

BI 205 Ecology 4 Cr.
Students study the interrelationships between organisms and the environment. Major concepts include evolution, ecosystem structure and function, community structure, species diversity, succession, interspecific and intraspecific relationships, competition, predation, behavior, population growth and regulation. 3 lecture hours, 3 lab/fieldwork hours. Prerequisite: One college-level math course, Biology major or Environmental Science major. When available seats or during summer, permission of instructor.

BI 215 Human Anatomy & Physiology I 4 Cr.
The first half of a two-semester course exploring human anatomy and physiology. Cellular metabolism, tissues, and the skeletal, muscle, integumentary, and nervous body systems are discussed. Dissection of preserved animals is required. 3 lecture hours, 2 laboratory hours. (Fall, Summer).

BI 216 Human Anatomy & Physiology II 4 Cr.
The second half of a two-semester course exploring human anatomy and physiology. The endocrine, digestive, respiratory, circulatory, lymphatic (including the immune response), urinary, and reproductive body systems are discussed. Dissection of preserved animals is required. 3 lecture hours, 2 laboratory 2 hours. Prerequisite: BI 215. (Spring, Summer).

BI 220 Introductory Microbiology 4 Cr.
A survey of microbiology with emphasis on microorganisms of medical significance. Fundamentals of microbial structure, physiology and control are considered along with the role of pathogenic organisms in the infectious and disease processes. Laboratory exercises are designed to provide facility in visualizing, staining, culturing, enumerating, isolating, maintaining, and identifying microorganisms. 3 lecture hours, 2 laboratory hours. (Spring).

BI 226 Cell Biology 4 Cr.
A molecular level examination of the ultrastructure and function of the cytoplasm, intracellular components, cell membrane, extracellular structures and formation, and excretion of extracellular products. Recent molecular biology developments are stressed, including the implications for the biotechnology industry. The laboratory component includes state-of-the-art procedures and emphasizes hands-on experimental techniques. May require dissection of living animals. 3 lecture hours, 3 laboratory hours. Prerequisites: BI 101, CH 104. (Spring).

BI 288 No Norwich Equivalent 6 Cr.

BI 299 Topics in Biology 4 Cr.
This course number is used for trying new Biology courses the first time they are offered prior to approval by the University's Curriculum Committee.

BI 2XL Biology Lab Elective 4 Cr.
This course is used for transfer when no equivalent Norwich course exists.

BI 2XX Biology Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

BI 302 Embryology 4 Cr.
A study of the fundamental principles of development through the establishment of the major organs and systems, exemplified in the laboratory by study of representative embryonic forms. May require dissection of living and preserved animals. 3 lecture hours, 2 laboratory hours. (Spring, even years).

BI 303 Genetics 4 Cr.
The physical and chemical basis of inheritance, expression, and interaction of the hereditary units, linkage, and variation. The application of Mendelian principles to plants and animals. Consideration is also given to microbial and viral genetics, genetic engineering, and related topics. 3 lecture hours, 2 laboratory hours. Prerequisite: BI 102. (Fall).

BI 304 Physiology 4 Cr.
A study of the physiologic systems of humans and homeostatic feedback mechanisms that regulate the internal environment. Physical and chemical principles, cell physiology, with emphasis on homeostatic mechanisms and the study of functions of organ systems. 3 lecture hours, 2 laboratory hours. Prerequisites: BI 101, CH 104. (Fall, even years).

BI 305 Biomedical Techniques 4 Cr.
Students are familiarized with the theories and applications of the new technologies that pervade the fields of biotechnology and molecular biology. Laboratory exercises illustrate key concepts and provide hands-on experience in the use of instrumentation essential to molecular biologists. 2 lecture hours, 4 laboratory hours. Prerequisites: BI 102; or BI 216 and CH 104. (Occasionally).

BI 316 Plant Taxonomy 4 Cr.
A general survey of the taxonomy and evolution of vascular plants, emphasizing herbaceous plants. Recognition of plant families, identification of species, and principles of collecting and preserving are stressed. 3 lecture hours, 3 laboratory hours. Prerequisite: BI 102. (Fall, even years).

BI 326 Natural History of the Vertebrates 4 Cr.
A study of the classification, identification, and ecology of the vertebrates with special emphasis on the local fauna including collection and preservation of organisms. 3 lecture hours, 3 laboratory hours. Prerequisite: BI 102. (Fall, odd years).

BI 330 Immunology 4 Cr.
A course presenting the basic principles of immunology, including antigen-antibody characteristics, the role of the immune system in defense and disease, and the application of fundamental concepts in the development of new technologies and immunodiagnosis. 3 lecture hours, 3 laboratory hours. Prerequisites: BI 102 or BI 216, and 1 year of college chemistry. (Spring odd years).

BI 341 Plant Anatomy 4 Cr.
The anatomy of vascular plants analyzed from an evolutionary viewpoint are discussed including cell structure, tissues, their distribution in roots, stems, leaves and reproductive organs, and plant development. 3 lecture hours, 3 laboratory hours. Prerequisite: BI 102. (Spring, odd years).

BI 351 Dendrology and Silvics 4 Cr.
An introduction to major woody plant species in the Northeast, including taxonomic characteristics, life histories, habitat requirements, and economic importance. 3 lecture hours, 3 laboratory/fieldwork hours. Prerequisite: BI 102. (Fall, odd years).

BI 370 Introduction to Neuroscience 4 Cr.
An interdisciplinary course introducing the structure and function of the mammalian nervous system. Topics include, neuronal development, sensory and motor systems, chemical control of the brain and behavior, and the underlying mechanisms of neurodegenerative disease. May require dissection of living animals. 3 lecture hours, 2 laboratory hours. Prerequisites: BI 101; and BI 215 or PY 230. (Fall) 202110.

BI 388 No Norwich Equivalent 6 Cr.

BI 395 Evolution 4 Cr.
This course introduces Darwinian and Non-Darwinian mechanisms of evolutionary change, a history of life in the context of contemporary biology, and scientific and cultural controversies surrounding this topic. 4 lecture hours. Prerequisites: BI 102, BI 303. 202110.

BI 399 Pilot Course in Biology at the Upper-level 4 Cr.
A course is permitted to run as a pilot, without seeking faculty approval for one academic year. The section will include the title of the course. A student will not earn credit for a pilot course and the course when approved as its own course.

BI 3XL Biology Lab Transfer Elective 4 Cr.
This course is used for transfer when no equivalent Norwich course exists.

BI 3XX Biology Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

BI 401 Senior Seminar 3 Cr.
The capstone course integrating reading, writing, speaking and critical thinking skills. It includes instruction in scientific writing, use of contemporary scientific biological literature, and library research techniques. Students prepare research papers on current topics using primary sources and give oral presentations to the department faculty. 3 lecture hours. Prerequisite: Junior 2 standing or higher. (Fall).

BI 415 Neuroanatomy 4 Cr.
The anatomy of the brain and nervous system, with an emphasis on human neuroanatomy is discussed in this course including gross and microscopic anatomy, with in depth treatments of physical and functional organization, and major neural pathways. 3 lecture hours, 2 laboratory hours. Prereq: BI 370. Offered Fall odd years. 202110.

BI 420 Diseases of the Nervous System 4 Cr.
An in-depth study of the biological basis of neurological and psychiatric disorders. Topics include developmental disorders, impairments of higher function, and the underlying mechanisms of neurodegenerative disease. Drug development and other therapeutic treatment strategies are discussed. 4 lecture hours. Prereq: BI 370. Offered Spring even years. 202110.

BI 424 Woodland Ecology and Management 4 Cr.
A review of biotic and abiotic factors controlling the forest environment, methods for determining vegetation structure and succession, introduction to major forest associations in the Northeast, and consequences of various harvesting and management techniques. 3 lecture hours, 3 field hours. Prereqs: BI 351 or BI 316, or permission of instructor. Offered Spring even years. 202110.

BI 426 Ecological Parasitology 4 Cr.
A broad overview of major groups of eukaryotic parasites with an emphasis on internal parasites important to human and veterinary health. In addition to covering the basic morphological and phylogenetic details of each group, focus is on how these parasites interact with and affect each other and their hosts. 3 lecture hours, 3 lab hours. Pre-reqs: BI 205. Offered: Fall even years.

BI 440 Reading and Research 3,4 Cr.
Independent study. BI 440 may be taken no more than twice, for 7 maximum credits. An approved topic, a brief outline of the research to be conducted, and a signature from a biology mentor are submitted to the department chair prior to the seventh day of the term in which enrolled. Prereqs: J2, S1, S2 Biology majors, 3.0 cum. GPA in biology courses, or department approval. 202110.

BI 450 Internship in Biology 3-7 Cr.
Internship in Biology; open to Biology majors. Seven maximum credits are allowed.

BI 488 No Norwich Equivalent 6 Cr.

BI 4XX BI Advance Transfer Course 4 Cr.
This course is used for transfer when no equivalent Norwich course exists.

Civil Engineering (CE)

Courses

CE 188 No Norwich Equivalent 1-6 Cr.

CE 211 Surveying 3 Cr.
A course in the theory and practice of plane surveying. Horizontal and vertical control, design of circular and parabolic curves, tachometry, construction surveys and earthwork quantities are covered in lecture. Fieldwork presents the practical applications of lecture material with the use of transits, tapes, levels, electronic distance measuring devices and theodolites. Classroom 2 hours, laboratory 3 hours. Prerequisite: MA 107.

CE 214 Site Development and Engineering 4 Cr.
A course that teaches the tasks and considerations involved in environmentally sound land development. Road design and it's interaction with development sites will be presented. Other topics covered include contours, drainage utilities, cut and fill, and aesthetic considerations. Codes and legal requirements will also be covered. CADD (Computer Aided Drawing and Design) software specific to Civil Engineering work will be introduced and employed extensively on student projects. Classroom 3 hours, laboratory 3 hours. Prerequisite: CE 211.

CE 220 Introduction to Environmental Technology 4 Cr.
A study of the fundamentals of environmental control technology. The course covers the topics of air pollution, water pollution, solid and hazardous wastes, and radioactive wastes. Noise pollution and control are also covered. The generation and treatment of wastes along with their effects on the environment are included in the course. The laboratory includes the basic methods of measuring pollution. Three Credits: Classroom 3 hours. Four Credits Classroom 3 hours, laboratory 2 hours. Prerequisite: CH 103; not open to engineering majors.

CE 264 Specifications and Estimating 1 Cr.
A laboratory in plan reading, quantity analysis and cost estimating of Civil Engineering projects. Students will be exposed to standard formats for specifications and estimating. Students will write sample specifications and will gain experience in construction estimation. Laboratory 3 hours. Prerequisite: CE 211, or concurrent enrollment.

CE 288 No Norwich Equivalent 1-6 Cr.

CE 299 Special Topics 1-4 Cr.
Selected topics in Civil Engineering.

CE 321 Materials Laboratory 1 Cr.
A laboratory course in the application of basic mechanics of materials principles to cement, aggregate, concrete, steel and wood. Operation of various types of testing machines and gauges. Tests of tension, compression, flexure, torsion, impact, shear, hardness and fatigue. Laboratory observations, analysis, interpretation and reports. Classroom 1 hour, laboratory 2 hours. Prerequisite: EG 301, or concurrent enrollment; or CE 351, or concurrent enrollment.

CE 322 Fluid Mechanics Laboratory 1 Cr.
A laboratory course in which the principles of fluid mechanics are applied to civil engineering problems. The design and implementation of a laboratory research study, the analysis of data, the presentation of results, and the development of engineering conclusions are integral parts of this course. Lab topics include hydrostatics, pipeflow, open channel flow, flow measurement, and resistance to flow. Classroom 1 hour, laboratory 2 hours. Prerequisite: EG 303, or concurrent enrollment.

CE 328 Soil Mechanics 4 Cr.
An introduction to the engineering properties of soil: soil classification; soil structure and mineralogy; water flow through soils; compressibility and consolidation; shear strength. Laboratory testing of soils and soil exploration. Classroom 3 hours, laboratory 2 hours. Prerequisite: EG 301.

CE 332 Engineering Hydrology 3 Cr.
A study of the location, movement, and distribution of the waters of the earth for practical applications to society. This course includes the study of the engineering aspects of precipitation, evaporation, infiltration, steamflow and flood and drought prediction. The application of hydrological statistics and computer applications are stressed. Classroom 3 hours. Prerequisite: EG 303.

CE 336 Introduction to Transportation Engineering 3 Cr.
An introduction to different modes of transportation with emphasis on roadway and traffic engineering. Topics include transportation planning, highway geometric and pavement design, drainage, construction, traffic-control devices, traffic operations and management, and highway capacity analysis. Classroom 3 hours. Prerequisites: CE 211.

CE 348 Structural Analysis 1-3 Cr.
A course on the analysis of statically determinate and indeterminate beams, frames and trusses. Topics include loads to buildings, shear and moment diagrams, influence lines and classical methods of analysis. Computer applications are introduced using a general frame analysis program. The use of analysis in the overall design process is stressed using a semester-long project. 2 lecture hours and 2 lab hours. Prerequisite: EG 301.

CE 351 Statics and Mechanics of Materials 4 Cr.
A study of elementary, primarily two-dimensional engineering mechanics. Fundamental concepts and basic laws of statics, force systems, structures, and support reactions for loading patterns. Stress-strain relationships to forces: concepts and applications. Consideration of engineering materials and their suitability in various structures and mechanisms. Classroom 4 hours. Prerequisites: MA 107, PS 201; not open to Civil Engineering majors.

CE 388 No Norwich Equivalent 1-6 Cr.

CE 419 Foundation Engineering 3 Cr.
A course on the use of soil properties to determine bearing capacity and settlement of shallow and deep foundations. Design of earth and earth supporting structures. Classroom 3 hours. Prerequisite: CE 328.

CE 421 Environmental Engineering 4 Cr.
This course covers the basics of air, water, waste and noise pollution in the context of quality, control and treatment design using sustainable engineering practices. New and emerging contaminants as well as their impact on the environment will be covered along with a primer on risk assessment and other contemporary environmental engineering issues. Classroom 3 hours, Laboratory 3 hours. Prerequisite: EG 303, CH 104; or concurrent enrollment in each.

CE 422 Waste and Water Treatment 3 Cr.
A study of physical, chemical and biological processes for water and wastewater treatment. The course emphasizes the evaluation of unit processes and the design of water and wastewater treatment facilities. Classroom 3 hours. Prerequisite: CE 421.

CE 432 Solid and Hazardous Waste Engineering 3 Cr.
A course on the state-of-the-art techniques for disposal of solid and hazardous waste material. Aspects covered will be system design, public health protection, and environmental protection. Classroom 3 hours. Prerequisites: CH 104; junior status or higher; majors in engineering or science.

CE 441 Transportation Engineering 3 Cr.
The planning, design, and construction of transportation systems to meet the mobility requirements of society while considering economic, environmental, and societal constraints. System maintenance and administration are also included. Classroom 3 hours. Prerequisite: CE 211 or permission of the instructor.

CE 442 Design of Steel Structures 3 Cr.
An introduction to the design of metal structures using the LRFD-AISC code as the basis. Topics include design of tension, compression and bending members; bolted and welded connections. Classroom 3 hours. Prerequisite: CE 348.

CE 444 Reinforced Concrete Design 3 Cr.
An introduction to the design of reinforced concrete members under bending, shear and axial loading according to ACI 318R code requirements. Topics also include one-way slabs, footings and retaining walls and an introduction to pre-stressed concrete. Use of the computer as a design tool is introduced. Classroom 3 hours. Prerequisite: CE 348.

CE 446 Soils in Construction 4 Cr.
This is the first course in geotechnical engineering, one of the sub-disciplines of Civil Engineering. Its purpose is to impart knowledge of the engineering properties and behavior of soils that are used for construction of foundations and earth structures. Classroom 3 hours, laboratory 2 hours. Prerequisite: Junior standing or higher; not open to Civil Engineering majors.

CE 450 Air Pollution Control 3,4 Cr.
A course presenting sources of air pollution and the effect on the environment, the measurement of air pollutants, modeling of air pollutant dispersion, and design of control measures. Use of manual monitoring techniques and physical and chemical fundamentals to measure air quality. Course may be taken for three credits without the lab. Classroom 3 hours, laboratory 3 hours when taken for 4 credits. Prerequisite: EG 206.

CE 451 Air Pollution Control Equipment Design 3 Cr.
This course builds on and amplifies material studied in CE 450. Properties of air pollutant emissions and thermodynamics, fluid mechanics and heat transfer principles are utilized to design air pollution control equipment. Several major design projects are undertaken by student teams; interim and final design reports are required. In addition, a module on air quality modeling is included. Classroom 3 hours. Prerequisite: CE 450.

CE 452 Introduction to Air Pollution Control 3 Cr.
A course presenting sources of air pollution and the effect on the environment, the measurement of air pollutants, modeling of air pollutant dispersion, and design of control measures. Classroom 3 hours, laboratory 3 hours. Prerequisite: EG 206.

CE 457 Wood, Steel, and Concrete Structures 4 Cr.
This course builds directly on the material learned in CE 351 and is specifically directed to the study of the response of structural systems to various loadings. Gravity and lateral loads as well as load combinations on a structure are developed using appropriate building codes. The response of the structural system to imposed loading is studied by classical and computer analysis techniques. This course introduces the students to applications - the design of simple structures of wood, steel, concrete and other materials that meet the appropriate building code. Classroom 4 hours. Prerequisite: CE 351; not open to Civil Engineering majors.

CE 458 Structural Issues for Construction 3 Cr.
This course is intended to introduce the students to structural building applications, and to develop knowledge and comprehension of structural design of steel, wood, concrete, and masonry. Particular attention will be given to concrete members, concrete form design requirements, steel connections, failure modes of the member types and materials. Detailed construction issues with each material will be emphasized. Each of the principal member types, beam and column as well as connections, will be studied and members designed to meet the appropriate code. 1 lecture hour and 4 lab hours. Prerequisites: CE 455 or CE 457; not open to Civil Engineering majors.

CE 460 Construction Management 3 Cr.
A course on the organization, scheduling and management of the construction project utilizing CPM and PERT. Survey of management functions by which construction is authorized, purchased, supervised, accomplished, inspected and accepted, including labor management relations and site design. Classroom 3 hours. Prerequisite: MA 107 or 108 or 121 or 122, and CE 264.

CE 479 Senior Design Project I 3 Cr.
This course is the first in the two semester civil engineering capstone design project sequence. Each student will work with a mentor and together will define and analyze a project so that an efficient design can be completed. The project scope and design criteria will be developed, the tasks required to complete the project will be identified and scheduled, data collected and preliminary design proposals will be developed. The design process involves exploring alternate solutions and optimization of the design based upon project criteria and constraints such as economic, political and social factors. The course required nine hours per week of directed reading, data collection, research, calculation and experimentation. All of this will be presented orally and in written form in a project proposal. Prerequisite: CE 460 (Fall).

CE 480 Senior Design Project II 3 Cr.
This course is the second in the two semester civil engineering capstone design project sequence. This course builds on and integrates the engineering concepts developed in prior course work into the complete design of a major civil engineering project. The course will require a written and oral presentation of the complete design to include, where appropriate, plans and specifications. Prerequisites: CE 328, CE 348, CE 421 and CE 479 or departmental approval.

CE 488 No Norwich Equivalent 1-6 Cr.

CE 490 Advanced Topics 4 Cr.
A course that provides instruction in an area of the instructor's special competence and student interests. Advanced topics would be presented in such areas as air pollution control, water and wastewater treatment, bioremediation, and nuclear radiation. Prerequisite: senior standing. (Occasionally).

Chemistry (CH)

Courses

CH 100 Introduction to Forensic Science 4 Cr.
An introductory survey course designed for non-science/ engineering majors that focuses on scientific principles behind the recognition, collection, preservation, analysis, and interpretation of physical evidence found at a crime scene. Emphasis is on understanding the capabilities and limitations of forensic science as it is currently practiced. 3 Lecture hours, 3 laboratory hours. Goal 4. (Fall, Spring).

CH 101 Introduction to General Chemistry 4 Cr.
The first of a two-semester course series covering topics in General, Organic and Biochemistry (GOB). This fundamental course introduces the principles of chemical structure and reactivity. Topics include accuracy and precision in measurement, atomic and molecular structure, chemical bonding and reactions, and chemical equilibrium. The laboratory complements the lecture material with emphasis placed on collaborative problem solving. 3 Lecture hours, 3 laboratory hours. Prerequisite: Math placement score of 001 or higher. Only CH 101 or CH 103 may count as degree credit. Goal 4.(Spring).

CH 102 Introduction to Organic and Biochemistry 4 Cr.
The second part of a two-semester course series covering topics in General, Organic and Biochemistry (GOB). This course introduces the nomenclature, structure and reactivity of organic compounds and the structure and function of the major classes of biological compounds and their role in metabolic pathways. Laboratory exercises complement the lecture material. Credit may not be earned for both CH 102 and CH 104. CH 102 may not be taken for credit after successful completion of CH 205. 3 Lecture hours, 3 laboratory hours. Prerequisite: CH 101 or CH 103. Goal 4. (Fall).

CH 103 General Chemistry I 4 Cr.
Introduction to chemical characteristics and behavior, stressing atomic structure, stoichiometry, chemical equilibrium and kinetics, and descriptive chemistry of important elements. Laboratory includes qualitative and quantitative exercises, and syntheses. Credit will not be granted for more than one of the following sequences: CH 103 and CH 104; CH 101 and CH 102; or CH 103 and CH 102. 3 Lecture hours, 3 laboratory hours. Prerequisite: Math placement score of 2 or higher or a “C” or higher in MA 095. Recommended: one year of high school chemistry. Goal 4. (Fall).

CH 104 General Chemistry II 4 Cr.
Continuation of the study of chemical characteristics and behavior, stressing atomic structure, stoichiometry, chemical equilibrium and kinetics, and descriptive chemistry of important elements. Laboratory includes qualitative and quantitative exercises, and syntheses. Credit will not be granted for more than one of the following sequences: CH 103 and CH 104; CH 101 and CH 102; or CH 103 and CH 102. 3 Lecture hours, 3 laboratory hours. Prerequisite: CH 103. Goal 4. (Spring).

CH 188 No Norwich Equivalent 1-6 Cr.

CH 199 Pilot Course 4 Cr.
Pilot Course.

CH 1XL Chemistry Lab Transfer Elective 4 Cr.
This course is used for transfer when no equivalent Norwich course exists.

CH 1XX Chemistry Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

CH 204 Quantitative Analysis 4 Cr.
An introduction to the general principles and laboratory practices of quantitative chemical analysis. The sequence of steps in a typical quantitative analysis are emphasized, including defining the analytical requirements, choosing an analytical method, collecting a representative sample, processing the sample in the laboratory, detecting and eliminating interferences, calibrating and measuring concentrations, calculating results, and evaluating results by estimating their reliability. Gravimetric, volumetric, electrochemical and spectrochemical methods are studied in the classroom and in the laboratory. Other topics include chemical equilibria, errors in chemical analyses and the statistical evaluation and reporting of analytical data. 3 Lecture hours. 4 Laboratory hours. Prerequisites: CH 104 (Fall).

CH 205 Survey of Organic Chemistry 4 Cr.
An introduction to the chemistry of carbon-containing compounds and the instrumentation of organic chemistry. Laboratory work involves manipulation of organic laboratory equipment, preparation and identification of typical organic compounds, and the characteristics of the major functional groups. 3 Lecture hours, 3 Laboratory hours. Prerequisite: CH 104 (Spring).

CH 214 Communication in Chemistry 1 Cr.
Illustrates the organization of the chemical literature, the efficient search of the literature and a formal introduction to scientific writing. 1 Lecture hour. (Fall).

CH 225 Organic Chemistry I 4 Cr.
An introduction to the study of carbon compounds; preparation and identification of typical compounds. 3 Lecture hours, 3 laboratory hours. Prerequisite: CH 104. (Fall).

CH 226 Organic Chemistry II 4 Cr.
A continuation of the study of carbon compounds; preparation and identification of typical compounds. 3 lecture hours, 3 laboratory hours. Prerequisite: CH 225. (Spring).

CH 288 No Norwich Equivalent 1-6 Cr.

CH 299 Pilot Course 4 Cr.
Pilot Course.

CH 2XX Chemistry Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

CH 314 Instrumental Methods 3 Cr.
A course on the theory and application of modern atomic and molecular instrumental methods. The atomic methods include absorption, emission, and fluorescence spectrometry and plasma emission spectroscopy. The molecular methods include ultraviolet visible absorption spectrometry, Fourier high performance liquid chromatography, mass spectrometry, gas chromatography/mass spectrometry, and liquid chromatography/mass spectrometry. Other topics include optical systems, electrical components and circuits, signal measurement and processing, quality assurance/quality control methods, troubleshooting, method validation and reporting. 3 Lecture hours. Prerequisite: CH 204 (Spring, odd years).

CH 315 Analysis Laboratory 1 Cr.
An upper level laboratory experience in analytical chemistry. Students will use quality assurance/quality control methods in quantitative analysis to reduce error; measure and interpret accuracy, precision, and detection limit; detect and eliminate interferences and contamination; and troubleshoot methods and instrumentation. Each student will use ultraviolet visible absorption spectrometry, Fourier transform infrared spectrometry, gas chromatography/mass spectrometry, liquid chromatography/mass spectrometry, and nuclear magnetic resonance spectroscopy to identify a variety of unknown compounds. Every student will work on an independent research project. 3 Laboratory hours. Prerequisite: CH 204 (Spring, odd years).

CH 324 Biochemistry I 4 Cr.
A course on the chemical phenomena and energy effects in life processes. Topics include structure and function of biomolecules, metabolism (catabolism and anabolism), photosynthesis and recombinant DNA technologies. 3 Lecture hours, 3 laboratory hours. Prerequisites: BI 101, CH 226. (Fall).

CH 325 Biochemistry II 4 Cr.
A continuation of the study of the chemical phenomena and energy effects in life processes. Topics include structure and function of biomolecules, metabolism (catabolism and anabolism), photosynthesis and recombinant DNA technologies. 3 Lecture hours, 3 laboratory hours. Prerequisite: CH 324. (Spring, even years).

CH 327 Physical Chemistry I 3 Cr.
The physical properties, structure and transformation of matter are studied with emphasis on applications of thermodynamics, equilibrium, phase equilibria and reaction kinetics.3 Lecture hours. Prerequisites: CH 104; MA 122. Recommended: PS 201/202 or PS 211/212. (Fall, even years).

CH 328 Physical Chemistry II 3 Cr.
A continuation of the study of physical properties and structure of matter with emphasis on the electronic structure of atoms and molecules, molecular and electronic spectroscopy and molecular thermodynamics. 3 Lecture hours. Prerequisite: CH 327. (Spring, odd years).

CH 337 Physical Chemistry Laboratory I 1 Cr.
Laboratory investigations with formal laboratory reports into the physical properties and chemical behavior of substances. 3 Laboratory hours. Prerequisite: CH 327, or concurrent enrollment. (Fall, even years).

CH 338 Physical Chemistry Laboratory II 1 Cr.
A continuation of laboratory investigations with formal laboratory reports on the physical properties and chemical behavior of substances. 3 Laboratory hours. Prerequisite: CH 328, or concurrent enrollment. (Spring, odd years).

CH 388 No Norwich Equivalent 1-6 Cr.

CH 413 Chemistry Seminar 1 Cr.
Part of a capstone experience providing individual assignments, written reports, oral reports, and class discussions on chemical topics of current interest. Reading, writing, speaking and critical thinking skills are emphasized. 1 Lecture hour. Prerequisite: Junior status or higher; and Chemistry or Biochemistry major. (Fall).

CH 421 Chemical Synthesis and Examination I 3 Cr.
A capstone experience in which organic, inorganic and compounds of biological interest are synthesized and examined with respect to purity and properties. Students develop an integrated perspective on the general field of chemistry and develop proficiency in practical laboratory procedures and in reporting results. 8 Laboratory hours. Prerequisite: Junior status or higher; Chemistry or Biochemistry major. (Fall).

CH 422 Chemical Synthesis and Examination II 3 Cr.
The second part of a capstone experience in which organic, inorganic and compounds of biological interest are synthesized and examined with respect to purity and properties. Students develop an integrated perspective on the general field of chemistry and develop proficiency in practical laboratory procedures and in reporting results. 8 Laboratory hours. Prerequisite: Senior status; Chemistry or Biochemistry major. (Spring).

CH 425 Thesis 1-3 Cr.
This course allows the student to conduct research on a project approved by the faculty of the chemistry and biochemistry programs. The student can be expected to perform the necessary experiments, organize and interpret the data and to communicate the results of the project with a comprehensive report. Prerequisites: CH 226 and permission of the department. A maximum of 6 credits may be applied to the student record.

CH 438 Advanced Inorganic Chemistry 3 Cr.
A course on the chemistry of the elements: properties, characteristics, and behavior. Lecture 3 hours. Prerequisites: CH 327, CH 328. (Spring, even years).

CH 439 Advanced Organic Chemistry 3 Cr.
An advanced and thorough development of topics introduced in CH 226. Lecture 3 hours. Prerequisite: CH 226. (Occasionally).

CH 450 Topics in Chemistry 3 Cr.
A course in which a limited topic in advanced chemistry is covered in depth. Prerequisite: Permission of instructor. (Occasionally).

CH 488 No Norwich Equivalent 1-6 Cr.

Criminal Justice (CJ)

Courses

CJ 101 Introduction to Criminal Justice 3 Cr.
A general survey of the principles, system, and process of criminal justice. Introduction to conceptions and definitions of crime, criminal law, and due process. Examination of the organization and operation of the three basic components of the criminal justice system -- the police, the courts, and corrections -- individually and in relationship to one another. Cross-listed with CRMJ 201; not permitted to earn credit for both CJ 101 and CRMJ 201. (Fall, Spring).

CJ 102 Criminal Law 3 Cr.
This course presents the development of criminal law in the United States and discusses its principles, sources, distinctions, and limitations. The following topics are covered in detail: criminal liability; offenses against persons, property, public peace and public justice; preparatory activity crimes; and defenses available to those charged with criminal activity. (Fall, Spring).

CJ 188 No Norwich Equivalent 6 Cr.

CJ 1XX Criminal Justice Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

CJ 201 Criminology 3 Cr.
This course covers the various biological, psychological, and sociological types of theory that have been offered to explain the incidence of crime in society. Various types of crime, including violent, property, corporate, political and victimless crime, methods of studying crime, and characteristics of criminals are also examined. Prerequisite: CJ 101 with grade of C of higher. (Fall, Spring).

CJ 209 Methods of Social Science Research 4 Cr.
An examination of the methodological foundations of the social sciences; the logic and technique of empirical inquiry; the nature of social facts, the operationalization of concepts, and the construction of hypotheses; research designs including surveys, interviews, experiments, observation, and evaluation; the organization and analysis of data; graph and table construction and interpretation; the common problems of empirical social research; and research ethics. Emphasis given to criminal justice applications. The lab part of the course instructs students how to use and apply SPSS and other relevant software. Classroom and Laboratory 4 hours. Cross-listed with SO 209; not permitted to earn credit for both SO 209 and CJ 209. (Fall, Spring).

CJ 288 No Norwich Equivalent 6 Cr.

CJ 2XX Criminal Justice Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

CJ 300 Topics in Criminal Justice 3 Cr.
Topics in Criminal Justice. This course may be repeated up to four times when taken as different titles. Prerequisite: CJ 101, grade of C of higher. (Occasionally).

CJ 301 Criminal Procedure 3 Cr.
This course addresses the legal procedure connected with arrest, search and seizure, identification and questioning, bail setting, indictments, and plea bargaining. Cross-listed with CRMJ 306; not permitted to earn credit for both CJ 301 and CRMJ 306. Prerequisite: CJ 101 with a final grade of C or higher. (Fall, Spring).

CJ 304 Juvenile Delinquency 3 Cr.
An examination of the social and psychological dimensions of juvenile delinquency, its nature, extent, distribution, and patterns. Evaluation of theories and explanations of delinquent causation, and the investigation of delinquent subcultures. Consideration of labeling and conflict factors in the processing, prevention, and treatment of delinquents. Prerequisite CJ 101, grade of C or higher. (Occasionally).

CJ 305 Juvenile Justice 3 Cr.
A general survey of the philosophy, system and process of juvenile justice. Examination of the social and legal control of juvenile delinquency by the police, courts and corrections, as well as by private agencies. Emphasis on the distinctions in philosophy, law, jurisdiction, organization and terminology between the juvenile justice system and the adult criminal justice system. Prerequisite: CJ 101, grade of C or higher. (Every other year).

CJ 306 Victimology 3 Cr.
An examination of the role of the victim in crime and the treatment of the victim by the criminal justice system. Instruction in the use of victimization data in determining crime rates and in developing prevention programs. Review of victim assistance, restitution and compensation programs. Prerequisite: CJ 101, grade of C or higher. (Every other year).

CJ 307 Social Control and Crime Prevention 3 Cr.
The course will focus on crime prevention as a method of social control and will examine processes of social control as social and institutional sources of crime prevention. Examination of personal defense, environmental, situational, community, and social models of crime prevention. Prerequisite: CJ 101, grade of C or higher. (Every other year).

CJ 308 The Police 3 Cr.
A general survey of American policing and police organizations. Examination of the history of the police and the police idea, as well as structural, cultural, and social psychological analyses of police organizations. Coverage of the topics of police socialization, behavior, and discretion; routine and specialized operations; community policing; and police misconduct, accountability and change in policing. Prerequisite: CJ 101, grade of C or higher. (Fall, Spring).

CJ 310 The Courts 3 Cr.
An analysis of America's courts, and the courtroom work group with particular attention given to the dual role of the courts in adjudicating cases and interpreting the U.S. and state constitutions. Prerequisite: CJ 101, grade of C or higher. (Fall, Spring).

CJ 312 Corrections 3 Cr.
An analysis of the development and present structure of the correctional process in America, including detailed examinations of the operational problems of correctional institutions, probation and parole practices and other community-based correctional alternatives. Prerequisite: CJ 101, grade of C or higher. (Fall, Spring).

CJ 314 Restorative Justice 3 Cr.
This course presents a new paradigm of community justice as an alternative to the retributive model. The course examines and contrasts restorative approaches and traditional punitive responses to crime. Topics include mediation, victim-offender reconciliation, reparation for harm done to victims and the community and offender re-integration into the community. Prerequisite: CJ 101, grade of C or higher. (Occasionally).

CJ 316 Criminal Violence 3 Cr.
This course is designed to provide students with an understanding of the causes, patterns, and interventions related to violent crimes, including: homicide, robbery, assaults, rape, hate crimes, and terrorism, and in different contexts and settings, such as gangs, the family, the workplace, and schools. Attention is also given to measuring and comparing different forms of violence, theoretical perspectives, challenges in studying violence, current events, and future implications for punishment and prevention. Prerequisite: CJ 201, grade of C or higher.

CJ 318 Transnational Crime 3 Cr.
An examination of key legal and procedural issues impacting the investigation of transnational crime—issues such as extra-territorial jurisdiction of US law, extradition and extra-judicial rendering, and the collection of evidence abroad. Includes relevant case studies on trafficking, organized crime and money laundering, corruption, and national security crimes. Prerequisite: CJ 101, grade of a C or higher. (Every other year).

CJ 320 Drugs and Society 3 Cr.
This course focuses on the interrelationships between drugs and the social order. Issues considered include: the nature and effects of legal and illegal drugs; the determinants of drug effects, especially the social determinants; the history of drug prohibition; drug addiction and drug treatment; and drug policy. Cross-listed with SO 320; not permitted to earn credit for both CJ 320 and SO 320. Prerequisite: Sophomore status or higher. (Every other year).

CJ 330 Terrorism 3 Cr.
In this course, students examine the critical issues of domestic and international terrorism. The phenomenon of terrorism is analyzed from varying theoretical and empirical perspectives. Topics include terror organizations/networks, ideology, motives, tactics, and propaganda. Attention is also given to terrorism research trends, current events, and future implications. Prerequisite: CJ 101, grade of C or higher. (Annually).

CJ 341 Cyber Law and Cyber Crime 3 Cr.
This course includes extensive discussion of the legal constraints, both civil and criminal, that underlie acceptable behavior using computers and networks today. Cross-listed with IA 241; not permitted to earn credit for both CJ 341 and IA 241. Prerequisite: sophomore status or higher. (Fall).

CJ 350 The Death Penalty 3 Cr.
This course is designed to provide students with an understanding of the death penalty in America, including detailed examination of capital punishment from 1608-modern day, the legal and ethical history of the death penalty, and the administration of the death penalty in America. Topics include issues based on offender and victim race, age, class or sex. Attention is also given to death penalty research trends, current events and future implications. Prerequisite: CJ 101, grade of C or higher. (Occasionally).

CJ 362 Media, Justice and Society 3 Cr.
An overview of major theories regarding mass society, mediation, and social constructionism, exploring media impact on public perceptions of social problems, policies, justice, crime, and deviance. 3 Lecture hours. Prerequisites: SO 201 or SO 202 or CJ 101 (Fall, odd years).

CJ 364 Theories of Justice 3 Cr.
An introduction to major classical and contemporary theories of justice, with applications to social interactions and institutions from both a historical and contemporary perspective. 3 Lecture hours. Prerequisites: SO 201 or CJ 101; Sophomore status or higher. (Spring, even years).

CJ 388 No Norwich Equivalent 6 Cr.

CJ 399 Pilot course 3 Cr.

CJ 3XX Criminal Justice Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

CJ 400 Independent Study 1-3 Cr.
An opportunity for qualified sophomore, junior, and senior students to engage in an intensive research program in fields of interest not satisfactorily covered by regular course offerings. Periodic conferences will be required. Prerequisites: CJ 101, grade of C or higher; Junior status or higher; Criminal Justice course average 3.0, cumulative GPA of 2.5; Permission of instructor. (Occasionally).

CJ 402 Law and Society 3 Cr.
An analysis of various theoretical perspectives on the nature, courses, organization and operation of law and legal systems. Emphasis will be placed on law creation, conflict resolution, the legal profession, and the role of law in social change. Cross listed with SO 402; not permitted to earn credit for both CJ 402 and SO 402. Prerequisite: Sophomore status or higher. (Every other year).

CJ 403 Criminal Justice Administration 3 Cr.
An introduction to the principles of public administration as they are applied in the operation of criminal justice agencies. This course will emphasize how such topics as organization, decision making, leadership style, personnel policy, planning, and budgeting are specifically adapted by criminal justice administrators to meet the needs of their agencies. Simulations will be used extensively as a tool for mastering administrative principles. Cross listed with CRMJ 305; not permitted to earn credit for both CJ 403 and CRMJ 305. Prerequisite: CJ 101, final grade of C or higher. (Every other year).

CJ 405 Internship 1-9 Cr.
This elective course permits an upper-level student to participate directly in the criminal justice process by serving as an aide to agencies involved in the process. This offering is subject to the availability of such internships. Prerequisite: Junior status or higher; Criminal justice major or minor. Prerequisite: Permission of SJSS internship coordinator. Offered: Fall, Spring, Summer.

CJ 410 Senior Seminar 3 Cr.
A course dedicated to intensive research and analysis of major issues in criminal justice. Emphasis will be placed on critical thinking and evaluation of topics previously discussed during the student's academic career in the criminal justice program. Attention will also be given to professional development topics, ethics and criminal justice policy. CJ 410 meets capstone requirement. Cross listed with CRMJ 400; not permitted to earn credit for both CJ 410 and CRMJ 400. Prerequisite: Juniors status or higher; Criminal justice major. (Fall, Spring).

CJ 421 Comparative Criminal Justice Systems 3 Cr.
This course examines how countries other than the United States deal with the problem of crime and its control. It begins from the classic approach of a critical analysis of the history and development of the world's great legal traditions, and the role and structure of the criminal justice systems inside those traditions. Prerequisite: CJ 101, grade of C or higher. (Every other year).

CJ 422 Civil Liability in the Criminal Justice System 3 Cr.
This course examines the civil law that governs criminal justice agencies. As representatives of the government, Criminal Justice agencies must adhere to the Constitution and other State and Federal laws. When they fail to do so, the aggrieved party has the right to sue. This course explores the major state and federal liability theories that govern the management and daily operations of the police and correctional facilities. In addition, this course draws on your previous police, corrections and law courses to explore management issues related to civil liability. Prerequisites: Grade of C or better in: CJ 101, CJ 102, CJ 301; Junior status or higher. (Every other year).

CJ 423 Evidence 3 Cr.
This course is an in-depth examination of the rules governing the admissibility or exclusion of evidence at trial. Subjects include competency of witness, direct and cross-examination of witnesses, the rule against hearsay and its exceptions, expert and lay opinion testimony, privileged communications, relevancy, procedural considerations, judicial notice, burden of proof, presumptions, form and type of objections, authentication, the best evidence rule and the use of demonstrative and scientific evidence. Prerequisites: Grade of C or better in: CJ 101, CJ 102; Junior status or higher. (Every other year).

CJ 424 Murder: Our Killing Culture 3 Cr.
This course provides a comprehensive examination of the nature and extent of both the common and unusual forms of murder in the United States. The class examines characteristics, trends, and the theoretical explanations of homicide as well as the prediction and prevention of various kinds of murder. The impact of murder on homicide survivors is also examined as well as the use of murder as entertainment in our culture. The course is designed to give students greater insight into serial, spree and mass murder, intrafamilial homicide, murder in the workplace, profiling and stalking. Although emphasis is placed on the sociological determinants of murder, psychological and biological factors are also examined. Prerequisites: CJ 101, grade of C or higher; Junior status or higher. (Every other year).

CJ 425 Domestic Violence 3 Cr.
This course provides a comprehensive examination of the nature and extent of domestic violence in the United States. Theoretical perspectives used to explain intimate violence are examined as well as the social factors that are related to patterns of intimate and family abuse. The course discusses domestic violence from a historical and global perspective and is designed to provide students with a greater understanding of the impact of domestic abuse on victims/survivors and society as a whole. Topics including child and elder abuse; the criminal justice system's response to domestic abuse; intervention, well as related crimes such as sexual assault and intrafamilial homicides. Prerequisites: CJ 101, grade of C or higher; Junior status or higher. (Every other year).

CJ 430 Homeland Security 3 Cr.
In this course, students examine the critical issues associated with Homeland Security. Homeland Security is analyzed both from a scholarly and practitioner perspective. Topics include infectious diseases, border security, secure air/sea/ground travel, natural catastrophes, terrorism, and critical infrastructure. Federal, state, and local governmental responsibilities and policies are also examined. Attention is also given to Homeland Security research, trends, current events, and future implications. Prerequisites: Grade of C or better in: CJ 101, CJ 308. (Annually).

CJ 442 Introduction to Computer Forensics 4 Cr.
This course provides the student with an ability to perform basic forensic techniques and use appropriate media analysis software. Knowledge of the security, structure and protocols of network operating systems and devices will be covered as students learn to gather evidence in a networked environment and to image and restore evidence properly without destroying its value. The student will learn and practice gaining evidence from a computer system while maintaining its integrity and a solid chain of custody. Within the laboratory, the student will gain hands-on experience in the use of current investigative tools. Classroom 3 hours, laboratory 2 hours. Cross listed with DF 242; not permitted to earn credit for both CJ 442 and DF 242. Prerequisites: CS 140, grade of C or higher. (Spring).

CJ 444 Crime Analysis and Mapping 3 Cr.
This course provides an introduction to crime analysis and crime mapping and examines techniques used to study crime and disorder patterns faced by law enforcement agencies today. The course will discuss the theory, data collection methods, analysis techniques, technology, statistics, and dissemination products used by crime analysts as well as the history of and career opportunities in crime analysis. Students will learn how to use at least two crime analysis and mapping software applications during the course of the semester. A capstone project for the course involves conducting a crime analysis and mapping project for a Vermont criminal justice agency. Prerequisite: Grade of C or higher in: CJ 101, CJ 209. (Annually).

CJ 488 No Norwich Equivalent 6 Cr.

CJ 4XX Criminal Justice Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

Communications (CM)

Courses

CM 109 Introduction to Mass Media 3 Cr.
The mass media are so pervasive in contemporary society that students in many disciplines will find this course valuable. It provides a comprehensive overview of the development of such media as newspapers, magazines, books, radio, television, film, recordings and the Internet. In addition, it introduces students to issues of regulatory control, audience analysis, media ethics and international mass communications.

CM 188 No Norwich Equivalent 6 Cr.

CM 199 Pilot Course in Communications at the lower level 3 Cr.
A course is permitted to run as a pilot without seeking faculty approval for one academic year. The section will include the title of the course. A student will not earn credit for a pilot course and the course when approved as its own course.

CM 207 Journalism I: News Gathering 3 Cr.
This course covers the fundamentals of news gathering, reporting and writing on assignment. Students learn to evaluate how the media relate events. The course also treats such issues as the right to privacy, the risks of libel, and the ethical contexts of gathering information. Students write editor-assigned stories for publication the Norwich Guidon, Norwich University's official hardcopy and online student newspaper.

CM 208 Journalism II: Advanced News Gathering and Design 3 Cr.
This course continues CM 207 and concentrates on in-depth and investigative reporting, interviewing and feature writing, as well as basic newspaper layout and design. Students explore the patterns of thinking and feeling that enable the reporter to make sound observations and judgments. Prerequisite: CM 207 or permission of instructor. Students write editor-assigned stories for publication the Norwich Guidon, Norwich University's official hardcopy and online student newspaper.

CM 209 Broadcast Writing 3 Cr.
This course acquaints the student with the theory and practice of writing for broadcast media. Students are introduced to writing styles used in radio, television, and film. They also learn about news gathering, documentary techniques, and dramatic writing.

CM 211 Broadcasting Techniques 3 Cr.
This survey of broadcasting in America stresses the basic principles and professional techniques of radio and television. In addition to learning historical and contemporary applications of broadcast technology, students use campus radio broadcast facilities and the video production studio as working laboratories. Students develop perspective on changing industry standards.

CM 261 Interpersonal Communications 3 Cr.
This course provides an overview of the theories, practices, and processes of human communication, studying such subjects as language acquisition, signs and symbols, body language, proxemics, paralanguage, and feedback. The effects of communication on individuals, society, and intercultural issues are explored. Students identify communication problems and propose creative solutions to them.

CM 271 Television Production 4 Cr.
An introduction to electronic field production (EFP), electronic news gathering (ENG), and multi-camera studio production with a special-effects switcher. 3 lecture hours. 3 laboratory hours. This course is a required course for communications majors.

CM 288 No Norwich Equivalent 6 Cr.

CM 299 Pilot Course in Communications 3 Cr.
A course is permitted to run as a pilot without seeking faculty approval for one academic year. The section will include the title of the course. A student will not earn credit for a pilot course and the course when approved as its own course.

CM 2XX Communications Elective 1-3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

CM 303 Advertising 3 Cr.
A survey of advertising practices and advertising campaigns. Students analyze the visual and verbal properties of successful advertising, discovering the key elements of creative strategy and design.

CM 304 Principles and Practices of Corporate Communications 3 Cr.
An analysis of the theory and practice of public relations, its functions in organizations, and its role in society. Students apply course material to public relations program planning and management by working individually and in groups on case-study projects.

CM 335 Television Criticism 3 Cr.
This course develops critical perspectives on television programming and introduces students to the complexities of dramatic and non-dramatic programming, including serials, series, sitcoms, docudramas, documentaries, and news stories.

CM 351 Radio Production 3 Cr.
This course, a continuation of CM 211, is designed for students interested in developing their broadcast production skills as well as their understanding of the entire range of issues associated with radio work. In addition to discussing the most recent cable, satellite, and computer broadcast applications, the course emphasizes work on voice and diction, interviewing, radio news gathering and editing, cultural and public affairs programming, and commercial production. Prerequisite: CM 211.

CM 388 No Norwich Equivalent 6 Cr.

CM 390 Topics in Communications 3 Cr.
A course designed to introduce students to a special area or current topic in communications.

CM 391 Advanced Television Production 3 Cr.
This course draws on skills learned in CM 271: Television Production. Students gain confidence in their visual storytelling abilities, explore advanced techniques, and learn how to become working members of a professional production team. Advanced areas of instruction include an introduction to digital video recording and the development of skills necessary to edit with NLE tools (logging, digitizing, and rendering effects).

CM 392 Documentary Television Production 3 Cr.
In this course, students learn the basic fundamentals of traditional long-form documentary production. Early units emphasize visual storytelling and research skills, including archival research. Later units cover on-camera interviewing and logging and organizing footage. Students learn advanced editing skills for major projects. Prerequisite: CM 271.

CM 399 Pilot Course in Communications in the upper level 3 Cr.
A course is permitted to run as a pilot without seeking faculty approval for one academic year. The section will include the title of the course. A student will not earn credit for a pilot course and the course when approved as its own course.

CM 407 Senior Communications Seminar 3 Cr.
A required course for Communications majors, designed to provide students up-to-date information about the fields of radio, television, journalism, advertising, public relations, public information, wire services and the Internet. Special applications of these fields in business, the military, politics, law, and other professions will be considered. As part of this capstone course, seniors will be required to present and analyze before an audience of department faculty and/or other faculty, a portfolio of prior work. Prerequisite: J2 class level or permission of instructor.

CM 408 Communications Internship 3 Cr.
A course designed to combine practical work experience with college-level study in such communications areas as radio, television, advertising, film, journalism, and public relations. Prerequisite: permission of instructor.

CM 436 Communications Law and Ethics 3 Cr.
A survey of laws pertaining to journalism, broadcasting, and advertising, emphasizing ethical problems facing journalists and media specialists. Students study the history of press freedom and control and explore First Amendment issues such as the right to privacy; obscenity; and libel. Special emphasis will be placed on media ethics. Prerequisite: CM 109 or permission of instructor.

CM 488 No Norwich Equivalent 6 Cr.

Chinese (CN)

Courses

CN 121 Beginning Chinese I 4 Cr.
Students progress along the first steps towards acquiring basic languages skills: speaking, listening, reading, and writing, with a focus on their use for several modes of communication, such as the interpersonal, the interpretive, and the informative, within the context of the cultures of the Chinese-speaking world. For students with little or no previous exposure to Chinese. 4 lecture hours.

CN 122 Beginning Chinese II 4 Cr.
Students continue progress toward novice-high skill levels in speaking, listening, reading, and writing - and their use in several modes of communication: the interpersonal, the interpretive, and the informative - all within the context of the cultures of the Chinese-speaking world. 4 lecture hours. Prerequisite: CN 121 or NU Placement test.

CN 188 No Norwich Equivalent 6 Cr.

CN 205 Intermediate Chinese I 3 Cr.
A course providing aural-oral practice in Chinese, in which students enter into full discussion of topics that include abstract themes and cultural perspectives; includes the expanded use of syntactical structures, the reading of sophisticated material, composition, and the viewing of selected Chinese films and documentary materials from Chinese-language television. Taught in Chinese. Classroom 3 hours, laboratory 1 hour. Prerequisite: CN 122 or NU Placement test.

CN 206 Intermediate Chinese II 3 Cr.
A course providing aural-oral practice in Chinese, in which students enter into full discussion of topics that include abstract themes and cultural perspectives; includes the expanded use of syntactical structures, the reading of sophisticated material, composition, and the viewing of selected Chinese films and documentary materials from Chinese television. Taught in Chinese. 3 lecture hours, laboratory 1 hour. Prerequisite: CN 205 or the equivalent, NU language placement exam.

CN 288 No Norwich Equivalent 6 Cr.

CN 2XX Intermediate Chinese Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

CN 301 Advanced Chinese I 3 Cr.
Oral and written practice of the language through class discussions of selected Chinese texts. Selective review of grammar, especially of the more difficult and subtle aspects, designed to facilitate an idiomatic and fluent use of the language. 3 lecture hours. Prerequisite: CN 206 or NU placement exam.

CN 302 Advanced Chinese II 3 Cr.
Oral and written practice of the language through class discussions of selected Chinese texts. Selective review of grammar, especially of the more difficult and subtle aspects, designed to facilitate an idiomatic and fluent use of the language. 3 lecture hours. Prerequisite: CN 301 or NU placement exam.

CN 311 Media Chinese 3 Cr.
This course builds students' Chinese media literacy by systematically exposing them to Chinese broadcast news, newspapers, online news and videos, and TV shows. This course aims to develop all five language skills areas: listening, speaking, reading, writing, and control of the necessary background information (cultural competency) with particular emphasis on the challenges posed by the rapid pace of radio and TV news broadcasts. Topics include, but are not limited to, daily news broadcasts, economic, cultural and sports news. Each topic integrates authentic audiovisual and print materials from various media resources. Taught in Chinese. 3 lecture hours. Prerequisites: CN 301 (may be taken concurrently) or NU placement test. (Fall, even years).

CN 312 Business Chinese 3 Cr.
This course provides an overview of China's changing macro-economic environment and current business practices relating to finance and marketing. Business knowledge is presented as a means to facilitate language learning. Emphasis will be given to a higher level of language proficiency and acquisition of a wide range of vocabulary, common phrases, and other linguistic conventions designed to prepare students for the world of business. Topics include, but are not limited to, open door policy, China's banking reforms, the stock market, and marketing. Taught in Chinese. 3 lecture hours. Prerequisites: CN 301 (may be taken concurrently).

CN 321 Chinese Literature, Culture and Society I 1911-1949 3 Cr.
Introduction to major currents in Chinese social, literary, and cultural history from 1911 to 1949. Taught in Chinese. 3 lecture hours. Prerequisite: CN 301 (may be taken concurrently), NU placement exam.

CN 322 Chinese Literature, Culture and Society II 1949-Present 3 Cr.
Introduction to major currents in Chinese social, literary, and cultural history from 1949 to present. Taught in Chinese. 3 lecture hours. Prerequisite: CN 301 (may be taken concurrently) or NU placement exam.

CN 331 Advanced Chinese Composition and Conversation (I) 3 Cr.
A study of original Chinese journalistic texts to elevate students' Chinese language proficiency in writing and composition, oral reports and discussion, reading and comprehension, and in Chinese-English/English-Chinese translation. 3 lecture hours. Prerequisite: CN 302 (may be taken concurrently) or NU language placement test.

CN 332 Advanced Chinese Composition and Conversation (II) 3 Cr.
A study of original Chinese literary texts to elevate students' Chinese language proficiency in writing and composition, oral reports and discussion, reading and comprehension, and in Chinese-English/English-Chinese translation. 3 lecture hours. Prerequisite: CN 331 (may be taken concurrently) or NU language placement test.

CN 365 Chinese Literature, Culture and Society III: 221 BCE-1911 3 Cr.
A survey of representative Chinese classical works – novels, short stories. Prose, poetry, and traditional operatic dramas – during Qin Dynasty (221-226 BCE), Han Dynasty (960-1279), Yuan Dynasty (1271-1368), Ming Dynasty (1368-1644) and Qing Dynasty (1644-1911). Lectures, readings, discussions and written reports in Chinese. 3 lecture hours. Prerequisite: CN 301 (may be taken concurrently) or NU language placement test.

CN 366 Chinese Literature, Culture and Society IV: Beginning-221 BCE 3 Cr.
A survey of Chinese literary, historical and philosophical writings, legends. Folklore, myth, songs, and poems from Zhou Dynasty (1045 BCE-256 BCE), Shang Dynasty (1600 BCE- 1046 BCE), Xia Dynasty (2100 BCE-1600 BCE) and before. Lectures, readings, discussions and written reports in Chinese. 3 lecture hours. Prerequisite: CN 301 (may be taken concurrently) or NU language placement test.

CN 388 No Norwich Equivalent 6 Cr.

CN 399 Topics 3 Cr.

CN 399EN Topics Course 3 Cr.
Specialized topics that may include Chinese culture, literature, business practices, or language, taught in English.

CN 3XX Advanced Chinese Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

CN 415 Senior Seminar 3 Cr.
This course is an integrative capstone experience for all Chinese majors in the last semester of their senior year. This course encourages independent thinking, intensive student participation, and in-depth research on topics of the student's choice related to the seminar's topic. This course helps students improve their ability to read, write and talk about politics, business and popular culture in China. Topics include, but not limited to, popular culture, social change, cultural traditions, history and politics. Each topic integrates authentic audiovisual and print materials from various media resources. Taught in Chinese. 3 lecture hours. Prerequisite: Chinese major, senior status. (Spring).

CN 488 No Norwich Equivalent 6 Cr.

Computer Science (CS)

Courses

CS 100 Foundations of Computer Science and Information Assurance 3 Cr.
This survey of computing and information assurance fundamentals is required for computer science and information assurance majors. The course focuses on learning to use key concepts and terminology in information technology, computer science, networking, and information security. Discussions regarding computing ethics, safety, and professionalism are included throughout. 3 lecture hours. Prerequisites: Open to Computer Science or Computer Security & Information Assurance majors; others by permission. (Fall, Spring).

CS 111 Personal & Professional Cyber Safety 1 Cr.
An introductory, self-paced, instructor-facilitated, online individual study course recommended for freshmen, or any student wanting to use computers, email, and social media safely. Topics include: information attributes to be protected by information security; reducing identity theft risk; preventing disasters by keeping adequate backups; preventing malware attacks; enabling firewalls; using strong authentication; resisting phishing and advance-fee frauds; rejecting telephone frauds; analyzing and resisting false rumors; using email effectively and professionally; avoiding embarrassment by controlling information-sharing; avoiding violations of anti-hacking and anti-piracy laws; and, avoiding accidental plagiarism. 1 lecture hour. (Fall, Spring).

CS 120 Business Applications & Problem Solving Techniques 3 Cr.
An introductory course in management information processing. The course explores the most important aspects of information systems with specific emphasis on business applications, practical usage, and current information. The student will obtain skills in word processing, spreadsheet analysis, and presentation tools using professional software packages. Structured problem-solving techniques will be emphasized throughout the course. Practical implementation projects and case studies will be used to reinforce topics such as computer, academic, and professional ethics for an information-based society. Prerequisite: Closed to Computer Science or Computer Security & Information Assurance majors. (Fall, Spring).

CS 140 Programming and Computing 4 Cr.
An introduction to fundamental computing concepts and programming, designed for students with little programming background. The course uses a high-level language and emphasizes object-oriented design and implementation techniques. Good software engineering practice and language-specific concepts are introduced by means of programming projects that illustrate the importance of software quality attributes. This course serves as the basis for more advanced programming classes. Classroom 3 hours, laboratory 2 hours. Prerequisite: Grade of C or higher in CS 100. (Fall, Spring).

CS 142 Introduction to Python Programming 3 Cr.

CS 188 No Norwich Equivalent 6 Cr.

CS 1XX Computer Science Elective 1-6 Cr.
This course is used for transfer when no equivalent Norwich course exists.

CS 212 Assembly Language & Reverse Engineering 3 Cr.
An introduction to assembly language and reverse engineering, including relationship among machine language, assemblers, disassemblers, compilers, and interpreters. This courses provides requisite skills for computer forensics, malware analysis, and cryptology. 3 lecture hours. Prerequisites: Grade of C or higher in CS 140. (Spring).

CS 221 GUI Programming 3 Cr.
A study of the design and implementation of the graphical user interface. The course will present fundamentals of usability and human factors in GUI design. One or more of the following will be studied and implemented in a student project: Visual Basic programming, Web programming, GUI code generators. Prerequisite: Grade of C or higher in CS 140. (Occasionally).

CS 228 Introduction to Data Structures 3 Cr.
An introduction to the basic concepts of algorithm analysis, data representation, and the techniques used to operate on the data. Topics include searching, sorting, linked lists, stacks, queues, trees, hash tables, graphs. 3 lecture hours. Prerequisite: C or higher in CS 140. (Fall).

CS 240 Database Management 3 Cr.
A study of the concepts and structures necessary to design and implement a database management system. Various data models will be examined and related to specific examples of database management systems including Structured Query Language (SQL). Techniques of system design, system implementation, data security, performance, and usability will be examined. 3 lecture hours. Prerequisite: Grade of C or higher in CS 140. (Spring).

CS 250 Virtual Systems Administration 3 Cr.
This course includes a combination of classroom lecture on network and virtualization theory as well as a variety of hands on exercises to provide students with an understanding of how to configure and manage a VMware ESX environment. Students will also learn how to carry out administration tasks specific to the day-to-day operations of the NUCAC-DF. Some of these tasks will include how to build and maintain classroom environments, understanding requirements given by professors and instructors for classrooms, and overall maintenance of the systems in the Center for Advanced Computing and Digital Forensics. 3 lecture hours. Prerequisite: instructor permission. (Occasionally).

CS 260 Data Communications and Networks 3 Cr.
An introductory study in fundamental concepts of computer networks and data communication including a survey of major protocols, standards, and architectures. Students use concepts and terminology of data communications effectively in describing how software applications and network services communicate with one another. Students read and analyze network traces to monitor communications, diagnose issues, and evaluate protocols. 3 lecture hours. Prerequisite: C or higher in CS 140. (Spring).

CS 270 Operating Systems & Parallelism 3 Cr.
An introduction to the theory and structure of modern operating systems, including hardware abstraction, process management, memory management, system performance, and security. Specific attention to multi-threaded processing, semaphores, locking and interprocess communication. 3 lecture hours. Prerequisites: C or higher in CS 140. (Spring).

CS 280 Introduction to Data Science 3 Cr.

CS 288 No Norwich Equivalent 6 Cr.

CS 290 Contemporary Data Visualization 3 Cr.

CS 299 Pilot Course 3 Cr.

CS 2XX Computer Science Elective 6 Cr.
This course is used for transfer when no equivalent for a Norwich course exists.

CS 300 Management Information Systems 3 Cr.
This course provides an overview of information systems, their role in organizations, and the relationship of information systems to the objectives and structure of an organization. Management of software projects, decision making with regard to systems development, and organizational roles with regard to information systems is also discussed. Prerequisite: not open to Computer Science or Computer Security & Information Assurance majors. (Fall, Spring).

CS 301 Software Engineering 3 Cr.
An in-depth introduction to the software development life cycle, the techniques of information analysis, testing, and the logical specification of software. Particular attention to project management, documentation, and interpersonal communication. Utilizing industry-standard methods, the student progresses through the phases of specification, design, implementation, and testing of information systems. Object-oriented design techniques are used to design new logical and new physical systems for business-related problems. 3 lecture hours. Prerequisite: Grade of C or higher in CS 140.

CS 305 Advanced Data Science 3 Cr.

CS 315 Intro to Data & Web Mining 3 Cr.

CS 323 Surveillance and Privacy in Germany 3 Cr.
An introduction to and comparison between legal, social, historical, political, and technical issues surrounding surveillance and privacy in Germany and the United States. In addition to surveillance and privacy, students research, analyze, and discuss issues of transparency, free speech, democratic dissent, social control, corporate and governmental power, and political parties. 3 lecture hours. Prerequisite: Grade of C or higher in CS 100. (Summer).

CS 330 Ethics in Computing and Technology 3 Cr.
The course examines ethical dilemmas resulting from current technological trends, as well as the ethical standards and creeds of a variety of organizations (e.g., Association for Computing Machinery). Students learn to evaluate case studies from an ethical perspective. Students are expected to conduct literature surveys, produce bibliographies, write literature reviews, and present oral summaries of research as well as offer critical evaluation of writings related to ethics and technology. (Occasionally).

CS 388 No Norwich Equivalent 6 Cr.

CS 399 Pilot course 3 Cr.
A course is permitted to run as a pilot, without seeking faculty approval for one academic year. The section will include the title of the course. A student will not earn credit for a pilot course and the course when approved as its own course.

CS 3XX Computer Science Elective 6 Cr.
This course is used for transfer when no equivalent Norwich course exists.

CS 406 Special Topics in Computer Science 1-4 Cr.
A study of topics chosen from areas of current interest that are not offered as part of the permanent curriculum. Topics are chosen by instructors on a semester-by semester basis. Students may take the course more than once provided each semester taken covers a substantively different topic. 3 Lecture hours. Prerequisite: Instructor permission. (Occasionally).

CS 407 Politics of Cyberspace 3 Cr.
This course explores the interrelations of modern computing and communications technology with politics, power, news, privacy, crime, and creativity. The course assumes only a rudimentary familiarity with the basic concepts and terminology of modern Internet usage and computing and is not a technology-focused course. Prerequisite: Sophomore 2 status or higher. (Fall, Spring).

CS 410 Computing Internship 1-6 Cr.
Written academic products are required. A supervisor within the sponsoring organization must provide a written description of the internship beforehand, and a final performance evaluation of the student. Students may take the course more than once, up to a maximum of 18 hours earned credit, provided each semester taken covers a substantively different topic. Earned internship credit may be applied to not more than two required CS/CSIA major technical/concentration electives. Prerequisites: Junior status or higher; good academic standing; faculty approval and CS/CSIA Chair or Director approval. (Fall, Spring).

CS 420 Computer Science capstone I 3 Cr.
A two-semester course sequence normally taken in the Senior year. Based on the subject matter mastered during their previous coursework, students (individually or in a group) identify a current topic to study in depth. As part of their studies, they develop either a working software project or produce a substantial data or hardware artifact. This course represents the first semester of a students work towards such a project. Prerequisites: Junior status or higher; Computer Science major. (Fall).

CS 421 Computer Science capstone II 3 Cr.
As the second semester of the two-course capstone sequence, this course serves as a continuation of CS 420. Prerequisite: CS 420. (Spring).

CS 430 Computer Science Undergraduate Thesis I 3 Cr.
The computer science undergraduate thesis is a two-semester course sequence normally taken in the Senior year. The course introduces students to the breadth of tasks involved in independent research, including library work, problem formulation, experimentation, and writing and speaking. Based on the subject matter mastered during previous coursework, students (individually or in a group) identify a current topic to study in depth. Students produce an original research paper. This course represents the first semester of a student's work towards such a project. Prerequisites: Junior standing or higher, Computer Science major. (Fall).

CS 431 Computer Science Undergraduate Thesis II 3 Cr.
The second semester of the two-course thesis sequence. Prerequisite: CS 430. (Spring).

CS 437 Machine Learning & Artificial Intelligence 3 Cr.

CS 488 No Norwich Equivalent 6 Cr.

CS 4XX Computer Science Elective 4 Cr.
This course is used for transfer when no equivalent for a Norwich course exists.

Digital Forensics (DF)

Courses

DF 188 No Norwich Equivalent 6 Cr.

DF 242 Computer Forensics I 4 Cr.
This course provides the student with an ability to perform basic forensic techniques and use appropriate media analysis software. Knowledge of the security, structure and protocols of network operating systems and devices are covered as students learn to gather evidence in a networked environment and to image and restore evidence properly without destroying its value. Students learn and practice gaining evidence from a computer system while maintaining its integrity and a solid chain of custody. Within the laboratory, students gain hands-on experience in the use of current investigative tools. Classroom 3 hours, laboratory 2 hours. Cross-listed as CJ 442. Prerequisites: CJ 341 or IA 241; grade of C or higher in CS 140. (Fall, Spring).

DF 288 No Norwich Equivalent 6 Cr.

DF 299 Pilot Course 3 Cr.

DF 311 Network Forensics 3 Cr.
Introduces digital forensic concepts and practices on local area networks, wide area networks and large scale networks such as the Internet. Lectures include topics based on table of contents in (Davidoff and Ham 2012) such as investigative techniques, and how to conduct an investigation, manage evidence and follow a cyber-trail. A large part of the course involves demonstrations and hands-on labs, including: use of network forensic tools such as packet monitors, security information and event managers (SIEMs), tracers, and other tools useful for analyzing events. Many of the labs involve analysis of packet captures of both actual attacks and theoretical malfeasance by offenders. Students have a final lab exercise instead of a final exam and are expected to research and present a final project. Prerequisite: CS 260. (Fall).

DF 312 Malware Forensics 3 Cr.
This predominantly laboratory-based course is an introduction to malware forensics including both static and dynamic analysis. Students study profiling, malware behavior, behavior of malware on computer networks, anti-reversing and anti-debugging techniques, and packers. Prerequisites: CS 212, DF 242. (Spring).

DF 388 No Norwich Equivalent 6 Cr.

DF 395 Cyber Criminalistics 3 Cr.
This survey course uses lecture, case studies and hands-on lab exercises in digital investigation and cyber forensics to introduce students to the investigation and analysis of cybercrime and cyber criminals. Topics include: cybercrime typology, cyber-criminal profiling, network tracking, introduction to the tools of the cyber-criminalist, techniques of cybercrime scene assessment, digital evidence management and analyzing the forensic remnants of a cyber event. During the course of the laboratory exercises, students create a personal lab notebook recording their lab exercises and manage evidence including maintaining a proper chain of custody. Prerequisites: Criminal Justice major at Sophomore 2 standing or higher. (Fall, Spring).

DF 411 Cyber Investigation 3 Cr.
An introduction to cyber investigation, including elements of cybercrime, cyberwarfare and cyberterrorism. The course examines investigative techniques for cyber-investigators, case studies of representative cybercrimes and cyber warfare incidents, some cyber investigation tools and expert witnessing. The course builds up to a mock trial where students act as a cyber-investigation task force on an actual case of cybercrime. This is a course that incorporates extensive reading as well as hands-on lab exercises. Prerequisites: DF 242; Computer Science or Computer Security & Information Assurance major at Sophomore 2 standing or higher. (Fall).

DF 425 Advanced Digital Forensics 3 Cr.
Students combine concepts learned through prerequisite digital forensics classes and apply that knowledge to new and emerging technological threats and challenges. Content is taught via lecture, and extensive hands-on and research-based application of knowledge to recover and analyze evidence from a range of disparate devices and contexts including: mobile phones analysis and tools; anti-forensic techniques; Internet of Things (IoT) sources; Cloud/online based sources; and, embedded systems and devices. Particular reference will be made throughout the class to existing relevant legal and ethical frameworks. 3 lecture hours. Prerequisites: DF 242, DF 311. (Spring).

DF 488 No Norwich Equivalent 6 Cr.

DF 4XX Advanced Forensics 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

Economics (EC)

Courses

EC 106 The Structure and Operation of the World Economy 3 Cr.
This course will introduce students to the operation of the world economy. Emphasis will be on the identification and description of economic concepts such as tariffs, multinational companies, stock markets, debt, international trade balances and international banking. These concepts will be developed utilizing examples from current world economic conditions. Prerequisite: Freshman standing.

EC 188 No Norwich Equivalent 6 Cr.

EC 1XX Economics Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

EC 201 Principles of Economics (Macro) 3 Cr.
Description and analysis of the American economic system in terms of basic economic concepts and the determination of national income and its fluctuation. Prerequisite: one semester of college mathematics at the 100-level or higher.

EC 202 Principles of Economics (Micro) 3 Cr.
Study of the behavior of individuals in making decisions on the allocation of limited resources. This course examines how these decisions and behaviors affect the markets for goods and services. Prerequisite: one semester of college mathematics at the 100-level or higher.

EC 288 No Norwich Equivalent 6 Cr.

EC 310 Money and Banking 3 Cr.
The principles and institutions of money, banking and finance as they influence the performance of the economy. The major topics covered are the nature of money, commercial banking and financial institutions, central banking, monetary theory, monetary policy, inflation and the international monetary system. Prerequisites: EC 201, EC 202, QM 213.

EC 388 No Norwich Equivalent 6 Cr.

EC 403 Comparative Economic Systems 3 Cr.
The study of major economic systems. Theories of capitalism, socialism and communism and their implementation by major nations are discussed. Cross-listed with ECON 401; not permitted to earn credit for both EC 403 and ECON 401. Prerequisites: EC 201, EC 202. (Spring, odd years).

EC 406 Public Finance 3 Cr.
An investigation of the effects of government expenditures and revenues on the efficiency of resource allocation and the equity of the income distribution. Topics covered include public goods, externalities, benefit-cost analysis, the structure of major taxes and expenditure and tax incidence. Cross-listed with ECON 401; not permitted to earn credit for both EC 406 and ECON 401.Prerequisites: EC 201, EC 202. (Occasionally).

EC 419 International Economics 3 Cr.
International trade and the theory of comparative advantage. Special attention is given to free world trade and economic development in other countries and groupings as in the European Common Market. Prerequisites: EC 201, EC 202. (Fall, odd years).

EC 488 No Norwich Equivalent 6 Cr.

Education (ED)

Courses

ED 104 Foundations of Education 3 Cr.
This course examines the historical, sociological, and philosophical foundations of the American educational system. Current trends in education will be reviewed and evaluated. Issues affecting the role of the teacher, including school governance and finance, legal foundations, social influences, and educational reform will be explored. This course is a prerequisite course for ED 234 Learning Strategies for Education Majors. 3 lecture hours. (Fall, Spring).

ED 110 Creative Drama for Teaching and Learning 3 Cr.
Students explore creative drama as an educational tool for the classroom. Unlike traditional methods of instruction that rely on a teacher-centered model, creative drama flips the paradigm to promote a participant-centered learning environment where students create, perform and evaluate all aspects of their learning. Students learn the ways in which creative drama is in line with both proficiency-based models of education and personalized learning models. 3 Lecture hours. (Spring).

ED 188 No Norwich Equivalent 6 Cr.

ED 1XX Education Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

ED 234 Learning and Teaching Strategies 4 Cr.
Students practice and evaluate the most commonly used teaching strategies in elementary and secondary classrooms. Topics include planning, instructional objectives, educational technology and assessment of learning. All students participate in micro-teaching situations, and are introduced to current standards for their respective disciplines. These include but are not limited to the C3, Next Generation, Common Core, SHAPE and ISTE standards. Students are also introduced to Vermont's Core Teaching Standards (CTS), the inTASC standards for which the CTS were derived and the Vermont Licensure Portfolio. 4 Lecture hours and 12 hours of classroom observation required. Prerequisite: ED 104 (Fall).

ED 262 Child Growth and Development 3 Cr.
Students trace the development of the human being cognitively, linguistically, socially, emotionally and physically from conception to the onset of adolescence. Students examine various theories of learning, language acquisition, attachment, moral development and intelligence. Special attention is given to genetic, environmental, epigenetic factors and how they affect academic readiness and academic performance in school. 3 Lecture hours. Prerequisite: PY 211 (Spring).

ED 288 No Norwich Equivalent 6 Cr.

ED 299 Education Pilot Course 3 Cr.
A course is permitted to run as a pilot without seeking faculty approval for one academic year. The section will include the title of the course. A student will not earn credit for a pilot course and the course when approved as its own course.

ED 2XX Education Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

ED 315 Special Needs Child 3 Cr.
An introduction to the developmental, emotional, behavioral, and learning characteristics of the special child. Topic areas include learning disabilities, intellectual disabilities, emotional disorders and physical disabilities. Also included are federal and state laws, regulations, curricular adaptations and integration strategies. Prerequisite: ED 234 (Spring).

ED 351 Methods of Teaching Science to Elementary Students 3 Cr.
Students examine objectives, methods and content in elementary science instruction. Emphasis is on learner preparation, teaching and carryng out science activities. The Next Generation Science Standards (NGSS) as well as the Vermont endorsement standards of Elementary Education are examined and used for planning. This course cannot be used to meet general Education Goal 4. 3 Lecture hours. 10 Practicum hours. Prerequisite: ED 234 (Spring).

ED 360 Language Arts and Teaching Reading in the Elementary School 4 Cr.
A study of language development and reading, including an introduction to traditional instructional methodologies of reading and a study of the whole language approach to the language arts. Students will have opportunities to apply theory in various settings. Required for elementary teacher licensure candidates. Twelve hours of classroom observation are required in this course. A service Learning component is also attached to this course which will provides students an opportunity to work in the community in the context of literacy. Development of portfolio continues. Prerequisite: ED 234.

ED 363 Reading and Writing in the Content Area 4 Cr.
Students examine the structure of English and strategies to teach literacy skills to students in the content areas. Various methodologies for teaching decoding, encoding, reading fluency, vocabulary acquisition, writing and reading comprehension are emphasized in this course. Students learn strategies for integrating subjects; they learn models of assessment and instructional intervention. Vermont's endorsement standards are addressed as are the Common Core State Standards and the Core Teaching Standards. A practicum of 30 hours required. 4 Lecture hours. Prerequisite: ED 234; Restrictions: Education majors (Spring).

ED 364 Language and Literacy I 4 Cr.
Students in this course learn and apply the research on best practice for teaching literacy to elementary age children. Students learn multiple domains of language that relate to instruction including phonology, orthography, morphology and other crucial language systems and patterns upon which proficient reading and spelling depends. A series of dynamic strategies of teaching literacy skills to elementary children are introduced. 4 Lecture hours. 12 Practicum hours. Corequisite: ED 234 (Fall).

ED 367 Language and Literacy II 3 Cr.
Students gain in depth knowledge of phonetics, phonology, orthography and morphology which are the building blocks for effective teaching of word recognition, vocabulary and spelling. Various methodologies for teaching vocabulary acquisition and reading comprehension are emphasized in this course as well as story grammar and approaches to effectively teach writing. Students learn strategies for assessment and instructional intervention and work closely with the State of Vermont endorsement requirements as well as the Common Core standards. 3 Lecture hours. Prerequisite: ED 361 (Spring).

ED 368 Curriculum & Methods in Secondary Subjects 4 Cr.
An examination of the curriculum and teaching strategies associated with the subjects taught in the secondary school, including English, mathematics, science, and social studies. Students will learn about the general methods for teaching at the Middle/High school level, but will concentrate on their area of content concentration in both their practicum and final project. Knowledge and research in child growth and development is used as a guide for determining the curriculum materials and procedures that are suitable for secondary education students. Students work with adolescents, develop curriculum, and teach lessons in the Middle/High School. Students will keep a reflective journal of all their experiences in the practicum. Required for Teacher Education Licensure secondary track. A Practicum of 30 hours will be required in this course. Development of a portfolio continues. (Fall).

ED 375 Language Development and Disorders 3 Cr.
Students learn how language typically develops for native English speakers from birth onward. The ways in which language development affect age-normed literacy development is considered. A wide array of expressive and receptive language disorders and language-based learning disabilities are examined in contrast to what has been documented for typically developing individuals. Students will gain in-depth knowledge of the theoretical explanations for the cause of developmental dyslexia since it is the most common language-based learning disability. 3 Lecture hours. Prerequisite: Sophomore or higher. (Spring).

ED 377 Instructional Methods in the Social Studies 3 Cr.
Students study several aspects of the socials studies including history, culture, society, politics and its importance in elementary and secondary school settings. Students examine historical content, how we have developed our understanding of historical events and how to think critically about topics related to social studies. Attention is given to pedagogical practice for social studies teachers with a strong emphasis on diversity, equity and inclusion. Students analyze examples of classroom behavior through the lens of multicultural and social justice education and they consider the challenging nature of managing diverse classroom spaces. 3 Lecture hours. Prerequisite: ED 324 (Fall).

ED 388 No Norwich Equivalent 6 Cr.

ED 3XX Education Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

ED 401 Topics in Education 1 Cr.
In this course students are involved in individual investigation, survey, or a project related to education.

ED 403 Topics in Education 3 Cr.
In this course the student has an opportunity to select and read in a specific area of interest in education that is not available through regular course offerings.

ED 425 Student Teaching 12 Cr.
Student Teaching is the penultimate experience for students working to earn a recommendation for a Level 1 Vermont State teaching license. It entails a semester of full-time teaching experience totaling 13-15 weeks. For two of these weeks, the student teacher teaches solo, conforming to all of the duties and expectations of a regular classroom teacher. Prerequisites: Successful completion of all required Education courses; senior standing; GPA requirements fulfilled; praxis exams(s) passed or equivalent and permission of the education program. Restrictions: R2 Education Licensure seeking students. (Fall, Spring).

ED 432 Curriculum & Methods of Instruction Capstone 4 Cr.
Students explore the curriculum and instructional strategies associated with the subjects taught in K-12 learning environments. Knowledge and research in child growth and development is used as a guide for determining the curriculum materials and procedures that are suitable for student. Students complete parts of the Vermont Licensure Portfolio and they collaborate with peers to demonstrate their competencies in the Core Teaching standards. Required for all Education and Physical Education students. 4 Lecture hours and a practicum of 30 hours is required. Prerequisite: ED 234; Restrictions: Education and Physical Education students. (Fall).

ED 480 Education Internship 3-12 Cr.
Designed specifically for Degree option Education students, this course enables students to be placed in a traditional or non-traditional educational setting for hands on service learning experience. Course assignments and required hours are specific to the internship placement, and the number of credits selected for the course. Students seeking a 12 credit experience must fulfill 13-15 weeks of full day internship experience in an assigned setting. Contact hours for fewer credits will match the University model for contact hours and workload. Corequisite: ED 432 (Fall, Spring).

ED 488 No Norwich Equivalent 6 Cr.

ED 4XX Education Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

Electrical Engineering (EE)

Courses

EE 188 No Norwich Equivalent 6 Cr.

EE 200 Engineering Programming 3 Cr.
Introduction to a high level programming language such as C/C++. Topics include structure and organization of a computer program, variables and basic data types, flow of control, functions, file I/O, arrays and strings, computer memory, CPU and pointers, user defined structures, computer algortithms, modular design and documentation. Introduction to object oriented programming concepts. (Annually).

EE 204 Electrical Circuits I 3 Cr.
A study of principles and methods of analysis of electric circuits with both direct and time varying sources in the steady state. KCL, KVL, mesh and nodal techniques. Network theorems are developed and applied to the analysis of networks. Energy storage elements. First order and second order circuits with forced and natural responses. Sinusoidal analysis, complex numbers, phasor diagrams. Power; average effective, and complex power in single phase systems. Classroom: 3 hours. Prerequisite: MA 122, or concurrent enrollment.

EE 215 Fundamentals of Digital Design 4 Cr.
An introductory course on formal design techniques for combinational and sequential logic circuits. Topics include combinational logic networks, minimization techniques, registers, synchronous sequential networks, and control units. Applications of the concept developed in the classroom will be implemented in the laboratory. Classroom 3 hours, laboratory 2 hours.

EE 240 Electrical Concepts and Applications 3 Cr.
A course on the theory and application of electrical devices and circuits. Discussions include magnetic circuits, transformers, electric machines, diodes, bipolar transistors, and field effect transistors. Integrated circuits are introduced. Digital switching circuits are treated, including logic gates, flip-flops, and counters. Operational amplifiers and their major applications are studied. Classroom 2 hours, laboratory 3 hours. Prerequisite: EE 204; not open to Electrical Engineering majors.

EE 242 Digital Systems Design 4 Cr.
Topics are hierarchical design methods, design and debugging of digital hardware, determination of circuit behavior, control and timing, machine organization, control unit implementation, and interface design. A hardware design language will be used and students will acquire design experience implementing digital hard ware. Classroom 3 hours, laboratory 2 hours. Prerequisite: EE 215.

EE 288 No Norwich Equivalent 6 Cr.

EE 303 Electromagnetic Field Theory I 3 Cr.
Maxwell's Equations are developed from the experimental laws of electric and magnetic fields. Topics involving electric fields include Gauss's Law, divergence, energy, potential, conductors, dielectrics, and capacitance. Topics involving magnetic fields include the Biot-Savart Law, Ampere's Law, magnetic forces, magnetic materials, and inductance. Maxwell's Equations are used to describe wave motion in free space and in dielectric media. Classroom 3 hours. Prerequisites: MA 223, EE 204.

EE 315 Electrical Energy Systems 3 Cr.
A course on the design and implementation of electrical energy systems. Topics include thermal, wind, solar, and hydro renewable electrical energy facilities, electric transmission and distribution systems, and electrical substations. Introductory topics include basic circuit analysis, transformers, motors and drive systems, and instrumentation. Includes hands-on demonstrations and experiments. Offered to qualified students not majoring in Electrical Engineering. Classroom 3 hours. Prerequisite: MA 122.

EE 321 Embedded Systems 4 Cr.
The use of computing devices in embedded applications is introduced. Computer organization topics include the functional architecture of microcontrollers, timing and control, memory, serial and parallel I/O ports, and the bus system. Additional topics include peripheral interface control, interrupts, serial communication, and applications. Programs are written and run in assembly language or higher-level languages. This course presumes and introductory-level understanding of structured programming techniques. Classroom 3 hours, laboratory 2 hours. Prerequisite: EG 110 or EE 200 or CS 140.

EE 323 Computer Architecture 3 Cr.
Compare different machine architectures – analyze machine performance relationships, do computer classifications, and compare different computer description languages. Consider alternative machine architectures and the software influences on computer design. Topics include digital logic, microarchitecture level, instruction set level, operating system level, assembly language level, parallel computer architectures. Examples are drawn from the Core i7, OMAP4430 and ATmega168, hardware as well as ARM and AVR instruction sets. Classroom 3 hours.

EE 325 Computer Architecture and Operating Systems 3 Cr.
Machine architecture - machine performance relationships, computer classification, and computer description languages. Consideration of alternative machine architectures. Software influences on computer design. Topics include digital logic, VLSI components, instruction sets, addressing schemes, memory hierarchy ache and virtual memories, integer and floating point arithmetic, control structures, , buses, RISC vs. CISC, multiprocessor and vector processing (pipelining) organizations. Examples are drawn from Pentium and Sparc microcomputers. The primary focus is on the attributes of a system visible to an assembly level programmer. This course also introduces the fundamentals of operating systems. Topics include concurrency, scheduling, memory and device management, file system structure, security, and system performance evaluation. Lecture 3 hours. (Annually).

EE 350 Linear Systems 3 Cr.
This course provides the foundations of signal and system analysis. Linear, time-invariant, causal, and BIBO stable analog and digital systems are discussed. System input-output descriptions, convolution and the impulse response are covered. Additional topics include singularity functions, Fourier and Laplace circuit analysis, circuit transfer functions, Bode plots, ideal filters, and real filters including Butterworth, Chebyschev, and Elliptic. Discrete topics include the transform, difference equations, FIR and IIR filters, the bilinear transformation, the DTFT, the DFT, and the FFT. Classroom 3 hours. Prerequisite EE 356.

EE 356 Electrical Circuits II 3 Cr.
This course is a continuation of Electric Circuits I (EE 204). The complete solutions of linear circuits by Laplace transforms are developed. The concepts of frequency response, resonance, network functions, two port networks including hybrid parameters are studied in depth. The concepts of transformers, power, coupled circuits, multi-phase circuits, and Fourier series are introduced. Computer-based circuit simulation is used throughout. Classroom 3 hours. Prerequisite: EE 204.

EE 357 Electronics I 3 Cr.
The basic building blocks used in electronic engineering are studied. Diodes, bipolar transistors, and MOS transistors are modeled and then used to describe the operation of logic gates and amplifiers. Emphasis is placed on the operation and applications of standard integrated circuit chips. Classroom 3 hours. Prerequisite: EE 204.

EE 359 Electrical Engineering Laboratory 1 Cr.
Implementation, analysis, and design of electric and electronic circuits involving resistors, inductors, capacitors, diodes, bipolar transistors, MOS transistors, operational amplifiers and filters. Study and practice in the use of standard electrical engineering laboratory instrumentation. Laboratory 2 hours. Prerequisite: EE 215; EE 356 and EE 357, or concurrent enrollment.

EE 366 Electronics II 4 Cr.
This course is a continuation of Electronics I (EE 357). Analog and digital circuits are discussed. Analog topics include frequency response, real world applications of operational amplifiers, power amplifiers, filters, oscillators and A/D and D/A converters. Digital electronic building blocks are discussed, including flip-flops, counters, coding and decoding circuits and memory. Classroom 3 hours, laboratory 2 hours. Prerequisites: EE 357, EE 359.

EE 373 Electrical Energy Conversion 4 Cr.
A course on principles of energy conversion in electromechanical devices and machines. Topics include analysis of transformers, polyphase synchronous and induction machines, DC machines, variable reluctance and stepper motors, and semiconductor converters. Classroom 3 hours, laboratory 2 hours. Prerequisite: EE 356; MA 224, or concurrent enrollment.

EE 388 No Norwich Equivalent 6 Cr.

EE 3XX Electrical Engineering Transfer Elective 4 Cr.
This course is used for transfer when no equivalent Norwich course exists.

EE 411 Infrastructure Control Systems 4 Cr.
This course deals with organization, operation and design of systems where the microprocessor controls special interfaces to non-standard devices and responds to external events in a timely fashion. Topics include interface of special purpose peripherals, data structures, control structures, program and data organization and real time operating systems. Application to communications, automated measurement, process and servo control are discussed. Classroom 3 hours, laboratory 2 hours.

EE 459 Electric Power Systems 3 Cr.
An introduction to the fundamentals of electric power systems generation, transmission and distribution, with emphasis on current trends, issues and technologies. Topics include a review of ac power fundamentals, per unit quantities, system component models, short-circuit analysis, load flow, smart grid concepts, communications and control, power systems economics, and renewable energy systems. 3 lecture hours. (Annually).

EE 463 Communication Systems 4 Cr.
Analog transmission of information signals by communication systems is analyzed. The component parts of transmitters and receivers including AM/FM modulators, filters, detectors and decoders are discussed. Mathematical concepts include the Fourier Series, Fourier Transform, dirac delta function and sinc function. Signal classification and digital modulation techniques such as ASK, FSK, PSK, PAM and QAM. Classroom 3 hours, laboratory 2 hours. Prerequisites: EE 356, EE 357, EE 359.

EE 468 Solid State Materials 3 Cr.
Solid state materials, physics of electronic devices and integrated circuit design are studied. Topics include silicon crystal properties, diffusion, implantation, lithography and circuit fabrication. Device models are derived for junction diodes, bipolar and MOS transistors. Classroom 3 hours. Prerequisites: EE 303, EE 357.

EE 478 Control Systems 3 Cr.
Analysis and design of continuous-time and discrete-time control systems using classical and state-space methods. Laplace transforms, transfer functions and block diagrams. Transient-response analysis, Routh-Hurwitz stability criterion, and steady-state error analysis. Analysis of control systems using the root-locus and frequency-response methods. Computer-aided design and analysis. 3 lecture hours. Prerequisites: EE 204, MA 224. (Annually).

EE 486 Digital Signal Processing 3 Cr.
An introductory level course that discusses the conversion of analog signals to discrete time signals. Emphasis will be on the processing of discrete signals using both time-domain and frequency-domain analysis. These techniques will be applied to the design of digital filters. Classroom 3 hours. Prerequisite: EE 350.

EE 487 Digital Signal Processing Lab 1 Cr.
Implementation analysis and design of digital signal processing functions and techniques. Study and practice in the use of software and hardware platforms used for digital signal processing applications. 3 Laboratory hours. Prerequisite: EE 350. (Spring).

EE 488 No Norwich Equivalent 6 Cr.

EE 490 Advanced Topics 3 Cr.
A course that provides advanced study in an area of the instructor's special competence. Courses that have been offered in the past include Power System Stability, Electrical Communications II, Microwave Theory and Techniques and Digital Systems. Classroom 3 hours. Prerequisite: senior standing. (Occasionally).

EE 491 Electrical System Design I 3 Cr.
Introduction to design problems. Application of concepts of electrical engineering to a capstone design project. The first of a two-semester sequence, this course focuses on the problem statement, specification, preliminary design, design review and approval stages of the design processes, the design process involves exploring alternate solutions and design optimization and simulation. Economic constraints and human factors are considered in the design process. The course requires nine hours per week of directed reading, research and experimentation. Prerequisite: Senior standing; permission of instructor.

EE 494 Electrical System Design II 3 Cr.
This course is the second in the two-semester capstone design project sequence. It focuses on the final stages of the design process-finalized design, implementation and testing. A written project report and an oral presentation to students and faculty is required. Nine hours per week of directed readings, research, and experimentation. Prerequisite: EE 491.

Common Engineering (EG)

Courses

EG 044 Conference 0 Cr.
A scheduled weekly conference hour with the faculty and senior engineering/construction management students for preparation of the Fundamentals of Engineering (FE) Exam/Construction Management Exam. The student must take the FE or CM exam to receive a satisfactory grade in this course. EG 044 is not required if the student has already passed the FE or CME exam. 1 lecture hour. Prerequisite: senior standing.

EG 109 Introduction to Engineering I 3 Cr.
An introduction to engineering as a profession, this course presents the concepts and methods of engineering design and their application to solving problems from various engineering disciplines. The use of fundamental engineering skills and the associated tools to aid in defining problems and developing solutions is introduced (e.g. graphical communication/sketching, algorithmic problem solving, data analysis and visualization). The non-technical aspects of engineering required for career success-teamwork, written and oral communication, and problem-solving are practiced. 1 lecture hours, 3 lab hours. Prerequisite: Math Placement score of at least 1, or C or higher in MA 005.

EG 110 Introduction to Engineering II 3 Cr.
A follow-on to EG 109, this course introduces discipline-specific tools as a context for designing and conducting experiments as well as solving engineering problems related to a specific discipline or a thematic problem area of societal importance. Design projects will include the technical and non-technical aspects of engineering design. This course presumes an understanding of engineering design and problem solving processes. 2 lecture hours, 3 lab hours. Prerequisite: EG 109 Grade of C- or higher.

EG 111 Fundamentals of Engineering I 3 Cr.
An introduction to engineering and the concepts of engineering design. Includes an introduction to graphical communication skills used in engineering through the use of sketching and computer-aided design (CAD) on personal computers. The concepts of orthographic and isometric drawings are stressed and extended to include sections and dimensions. The use of spreadsheets in engineering is also included. 2 lecture hours, 3 lab hours. Prerequisite: Engineering majors.

EG 112 Fundamentals of Engineering II 4 Cr.
A continuation of the concepts of engineering design. Includes an introduction to engineering computing through the design of algorithms using structured techniques that employ a high-level engineering computer language. 3 lecture hours, 2 lab hours. Prerequisite: Engineering majors.

EG 188 No Norwich Equivalent 6 Cr.

EG 1XX Engineering Transfer Elective 6 Cr.

EG 201 Engineering Mechanics-Statics 3 Cr.
A course in statics of elementary engineering mechanics. Topics include vector notation; force systems, moments, equilibrium, the free body diagram; friction, simple frames, trusses, beams, centroids and second moments. 3 Lecture hours. Prerequisites: MA 122 and PS 211, or concurrent enrollment.

EG 202 Engineering Mechanics-Dynamics 3 Cr.
A course in dynamics of elementary engineering mechanics. Topics include kinematics: rectilinear and curvilinear motion; translation and rotation; relative motion; kinetics: force, mass and acceleration; impulse and momentum; work and energy; elementary vector calculus. 3 Lecture hours. Prerequisites: EG 201 and MA 122.

EG 203 Materials Science 3 Cr.
An introduction to the science of materials based on the physics and chemistry of their internal structures. The effects of structure on the properties and behavior of metallic, polymeric, ceramic, semiconductor, and composite materials. 3 lecture hours. Prerequisite: CH 103.

EG 206 Thermodynamics I 3 Cr.
A study of the fundamental concepts and laws of thermodynamics and of the properties of pure substances, with applications to engineering processes and operations. 3 lecture hours. Co-requisite: MA 122.

EG 271 Aviation Operations Fundamentals 3 Cr.
An introduction to all aspects of flight operations to expose students to the basics of aviation to develop aviation interest and enhance flight-related skills. A combination of lecture, on-line instruction, and field trips is designed to prepare each student for the FAA Private Pilot Written Exam. Topics will include aerodynamics and aircraft performance, aircraft systems, weather, communications, and navigation.

EG 288 No Norwich Equivalent 6 Cr.

EG 299 Engineering Pilot Course 1-6 Cr.
A course is permitted to run as a pilot, without seeking faculty approval for one academic year. The section will include the title of the course. A student will not earn credit for a pilot course and the course when approved as its own course. A maximum of 6 hours is permitted when under a different topic.

EG 301 Mechanics of Materials 3 Cr.
A course on the concepts of stress and strain; effect of loads; analysis of plane stress and strain; deformations of beams, shafts, and axial members; buckling and combined stresses. Classroom 3 hours. Prerequisite: EG 201.

EG 303 Fluid Mechanics 3 Cr.
A study of fluid properties and their significance. Fundamental mechanics of compressible and incompressible fluid motion with application to engineering problems. Topics include resistance of fluids in laminar and turbulent flow; open-channel flow; fluid statics; dimensional analysis and similitude. Classroom 3 hours. Prerequisite: MA 122; EG 206, or concurrent enrollment.

EG 350 Engineering Economics and Decision Analysis 3 Cr.
This course focuses on the application of cost benefit analysis to engineering and other technical projects. Time value of money and accounting perspectives are used to evaluate projects. The concept of risk and its importance to financial decision making is also introduced. Lecture 3 hours.

EG 388 No Norwich Equivalent 6 Cr.

EG 400 Design Thinking and Innovation 3 Cr.
This course explores the experience and practice of innovation by examining creativity as the ability to turn ideas into action. It examines the development, management, evolution, and broad context of emerging technologies and associated ventures. Students will complete innovation challenges from start to finish and leave with an understanding of the key tenets of design thinking and a sense for ways they can incorporate them into their work. This 'hands-on', project-based course involves students in the design and development of 'visual brand languages' for emerging technologies, foundation exercises in creativity, and case studies based on pivotal products from the past 50 years. Prerequisite: Sophomore status or higher.

EG 447 Special Projects (Technical Elective) 1-6 Cr.
A report on an approved engineering design project or topic area to meet the specific objectives of a student in a particular area of study. Limited to students who have organized plans and/or projects that can be related to their engineering interests. Hours and credits to be arranged. Prerequisite: Department chair.

EG 450 Professional Issues 3 Cr.
A course to prepare the engineering student for the non-technical aspects of the engineering profession. Topics covered include engineering registration, ethical responsibilities, malpractice and legal responsibilities, and the business aspects of the engineering profession. Classroom 2 hours. Recitation 2 hours. Prerequisites: Junior status or higher.

EG 488 No Norwich Equivalent 6 Cr.

Engineering Management (EM)

Courses

EM 101 Introduction to Construction Project Management 3 Cr.
This course provides a broad overview of the managerial, technological and physical processes that are involved in the creation of the built environment. It specifically focuses on understanding the issues in the management of a construction project. Lecture 2 hours, Lab 3 hours.

EM 188 No Norwich Equivalent 6 Cr.

EM 210 Building Information Modeling and Integrated Practices 4 Cr.
Use of Building Information Modeling technologies for facility design, visualization, quality estimation, cost estimation, scheduling, coordination, construction, operation, management and maintenance. Current BIM technologies will be covered, as well as BIM tools such as Autodesk Revit: Structural, Architectural, and MEP. Creation of 4-D animations using Autodesk NavisWorks and 3-D models created in Autodesk Revit: Structural. Examination of the technical logistics required to set up successful projects using BIM technologies. Classroom 3 hours, 3 hours lab. Prerequisite: EG 110, CE 264.

EM 220 Advanced Project Estimating 3 Cr.
The course covers the principles and practices of estimating integrated with supply chain management with particular emphasis on issues related to engineering and construction projects. Students will learn the principles of supply chain management, estimating, and purchasing in an environment characterized by inter firm relationships. 3 lecture hours. Prerequisite: CE 264; AP 325, or concurrent enrollment.

EM 288 No Norwich Equivalent 6 Cr.

EM 320 Construction Productivity 3 Cr.
This course focuses on the planning and execution of the construction of vertical and horizontal construction projects. The course emphasizes the means and methods associated with heavy civil projects, earthwork, and the construction of the project's structural elements. Equipment selection and methods will be a major focus. Lecture 3 hours. Prerequisites: Junior status or higher.

EM 322 Construction Safety 3 Cr.
Administration and application of the OSHA Act in the construction industry; includes standards, hazard identification and the development of a safety plan. Fulfills the requirements for the 30-hour OSHA safety training certifications. Lecture 3 hours. Prerequisite: Junior standing or higher.

EM 324 Special Construction Systems 3 Cr.
An introduction to mechanical, electrical, control systems and plumbing and their application in the construction industry. Concepts of plumbing, HVAC, electrical systems are discussed and analyzed for their affects upon the construction of structures. BIM is applied for calculating a structures energy efficiency, design of HVAC, plumbing and electrical systems, and hands-on labs. Plan reading and quantity take-offs of mechanical, plumbing and electrical systems are conducted. Lecture 2 hours, Lab 2 hours. Prerequisites: CE 264, PS 201 or 211. (Spring).

EM 388 No Norwich Equivalent 6 Cr.

EM 399 Pilot Course 3 Cr.
A course is permitted to run as a pilot, without seeking faculty approval for one academic year. The section will include the title of the course. A student will not earn credit for a pilot course and the course when approved as its own course.

EM 401 Pre-Construction Management 3 Cr.
This course addresses the initial phases of the building creation process. It focuses on addressing the owner's design and construction needs and the delivery of value to the owner. Business development, estimating, planning and presentation skills are emphasized. A Design/ Build model is employed to encompass the full spectrum of architecture, engineering and construction (AEC) requirements. Lecture 2 hours, Lab 3 hours. Prerequisites: EM 220, CE 460.

EM 461 Project Management 3 Cr.
The course covers the principles and practices of project management with particular emphasis on issues related to engineering and construction projects. Students will learn the principles of project management within the firm and in an environment characterized by inter firm relationships. Lecture 3 hours. Prerequisite: CE 460.

EM 479 Senior Design Project I 3 Cr.
This course is the first in the two semester construction management capstone design project sequence. Each student will work with a mentor and together will define analyze a project so that an efficient design can be completed. The project scope and design criteria will be developed, the tasks required to complete the project will be identified and scheduled, data collected, and preliminary design proposals will be developed. The design process involves exploring alternate solutions and optimization of the design based upon project criteria and constraints such as economic, political and social factors. The course requires 9 hours per week of directed reading, data collection, research, calculation, and experimentation. All of this will be presented orally and in written form in a project proposal. Prerequisite: CE 460 (Fall).

EM 480 Senior Design Project II 3 Cr.
This course is the second in the two semester construction management capstone design project sequence.
A capstone and practicum course in construction management engineering that explores the processes of management as applied to actual construction projects. Topics will be reviewed in the seminar and students will work in teams to review how these topics were applied in an actual construction project and to design a construction management plan for a proposed project during laboratory. Lecture 3 hours, Lab 3 hours. Prerequisites: EM 220, EM 461 and EM 479.

EM 488 No Norwich Equivalent 6 Cr.

English (EN)

Courses

EN 101 Composition and Literature I 3 Cr.
EN 101 is devoted chiefly to the principles of written organization, exposition, argumentation, and research.

EN 102 Composition and Literature II 3 Cr.
EN 102 provides, through an extension and intensification of the methods and approaches of EN 101, an introduction to fiction, poetry, drama, and film. Prerequisite: EN 101.

EN 112 Public Speaking 3 Cr.
An introduction to the art of speaking in a variety of public situations. Students will learn fundamentals of effective verbal and non-verbal communication, strategies to manage stage fright, how to persuade audiences using reasoning and evidence, and how to apply these skills to professional contexts. (Fall, Spring).

EN 114 Advanced Academic English I 3 Cr.
Multilingual, exchange, and international students develop their academic English proficiency and fluency through exploring topics connected to intercultural communication, American academic culture, and Norwich University. The course incorporates academic strategies and guest speakers in addition to class discussions, writing workshops, one-on-one conferences, and informal student presentations. Course activities complement students' experience in a companion class, usually EN 101/2. 3 Lecture hours. (Fall).

EN 115 Advanced Academic English II 3 Cr.
Multilingual, exchange, and international students expand their academic English proficiency and fluency by focusing on American popular media, literature, and academic culture. The course incorporates student presentations, one-on-one conferences, class discussions, and Norwich University events to promote academic writing and oral skills, with a dedicated focus on students' experience in a companion class, usually EN 101/2. 3 lecture hours. (Spring).

EN 188 No Norwich Equivalent 6 Cr.

EN 199 Pilot Course in English at the Lower Level 3-6 Cr.
A course is permitted to run as a pilot without seeking faculty approval for one academic year. The section will include the title of the course. A student will not earn credit for a pilot course and the course when approved as its own course.

EN 1LT English Literature Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

EN 1XX English Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

EN 203 Advanced Composition 3 Cr.
A course designed to move beyond the fundamentals of writing studied in EN 101 and EN 102 and to develop the student's abilities as a writer through the composition and analysis of extended essays on a variety of topics, employing a range of rhetorical approaches. Prerequisite: EN 102.

EN 204 Professional and Technical Writing 3 Cr.
A course that teaches the theory and practice of communicating on the job. Instruction addresses written, visual, and oral technical communication. Assignments involve students in practical, collaborative and technologically informed learning modeled upon realities of the work place. Prerequisite: EN 102.

EN 210 Modern Short Story 3 Cr.
A study of the short story genre through reading, discussion, and written analysis of selected modern stories. The course also addresses the history of the short story and the nature and uses of literary art. A recommended literature course for fulfillment of General Education or Bachelor of Arts degree requirements in literature, Arts and Humanities. Prerequisite: EN 102.

EN 220 Children's Literature 3 Cr.
A course familiarizing students with the range and history of children's literature. Students revisit beloved classics as well as significant contemporary works, analyzing literary value. A recommended literature course for fulfillment of General Education or Bachelor of Arts degree requirements in literature, Arts and Humanities. Prerequisite: EN 102.

EN 222 Introduction to World Literatures 3 Cr.
A thematic introduction to the field of world literature that includes readings from across the globe, in particular those from outside the European tradition. Students will explore issues such as translation, textual transmission, and literary form across varied cultural and historical contexts. Required texts are in English translation; foreign language training is neither assumed nor required. 3 lecture hours. Prerequisite: EN 102.

EN 225 Survey of British Literature I 3 Cr.
An overview of British literature from the Anglo Saxons to the late-eighteenth century in their historical and cultural contexts, with attention to the development of the English language. May include texts in Middle English. Selections may include sermons, chronicles, and letters as well as fiction, poetry, and drama. Provides a foundation for upper-level study in the discipline and is required for English majors. 3 lecture hours. Prerequisite: EN 102.

EN 226 Survey of British Literature II 3 Cr.
An overview of British literature from the Romantics to the present in their historical and cultural contexts. Materials may include essays, poetry, non-fiction, fiction, drama, and archival materials, as well as media. This course cultivates awareness of British literature and culture and engages issues of global significance ranging from the function of art and the role of the artist; the construction of personal and public identities; race; class; gender; sexuality; empire; and the rise of technology. EN 226 engages colonial, post-colonial, and Commonwealth authors who intrinsically disrupt Western/European categories culturally, ethnically, linguistically, and geographically. Provides a foundation for upper-level study in the discipline for English majors. Satisfies General Education or Bachelor of Arts degree requirements in literature and Bachelor of Arts requirement for Intercultural Knowledge & Awareness. 3 lecture hours. Prerequisite: EN102.

EN 227 Survey of American Literature I 3 Cr.
An overview of pre-colonial, colonial, and post-revolutionary writing in its historical and diverse cultural contexts. The course explicitly includes approaches and voices from both dominant and non-dominant perspectives. Selections may include letters, travel narratives, and political documents as well as fiction, poetry, and drama. Provides a foundation for upper-level study in the discipline and is required for English majors. Satisfies General Education or Bachelor of Arts degree requirements in literature and Bachelor of Arts requirement for Intercultural Knowledge & Awareness. 3 lecture hours. Prerequisite: EN 102.

EN 228 Survey of American Literature II 3 Cr.
An overview of American writing from the Civil War to the present in its historical and diverse cultural contexts. The course explicitly includes approaches and voices from both dominant and non-dominant perspectives. Selections may include non-fiction as well as fiction, poetry, and drama. Provides a foundation for upper-level study and is required for English majors. Satisfies General Education or Bachelor of Arts degree requirements in literature and Bachelor of Arts requirement for Intercultural Knowledge & Awareness. 3 lecture hours. Prerequisite: EN 102.

EN 239 Introduction to Theater 3 Cr.
An introduction to dramatic literature and the theatre as a live art form, including aspects of acting, directing, and theatrical design. Texts will range from classic and contemporary and will reflect the diversity of US and global theatre. Satisfies General Education or Bachelor of Arts degree requirements in literature and Bachelor of Arts requirement for Intercultural Knowledge & Awareness. Prerequisite: EN 102.

EN 240 Technical Aspects of Theatrical Design 3 Cr.
A course that provides instruction in all phases of the construction of scenery, costumes and in lighting production, together with an introduction to the design of these elements.

EN 241 Introduction to Acting 3 Cr.
An introduction to core skills and theories of acting for stage and film. Students will learn to perform monologues, act in duet scenes, and improvise comedic scenes. Students will develop basic skills in scene and character analysis, research, voice, blocking, and related acting techniques.

EN 242 Play Production 1-3 Cr.
A course that provides study and performance of theater and play production techniques as well as rehearsal and presentation of a full-scale dramatic production. Students may choose to audition to act in a play or to work on one of the technical support crews. This course may be repeated up to 3 credits toward degree requirements. Prerequisite: Permission of instructor.

EN 244 The Literature of Leadership 3 Cr.
A survey of major literary texts dealing with the theme of leadership. Differing examples and ideals of leadership are related to the philosophical assumptions and cultural values of the authors and civilizations represented by each work. Both advocacy and critique of these ideals are examined; contrasts among them emphasize the ethical implications of leaders' decisions. Topics include relationships among leadership, religion, and philosophy; leadership and technology; the role of coercion or political/economic power; and the potential conflicts of leadership and individual freedom. A recommended literature course for fulfillment of General Education or Bachelor of Arts degree requirements in literature, Arts and Humanities. Pre-Requisite: EN 102.

EN 245 Science Fiction Literature 3 Cr.
A study of representative readings in science fiction literature centered on novels and short fiction from the late-nineteenth century to the present with a focus on how these works develop major themes associated with the genre. A recommended literature course for fulfillment of General Education or Bachelor of Arts degree requirements in literature, Arts and Humanities. 3 lecture hours. Prerequisites: EN 102.

EN 250 Crime in Literature 3 Cr.
A course in which students read and discuss works of literature that explore the ethical, social and philosophical implications of criminal behavior and society's response to it. A recommended literature course for fulfillment of General Education or Bachelor of Arts degree requirements in literature, Arts and Humanities. Prerequisite: EN 102.

EN 251 Literature of the Sea 3 Cr.
A study of literature about life at sea, especially during times of crisis. The course examines attitudes toward solitude, comradeship and the ocean's beauty and power. Moral and physical qualities needed by a ship's officers and crew are also discussed. Readings are drawn from world literatures, ancient and modern. A recommended literature course for fulfillment of General Education or Bachelor of Arts degree requirements in literature, Arts and Humanities. Prerequisite: EN 102.

EN 253 Approaches to Shakespeare 3 Cr.
A study of Shakespeare themed around discipline, genre, analytical approach, or other topic. May be repeated for credit with a different topic. A recommended literature course for fulfillment of General Education or Bachelor of Arts degree requirements in literature or Arts and Humanities. Prerequisite: EN 102.

EN 270 Military Literature 3 Cr.
A study of men and women in war and the military service, their ideals, experiences, and strategies as seen in foreign and American military literature of the 19th and 20th centuries. A recommended literature course for fulfillment of General Education or Bachelor of Arts degree requirements in literature, Arts and Humanities. Prerequisite: EN 102.

EN 272 Veterans' Literature and Writing 3 Cr.
In this course, students read a selection of works by veterans to explore how soldier-writers have given voice to their military experiences and to reflect on how writers have depicted war and the military experience. These texts will serve as models to students as they develop personalized writing projects, either critical or creative, over the course of the semester. This course is open to anyone who is currently serving, or has served, in any branch of the military. This course fulfills a literature, writing or humanities requirement. Prerequisite: EN 102 and instructor permission.

EN 274 Introduction to Creative Writing 3 Cr.
Introduction to Creative Writing establishes the principles and practices of writing creative nonfiction, fiction, and poetry. In addition to reading works in these three genres as models, students will produce original pieces that apply the theoretical principles of creative writing. 3 lecture hours. Prerequisite: EN 102.

EN 276 Environmental Writing 3 Cr.
Environmental Writing invites students to explore environmental issues such as sustainability, conservation, preservation, and wildlife management through creative writing and persuasive writing. Students will analyze how writers of fiction, poetry, and creative nonfiction invite their readers to take action. Students may also conduct independent research, which is often immersive or experiential, on an environmental topic towards the composition of their own creative essays, stories, and poems. Prerequisite: EN 102.

EN 278 Writing for the Web 3 Cr.
Writing for the Web examines the ways that digital technologies impact writing. Through experimentation with different written modes, as well as the manipulation and analysis of various media, students will compose and revise content for web-based environments. This course approaches writing from a rhetorical perspective that emphasizes purpose and audience. Students practice using various existing and emerging technologies, but prior technical training is not required. Prerequisite: EN 102.

EN 282 Literary Methods 3 Cr.
Literary Methods serves as an introduction to scholarship in the discipline of English. To begin, students will examine the evolution and current state of English literary study as a discipline, learn how a literary text becomes an object of study, and identify a secondary text and the kinds of methodologies at work in them. Students themselves will then engage in the practice of literary research and analytical writing by focusing on one text in English and its respective body of criticism. Course work will comprise gathering and analyzing primary and secondary sources, enhancing close reading skills, and performing a substantive piece of research. Auxiliary critical writing exercises might include an annotated bibliography or a literature review. Required for the English major and minor. 3 lecture hours. Prerequisites: EN 102.

EN 288 No Norwich Equivalent 6 Cr.

EN 292 American Roots 3 Cr.
Through a diverse literary selection that includes autobiography, fiction, drama, and poetry, students are acquainted with the ways the American nation has been shaped by race, ethnicity, and culture. Satisfies General Education or Bachelor of Arts degree requirements in literature and Bachelor of Arts requirement for Intercultural Knowledge & Awareness. 3 lecture hours. Prerequisite: EN 102.

EN 299 Pilot Course in English at the Lower Level 3 Cr.
A course is permitted to run as a pilot without seeking faculty approval for one academic year. The section will include the title of the course. A student will not earn credit for a pilot course and the course when approved as its own course.

EN 2LT English Literature Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

EN 2XX English Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

EN 307 The History of the Motion Picture 3 Cr.
A study of the development of the motion picture from a technological curiosity to a powerful, pervasive vehicle for art and argument. Fulfills General Education Humanities requirement but will not serve as literature elective. Prerequisite: EN 102.

EN 308 The Motion Picture Director 3 Cr.
A study, through readings and viewings of representative films, of the work of three great motion picture directors: The emphasis will be on their contributions to the art of the motion picture and their statements as artists viewing their own times. Fulfills General Education Humanities requirement but will not serve as literature elective. Prerequisite: EN 102.

EN 310 The Art of the Motion Picture 3 Cr.
A study of cinema art direction, photography, editing, writing and acting. Classes involve lecture, discussion, readings in film criticism and the viewing of selected films. Fulfills General Education Humanities requirement but will not serve as literature elective. Prerequisite: EN 102.

EN 311 American Film Comedy 3 Cr.
A study of representative American film comedies from a variety of standpoints: generically (as manifestations of comic tradition); culturally (as examples of satire and social criticism); aesthetically (as products of cinematic and literary techniques); historically (as parts of an evolving tradition). Representative films may include works by Keaton, Chaplin, the Marx Brothers, W. C. Fields, Jerry Lewis, Stanley Kubrick, Woody Allen and others. Fulfills General Education Humanities requirement but will not serve as literature elective. Prerequisite: EN 102.

EN 322 Topics in World Literatures 3 Cr.
A seminar that focuses on a specific period, genre, region, or topic of interest in the field of World Literatures. Sample topics may include Global Shakespeares, Developing World Literatures, The Trojan War, Caribbean Women Writers, or Global Modernisms. Required texts will be in English translation; foreign language training is neither assumed nor required. 3 lecture hours. May be repeated for credit with a different topic. Prerequisite: EN 102.

EN 350 History of the English Language 3 Cr.
This course will trace the linguistic, material, and cultural development of the English language from its North Germanic beginnings to its current status as a global lingua franca, with special attention to the early British forms. We will attend to the structure of language (e.g., lexicon, syntax, phonetics) as well as to its socio-political aspects (e.g., migration, class, codification). Students will be asked to read, analyze, and contextualize texts in Old, Middle, and Early Modern English. Required for the English Major. Fulfills Gen. Ed. Humanities requirement but will not serve as literature elective. Prerequisite: EN 102.

EN 362 Rhetorical Criticism 3 Cr.
Rhetorical Criticism provides students with a general understanding of rhetoric and with knowledge of specific rhetorical traditions such as neo-Aristotelian criticism, metaphorical analysis, narrative/cluster criticism, fantasy theme analysis, and genre criticism. The goals of this course are to engage in systematic, prolonged inquiry and to recognize how different persuasive strategies produce specific meanings. EN 362 Rhetorical Criticism further advances the skills initially developed in EN 203 Advanced Composition. Prerequisite: EN 102.

EN 364 Intermediate Creative Writing 3 Cr.
Intermediate Creative Writing develops the foundational skills learned in EN 274 Introduction to Creative Writing. Students examine poetry, fiction, and creative nonfiction in order to understand and employ advanced techniques such as flashback, metaphor, and point of view. Genres may also include memoir, the travel essay, free verse poetry, and/or flash (non)fiction. By the end of the semester, students are expected to apply these elements of craft to produce original creative work. Prerequisite: EN 274.

EN 370 Topics in British Literature 3 Cr.
A seminar that focuses on a period or a topic of interest in the field of British Literature. May be repeated for credit with a different topic. 3 lecture hours. Prerequisite: EN 102.

EN 373 Major Author 3 Cr.
A course that focuses on the work of a single author to allow a unique depth of study and research. Students will analyze the relationship between authorship, biography, and textual production. Topics may include Geoffrey Chaucer, John Milton, Thomas Mallory, Salman Rushdie, Muriel Spark, and Mark Twain. 3 lecture hours. Can be repeated for credit with a different topic. Prerequisite: EN 102.

EN 388 No Norwich Equivalent 6 Cr.

EN 390 Topics in American Literature 3 Cr.
A seminar that focuses on a period or a topic of interest in the field of American Literature. May be repeated for credit with a different topic. 3 lecture hours. Prerequisite: EN 102.

EN 399 Pilot Course in English at the Upper Level 3 Cr.
A course is permitted to run as a pilot without seeking faculty approval for one academic year. The section will include the title of the course. A student will not earn credit for a pilot course and the course when approved as its own course.

EN 3LT English Literature Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

EN 3XX English Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

EN 415 English Internship 3 Cr.
This course focuses on practical work experience that applies the skills learned in writing, literary studies, theater, and/or film studies courses. Offered fall, spring and summer. This course can be used as an elective in the Writing and English minors or as a program elective in the English major. Prerequisite: Instructor permission.

EN 420 Thematic Seminar-Literature 3 Cr.
A seminar that explores a topic of interest in the Humanities. Prerequisite: EN 102.

EN 425 Directed Study In Literature 3 Cr.
A course in which a student of demonstrated ability works with a faculty mentor in a well-defined area in Literature within the competence of the department faculty. Emphasis will be on student initiative, guided reading, and consultations with the mentor. Prerequisite: EN 102 and instructor permission.

EN 450 Senior Seminar 3 Cr.
Required capstone course for the major. Students participate in ongoing scholarly discussions by engaging a selection of literary texts, criticism, and theoretical essays. By the end of the semester, students propose, design, and complete independent research projects that interrogate a specific issue in literary studies. Students demonstrate a mastery of their topics in public presentations. Prerequisite: senior status English major or minor or permission of the instructor.

EN 488 No Norwich Equivalent 6 Cr.

Environmental Science (ES)

Courses

ES 115 Geographic Information Systems 3 Cr.
Introduction through geographic information systems (GIS) to spatial analysis, addressing a range of applications across disciplines. Students use GIS to analyze spatial data and problem solve real-world issues. During the final four weeks students design, implement, and present a GIS project. 3 lecture hours. (Spring, even years).

ES 130 Introduction to Environmental Law 3 Cr.
Major Federal pollution regulation schemes, environmental economics, risk analysis, relevant common law, and constitutional and procedural issues are introduced. Vermont Environmental Law is addressed, as is a survey of the extensive and often novel regulatory approaches of the state of Vermont. The course introduces environmental law issues such as population, economic growth, energy, and pollution. Environmental problems are defined and alternative approaches for dealing with them are examined. Existing statutory efforts such as the National Environmental Policy Act, the Clean Air Act, and the Resource Conservation and Recovery Act are analyzed. 3 lecture hours. (Fall).

ES 188 No Norwich Equivalent 6 Cr.

ES 199 Environmental Science Pilot Course 6 Cr.
A course is permitted to run as a pilot without seeking faculty approval for one academic year. The section will include the title of the course. A student will not earn credit for a pilot course and the course when approved as its own course.

ES 1XL Enviromental Lab Sci. Transfer Elec 4 Cr.
This course is used for transfer when no equivalent Norwich course exists.

ES 1XX Enviromental Science Transfer Elec. 4 Cr.
This course is used for transfer when no equivalent Norwich course exists.

ES 251 Sophomore Seminar in Environmental Science 1 Cr.
Introduces the fundamentals of scientific investigation and communication. An experimental project introduces the Scientific Method, while scientific literature is introduced and coupled with instruction in and application of technical writing. Students learn to communicate scientific information in poster and oral presentations and they initiate development of their professional portfolio. 1 lecture hour. May not earn credit for both ES 251 and GL 251. (Fall).

ES 260 Project in Environmental Science 1-4 Cr.
Students conduct an independent study on an environmental science field or laboratory project. Topic chosen by mutual consent of the student and instructor. A written report is required. May be repeated one time for credit. Prerequisite: GL 110, GL 111, or GL 156, and Department Chair permission. (Occasionally).

ES 268 Freshwater Ecosystems 4 Cr.
This course investigates physical, chemical, biological processes of lakes, wetlands and streams through an ecosystem based approach. Focus is on interactions between abiotic and biotic components and the transfer of energy between different trophic levels. Students learn important aquatic plant and animal taxa, nutrient cycles, and the physical and chemical characteristics of aquatic settings. This foundational knowledge is applied to understanding environmental stresses currently impacting freshwater ecosystems, including excess nutrients, climate change and invasive species. Course work includes classroom based lectures and discussions and a field based lab which visits a range of freshwater environments. 3 Lecture hours. 3 Laboratory hours. Prerequisites: GL 111, GL 110 or BI 102 (Fall, odd years).

ES 288 No Norwich Equivalent 6 Cr.

ES 290 Internship in Environmental Science 1-4 Cr.
A course for environmental science internships on a topic chosen by mutual consent of the student and instructor. A written report is required. May be repeated one time for credit. Prerequisite: GL 110, GL111, or GL 156, 2.0 cumulative GPA and Department Chair permission. (Occasionally).

ES 299 Pilot course 4 Cr.
An course this is offered as a pilot course. May be repeated under four different topics, when different.

ES 2XX Environmental Science Transfer Elective 1-6 Cr.

ES 340 Project Development in Environmental Science 1 Cr.
Develops the skills for designing and executing an original scientific research project. Topics include research plan development, literature research to inform methodology, generation of site maps and protocols for collecting field and laboratory data, and generation of a properly formatted research proposal. 1 lecture hour. Prerequisite: Environmental Science major, Junior standing or higher and instructor permission. (Spring).

ES 388 No Norwich Equivalent 6 Cr.

ES 440 Research Project in Environmental Science 3 Cr.
A capstone original research project under the direction of a faculty member in coordination with others taking this course. Field and laboratory work will generate new data on an expanding base; after analysis and interpretation, data will be presented in a technical format. All aspects of the project will be interpreted in the context of the literature. 3 lecture hours. Prerequisite: ES 340. May not receive credit for this course and GL 440. (Fall).

ES 451 Environmental Science Seminar 3 Cr.
A capstone seminar experience integrating reading, writing, and group participation focused on Earth and environmental issues. Discussions explore links between society and global systems. 3 lecture hours. Credit cannot be received for this course and GL 451. Prerequisite: Senior standing; Environmental Science major. (Spring).

ES 460 Project Completion in Environmental Science 1 Cr.
Follows work in ES 440. Students integrate the body of scientific knowledge into a professional and technical report. Students work collaboratively with their research advisor. 1 lecture hour. Prerequisite: ES 440. (Spring).

ES 488 No Norwich Equivalent 6 Cr.

Fine Arts (FA)

Courses

FA 188 No Norwich Equivalent 6 Cr.

FA 1XX Fine Arts Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

FA 201 History/Theory of Architecture I 3 Cr.
This course Explores the architecture of different cultures from around the world beginning with the earliest evidence of human habitation and ending with the arrival of the renaissance. It examines the development of domestic, civic, and religious sites, as well as towns and settlements. The course explores major cultural, social, technological, and ideological influences on built environments, as well as examines the history, the context, and the form of notable examples. Preference given to architecture majors. Note: Students who successfully complete this course may not take earn credit for FA 221. 3 lecture hours.

FA 202 History/Theory of Architecture II 3 Cr.
Explores the architecture of different cultures from around the world focusing on Western architecture from the Renaissance to the 19th century. It examines the development of domestic, civic, and religious sites, as well as towns and settlements. The course explores major cultural, social, and technological influences on built environments, as well as looks at the history, the context, and the form of notable examples, while examining the developing ideologies of prominent practitioners. 3 lecture hours. Goal 3. (Fall).

FA 221 History of Visual Arts I: Prehistoric to 1350 3 Cr.
Provide an understanding of well-made artifacts by addressing quality or artistic value in terms of form and content. Students are acquainted with the principal periods of Western art through a study of, sculpture, painting, and the minor arts, ranging from prehistoric times to the present. Students learn formal vocabulary of prehistoric art to the medieval international style. 3 lecture hours. (Occasionally). Goal 3.

FA 222 History of Visual Arts II: 1350 to the Modern Era 3 Cr.
Provide an understanding of well-made artifacts by addressing quality or artistic value in terms of form and content. Students are acquainted with the principal periods of Western art through a study of sculpture, painting, and the minor arts, ranging from prehistoric times to the present. Students learn formal vocabulary and renaissance to the present. 3 lecture hours. (Occasionally). Goal 3.

FA 240 History of American Art 3 Cr.
A survey of American architecture and art from colonial times to the present. Emphasis is on the rise and development of the arts in the United States and the changing nature and functions of art in American society. European influences and Native American contributions are noted. 3 lecture hours. (Occasionally). Goal 3.

FA 250 Topics in Art 3 Cr.
Topics vary, focusing on past and current issues in art related to historical style, art and the social context, aesthetic theory, tradition and innovation in media, and the role of art and the artist as an agent of communication in our time. This course may be repeated for credit. 3 lecture hours. (Occasionally). Goal 3.

FA 260 Art Appreciation 3 Cr.
An introductory course focusing on ways to appreciate art: the role of the viewer, the purposes and functions of art, the creative process, materials and technology available to the artist, the relationship of art to culture Western and non-Western, and issues of art style and meaning. 3 lecture hours. (Occasionally). Goal 3.

FA 288 No Norwich Equivalent 6 Cr.

FA 2XX Fine Arts Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

FA 308 History/Theory of Artchitectural III 3 Cr.
A survey of architecture from the mid-eighteenth century through the early 1930s, focusing on the rise and early development of the modern movement. It integrates the historic aspects of the key examples of architecture and urban design from this era with the theoretical ideas that generated the built form. Included is a discussion of the new programs, new social/economic/political organizations and new construction materials and methodologies that drove the search for new forms to represent the new ideas of the modern industrialized era. 3 lecture hours. Prerequisite: FA 202 Goal 3. (Spring).

FA 309 History/Theory of Architectural IV 3 Cr.
A survey of architecture from the 1930s to the present day focusing on the various evolutionary paths of architectural development, including the codification of the international style and the subsequent challenges to the modern dogma into eras of mid and late modernism, expressionism, nationalism, organicism, brutalism, regionalism, postmodernism, deconstructivist architecture, and into the integration of the digital in design and manufacture of built works. Each evolutionary stance is discussed through analysis of the key works integrating the historic aspects with the theoretical ideas that generated the architectural works. 3 lecture hours. Prerequisite: FA 308 (Spring) Goal 3.

FA 388 No Norwich Equivalent 6 Cr.

FA 401 Introduction to Research Methods for Architecture 3 Cr.
Introduces research methods for interpreting the built environment. Provides a capstone to the architectural history and theory survey sequence by studying recent and contemporary theory and incorporating architectural criticism. Includes case studies, substantial research and writing, and discussion of seminal texts in seminar format. 3 lecture hours. Prerequisite: FA 308 (Spring).

FA 488 No Norwich Equivalent 6 Cr.

Finance (FN)

Courses

FN 188 No Norwich Equivalent 6 Cr.

FN 288 No Norwich Equivalent 6 Cr.

FN 311 Corporate Finance 3 Cr.
Development of the basic theoretical framework for decision-making in financial management, emphasizing the time-value of money and the analysis of cash flows. Areas of concentration are financial institutions and markets, financial statement analysis, the role of time value in finance, bond and stock valuation,capital budgeting decision process, risk and return analysis, cost of capital and dividend policy. Prerequisites: AC 206 or AC 201, EC 202, QM 213 or permission of the instructor.

FN 388 No Norwich Equivalent 6 Cr.

FN 407 Corporate Finance II 3 Cr.
Special topics in financial management including: international managerial finance, mergers and acquisitions, hybrid and derivative securities, working capital management, short-term and long-term financing, financial planning, leverage analysis and capital structure theory. Prerequisites: QM 213, FN 311. (Spring, odd years).

FN 412 Investments 3 Cr.
Methods of security analysis and portfolio management, including the current theoretical literature and thought. Discussion and analysis of current events and their implications for stock price behavior. Prerequisistes: QM 213, FN 311. Offered in the spring-even years.

FN 488 No Norwich Equivalent 6 Cr.

French (FR)

Courses

FR 121 Beginning French I 4 Cr.
Students progress along the first steps towards acquiring basic languages skills: speaking, listening, reading, and writing, with a focus on their use for several modes of communication, such as the interpersonal, the interpretive, and the informative, within the context of the cultures of the French-speaking world. For students with little or no previous exposure to French. 4 lecture hours.

FR 122 Beginning French II 4 Cr.
Students continue progress toward novice-high skill levels in speaking, listening, reading, and writing - and their use in several modes of communication: the interpersonal, the interpretive, and the informative - all within the context of the cultures of the French-speaking world. 4 lecture hours. Prerequisite: FR 121 or the equivalent score on the Foreign Language Placement Test.

FR 150 Topics Course 3 Cr.
Specialized topics relating to French and Francophone culture, business practices, or language. Topic will be indicated in the schedule of classes. This is an introductory-level course. Course may be repeated for credit if the topic differs. Taught in French.

FR 150EN Topics Course in English 3 Cr.
Specialized topics relating to French and Francophone culture, literature, business practices, or language. Topic will be indicated in the schedule of classes. Taught in English. This course does not meet the Modern Language requirement.

FR 188 No Norwich Equivalent 6 Cr.

FR 1XX French Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

FR 205 Intermediate French I 3 Cr.
A course providing aural-oral practice in French, in which students enter into full discussion of topics that include abstract themes and cultural perspectives; includes the expanded use of syntactical structures, the reading of sophisticated material, composition, the viewing of selected French and Francophone films and documentary materials from French-language television. Taught entirely in French. 3 lecture hours, 1 laboratory hour. Prerequisite: FR 122 or NU Placement test.

FR 206 Intermediate French II 3 Cr.
A course providing aural-oral practice in French, in which students enter into full discussion of topics that include abstract themes and cultural perspectives; includes the expanded use of syntactical structures, the reading of sophisticated material, composition, the viewing of selected French films and documentary materials from French television. Taught entirely in French. Lecture 3 hours, laboratory 1 hour. Prerequisite: FR 205 or NU Placement test.

FR 250 Topics Course 3 Cr.
Specialized topics relating to French and Francophone culture, literature, business practices, or language. Topic will be indicated in the schedule of classes. Taught in French. Counts as Arts & Humanities elective. Course may be repeated for credit if the topic differs. Prerequisite: FR 206 or permission of the instructor.

FR 250EN Topics Course in English 3 Cr.
Specialized topics relating to French and Francophone culture, literature, business practices, or language. Topic will be indicated in the schedule of classes. Taught in English. Topics in Literature count as a General Education Literature elective and have EN 102 as a prerequisite; others as a General Education Arts & Humanities elective. This course does not meet the Modern Language requirement.

FR 288 No Norwich Equivalent 6 Cr.

FR 2XX Intermediate French Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

FR 311 Advanced French I 3 Cr.
A continuation of grammar review at the advanced level; further development of oral expression through discussion and formal presentations. An introduction to the analysis of Francophone literature and film; an overview of major events, including cultural and scientific developments affecting French thought. Students will prepare written work in a workshop atmosphere in which rewriting and collaboration are encouraged in order to teach self-correction. Readings, lectures, discussions, student presentations, written work entirely in French. lecture 3 hours, laboratory 1 hour. Prerequisites: FR 206, NU language placement, or permission of the instructor.

FR 312 Advanced French II 3 Cr.
A continuation of grammar review at the advanced level; further development of oral expression through discussion and formal presentations. An introduction to the analysis of Francophone literature and film; an overview of major events, including cultural and scientific developments affecting French thought. Students will prepare written work in a workshop atmosphere in which rewriting and collaboration are encouraged in order to teach self-correction. Readings, lectures, discussions, student presentations, written work entirely in French. lecture 3 hours, laboratory 1 hour. Prerequisites: FR 206, NU language placement or permission of the instructor.

FR 321 A Survey of French Literature I 3 Cr.
An introduction to French Literature. Lectures, reading, discussion in French. Includes an historical survey of French civilization comprising developments in art, music, philosophy and science. Readings in French literature from the Middle Ages to 1789, from the chivalrous medieval epic to the philosophes of the Enlightenment and expression of the egalitarian ideal of the revolution.. Readings, lectures, discussions, student presentations, written work entirely in French. Prerequisites: FR 206, or a 300-level course (may be taken concurrently), NU language placement, or permission of the instructor.

FR 322 A Survey of French Literature II 3 Cr.
An introduction to French Literature. Lectures, reading, discussion in French. Includes an historical survey of French civilization comprising developments in art, music, philosophy, the technology of warfare and the sciences. Readings in French literature from Romanticism to literature of the Absurd and beyond. Readings, lectures, discussions, student presentations, written work entirely in French. Prerequisites: FR 206, or a 300-level course (may be taken concurrently), NU language placement, or permission of the instructor.

FR 327 French Literature since 1900 I 3 Cr.
A study of French literature (novel) from the latter part of the 19th century to the present day. Topics of study include concurrent developments in the other art forms and in the sciences; the impact of the World Wars on Francophone authors and artists. Readings, lectures, discussions, student presentations, written work in French. Prerequisites: FR 206, or a 300-level course (may be taken concurrently), NU language placement, or permission of the instructor.

FR 328 French Literature since 1900 II 3 Cr.
A study of French literature (poetry, theater, and film) from the latter part of the 19th century to the present day. Topics of study include concurrent developments in the other art forms and in the sciences; the impact of the World Wars on Francophone authors and artists. Readings, lectures, discussions, student presentations, written work in French. Prerequisites: FR 206, or a 300-level course (may be taken concurrently), NU language placement or permission of the instructor.

FR 331 Advanced French Composition, Conversation, and Translation I 3 Cr.
A course in French stylistics, translation, oral reports and discussions in French. Prerequisites: FR 206, or a 300-level course (may be taken concurrently), NU language placement or permission of instructor.

FR 332 Advanced French Composition, Conversation, and Translation II 3 Cr.
A course in French stylistics, translation, oral reports, and discussions in French. Prerequisites: FR 206, or a 300-level course (may be taken concurrently), NU language placement or permission of instructor.

FR 350 Topics Course 3 Cr.
Specialized topics relating to French and Francophone culture, literature, business practices, or language. Topic will be indicated in the schedule of classes. Taught in French. Topics in Literature count as Literature elective; others Arts & Humanities elective. Course may be repeated for credit if the topic differs. Prerequisite:FR 206, FR 300; level, NU Foreign Placement Language test or permission of the instructor.

FR 350EN Topics Course in English 3 Cr.
Specialized topics relating to French and Francophone culture, literature, business practices, or language. Topic will be indicated in the schedule of classes. Taught in English. Topics in Literature count as a General Education Literature elective and have EN 102 as a prerequisite; others as a General Education Arts & Humanities elective. This course does not meet the Modern Language requirement.

FR 388 No Norwich Equivalent 6 Cr.

FR 3XX Advanced French Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

FR 415 Seminar: Topics in French Literature 3 Cr.
Study of a particular author, theme, genre, or literary movement, including cultural themes. Offered as occasion demands. Topic varies each year these courses are offered. Prerequisites: FR300-level course or permission of instructor. (Occasionally).

FR 421 Reading and Research on a Topic in French Literature and Civilization 3 Cr.
A report on an approved project of original research in French literature or civilization under the direction of a department member. Limited to students who have demonstrated aptitude for independent work. May be scheduled either or both semesters. Prerequisites: FR 300-level course, permission of the department chair and course instructor.

FR 488 No Norwich Equivalent 6 Cr.

Geography (GE)

Courses

GE 104 Introduction to Geography 3 Cr.
A survey of man's occupancy of the earth, his cultures and economies, their distribution and spatial relationships.

GE 188 No Norwich Equivalent 6 Cr.

GE 1XX Geography Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

GE 288 No Norwich Equivalent 6 Cr.

GE 2XX Geography Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

GE 300 Topics in Geography 3 Cr.
Select topics offered on occasion.

GE 388 No Norwich Equivalent 6 Cr.

GE 488 No Norwich Equivalent 6 Cr.

Geology (GL)

Courses

GL 110 Introduction to Geology 4 Cr.
An introduction to Earth's internal and external physical processes, its materials and landforms, and the connection between natural phenomena and humans. The lab includes field investigation, rock and mineral identification, and geologic data gathering and analysis. 3 lecture hours, 2 laboratory hours. (Fall, Spring).

GL 111 Oceanography 4 Cr.
A basic survey of the physical, chemical, and geologic character of the world's oceans. Topics include patterns of energy exchange, chemical cycles, geological environments within the sea, evolution of ocean basins, and marine environmental issues. 3 lecture hours, 2 laboratory hours. (Spring).

GL 156 Introduction to Earth Evolution 4 Cr.
An introduction to the 4600-million-year history of the evolution of Earth and life. Data and scientific theories for Earth history are presented for major Earth events. The lab focuses on fossil and rock identification, interpretation of ancient environments, and use of the rock record to reconstruct Earth's evolution. 3 lecture hours, 2 laboratory hours. (Spring).

GL 188 No Norwich Equivalent 6 Cr.

GL 1XL Geology Lab Transfer Elective 4 Cr.
This course is used for transfer when no equivalent Norwich course exists.

GL 1XX Geology Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

GL 251 Sophomore Seminar in Geology 1 Cr.
Introduces the fundamentals of scientific investigation and communication. An experimental project introduces the Scientific Method, while scientific literature is introduced and coupled with instruction in and application of technical writing. Students learn to communicate scientific information in poster and oral presentations and they initiate development of their professional portfolio. 1 lecture hour. May not earn credit for both ES 251 and GL 251. (Fall).

GL 253 Geomorphology 4 Cr.
Examines the origin and evolution of Earth’s surface features by geological processes acting upon various Earth materials and geological structures. 2 lecture hours, 4 laboratory and/or field hours. Prerequisite: GL 110 (Fall, odd years).

GL 255 Hydrogeology 3 Cr.
Provides examination of the basic principles of groundwater, including its occurrence, flow and development, the assessment and remediation of groundwater contamination, and the protection of groundwater as a natural resource. 3 lecture hours. Prerequisite: MA 107, EG 109 or GL 110 or GL 156 (Spring).

GL 257 Sedimentology 4 Cr.
A course that provides the analysis and interpretation of sedimentary rocks, sedimentary processes and environments of deposition. 3 lecture hours, 4 laboratory and/or field hours. Prerequisite: GL 110, GL 111 or GL 156 (Fall, even years).

GL 258 Stratigraphy and Tectonics 4 Cr.
Introduces the fundamentals of stratigraphy and the sedimentary record of regional geological evolution. Principle topics include: regional correlation, hydrocarbon exploration geology, and the sedimentary record of orogenesis. The stratigraphy of Vermont and elsewhere is used, in light of tectonics, to reconstruct continent and basin evolution. 3 lecture hours, 3 laboratory hours. Prerequisite: GL 110 (Spring, odd years).

GL 260 Project in Geology 1-4 Cr.
Students conduct an independent study on a geological field or laboratory project. Topic chosen by mutual consent of the student and the instructor. A written report is required. May be repeated one time for credit. Prerequisite: GL 110 or GL 111 or GL 156, and Department Chair permission. (Occasionally).

GL 261 Field Geology 4 Cr.
A study of the techniques used in the measurement of large and small scale geologic structures. Emphasis is placed on field recognition of features such as bedding, cleavage, folds, faults and their use in geologic mapping. 3 lecture hours, 4 laboratory hours. Prerequisite: GL 110 or GL 156 or permission of the instructor. (Fall, even years).

GL 262 Structural Geology 4 Cr.
Students study the analysis and interpretation of patterns in the structural features of the Earth's crust. Topics include the genesis of tectonic features, analysis of strain in rocks, the interpretation of multiply-deformed rocks, and modeling of faults and fractures. 3 lecture hours, 3 labratory hours. Prerequisite: GL 261 or instructor permission. (Spring, odd years).

GL 263 Mineralogy 4 Cr.
Introductory crystallography and crystal chemistry are used to explain the properties of minerals. The major mineral groups are studied with a focus on developing competency in the identification of the ore minerals and the rock-forming minerals. Development of an understanding of mineral associations is emphasized in laboratory excercises and field trips. 3 lecture hours, 4 laboratory hours. Prerequisite: GL 110 or GL 156 or permission of the instructor. (Fall, odd years).

GL 264 Petrology 4 Cr.
Following an introduction to optical identification of the rock-forming minerals using the polarizing microscope, the mineralogy and textures of common rocks are studied by means of thin sections. The genesis of these rocks is explained through a study of the physical and chemical systems they represent. 2 lecture hours, 4 laboratory hours. Prerequisite: GL 263 (Spring, even years).

GL 265 Glacial Geology and Paleoclimate 4 Cr.
This course covers glaciology and glacial deposits and landforms, with a strong focus on field investigation, as well as presenting the data and hypotheses on Quaternary climate change, including traditional glacial chronology and marine and ice core data and resultant chronology. Global climate change, both past and present, is a central theme of the course. 3 lecture hours, 4 laboratory hours. Prerequisite: GL 110 (Fall, odd years).

GL 288 No Norwich Equivalent 6 Cr.

GL 290 Internship in Geology 1-4 Cr.
A course for geology internships on a topic chosen by mutual consent of the student and the instructor. A written report is required. May be repeated one time for credit. Prereqs: GL 110, or GL 111, or GL 156, 2.0 cum. GPA and Department Chair permission. (Occasionally).

GL 340 Project Development in Geology 1 Cr.
Develops the skills for designing and executing an original scientific research project. Topics include research plan development, literature research to inform methodology, generation of site maps and protocols for collecting field and laboratory data, and generation of a properly formatted research proposal. 1 lecture hour. Prerequisite: Geology or Environmental Science major, Junior standing or higher and permission of instructor. (Spring).

GL 388 No Norwich Equivalent 6 Cr.

GL 440 Research Project in Geology 3 Cr.
A capstone original research project under the direction of a faculty member in coordination with others taking this course. Field and laboratory work will generate new data on an expanding base; after analysis and interpretation, data will be presented in a technical format. All aspects of the project will be interpreted in the context of the literature. Prerequisite: GL 340. May not receive credit for both ES 440 this course and GL 440. (Fall).

GL 451 Geology Seminar 3 Cr.
A capstone seminar experience integrating reading, writing, and group participation focused on Earth and environmental issues. Discussions explore links between society and global systems. 3 lecture hours. Credit cannot be received for this course and ES 451. Prerequisite: Senior standing.(Spring).

GL 460 Project Completion in Geology 1 Cr.
Follows work in GL 440. Students integrate the body of scientific knowledge into a professional and technical report. Students work collaboratively with their research advisor. 1 lecture hour. Prerequisite: GL 440 (Spring).

GL 488 No Norwich Equivalent 6 Cr.

German (GR)

Courses

GR 121 Beginning German I 4 Cr.
Students progress along the first steps towards acquiring basic languages skills: speaking, listening, reading, and writing, with a focus on their use for several modes of communication, such as the interpersonal, the interpretive, and the informative, within the context of the cultures of the German-speaking world. For students with little or no previous exposure to German. 4 lecture hours.

GR 122 Beginning German II 4 Cr.
Students continue progress toward novice-high skill levels in speaking, listening, reading, and writing - and their use in several modes of communication: the interpersonal, the interpretive, and the informative - all within the context of the cultures of the German-speaking world. 4 lecture hours. Prerequisite: GR 121 or the equivalent score on the Foreign Language Placement Test.

GR 150 Topics Course 3 Cr.
Specialized topics relating to culture, business practices, or language. Topic will be indicated in the schedule of classes. This is an introductory-level course. Course may be repeated for credit if the topic differs. Taught in German.

GR 150EN Topics Course in English 3 Cr.
Specialized topics relating to culture, literature, business practices, or language. Topic will be indicated in the schedule of classes. Taught in English. This course does not meet the Modern Language requirement.

GR 188 No Norwich Equivalent 6 Cr.

GR 1XX German Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

GR 205 Intermediate German I 3 Cr.
A sequence that provides aural-oral practice in German, in which students are enabled to enter into full discussion of topics that include abstract themes; review and expanded use of syntactical structures; intensive and extensive reading; and composition. 3 lecture hours, laboratory 1 hour. Prerequisite: GR 122 or NU Placement test.

GR 206 Intermediate German II 3 Cr.
A sequence that provides aural-oral practice in German, in which students are enabled to enter into full discussion of topics that include abstract themes; review and expanded use of syntactical structures; intensive and extensive reading; and composition. 3 lecture hours, laboratory 1 hour. Prerequisite: GR 205 or NU Placement test.

GR 250 Topics Course 3 Cr.
Specialized topics relating to culture, literature, business practices, or language. Topic will be indicated in the schedule of classes. Taught in German. Prerequisite: GR206 or permission of the instructor. Counts as Arts & Humanities elective. Course may be repeated for credit if the topic differs.

GR 250EN Topics Course in English 3 Cr.
Specialized topics relating to culture, literature, business practices, or language. Topic will be indicated in the schedule of classes. Taught in English. Topics in Literature count as a General Education Literature elective. Others as a General Education Arts & Humanities elective. This course does not meet the Modern Language requirement. Prerequisite: EN 102.

GR 288 No Norwich Equivalent 6 Cr.

GR 2XX Intermediate German Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

GR 321 Survey of German Culture I: From the Beginnings to 1848 3 Cr.
Introduction to major currents in German social, political and cultural history from the time of the Roman Empire until the Revolution of 1848. Taught in German. Prerequisite: GR 206 or equivalent.

GR 322 Survey of German Lit I: From the Beginnings to 1848 3 Cr.
Introduction to major texts and literary figures from the Roman Era until the Revolution of 1848, including, among others, Tacitus, Charlemagne, the courtly poets, Luther, the literary Baroque, Lessing, Goethe, Schiller, Kleist, the brothers Grimm, Büchner and Heine. Taught in German. Prerequisite: GR 206 or equivalent.

GR 323 Survey of German Culture II: 1848 to 1945 3 Cr.
Introduction to major currents in German social, political, and cultural history from the evolution of 1848 through Bismarck and German unification to World War 1, the Weimar Republic, and the period of Fascism and the Holocaust. Taught in German. Prerequisite: GR 206 or equivalent.

GR 324 Survey of German Literature II: 1848 to 1945 3 Cr.
Introduction to major texts and literary figures from the first unification of Germany until the end of World War II, including Nietzsche, Hofmannsthal, Rilke, Thomas Mann, Kafka, Brecht, and others. Taught in German. Prerequisite: GR 206 or equivalent.

GR 325 Survey of German Culture III: 1945 to the Present 3 Cr.
Introduction to major currents in German social, political, and cultural history of the Germanies and Austria, post-war to post-wall: the period of Allied occupation followed by the economic miracle of the 1950s and 60s, radicalism and upheaval in the late 60s and 70s, and finally, the rise and fall of the Berlin Wall, culminating in the uneasy co-existence between East and West that has prevailed since re-unification. Taught in German. Prerequisite: GR 206 or equivalent.

GR 326 Survey of German Literature III: 1945 to the Present 3 Cr.
Introduction to major texts and literary figures active since the end of World War II, including Borchert, Böll, Celan, Bachmann, Frisch, Dürrenmatt, Grass, Christa Wolf, Peter Schneider, Jurek Becker and others. Taught in German. Prerequisite: GR 206 or equivalent.

GR 350 Topics Course 3 Cr.
Specialized topics relating to culture, literature, business practices, or language. Topic will be indicated in the schedule of classes. Taught in German. Prerequisite: GR 206, GR 300; level, NU Foreign Placement Language test, or permission of the instructor. Course may be repeated for credit if the topic differs; up to ten different topics.

GR 350EN Topics Course in English 3 Cr.
Specialized topics relating to culture, literature, business practices, or language. Topic will be indicated in the schedule of classes. Taught in English. Topics in Literature count as a General Education Literature elective; others as a General Education Arts & Humanities elective. Course may be repeated for credit if the topic differs. This course does not meet the Modern Language requirement. Prerequisite: EN 102.

GR 388 No Norwich Equivalent 6 Cr.

GR 3XX Advanced German Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

GR 415 Seminar on a Topic in German Literature and Culture 3 Cr.
A study of a particular author, theme, genre, or literary movement, including cultural themes. Offered as occasion demands. Topic varies each year these courses are offered.

GR 421 Reading and Research in German Literature or Civilization 3 Cr.
A report on an approved project of original research in literature or civilization under the direction of a department member. Limited to students who have demonstrated aptitude for independent work. May be scheduled either or both semesters. Prerequisite: permission of the department chair.

GR 488 No Norwich Equivalent 6 Cr.

Health Science (HE)

HE 136 Emergency Care of Injury and I 3 Cr.
Follows the national standards for Advanced First Aid, CPR for Professional Rescuers, and Bloodborne Pathogens. Recognition, care, and temporary treatment of injuries and illness are discussed and the associated skills are practiced. In addition, this course will introduce basic concepts of emergency actions plans and initial injury evaluation. Upon successful completion of the course, students will be awarded national certification cards for: Advanced First Aid, CPR for Professional Rescuers, and Bloodborne Pathogens training. 2 lecture hours, 2 laboratory hours. (Spring).

HE 138 Introduction to Health Professions 3 Cr.
Provides students with an introduction to the principles of pharmacology, medical terminology, and documentation used in the care of physically active individuals. Students will have opportunities to explore various careers in the field of healthcare. 3 lecture hours. Prerequisite: Health Science (HLS) standing. (Fall).

HE 139 Health Science Research Methods 3 Cr.
Provides the foundation for understanding basic research methods and the application of research findings to health care. Current literature is used to demonstrate the fundamentals of research design. Focus is on concepts of evidence-based practice with emphasis on forming answerable clinical questions, effective literature search strategies, and evaluation of the strength and relevance of clinical evidence. 3 lecture hours. (Fall).

HE 188 No Norwich Equivalent 6 Cr.

HE 200 Foods and Nutrition 4 Cr.
Provides a background in organizational structure and activities that emphasize the physiological basis of nutrition with an analysis of nutritional needs at various age levels. Consideration given to the relationship of nutrition to health and fitness, principles of food selection, metabolism of nutrients, vitamins and minerals, energy balance and obesity, food safety and technology. 3 Lecture hours. 2 Laboratory hours. Prerequisite: BI 101 (Spring).

HE 212 Health Promotion 3 Cr.
Provides students with the knowledge and skills essential for understanding the etiology and prevention of common injuries and illness. Students will learn practical and theoretical skills needed to plan, implement, and evaluate health promotion programs in a variety of settings. Students will gain an understanding of how assessment, public policy, culture, and research impact health promotion planning. 3 lecture Hours. Prerequisites: PE 163, HE 139. (Fall).

HE 214 Clinical Anatomy 3 Cr.
This course is designed to explore musculoskeletal anatomy relating to human performance. Students will be able to identify major anatomical landmarks through palpation and perform range of motion assessments upon completion of the course. 3 lecture hours. Prerequisite/ Corequisite: BI 215, BI 216.

HE 256 Fundamentals of Epidemiology 3 Cr.
Covers applications of Epidemiologic methods and procedures to the study of the distribution and determinants of health and diseases, morbidity, injuries, disability, and mortality in populations. Epidemiologic methods for the control of conditions such as infectious and chronic diseases, mental disorders, community and environmental health hazards, and unintentional injuries are discussed. Other topics include quantitative aspects of epidemiology, data sources, measures of morbidity and mortality, evaluation of association and causality, study design, and screening for disease. 3 lecture hours. Prerequisites: SM 139 Health Science Research Methods and MA 232 Elementary Statistics. (Spring).

HE 288 No Norwich Equivalent 6 Cr.

HE 310 Pathophysiology in Sports Medicine 4 Cr.
The study of human pathology with primary emphasis on the pathogenesis of those pathological states most commonly encountered in sports medicine, their disruption of normal physiology and the body's mechanism for restoring the steady state (homeostasis) are discussed in this course. The biology of the disease process is examined at the molecular, cellular, tissue, organ and organ system level. 3 Lecture hours. 2 Laboratory hours. Prerequisites: BI 215, BI 216, Grade C or higher or Permission of instructor. (Spring).

HE 388 No Norwich Equivalent 6 Cr.

HE 439 Leadership & Management in Healthcare 3 Cr.
Focuses on leadership, management, and professional ethics in healthcare. Students will complete a series of organization and administrative projects and papers focused on personal and professional ethics. 3 lecture hours. Prerequisite: J2 standing or higher.

HE 450 Evidence - Based Healthcare 3 Cr.
A culminating experience in the health science program providing students an opportunity to synthesize, integrate and apply skills and competencies gained through their previous coursework. Students develop an evidence-based research topic or service project in healthcare based on an area of interest, prepare a written review of the existing scientific literature, and present work at the end of the semester. Satisfies general education capstone requirement. J2 or higher Health Science (HLS) standing. 3 lecture hours. Prerequisites: HE 212 Health Promotion, HE 256 Fundamentals of Epidemiology. (Spring).

HE 488 No Norwich Equivalent 6 Cr.

HE 501 Athletic Training in Healthcare 1 Cr.
Provides the framework of athletic training practice as a member in a healthcare system. Students apply concepts of evidence-based practice, disablement models, and health information technologies in the investigation of Athletic Training within a global health care system. 2 lecture hours. Prerequisite: MAT students and HS majors on accelerated MAT track. (Fall).

HE 502 Musculoskeletal Evaluation and Interventions 4 Cr.
Provides the foundational knowledge and skills required to evaluate the musculoskeletal system as well as select and safely apply therapeutic interventions. Patient evaluations and effectiveness of interventions applied will be documented in electronic medical records. An evidence-based approach to selecting interventions will be utilized throughout the course. 6.5 lecture hours, 2 lab hours. Prerequisite: MAT students and HS majors on accelerated MAT track. (Fall).

HE 503 Clinical Experience in Athletic Training I 2 Cr.
Focuses on the student's clinical application of knowledge previously learned in didactic courses. Students participate in clinical experience rotations that provide the opportunity for structured observation, and evaluation of clinical competencies/proficiencies under the direct supervision of a Preceptor at the University or an affiliated site. 6 hours clinical. Prerequisite: MAT students and HS majors on accelerated MAT track. (Fall).

HE 504 Advanced Emergency Management 1 Cr.
Focusing on the essential skills required for students to be able to appropriately prevent, plan for, respond to, and manage emergencies in athletic medicine. Topics within the course consist of patient assessment, advanced wound closure, treatment of the equipment-laden athlete, environmental emergencies, and implementing emergency action plans. Inter-professional communication and care will be emphasized throughout. 2 lecture hours. Prerequisite: MAT students and HS majors on accelerated MAT track. (Fall).

HE 505 Care of Orthopedic Injuries I 4 Cr.
Explores injuries and conditions affecting the lumbar spine and lower extremity. Students incorporate concepts in evidence-based practice, health information technology, and musculoskeletal evaluation and apply them specifically to lumbar and lower extremity pathologies in formulating a plan of care. 6.5 lecture hours, 2 lab hours. Prerequisite: MAT students and HS majors on accelerated MAT track. (Fall).

HE 506 Therapeutic Interventions I 3 Cr.
Investigates technological and other mechanical agents that may be implemented in patient care that facilitate recovery from injury and promote overall improved health. Students select, and gain experience using, current biometric measurement tools to track health, physical modalities to promote the healing environment, and hands-on clinical skills that may facilitate a patient's recovery. 2 lecture hours, 1 lab hour. Prerequisite: MAT students and HS majors on accelerated MAT track. (Fall).

HE 507 Care of Orthopedic Injuries II 4 Cr.
Explores injuries and conditions that may affect the cervical spine, thoracic spine, and upper extremity. Students incorporate concepts in evidence-based practice, health information technology, and musculoskeletal evaluation and apply them specifically to spine and upper extremity pathologies in formulating a plan of care. 3 lecture hours. 1 lab hour. Prerequisite: HE 505 Care of Orthopedic Injuries 1 (B). MAT students and HS majors on accelerated MAT track. (Spring).

HE 508 Therapeutic Interventions II 4 Cr.
Investigates the application of various therapeutic activities implemented in order to aid in patient recovery from injury and restoration of function. Students select and gain experience using current techniques for describing dysfunction as well as various techniques for improving patient's mobility, strength, and activity performance in order to facilitate a patient's recovery. 3 lecture hours. 1 lab hour. Prerequisite: HE 506 Therapeutic Interventions 1 (B). MAT students and HS majors on accelerated MAT track. (Spring).

HE 509 Clinical Experience in Athletic Training II 3 Cr.
Focuses on the student's clinical application of knowledge previously learned in didactic courses. Students participate in clinical experience rotations that provide the opportunity for hands-on application, demonstration, and evaluation of clinical competencies/proficiencies under the direct supervision of a Preceptor at the University or an affiliated site. 9 hours clinical. Prerequisite: HE 503 Clinical Experience in Athletic Training I, HE 501 Athletic Training in Healthcare, HE 502 Musculoskeletal Evaluation and Intervention, HE 504 Advanced Emergency Management, HE 505 Care of Orthopedic Injuries I, HE 506 Therapeutic Interventions I (B) MAT students and HS majors on accelerated MAT track. (Spring).

HE 510 Simulation in Athletic Training I 1 Cr.
Students perform clinical testing in a laboratory setting with the course instructor that re-evaluates students' psychomotor and critical thinking skills through mock patient interaction during scenario-based simulations. 1 practicum hour. Prerequisite: HE 503 Clinical Experience in AT I (B), HE 501 Athletic Training in Healthcare (B), HE 502 Musculoskeletal Evaluation and Intervention (B), HE 504 Advanced Emergency Management (B), HE 505 Care of Orthopedic Injuries I (B), HE 506 Therapeutic Interventions I (B). Graduate studies in Athletic Training; MAT students and HS majors on accelerated MAT track. (Spring).

HE 601 Medical Conditions in Athletic Training 1 3 Cr.
Students investigate pathologies that are common in physically active individuals by applying prior knowledge of the evaluation process as well as perform and interpret appropriate diagnostic testing necessary in the evaluation, and management of acute and chronic medical conditions affecting physical health. Body systems examined include the nervous system, cardiovascular system, respiratory system, eyes, ears, nose, and throat. 3 lecture hours. 1 lab hour. Prerequisite: HE 504 Advanced Emergency Management (B), HE 502 Musculoskeletal Evaluation and Interventions (B). Graduate Studies in Athletic Training. (Summer).

HE 602 Medical Conditions in Athletic Training II 3 Cr.
Students investigate pathologies that are common in physically active individuals by applying prior knowledge of the evaluation process as well as perform and interpret appropriate diagnostic testing necessary in the evaluation, and management of acute and chronic medical conditions affecting physical and mental health. Body systems examined include the gastrointestinal, renal, genitourinary, endocrine, and immune systems. Students also critically examine the role of mental health in athletic training. 3 lecture hours, 1 lab hour. Prerequisite: HE 504 Advanced Emergency Management (B), HE 502 Musculoskeletal Evaluation and Interventions (B). Graduate studies in Athletic Training. Course must be passed with a grade of B to progress in the program. (Summer).

HE 603 Clinical Experience in Athletic Training III 2 Cr.
Focuses on the student's clinical application of knowledge previously learned in didactic courses. Students participate in a clinical experience rotation that provides the opportunity for hands-on application, demonstration, and evaluation of clinical competencies/proficiencies under the direct supervision of a Preceptor at the University or an affiliated site. 32 hours clinical. Prerequisite: HE 509 Clinical Experience in Athletic Training II (B), HE 510 Simulation in Athletic Training I (B), HE 508 Therapeutic Interventions II (B), HE 601 Medical Conditions in Athletic Training (B). Graduate studies in Athletic Training. (Summer).

HE 604 Clinical Experience in Athletic Training IV 5 Cr.
Focuses on the student's clinical application of knowledge previously learned in didactic courses. Students participate in a clinical experience rotation that provides the opportunity for hands-on application, demonstration, and evaluation of clinical competencies/proficiencies under the direct supervision of a Preceptor at the University or an affiliated site. 32 hours clinical. Prerequisite: Graduate studies in Athletic Training. Prerequisite: HE 603 Clinical Experience III (B). (Fall).

HE 605 Administration in Athletic Training 2 Cr.
Emphasis is placed on the development and critical analysis of policies and procedures guiding clinical practice and management of athletic training facilities in order to provide patient-centered care to a variety of populations. 2 lecture hours. Prerequisite: HE 602 Medical conditions in AT 2 (B). Graduate Studies in Athletic Training. (Fall).

HE 606 Injury and Disease Prevention 3 Cr.
Investigates the prevalence of common diseases and health conditions in athletic and physically active populations. Students evaluate patients, select interventions, and provide education in order to prevent or minimize the effects of chronic health disorders, prevent injury, and improve sports performance. 5 lecture hours, 2 lab hours. Prerequisite: HE 502 Musculoskeletal Evaluation and Interventions (B), HE 602 Medical Conditions in Athletic Training II (B). Graduate Studies in Athletic Training. (Fall).

HE 607 Simulation in Athletic Training II 1 Cr.
Students perform clinical testing in a laboratory setting with the course instructor that re-evaluates students' psychomotor and critical thinking skills through mock patient interaction during scenario-based simulations. 2 lab hours. Prerequisite: HE 508 Therapeutic Interventions II (B), HE 602 Medical Conditions in Athletic Training II (B), HE 507 Care of Orthopedic Injuries II (B). Graduate studies in Athletic Training. (Fall).

HE 608 Leadership and Professional Advancement 3 Cr.
Examines professional regulatory agencies in the field of Athletic Training to provide context for how the profession may be advanced. Students learn different leadership styles that will be applied in a service-oriented project promoting the profession of Athletic Training. 3 lecture hours. Prerequisite: HE 605 Administration in Athletic Training. Graduate studies in Athletic Training. (Spring).

HE 609 Simulation in Athletic Training III 1 Cr.
Students perform clinical testing in a laboratory setting where students' patient interaction, psychomotor, and critical application skills are re-evaluated. Testing reinforces material from the previous semester, and includes skills in musculoskeletal evaluation of the lower extremity and emergency care. Course must be passed with a grade of B to progress in the program. 2 lab hours. Prerequisite: HE 605 Administration in Athletic Training (B), HE 606 Injury and Disease Prevention (B), HE 607 Simulation in Athletic Training II (B). Graduate Studies in Athletic Training. (Spring).

HE 610 Clinical Experience V 3 Cr.
This course focuses on the student's clinical application of knowledge previously learned in didactic courses.The student will participate in clinical experience rotations that provide the opportunity for hands-on application, demonstration, and evaluation of clinical competencies/ proficiencies under the direct supervision of a Preceptor at the University or an affiliated site. 9 hours clinical. Prerequisite: HE 603 Clinical Experience in Athletic Training III (B), HE 605 Administration in Athletic Training (B), HE 606 Injury and Disease Prevention (B). Graduate studies in Athletic Training. (Spring).

HE 611 Seminar in Athletic Training 3 Cr.
Focuses on advanced skills related to leadership in sports medicine and addresses current "hot topics" pertinent to athletic training practice. 3 lecture hours. Prerequisite: HE 605 Administration in Athletic Training (B). Graduate Studies in Athletic Training. (Spring).

Health Science Courses

HE 136 Emergency Care of Injury and I 3 Cr.
Follows the national standards for Advanced First Aid, CPR for Professional Rescuers, and Bloodborne Pathogens. Recognition, care, and temporary treatment of injuries and illness are discussed and the associated skills are practiced. In addition, this course will introduce basic concepts of emergency actions plans and initial injury evaluation. Upon successful completion of the course, students will be awarded national certification cards for: Advanced First Aid, CPR for Professional Rescuers, and Bloodborne Pathogens training. 2 lecture hours, 2 laboratory hours. (Spring).

HE 138 Introduction to Health Professions 3 Cr.
Provides students with an introduction to the principles of pharmacology, medical terminology, and documentation used in the care of physically active individuals. Students will have opportunities to explore various careers in the field of healthcare. 3 lecture hours. Prerequisite: Health Science (HLS) standing. (Fall).

HE 139 Health Science Research Methods 3 Cr.
Provides the foundation for understanding basic research methods and the application of research findings to health care. Current literature is used to demonstrate the fundamentals of research design. Focus is on concepts of evidence-based practice with emphasis on forming answerable clinical questions, effective literature search strategies, and evaluation of the strength and relevance of clinical evidence. 3 lecture hours. (Fall).

HE 188 No Norwich Equivalent 6 Cr.

HE 200 Foods and Nutrition 4 Cr.
Provides a background in organizational structure and activities that emphasize the physiological basis of nutrition with an analysis of nutritional needs at various age levels. Consideration given to the relationship of nutrition to health and fitness, principles of food selection, metabolism of nutrients, vitamins and minerals, energy balance and obesity, food safety and technology. 3 Lecture hours. 2 Laboratory hours. Prerequisite: BI 101 (Spring).

HE 212 Health Promotion 3 Cr.
Provides students with the knowledge and skills essential for understanding the etiology and prevention of common injuries and illness. Students will learn practical and theoretical skills needed to plan, implement, and evaluate health promotion programs in a variety of settings. Students will gain an understanding of how assessment, public policy, culture, and research impact health promotion planning. 3 lecture Hours. Prerequisites: PE 163, HE 139. (Fall).

HE 214 Clinical Anatomy 3 Cr.
This course is designed to explore musculoskeletal anatomy relating to human performance. Students will be able to identify major anatomical landmarks through palpation and perform range of motion assessments upon completion of the course. 3 lecture hours. Prerequisite/ Corequisite: BI 215, BI 216.

HE 256 Fundamentals of Epidemiology 3 Cr.
Covers applications of Epidemiologic methods and procedures to the study of the distribution and determinants of health and diseases, morbidity, injuries, disability, and mortality in populations. Epidemiologic methods for the control of conditions such as infectious and chronic diseases, mental disorders, community and environmental health hazards, and unintentional injuries are discussed. Other topics include quantitative aspects of epidemiology, data sources, measures of morbidity and mortality, evaluation of association and causality, study design, and screening for disease. 3 lecture hours. Prerequisites: SM 139 Health Science Research Methods and MA 232 Elementary Statistics. (Spring).

HE 288 No Norwich Equivalent 6 Cr.

HE 310 Pathophysiology in Sports Medicine 4 Cr.
The study of human pathology with primary emphasis on the pathogenesis of those pathological states most commonly encountered in sports medicine, their disruption of normal physiology and the body's mechanism for restoring the steady state (homeostasis) are discussed in this course. The biology of the disease process is examined at the molecular, cellular, tissue, organ and organ system level. 3 Lecture hours. 2 Laboratory hours. Prerequisites: BI 215, BI 216, Grade C or higher or Permission of instructor. (Spring).

HE 388 No Norwich Equivalent 6 Cr.

HE 439 Leadership & Management in Healthcare 3 Cr.
Focuses on leadership, management, and professional ethics in healthcare. Students will complete a series of organization and administrative projects and papers focused on personal and professional ethics. 3 lecture hours. Prerequisite: J2 standing or higher.

HE 450 Evidence - Based Healthcare 3 Cr.
A culminating experience in the health science program providing students an opportunity to synthesize, integrate and apply skills and competencies gained through their previous coursework. Students develop an evidence-based research topic or service project in healthcare based on an area of interest, prepare a written review of the existing scientific literature, and present work at the end of the semester. Satisfies general education capstone requirement. J2 or higher Health Science (HLS) standing. 3 lecture hours. Prerequisites: HE 212 Health Promotion, HE 256 Fundamentals of Epidemiology. (Spring).

HE 488 No Norwich Equivalent 6 Cr.

Interdisciplinary Courses

ID 110 Ecology and Geology of the Connecticut River Valley 4 Cr.
This course starts with a four-day, on-campus, period. Where there are lectures and presentations on water chemistry, water pollution, flora and fauna of the river and valley, and geology of the Connecticut River valley. Canoe instruction, biological and geological identification procedures, surveying methods, and water analysis techniques are also taught. A nine-day canoe trip follows where the ecology and geology of the upper river valley are studied. The final day of the course is on campus for additional testing and the preparation of final reports. This four-credit laboratory science course is intended for non-science majors and is offered during the time between graduation and the beginning of summer school. Lecture hours: 33 (total); Lab hours 133 (total).

ID 188 No Norwich Equivalent 6 Cr.

ID 199 Pilot Course 1 Cr.
A course is permitted to run as a pilot without seeking faculty approval for one academic year. The section will include the title of the course. A student will not earn credit for a pilot course and the course when approved as its own course.

ID 1XX Interdisciplinary Elective 1 Cr.

ID 223 Topics in Interdisciplinary Humanities 3 Cr.

ID 288 No Norwich Equivalent 6 Cr.

ID 299 Pilot Course 3 Cr.
Topics in Interdisciplinary Humanities courses are team-taught by faculty in Humanities fields with faculty outside of the Humanities. Courses explore a specific topic related to human experience and promote interdisciplinary engagement, critical thinking, collaboration, and creativity. Students will participate in discussions, hands-on activities, and research around the selected course theme. Assignments will be focused on developing critical thinking, writing, communication, and research skills in an interdisciplinary setting to provide a well-balanced and integrative academic experience. Sample course topics include: Narrative Medicine, Geoarchaeology of Lost Cities, True Crime, and Game Theory: The Art of Strategy. These courses are offered as part of the Norwich Humanities Initiative.3 lecture hours. Goal 3: Arts & Humanities.

ID 388 No Norwich Equivalent 6 Cr.

ID 488 No Norwich Equivalent 6 Cr.

History (HI)

Courses

HI 105 First Year Seminar 3 Cr.
This course will introduce first-year students to the essential skills that contribute to academic success by exploring topical themes of broad historical interest and significance. The course will emphasize critical reading, persuasive and expository writing, making and defending oral and written arguments, public speaking, and study skills. 3 lecture hours. Prerequisites: Open to freshman History and Studies of War and Peace majors. (Fall).

HI 107 The History of Civilization I 3 Cr.
A survey providing a global perspective of the history of human cultures and institutions from earliest times to 1500 CE, focusing on Europe, Asia, and Africa. The course offers an active and participatory environment to the study of history through discussions, simulations, study of primary sources, and research assignments. 3 lecture hours. Prerequisites: Open to freshmen. (Offered annually).

HI 108 The History of Civilization II 3 Cr.
A survey of major world civilizations that provides a global perspective of the development of the modern world from 1500 to the present. The course offers an active and participatory environment to the study of history through discussions, simulations, study of primary sources, and research assignments. 3 lecture hours. Prerequisites: Open to freshmen. (Offered annually).

HI 121 American History Survey I 3 Cr.
A survey of American history from the Age of Discovery to 1877. American institutions ranging from political and economic to social and cultural will be examined. 3 lecture hours. Prerequisites: Open to freshmen and Sophomores. (Offered annually).

HI 122 American History Survey II 3 Cr.
A continuing survey of multiple facets of American civilization as presented in HI 121, focusing on the period from the close of political Reconstruction in 1877 to the present. The maturation of democratic institutions and the emergence of the United States as a world power will also be examined. 3 lecture hours. Prerequisites: Open to freshmen and Sophomores. (Offered annually).

HI 188 No Norwich Equivalent 6 Cr.

HI 199 Pilot Course 1-6 Cr.
A course is permitted to run as a pilot, without seeking faculty approval for one academic year. The section will include the title of the course. A student will not earn credit for a pilot course and the course when approved as its own course.

HI 1XX History Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

HI 201 Ancient Greece and Rome 3 Cr.
A survey of Greek and Roman civilizations from the origins of the polis to the fall of the Western Roman Empire. 3 lecture hours. Prerequisite: Sophomore standing or higher. (Offered annually).

HI 202 The Middle Ages: Europe 500 - 1500 3 Cr.
The history of Europe from the fall of the Roman Empire to 1500. The class examines the major political, economic, social, and cultural trends in the development of a distinctive European civilization, built primarily on Christian, Greco-Roman, and Germanic foundations. 3 lecture hours. Prerequisite: Sophomore standing or higher. (Offered annually).

HI 211 Early East Asian Civilizations 3 Cr.
This broad, historical survey course is about the civilizations and cultures of East Asia and the people that lived in them until the immediate post-Mongol conquest period. The core of the course will cover the areas that include modern Japan, China and Korea with reference to the inner Asian steppes. This lecture based course will be supplemented by primary source readings and discussion on Chinese and Japanese cultures, art and political philosophy. 3 lecture hours. Prerequisite: Sophomore standing or higher. (Offered annually).

HI 212 Modern East Asian Civilizations 3 Cr.
This is a broad historical survey of the transformation of societies and states in East Asia from traditional empires to modern nation states. Rather than an exhaustive survey of facts and dates, this course is designed to introduce students to key questions in modern East Asian history. This lecture based course will be supplemented by primary source readings and discussion on Chinese and Japanese culture and politics. 3 lecture hours. Prerequisite: Sophomore standing or higher. (Offered annually).

HI 214 History of the Middle East 3 Cr.
This course is a survey of a historically vital region. It will include an overview of the area known as the “Cradle of Civilizations and Monotheism,” as well as the rise of the Islamic Caliphate, the rise and fall of the Ottoman Empire, and the late 19th and 20th Centuries European imperialism and colonialism. The greatest emphasis, however, will be on the modern period. In order to fully comprehend the contemporary situation, it is necessary to include an historical examination of the cultural and religious diversity, as well as the political complexity of the people and states which comprise the so-called Middle East. 3 lecture hours. Prerequisite: Sophomore standing or higher. (Offered annually).

HI 218 Survey of Sub-Sahara Africa 3 Cr.
This course encompasses the history of sub-Saharan Africa from approximately 1800 to the end of the so-called "Cold War." It is a comprehensive introduction to the numerous and diverse cultural, political, and economic entities comprising this complex area of the world. The central themes of the course, however, will be the related phenomena of the Trans-Atlantic Slave Trade, European colonialism, and western neo-colonialism and their varying impact upon the different regions. 3 lecture hours. Prerequisite: Sophomore standing or higher.

HI 223 Europe's Age of Revolution. 1500 -1800 3 Cr.
This course traces Europe's path from medieval to modern by examining a series of political, intellectual, and technological revolutions between 1500 and 1800. Topics will include the Reformation, Scientific Revolution, Enlightenment, American and French Revolutions, and the Industrial Revolution, all discussed within the broader context of cultural change, social reform, and technological development. 3 lecture hours. Prerequisite: Sophomore standing or higher. (Offered annually).

HI 224 Modern European History 3 Cr.
This course examines the political, military, and social history of Europe in the nineteenth and twentieth centuries. The nineteenth century witnessed remarkable changes in European society and politics. It was an age of romantics and reactionaries, liberals and imperialists, revolutionaries and racists, nationalists and irrationalists. At the beginning of the twentieth century, Europe dominated the world. However, two world wars, the rise and fall of fascism and communism, the concept of superpowers, and the growth of mass consumer society destroyed the old European hegemony and led to a new and evolving idea of "Europe". 3 lecture hours. Prerequisite: Sophomore standing or higher.

HI 227 Modern British History, 1688 - Present 3 Cr.
The history of the British Isles from the "Glorious Revolution" of 1688 to the region's current struggles with maintaining national identity at the dawn of the twenty-first century. Emphasis will be on the decline of the monarchy, the establishment of parliament as a truly representative body, and the rise and fall of the British Empire. 3 lecture hours. Prerequisite: Sophomore standing or higher.

HI 228 Norwich University History 3 Cr.
The history of Norwich University placed within the context of the history of higher education and the wider framework of U.S. cultural history. 3 lecture hours. Prerequisite: Sophomore standing or higher.

HI 230 Civil War Staff Ride 3 Cr.
A "staff ride" experience which provides detailed examination of the nature of combat in the Civil War and how military commanders, enlisted men, and civilians at multiple levels dealt with the challenges posed by the nineteenth century battlefield. Through research into specific figures from the war and extended travel to major battlefields of the conflict, students will be exposed to the notions of battlefield tactics and combat leadership in the U.S. Civil War. 3 lecture hours. Permitted to be repeated one time under a different topic. (Summer).

HI 235 Military History I 3 Cr.
This course provides an examination of the major issues evident in the study of military affairs from the dawn of time to the present day. Using a modular approach, this course will explore the following topics: mobile warfare, urban warfare, child soldiers, war in the air, civilians in the path of war, women in war, and the unintended consequences of warfare. 3 lecture hours. Prerequisite: Sophomore standing or higher. (Offered annually).

HI 236 Military History II 3 Cr.
This course provides an examination of the major issues evident in the study of military affairs from the dawn of time to the present day. Using a modular approach, this course will explore the following topics: the origins of war, total war, soldiers in war, military theory, insurgency & counterinsurgency warfare, military revolutions, and static warfare. 3 lecture hours. Prerequisite: Sophomore standing or higher. (Offered annually).

HI 249 Historical Methods 4 Cr.
Introduces the methods, techniques, and conventions of historical research and writing, including such skills as identifying, understanding, analyzing, and interpreting primary and secondary sources, compiling bibliographies, citing sources, and understanding historiography. There is also a career preparation component. 4 lecture hours. Prerequisites: History major with Freshman 2 status or higher. (Fall).

HI 260 Topics in History 3 Cr.
Selected topics in History.

HI 262 History of Baseball 3 Cr.
The course will utilize baseball as a focus for exploring major themes in American history since the 1840's, including race and gender, the law, foreign policy, popular culture, economics, literature, and player-owner relations. 3 lecture hours. (Spring, even years).

HI 288 No Norwich Equivalent 6 Cr.

HI 299 Pilot course 3-4 Cr.
A course is permitted to run as a pilot, without seeking faculty approval for one academic year. The section will include the title of the course. A student will not earn credit for a pilot course and the course when approved as its own course.

HI 2XX History Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

HI 303 Colloquium in Ancient History 3 Cr.
A reading and writing intensive course, emphasizing historical research and analytical skills. Possible topics include, but are not limited to, the development of historical writing, the Roman Empire, women in antiquity, pagans and Christians, etc. 3 lecture hours. Permitted to be repeated one time under a different topic. Prerequisite: C or better in one 200 level history course.

HI 304 Colloquium in Medieval History 3 Cr.
A reading and writing intensive course, emphasizing historical research and analytical skills. Possible topics include, but are not limited to, the Crusades. medieval Christianity and medieval women. 3 lecture hours. Permitted to be repeated once under a different topic. Prerequisite: C or better in one 200 level history course.

HI 315 Modern China 3 Cr.
A standard reading and lecture course, Modern China introduces students to the major processes shaping twentieth century Chinese history. The course emphasizes regional knowledge, historical research and analytical skills building. Major topics will include in all cases an overview of Chinese history since 1700 (late imperial and twentieth century "modern" China) with emphasis on political, social history and environmental developments. Other sub-topics in the course include, but are limited to, nation building/nationalism, gender issues, and border/ Central Asia relations. 3 lecture hours. Prerequisite: C or better in one 200 level history course. (Offered annually).

HI 317 Modern Japan 3 Cr.
A standard reading and lecture course, Modern Japan introduces students to the major processes of shaping twentieth century Japanese history. The course emphasizes regional knowledge, historical research and analytical skills building. Major topics will include in all cases an overview of Japanese history since 1868 (Tokugawa dissolution through the late twentieth century) with emphasis on political and economic history. Other sub-topics in the course include, but are not limited to, Japan-in-the-world (international relations), gender issues, ethnic relations and the environment. 3 lecture hours. Prerequisite: C or better in one 200 level history course.

HI 319 Colloquium in Chinese History 3 Cr.
This is a thematic, reading and writing intensive course, emphasizing historical research and analytical skills. Possible topics include, but are not limited to, the development of ethnicity and ethnic visions of regional history in China, China's military history, frontier/border history, Ancient China and Greece, etc. 3 lecture hours. May be repeated once with a different topic. Prerequisite: C or better in one 200 level history course.

HI 321 Reformation Europe 3 Cr.
The years immediately following the 1517 publication of Martin Luther's Ninety-Five Theses saw a sudden and unprecedented upheaval in European society. This course will examine the social, political, and spiritual context of late medieval Europe, then consider the implications of the Reformation for politics, gender and the modern world. Original sources in translation will form the basis for discussion, supplemented by lecture and secondary materials. 3 lecture hours. Prerequisite: C or better in one 200 level history course.

HI 322 Colloquium in Early Modern European History 3 Cr.
A reading and writing intensive course covering a specialized topic within the history of Early Modern Europe. Topics could include the Thirty Years War, Crime and Deviance, the Enlightenment, the French Revolution, or Persecution and Tolerance. Designed for history majors in their junior or senior years. Prerequisite: C or better in one 200 level history course or instructor permission. May be repeated for credit with a different topic.

HI 326 Nazi Germany and the Holocaust 3 Cr.
This course examines the political, military, cultural and social history of Germany during the period of Nazi rule, 1933-1945. Special attention is given to the sources of support for Nazism, the structure of the National Socialist state, the role of Adolf Hitler, and the Holocaust. 3 lecture hours. Prerequisite: C or better in one 200 level history course. (Every other year).

HI 329 Modern Russian History, 1917 to the Present 3 Cr.
This course examines the political, military, and social history of Russia and the Soviet Union from the birth of the Soviet state through the present day. The foundations of the Soviet state - ideological, industrial, and social - proved too shaky to support the needs and expectations of a modern society. From Nicholas II to Lenin, Stalin to Yeltsin, this course examines the unique and dynamic leadership of Russia, as well as the lives of ordinary people in this fascinating culture. 3 lecture hours. Prerequisite: C or better in one 200 level history course. (Every other year).

HI 331 The Colonial Period of American History 3 Cr.
A study of the settlement and development of the British colonies from their origins to 1763. 3 lecture hours. Prerequisite: C or better in one 200 level history course.

HI 332 The American Revolution 3 Cr.
A study of the separation of the 13 British colonies from the mother country and establishment of the United States as an independent nation in the period 1763-1789. 3 lecture hours. Prerequisite: C or better in one 200 level history course. (Every other year).

HI 333 Colloquium in Early American History 3 Cr.
An intensive reading, research and writing course focusing on selected topics relating to early American history. The chronological range of possible topics extends from the Age of Discovery in the sixteenth century through the American Revolution and the ratification of the U.S. Constitution in 1789. 3 lecture hours. Permitted to be repeated once under a different topic. Prerequisite: C or better in one 200 level history course.

HI 334 The Citizen-Soldier in American History 3 Cr.
An examination of the evolution of American military policy from the colonial era through the Vietnamese War, giving special attention to the perennial conflict between the advocates of a professional army and the proponents of a civilian soldiery. 3 lecture hours. Prerequisite: C or better in one 200 level history course.

HI 335 20th Century U.S. History 3 Cr.
A reading and writing intensive course, emphasizing historical research and analytical skills. Possible topics include, but are not limited to, the rise of political parties in the United States, the Gilded Age, etc. 3 lecture hours. Permitted to be repeated once under a different topic. Prerequisite: C or better in one 200 level history course.

HI 338 U.S. Diplomatic History, 1776-1914 3 Cr.
A study of the foreign relations and foreign policies of the United States from the American Revolution up to the First World War. Topics include territorial expansion, the War of 1812, the Mexican-American War, the expansion of American trade, and the Spanish-American War. 3 lecture hours. Prerequisite: C or better in one 200 level history course. (Every other year).

HI 339 U.S. Diplomatic History, 1914-present 3 Cr.
A study of the foreign relations and foreign policy of the United States from the First World War to the present. Topics include the two World Wars, the Cold War, the Korean War, the Vietnam War, and post-cold war policy. 3 lecture hours. Prerequisite: C or better in one 200 level history course. (Every other year).

HI 340 Colloquium in Twentieth Century United States History 3 Cr.
A reading and writing intensive course, emphasizing historical research and analytical skills. Possible topics include, but are not limited to, World War I, the Great Depression, the 1960's, and the Rise of the Modern Conservative Movement. 3 lecture hours. Permitted to be repeated once under a different topic. Prerequisite: C or better in one 200 level history course.

HI 341 U.S. Civil War Era, 1848-1877 3 Cr.
This course examines the causes of the American Civil War, the course of the conflict, and the subsequent period of reconstruction through 1877. 3 lecture hours. Prerequisite: C or better in one 200 level history course. (Every other year).

HI 345 Colloquium in the History of the Middle East & Northeast Africa 3 Cr.
The colloquium will be an intensive reading, research and writing course focusing on selected historical topics relating to this region of the world. Possible topics include, but are not limited to, the rise and expansion of Islam, the Medieval Middle East, the Axum Empire, European Imperialism and Colonialism, the Ottoman Empire, and the Arab-Israeli Conflict. 3 lecture hours. Permitted to be repeated once under a different topic. Prerequisite: C or higher in one 200 level history course.

HI 355 Colloquium in Modern Military History 3 Cr.
A reading and writing intensive course, emphasizing historical research and analytical skills. Possible topics include, but are not limited to, the First World War, the Second World War, the military history of Russia, etc. 3 lecture hours. Permitted to be repeated once under a different topic. Prerequisite: C or better in one 200 level history course.

HI 360 Topics in U.S. History 3 Cr.
Selected topics in U.S. History. Prerequisite: C or better in one 200 level history course.

HI 361 Topics in Modern European History 3 Cr.
Selected topics in Modern European History. Prerequisite: C or better in one 200 level history course.

HI 362 Topics in Pre Modern History 3 Cr.
Selected topics in Pre-Modern History. Prerequisite: C or better in one 200 level history course.

HI 363 Topics in Non-Western History 3 Cr.
Selected topics in Non-Western History. Prerequisite: C or better in one 200 level history course.

HI 371 Nation-Building 3 Cr.
This course provides an exposure to the challenges of crating or re-creating nations after a period of crisis and upheaval. Whether following wars, grants of independence from foreign rule, or human rights atrocities, countries must undertake political, economic, and social reforms to construct stable, popularly accepted, and economically viable polities. How have nations tried to accomplish this complex task in the past hundred years? Historical case studies may be drawn from Africa, the Caribbean, Europe, and Asia. 3 lecture hours. Prerequisite: C or better in one 200 level history course.

HI 372 Military History of the United States I, 1775-1902 3 Cr.
This course will trace the evolution of American military power from the early days of frontier and revolutionary conflict to an era of American imperial ambition at the end of the nineteenth century. Particular attention will be given to strategic challenges of protecting/expanding the American state, the tactical innovations and failures of nineteenth century warfare, and the formulation of the civil-military relationship in American politics and society. 3 lecture hours. Prerequisite: C or better in one 200 level history course. (Every other year).

HI 373 Military History of the United States II, 1902-Present 3 Cr.
This course will explore the evolution of the American military from its days as a small frontier force at the turn of the twentieth century to its present status as a multi-tasking, global power. Specifically, this course will examine the struggle of American political and military leaders to work together in developing strategies and tactics capable of tackling the complex challenges of modern warfare. 3 lecture hours. Prerequisite: C or better in one 200 level history course. (Every other year).

HI 381 Thirty Years War 3 Cr.
Three decades of devastating war, 1618-1648, claimed the lives of one-fourth of the population of central Europe and transformed the continent's religious and political map. The scale of the trauma, comparable to the World Wars and Holocaust of the 20th century, shaped the consciousness and subsequent development of European nations. This course will examine the revolutions in military technology and religious thought that fueled the conflict, study the events of the war as experienced by officers, soldiers, and civilians, and explore the lasting effects of the Treaty of Westphalia on the European state system. 3 lecture hours. Prerequisite: C or higher in 200-level history course.

HI 388 No Norwich Equivalent 6 Cr.

HI 3XX History Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

HI 400 Independent Study 3 Cr.
An opportunity for qualified upper-class students to engage in an intensive reading or research program in fields of interest not satisfactorily covered by regular course offerings. Periodic conferences will be required. Prerequisites: written consent of the instructor to a specific project presented by the applicant. (Occasionally).

HI 405 History Internship 3-12 Cr.
Supervised experience at a museum, archives, historical society, or restoration project involving research or field work. Direct participation in such activities as the editing of manuscripts, the interpretation of artifacts, or the preservation of historic structures. Prerequisite: permission of department chair. Typically, seniors only.

HI 430 Capstone Seminar in United States History 3 Cr.
A course for advanced students, primarily for senior History or Studies in War & Peace majors. Topics vary from semester to semester. 3 lecture hours. Prerequisite: One of HI 303, 304, 319, 322, 333, 340, 345, or 355 with a grade of C or higher and permission of instructor.

HI 431 Capstone Seminar in Modern European History 3 Cr.
A course for advanced students, primarily for senior History or Studies in War & Peace majors. Topics vary from semester to semester. 3 lecture hours. Prerequisite: One of HI 303, 304, 319, 322, 333, 340, 345, or 355 with a grade of C or higher and permission of instructor.

HI 432 Capstone Seminar in Pre-Modern History 3 Cr.
A course for advanced students, primarily for senior History or Studies in War & Peace majors. Topics vary from semester to semester. 3 lecture hours. Prerequisite: One of HI 303, 304, 319, 322, 333, 340, 345, or 355 with a grade of C or higher and permission of instructor.

HI 433 Seminar in Non-Western History 3 Cr.
A course for advanced students, primarily for senior History or Studies in War & Peace majors. Topics vary from semester to semester. 3 lecture hours. Prerequisite: One of HI 303, 304, 319, 322, 333, 340, 345, or 355 with a grade of C or higher and permission of instructor.

HI 488 No Norwich Equivalent 6 Cr.

HI 490 Honors in History I 3 Cr.
First semester of a two semester sequence honors thesis project. The first semester is devoted primarily to research. Does not fulfill distribution requirement for major. Prerequisite: permission of the program director and department chair.

HI 491 Honors in History II 3 Cr.
First semester of a two semester sequence honors thesis project. The first semester is devoted primarily to research. Does not fulfill distribution requirement for major. Prerequisite: History or Studies of War and Peace major, permission of the program director and department chair.

HI 4XX History Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

Honors Program (HN)

Courses

HN 101 Introductory Honors Seminar 3 Cr.
A reading and writing intensive course, emphasizing development of creative, analytical, problem-solving and communication skills while challenging students to approach the topics discussed from an interdisciplinary perspective. Offered every semester. Prerequisites: enrollment in Honors Program or permission of the Director of the Honors Program. Repeatable when topic is different. 3 lecture hours.

HN 188 No Norwich Equivalent 6 Cr.

HN 288 No Norwich Equivalent 6 Cr.

HN 301 Honors Thesis Preparation: Research Proposal 3 Cr.
A reading and writing intensive course in which students will prepare for an implementation of the Honors Thesis/ Project by working through the process of a research proposal development and writing. Prerequisites: enrollment in the Honors Program and permission of the Director of the Honors Program. 3 lecture hours. (Fall).

HN 388 No Norwich Equivalent 6 Cr.

HN 488 No Norwich Equivalent 6 Cr.

Information Assurance (IA)

Courses

IA 188 No Norwich Equivalent 6 Cr.

IA 241 Cyberlaw and Cybercrime 3 Cr.
This course includes extensive discussion of the legal constraints, both civil and criminal, that underlie acceptable behavior using computers and networks today. 3 lecture hours. Cross-listed with CJ 341; not permitted to earn credit for both IA 241 and CJ 341. Prerequisite: Freshmen 2 status or higher. (Fall).

IA 288 No Norwich Equivalent 6 Cr.

IA 340 Introduction to Information Assurance 3 Cr.
This course introduces the foundations of information assurance, with focus on concepts and terminology used in describing, analyzing, and implementing information security. Topics include the history and mission of information assurance, history of computer crime, modern and historical cryptology, information warfare, penetrating computer systems and networks, malware, social engineering, spam, phishing, physical and facilities security, network security, identification and authentication, securing stored data, data backups and archives, patch management, and protecting digital rights. 3 lecture hours. Prerequisite: CS 140 with grade of C or higher. (Fall).

IA 342 Management of Information Assurance 3 Cr.
This course focuses on management of the information assurance process. Topics include human factors in reducing security breaches, security incident detection and response, remediation, management's role in information assurance, and other considerations in framing and implementing information assurance policies. The final section reviews current topics of particular interest and activity in the field of information assurance. 3 lecture hours. Prerequisite: CS 140 with a grade of C or higher. (Spring).

IA 360 Network Security 3 Cr.
This course focuses on the concepts, terminology and practice of network security. Topics include the fundamental goals of network security and practical applications of wired and wireless network security techniques such as applications of cryptology in network protocols, authentication, access control, network security devices such as firewalls and intrusion detection and prevention systems, incident response, log analysis, honeypots and honeynets. 3 lecure hours. Prerequisite: CS 260. (Spring).

IA 388 No Norwich Equivalent 6 Cr.

IA 455 Contemporary Issues in Information Assurance 3 Cr.
A capstone seminar for Computer Security and Information Assurance majors which will vary every term in accordance with the current issues of the time. Students work with the instructor as they explore today's issues and trends in preparation of a thesis or project. Emphasis is placed on critical thinking, research and evaluation of current issues. A comprehensive computer security exam is included in this course. 3 lecture hours. Prerequisites: IA 340, IA 342; Computer Security & Information Assurance majors; Junior 2 status or higher. (Fall).

IA 456 Cyber Defense Practicum 3 Cr.
This course provides practical application of the concepts learned over the course of the CSIA program. This is the technical capstone for the program and is a required course. The class is divided into three teams. Each team rotates through red (attack), blue (defend) and white (monitor/analyze) cells over the semester. Network attack analysis, intrusion detection systems and the use of network forensics in attaché analysis and defense are covered. Several open source and commercial tools during the class are used. Scenarios on a variation of the virtual network are ran. Blue teams harden the devices on the network to resist attack and are scored on how successful they are. Red teams develop a suite of attacks that allow completion of the scenario and are scored on the completeness of attack preparations. White teams analyze the red attacks and the blue responses and present analysis to the class at the close of the exercise. The scenario changes slightly for the iterations presented. 3 lab hours. Prerequisites: IA 340, and IA 360 or DF 311. (Spring).

IA 488 No Norwich Equivalent 6 Cr.

Interdisciplinary (ID)

Courses

ID 110 Ecology and Geology of the Connecticut River Valley 4 Cr.
This course starts with a four-day, on-campus, period. Where there are lectures and presentations on water chemistry, water pollution, flora and fauna of the river and valley, and geology of the Connecticut River valley. Canoe instruction, biological and geological identification procedures, surveying methods, and water analysis techniques are also taught. A nine-day canoe trip follows where the ecology and geology of the upper river valley are studied. The final day of the course is on campus for additional testing and the preparation of final reports. This four-credit laboratory science course is intended for non-science majors and is offered during the time between graduation and the beginning of summer school. Lecture hours: 33 (total); Lab hours 133 (total).

ID 188 No Norwich Equivalent 6 Cr.

ID 199 Pilot Course 1 Cr.
A course is permitted to run as a pilot without seeking faculty approval for one academic year. The section will include the title of the course. A student will not earn credit for a pilot course and the course when approved as its own course.

ID 1XX Interdisciplinary Elective 1 Cr.

ID 223 Topics in Interdisciplinary Humanities 3 Cr.

ID 288 No Norwich Equivalent 6 Cr.

ID 299 Pilot Course 3 Cr.
Topics in Interdisciplinary Humanities courses are team-taught by faculty in Humanities fields with faculty outside of the Humanities. Courses explore a specific topic related to human experience and promote interdisciplinary engagement, critical thinking, collaboration, and creativity. Students will participate in discussions, hands-on activities, and research around the selected course theme. Assignments will be focused on developing critical thinking, writing, communication, and research skills in an interdisciplinary setting to provide a well-balanced and integrative academic experience. Sample course topics include: Narrative Medicine, Geoarchaeology of Lost Cities, True Crime, and Game Theory: The Art of Strategy. These courses are offered as part of the Norwich Humanities Initiative.3 lecture hours. Goal 3: Arts & Humanities.

ID 388 No Norwich Equivalent 6 Cr.

ID 488 No Norwich Equivalent 6 Cr.

International Studies (IN)

Courses

IN 101 Introduction to International Studies 3 Cr.
Drawing upon the major disciplines within the social sciences, this course provides a multidisciplinary understanding of the forces that shape and affect relationships among human communities. Among the topics considered are: Ethics and human rights, geography and spatial analysis, the role of culture, and the independent and combined effects of politics and economics. In addition, the course introduces students to the methods used to address the questions and problems with which the discipline is concerned.

IN 188 No Norwich Equivalent 6 Cr.

IN 1XX International Studies Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

IN 288 No Norwich Equivalent 6 Cr.

IN 2XX International Studies Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

IN 350 Topics in International Studies 3 Cr.
Selected Topics in international studies to be used to cover subjects not included in the regular offerings. The course can be offered and taught by faculty in other disciplines upon prior approval of the History & Political Science Department Chair. The course seeks to enhance an appreciation for the multidisciplinary nature of international studies. 3 lecture hours.

IN 388 No Norwich Equivalent 6 Cr.

IN 410 Seminar in International Studies 3 Cr.
This capstone course is a reading and writing intensive course designed to introduce students to graduate level work in International Studies. Seminar topics will be determined by the instructor. Prerequisite: Senior standing or permission of the instructor.

IN 488 No Norwich Equivalent 6 Cr.

IN 490 Honors in International Studies 3 Cr.
This course is intended for senior students who have demonstrated superior research and writing skills. It requires the commitment of an entire academic year. Topic determined by the student and faculty member. Prerequisite: Senior standing and permission of the instructor.

Leadership (LD)

Courses

LD 101 Norwich Principles of Leadership Mastery 1 Cr.
This course addresses the foundational aspects of leadership in developing collaborative relationships within today's organizations. The topics covered will include: defining and understanding leadership, the examination of personal leadership mastery, development of interpersonal relationships and effective teams, and how to effectively adapt one's personal capacity for leading today. Required for graduation.

LD 188 No Norwich Equivalent 6 Cr.

LD 199 Leadership Pilot course 1 Cr.
A course is permitted to run as a pilot without seeking faculty approval for one academic year. The section will include the title of the course. A student will not earn credit for a pilot course and the course when approved as its own course.

LD 288 No Norwich Equivalent 6 Cr.

LD 299 Leadership Pilot Course 3,6 Cr.
A course is permitted to run as a pilot without seeking faculty approval for one academic year. The section will include the title of the course. A student will not earn credit for a pilot course and the course when approved as its own course.

LD 388 No Norwich Equivalent 6 Cr.

LD 488 No Norwich Equivalent 6 Cr.

Mathematics (MA)

Courses

MA 005 Preparatory Mathematics 3 Cr.
A comprehensive review of the fundamentals of arithmetic and a presentation of the basic algebraic skills and concepts. Topics include basic arithmetic with signed numbers, proportions, percent, geometry, linear equations and graphing of linear equations. Applications are included throughout the course. Students assigned to MA005 must satisfactorily complete it before enrolling in any other mathematics course. If required, MA 005 must be completed by the end of the first year of study. This course will not meet any degree requirements and cannot be used as an elective. 3 lecture hours.

MA 095 Intermediate Algebra 3 Cr.
A comprehensive review of the fundamentals of algebraic skills and concepts, this course provides a strong foundation for subsequent mathematics-based courses. Topics include introduction to functions, polynomials, factoring, inequalities, systems of linear equations with two variables, integer exponents, and linear, quadratic, radical, and rational equations. Prerequisite: Grade of C or higher in MA 005 or equivalent as determined by departmental placement testing. This course will not meet any degree requirements and cannot be used as an elective. 3 lecture hours.

MA 101 Mathematics: A Liberal Art 3 Cr.
An investigation of mathematical concepts and methods with emphasis given to their impact on current and ancient problems. Topics include logic, counting problems, probability, geometry and mathematics of finance. Emphasis is on techniques of problem solving. Prerequisite: Satisfactory completion of MA 005 or equivalent as determined by departmental placement testing. Not open for the first time to a student with a grade of "C" or higher in MA 107, or with credit for any mathematics course requiring MA 107 as a prerequisite. (Fall).

MA 102 Mathematics: A Liberal Art 3 Cr.
An investigation of mathematical concepts and methods with emphasis given to their impact on current and ancient problems. Topics include mathematics of voting systems, basic graph theory including Euler circuits and the traveling salesman problem, the mathematics of population growth, statistics, and finding fair shares. Emphasis is on techniques of problem solving. Prerequisite: Satisfactory completion of MA 005 or equivalent as determined by departmental placement testing. Not open for the first time to a student with a grade of "C" or higher in MA 107, or with credit for any mathematics course requiring MA 107 as a prerequisite. (Spring).

MA 107 Precalculus Mathematics 4 Cr.
A course on topics in precalculus mathematics involving algebra and trigonometry designed to prepare students to progress into introductory calculus. It is a rapid development of elementary topics in algebra to linear, quadratic, logarithmic, and exponential functions, followed by an analytical treatment of trigonometry. Prerequisite: Grade of "C" or better in MA 095 or equivalent as determined by departmental placement testing. Not open for the first time to students with credit in any course requiring MA 107 as a prerequisite.

MA 108 Applied Calculus 4 Cr.
A course on topics in analytical geometry progressing to differential and integral calculus. Presentation of a wide variety of practical application to technology, business, and science. Prerequisite: MA 107 or equivalent as determined by departmental placement testing. Not open for the first time to a student with credit in MA 121 or any course requiring MA 108 as a prerequisite. Not more than one of MA 108 or MA 121 may count as degree credit.

MA 121 Calculus I 4 Cr.
An introduction to plane analytic geometry and to differential and integral calculus. Prerequisite: Grade of "C" or better in MA 107 or equivalent as determined by departmental placement testing. Not more than one of MA 108 or MA 121 may count as degree credit.

MA 122 Calculus II 4 Cr.
A continuation of MA 121. Transcendental functions, methods of integration, vectors, polar coordinates, indeterminate forms, L'Hopital's Rule, improper integrals, infinite sequences and series. Prerequisite: MA 121 or "C" or better in MA 108 and permission of the department.

MA 160 Mathematics for Elementary School Teachers I 3 Cr.
This course will address an advanced perspective of topics in algebra and the real number system as they relate to the teaching and learning of mathematics. Course structure involves an emphasis on problem solving and communication; making, following and assessing mathematical argument; and developing an array of mathematical strategies and understandings which can be extended across K-6 mathematic. This course is open to education majors. 3 lecture hours. Prerequisite: Satisfactory completion of MA 005 or equivalent as determined by departmental placement testing. This course does not meet Gen Ed Math requirements. (Fall, odd years).

MA 161 Mathematics for Elementary School Teachers II 3 Cr.
This course will address an advanced perspective of topics in geometry, measurement, statistics, data analysis, and probability as they relate to the teaching and learning of mathematics. Course structure involves an emphasis on problem solving and communication; making, following and assessing mathematical argument; and developing an array of mathematical strategies and understandings which can be extended across K-6 mathematics. 3 lecture hours. Prerequisite: Grade of C or better in MA 160. (Spring, even years).

MA 188 No Norwich Equivalent 6 Cr.

MA 199 Mathmatics test course 4 Cr.

MA 1XL Mathematics Lab Transfer Elective 4 Cr.
This course is used for transfer when no equivalent Norwich course exists.

MA 1XX Mathematics Transfer Elective 4 Cr.
This course is used for transfer when no equivalent Norwich course exists.

MA 212 Finite Mathematics 3 Cr.
This course includes linear algebra with applications to systems of equations, linear programming, math of finance, sets, combinatorial analysis, and probability theory. Prerequisite: MA 107 or equivalent as determined by department placement testing. (Spring).

MA 220 Geometry in Action 3 Cr.
This course explores the use of geometry in art, architecture, and science through the study and application of associated mathematical ideas. Students will learn to represent objects and space in various coordinate systems and geometries as well as recognize mathematics in the surrounding world. Topics include two and three dimensional linear algebra, polar and parametric equations, graph theory, sequences, and Euclidean and Non-Euclidean geometry. Prerequisite: MA 107 or permission of the department.

MA 223 Calculus III 4 Cr.
A course that continues MA 122. Topics include multiple integration, solid analytic geometry, partial differentiation, two- and three- dimensional vector analysis. Prerequisite: MA 122. (Fall).

MA 224 Differential Equations 4 Cr.
Ordinary differential equations are developed as models of physical phenomena. Differential equations are investigated by finding exact solutions and using computer software to determine the solution to linear and non-linear problems. Solution techniques include operator methods, Laplace transforms, and numerical methods. Prerequisite: MA 122. (Spring).

MA 232 Elementary Statistics 3 Cr.
A course that covers the study of frequency distributions, averages and standard deviations, normal curve, probability, decision-making, sampling techniques, testing hypotheses, students-t -distributions, correlation and linear regression. This course is valuable for those who plan to enter teaching. Prerequisite: A college level mathematics course or equivalent as determined by departmental placement testing. Not open to students with credit in MA 311.

MA 236 Statistical Methods in Health Sciences 3 Cr.
A course that expands on concepts developed in MA232 by investigating more advanced statistical techniques with application to health related research. Topics include accuracy measures of screening tests, relative risk and odds ratio, Chi-square tests, ANOVA, non-parametric tests, multiple and logistic regression, and survival analysis. Emphasis will be placed on generating and interpreting the appropriate statistical software output. Prerequisite: MA 232 or permission of the department. GEMA. (Fall).

MA 240 Introduction to Number Theory and Cryptology 3 Cr.
An introduction to fundamental topics in number theory, including the real number system, prime numbers, modular arithmetic, the Euclidean Algorithm, Fermat's Theorem, Euler's Theorem, Euler's Phi Function. Topics will be applied to Caesar and affine ciphers and the Chinese Remainder Theorem. Prerequisite: MA 107, CS 140 or MA 241 or permission of the instructor. (Fall).

MA 241 Mathematical Computation and Modeling 3 Cr.
A course designed to introduce effective problem solving strategies and modeling techniques to find solutions to complex and often ill-defined problems. Introductory material chosen from common experiences encompassing many academic disciplines. Emphasis is placed on the development of mathematical models and computation on a variety of computing platforms and programming environments. Prerequisite: MA 108, MA 121 or permission of instructor. (Spring).

MA 250 Communication in Mathematics 1 Cr.
This course illustrates the organization of the mathematical literature, the efficient search of the literature and a formal introduction to writing mathematics. Prerequisite: Sophomore Mathematics Major or permission of the instructor.

MA 288 No Norwich Equivalent 6 Cr.

MA 2XX Mathematics Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

MA 303 Advanced Calculus I 3 Cr.
A course that provides an extension of concepts of basic calculus to functions of several variables to include limits, continuity, differentiation, and Riemann integration. Treatment of selected topics not included in the basic calculus series as a foundation for more advanced courses in analysis and applied mathematics is also included. 3 lecture hours. Prerequisite: MA 223 and either MA 306 or permission of the instructor. (Fall, even years).

MA 304 Advanced Calculus II 3 Cr.
A course that continues with the content of MA 303, including limits, continuity, differentiation, and Riemann integration. Treatment of selected topics not included in the basic calculus series as a foundation for more advanced courses in analysis and applied mathematics is also included. Prerequisite: MA 303. (Spring, odd years).

MA 306 Discrete Mathematics 3 Cr.
A course in logic, sets, techniques of proof, relations and functions, directed and undirected graphs, algebraic systems, Boolean algebra, and emphasis on applications in various areas of computer science. Prerequisite: MA 108 or MA 121 and knowledge of computer programming. (Fall).

MA 308 Modern Geometry 3 Cr.
A course in modern geometries that includes foundations of Euclidean geometry and the development of non-Euclidean geometries. Recommended for prospective teachers. 3 lecture hours. Prerequisite: MA 108 or MA 121. (Spring and every third year).

MA 309 Algebraic Structures 3 Cr.
A course on groups, rings, fields, morphisms, vector spaces; special topics selected from group theory, algebraic number theory, field theory, Galois theory. 3 lecture hours. Prerequisite: MA 306 or permission of the instructor. (Fall, odd years).

MA 310 Linear Algebra 3 Cr.
A theoretical course on such topics as matrices, determinants, linear equations, vector spaces, bases and dimensions, linear transformations, eigenvalues, and eigenvectors. Prerequisite: MA 121 or permission of the instructor. Offered spring semesters.

MA 311 Statistical Methodology 3 Cr.
Statistical Methodology: A course designed to provide a firm foundation for the employment of statistical methodology in engineering and the sciences. Examples drawn from the technical fields will be used throughout. The course will cover probability, continuous and discrete statistical distributions, estimation, tests of hypotheses, and sample regression. As time permits, other topics may be examined based on the interests of the students. 3 lecture hours. Prerequisite: MA 223. (Fall).

MA 312 Statistical Methodology II 3 Cr.
Statistical Methodology II: A continuation of MA 311. Continued development of statistical techniques utilized in scientific and engineering research. Topics to be covered include regression, multiple regression, analysis of variance, experimental design, statistical quality control, time series/forecasting, and reliability analysis. 3 lecture hours. Prerequisite: MA 311. (Spring, even years).

MA 318 Cryptology 3 Cr.
A course that covers fundamental mathematical concepts from modern algebra, number theory, and other areas of mathematics. Provides a foundation for the understanding of classical encryption systems and modern encryption methods. Emphasis on the mathematical underpinnings germane to cryptology. Prepares students for advanced study of modern cryptography. Experience implementing encryption, decryption and cryptanalytic methods on a variety of systems. 3 lecture hours. Prerequisite: MA 240 and knowledge of a programming language or permission of instructor. (Spring).

MA 321 Financial Mathematics 3 Cr.
A course designed to extend the student's understanding of the fundamental concepts of financial mathematics, and application of these concepts in calculating present and accumulated values for various streams of cash flows as a basis for future use in reserving, valuation, pricing, asset/liability management, investment income, capital budgeting and valuing contingent cash flows. 3 lecture hours. Prerequisites: MA 232 or MA 212. (Spring, odd years).

MA 332 Advanced Statistical Methods 3 Cr.

MA 360 Teaching Mathematics at the Elementary - Middle School Level 3 Cr.
A course in the content, methods, and materials for the teaching of elementary and middle school mathematics. 3 lecture hours. Prerequisites: Grade of C or higher in MA 161. (Fall, even years).

MA 361 Teaching Mathematics at the Secondary Level 3 Cr.
This course addresses methods, resources, and content useful for the teaching of secondary school mathematics. Investigations in this class will address mathematical thinking, communication and representations, in alignment with state and national standards. Course structure involves readings, writings, activities, assessments, and projects. 3 lecture hours. Prerequisites: MA 108 or MA 121 and ED 104, or consent of instructor. (Fall, odd years).

MA 370 Introduction to Operations Research 3 Cr.
A course that concentrates on the fundamental concepts and techniques necessary to enable an individual to obtain "optimal" solutions to problems in business, economics, engineering, and the physical and behavioral sciences. Topics include linear programming, network analysis, dynamic programming. 3 lecture hours. Prerequisites: MA 212 or MA 223. (Spring, odd years).

MA 380 Theory of Computation 3 Cr.
This course introduces the theory of computability, including important results from the study of automata and formal languages. Includes introductory material about the theory of directed graphs and trees. A discussion of automata and their relationship to regular, context free and context-sensitive languages. General theories of computability, including Turing machines, and recursive functions. Further topics include decidability, undecidability and computational complexity. 3 lecture hours. Prerequisite: MA 306. (Spring, even years).

MA 388 No Norwich Equivalent 6 Cr.

MA 390 Numerical Linear Algebra and Analysis 3 Cr.
Numerical techniques for solving problems in linear algebra and analysis. Topics to be studied include integration, interpolation, function approximation, solutions of systems of equations, locating Eigen values. Attention will be paid to the theoretical aspects of the techniques, with particular emphasis on estimation of errors and on convergence properties of iterative techniques. 3 lecture hours. Prerequisites: MA 241, MA 224. (Spring and every third year).

MA 399 Mathematical Problem Solving 3 Cr.

MA 3XX Mathematics Elective 6 Cr.
This course is used for transfer when no equivalent Norwich course exists.

MA 405 Complex Analysis 3 Cr.
A course in complex numbers, analytic functions, differentiation, and integration of complex functions, Taylor and Laurent series, evaluation of improper real integrals. 3 lecture hours. Prerequisites: MA 223 and either MA 306 or permission of the instructor. (Spring and every third year).

MA 407 Vector Analysis 3 Cr.
A course that analyzes scalar and vector fields. Topics included are Newtonian kinematics and Kepler's Law of Planetary Motion, gradient, divergence, curl, theorems of Green, Stokes, Gauss, curvilinear coordinates. 3 lecture hours. Prerequisite: MA 223. (Fall, odd years).

MA 411 Senior Seminars 3 Cr.
Advanced study designed to develop student competence in working independently and to afford students an opportunity to pursue topics not otherwise offered by the department. This is the capstone course for the Mathematics Major. 3 lecture hours. Prerequisite: Senior standing in mathematics or permission of the instructor. Senior standing in mathmatics and a grade of C or higher in 4 math 300/400 level courses, or Dept. Chair permission.

MA 412 Senior Seminars 3 Cr.
Advanced study designed to enhance student competence in working independently and to afford students an opportunity to pursue topics not otherwise offered by the department. Topics may extend research performed in MA 411 or be a topic independent of MA 411. 3 lecture hours. Prerequisite: MA 411.

MA 419 Internship in Mathematics 3 Cr.
A course designed to provide an internship on a topic chosen by mutual consent of the student and the instructor. A written report is required. Students may receive credit for not more than two internships as part of their mathematics program requirements. Students with a GPA below 2.5 will not be approved for this course. A minimum of 120 hours on the job work is required. Prerequisites: Junior 2 standing and permission of instructor and Department Chair.

MA 421 Number Theory 3 Cr.
A course in the properties of integers, prime numbers, congruencies, Diophantine equations, quadratic reciprocity. 3 lecture hours. Prerequisite: MA 306 or permission of the instructor. (Spring and every third year).

MA 488 No Norwich Equivalent 6 Cr.

Mechanical Engineering (ME)

Courses

ME 188 No Norwich Equivalent 6 Cr.

ME 211 Mechanical Engineering Tools I 2 Cr.
An extension of EG 109 with a more in-depth treatment of 3-D solid model generation including extrusion, revolving, sweeping and lofting. Further development and modification of 3-D solid drawings. Lab 3 hours. Prerequisite: EG 109.

ME 288 No Norwich Equivalent 6 Cr.

ME 307 Thermodynamics II 3 Cr.
Applications of thermodynamics to power and refrigeration cycles, combustion mechanisms, mixture and flow processes. Development of thermodynamic relationships and equations of state. Classroom 3 hours. Prerequisite: EG 206.

ME 311 Mechanical Engineering Tools II 2 Cr.
An extension of ME 211 with additional application of computer based design and analysis methods. An emphasis will be placed on design for manufacturing and other tools appropriate to the mechanical engineering profession. Lab 3 hours. Prerequisite: ME 211.

ME 356 Manufacturing Processes 4 Cr.
A study of the principles of manufacturing processes. Metal removal, casting, joining and deformation processes are covered as well as introductions to numerically controlled machinery, computer-aided manufacturing, rapid prototyping, robotics, computer integrated manufacturing and modern manufacturing systems. Classroom 3 hours, lab 3 hours. Prerequisite: ME 311, EG 203.

ME 363 Kinematic and Kinetic Sythesis 3 Cr.
A study of the principles of motion and the forces necessary to cause, and be created by motion. Applications to the design of typical machine elements such as gears, linkages and cams. Classroom 3 hours. Prerequisites: EG 202, MA 223.

ME 368 Design of Machine Elements 3 Cr.
A study of the application of the theories of mechanics and stress analysis to the design of fundamental machine parts. Some of the topics covered are shafts, springs, screws, belts, gears, rivets, bearings and lubrication. Classroom 3 hours. Prerequisite: EG 301.

ME 370 Mechanical Systems Design 3 Cr.
An introduction to the methodology of design including problem definition, generation and evaluation of alternatives, and design completion. Emphasis is placed on creativity, feasibility, and the effect of economic and societal factors on alternative selection. Goals are achieved through the use of case studies and small projects. Classroom 3 hours. Prerequisite: junior standing or higher.

ME 381 Mechanical Engineering Laboratory I 2 Cr.
A study of the fundamentals of mechanical and electronic instruments and their use in measurement systems to obtain data on temperature, pressure, displacement, acceleration, and other physical variables. Introduction to experimental methods and procedures, reduction of data to significant form, and the organization of experimental results in written reports. Lecture 1 hour, lab 3 hours. Prerequisite: EE 204.

ME 382 Mechanical Engineering Laboratory II 1 Cr.
Application of instrumentation to observations of gas and liquid behavior, thermo-dynamic and mechanical aspects of machines and devices. Dynamic and transient considerations in instruments, physical systems, and experimental data. Laboratory 3 hours. Prerequisite: ME 381.

ME 388 No Norwich Equivalent 6 Cr.

ME 435 Mechanical Control Systems 3 Cr.
Synthesis and analysis of mechanical control systems with feedback. Use of linearization techniques and Laplace Transform methods of analysis. Techniques for determining system stability. Emphasis is placed on operational characteristics of components and their effect on system design. Computer simulation of system operation. Classroom 3 hours. Prerequisites: MA 224, EG 202.

ME 465 Heat Transfer 3 Cr.
A study of the fundamentals of heat transfer by conduction, radiation, and convection. Steady and unsteady state conduction. Study will include boundary layer theory, internal and external convective flows, two-phase flow, and heat exchange design theory. Classroom 3 hours. Prerequisites: EG 206, EG 303, MA 224.

ME 467 Mechanical Engineering Design I 3 Cr.
A capstone design project is taken up to the point of prototype construction, testing and hardware specification. The specific skills and knowledge needed by practicing engineers in the product realization process are emphasized and developed. Classroom 3 hours. Prerequisite:ME 370; Senior Standing.

ME 468 Mechanical Engineering Design II 3 Cr.
Design completion of the capstone project initiated in ME 467 including hardware specification, instrumentation, laboratory testing, data reduction, and evaluation. Written design report required with oral presentation and defense. Prerequisite: ME 467.

ME 487 Mechanical Engineering Laboratory III 2 Cr.
A continuation of the Mechanical Engineering laboratory sequence with experiments stressing the performance characteristics of heat power equipment and the application of theory learned in thermodynamics and fluid flow. Classroom 1 hour, laboratory 2 hours. Prerequisite: EG 303; ME 307, or concurrent enrollment.

ME 488 No Norwich Equivalent 6 Cr.

ME 490 Advanced Topics 3,4 Cr.
A course that provides specific work in an area of the instructor's special competence and indicated student interest. An extension of basic principles to applied areas such as HVAC, heat transfer, thermodynamics, stress analysis, environmental control, turbo-machinery, propulsion systems and aerodynamics. Classroom or seminar, 1-3 hours. Prerequisite: Senior standing. (Occasionally).

Management and Marketing (MG)

Courses

MG 098 Junior Career Conference 1 Cr.
This third year seminar focuses on evolving career decisions for Business & Management majors. Guest faculty are drawn from University Board of faculty members and associates with extensive real-world business acumen. Students will experience developing skills to prepare for entering the global workplace in their chosen fields and professions. 1 lecture hour.

MG 099 Senior Career Conference 1 Cr.
This fourth year seminar focuses on evolving career decisions for Business & Management majors. Guest faculty are drawn from University Board of Fellows members and associates with extensive real-world business acumen. Students will hone and finalize skills to prepare for entering the global workplace in their chosen fields and professions. 1 lecture hour.

MG 101 Introduction to Business 3 Cr.
The purpose of this course is to introduce the student to the world of business. Students will learn about business organization and ownership and will survey union management relations, marketing, accounting, finance, international business, the legal environment, and the stock market. The course is designed to explore the relationship between social responsibility and profits in our free enterprise system. Prerequisite: Freshman standing only.

MG 188 No Norwich Equivalent 6 Cr.

MG 1XX Management Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

MG 224 Principles of Entrepreneurship 3 Cr.
This course provides an introduction to the creative and innovative managerial practices of successful entrepreneurship. This course reviews the significant economic and social contributions entrepreneurs provide to society, the intense lifestyle commitment, and the skills necessary for entrepreneurial success. This course provides an overview of the entrepreneurial process. Prerequisites: Not open to freshmen students.

MG 230 Personal Financial Literacy 3 Cr.
Students apply theoretical knowledge to consumer-oriented issues in the financial planning of the sort which must be addressed in an attempt to achieve a chosen lifestyle. The course is intended for a general audience. No prior knowledge of accounting, economics or finance is required. 3 lecture hours.

MG 261 Leadership in Coaching 3 Cr.
This course engages students in both learning about the journey of leadership as well as practicing that journey together. The course explores the philosophy and practice of leadership across many disciplines. It focuses on training students in over one dozen nuanced elements of leadership and culminates in guiding students, through a goal-setting exercise, to an understanding of how to use their leadership skills to develop and implement a plan of action in virtually any type of organization. The course is intended for general audiences. No prior knowledge of coaching or athletics is required. This course does not satisfy the General Education Leadership requirement. 3 lecture hours.

MG 288 No Norwich Equivalent 6 Cr.

MG 299 Topics: 4 Cr.
Selected topics in Management.

MG 2XX Management Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

MG 309 Management of Organizations 3 Cr.
A study of the functions of modern management: planning, organization, staffing, leading, and controlling. This study is applicable to the management of military, government, educational and non-profit, as well as business organizations. The ethical and social responsibilities of management and contemporary challenges such as the internationalization of organizations are integrated in all aspects of this course. Prerequisites: Junior or Senior standing or permission of instructor.

MG 310 Production/Operations Management 3 Cr.
Principles and applied study of the operation of manufacturing and service organizations. Managerial tools and diagnostics, decision-making, and financial management are introduced. Problems of small, medium, and large-sized businesses are studied. Prerequisites: QM 213.

MG 314 Marketing Management 3 Cr.
This course immerses the student in the strategies and processes of marketing management - market analysis, segmentation, targeting and positioning, and the implementation and evaluation of marketing plans. When the student has completed this course they will understand how a marketing plan is developed and have the skills necessary to identify, analyze and solve marketing problems. 3 lecture hours. Prerequisite: EC 202 or permission of instructor.

MG 316 Sales Management 3 Cr.
This course explores sales from the perspective of the individual salesperson as well as that of the organization, addressing topics including sales basics, proper attitudes, planning, necessary skill sets, appearance, presentation and the importance of each. The course includes case studies, examinations, and in-class presentations in order to ensure that students are well prepared to enter the sales field. 3 lecture hours. Prerequisite: MG 101 or permission of the instructor.

MG 319 International Dimensions of Business 3 Cr.
This course is designed to familiarize the student with the basic concepts and terminology of international business, and to gain an appreciation of the differences in social, political, and economic conditions among nations and how these affect the conduct of business and trade between nations. Topics include comparative cultural, political, and economic environments, international trade theory and policy, foreign exchange and exchange rate determination, the dynamics of international business-government relationships, and corporate policy and strategy of the multinational firm. Prerequisite: EC 201 or EC 202.

MG 341 Business Law I 3 Cr.
A study of the law and legal system as they affect business. Topics include the court system, constitutional law, torts, criminal law and contracts. Students will learn how morality and social responsibility are integrated into our legal system. Students must complete an ethical standards paper in an appropriate context. Prerequisite: Freshman 2 or higher.

MG 346 Business Law II 3 Cr.
A continuation of the analysis of the legal dimension of business operations that was developed in Business Law I. Special emphasis will be given to the legal environment as it relates to the accounting student's professional certification. Topics include bankruptcy, commercial paper, secured transactions, agency, corporations, and partnerships. Prerequisite: MG 341 or permission of instructor.

MG 351 Organizational Behavior 3 Cr.
This course considers the individual, the nature of organizations, and the issues resulting from the dynamic relationship of people in organizations. The course addresses such topics as learning, personality, motivation, organization structure, leadership, ethics, communication, and change.

MG 360 Health Economics & Policy 3 Cr.
This course introduces students to principles of health economics and public policy in health and social welfare. Topics include support for public health, policy intervention in health determinants, the relationship between government regulation and market competition, the demand for healthcare, and the supply of services. This course will enable students to apply economic reasoning to the health-care challenges facing society. Prerequisite: One semester of college level mathematics or QM 213.

MG 388 No Norwich Equivalent 6 Cr.

MG 399 Pilot Course 3 Cr.
A course is permitted to run as a pilot without seeking faculty approval for one academic year. The section will include the title of the course. A student will not earn credit for a pilot course and the course when approved as its own course.

MG 3XX Management Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

MG 408 Human Resources Management 3 Cr.
The management of human resources is one of the most challenging and critical aspects of contemporary organizational functions. This course addresses such issues as the nature of the American labor force, equal employment opportunity, personnel planning and staffing, compensation, employee well-being and job security, and collective bargaining. In addressing these issues attention is given to the ethical, legal, and moral questions involved. Prerequisite: MG 309 or permission of instructor.

MG 409 Organizational Leadership 3 Cr.
This course prepares students to apply leadership principles to the roles they play as managers. Students will discover more about themselves and learn more about the connection between the individual and the organization. Other topics include organizational culture, structure, group behavior, motivation, power, politics, organizational change, and workplace conflict.

MG 411 Consumer Behavior 3 Cr.
This course is designed to help the student understand the concepts of consumer behavior that provides the basis for marketing strategies. Students will gain an understanding of how consumers make decisions regarding the purchase and use of products and services and the internal and external factors that influence this process. Prerequisite: MG 314.

MG 416 Advanced Marketing 3 Cr.
In this course students will examine the key concepts and issues in developing a marketing strategy from the perspective of the corporate and SBU decision-maker. The course will take students through the process for formulating marketing strategies under various market conditions, for developing strategic and tactical marketing action plans, and how to evaluate and control a marketing plan and budget. Students undertaking this course will be required to use knowledge gained from previous marketing subjects in completing course assignments. Prerequisite: MG 314.

MG 426 Marketing Research 3 Cr.
This course explores the process and tools for data collection and analysis used to solve marketing problems. In addition, the subject addresses when marketing research is appropriate and how to define the research problem, as well as the role of marketing research in marketing decision making. This course will provide students with practical experience in the use of computer based data analysis techniques and make students aware of the biases and limitations inherent in various research methodologies. Prerequisites: QM 213, MG 314.

MG 429 Seminar in Advanced Management I 3 Cr.
A topics course addressing managerial problems in various environments. Prerequisites: MG 309, MG 310, FN 311, and MG 314.

MG 441 Integrated Marketing Communications 3 Cr.
This course will provide students with the necessary knowledge and skills to develop appropriate communication strategies consistent with strategic marketing principles. The role of communications in the client organization's marketing plan is emphasized. The concept of Integrated Marketing Communication (IMC) for coordinating the individual communication elements of advertising, direct marketing and public relations to achieve specific marketing objectives is stressed. 3 lecture hours. Prerequisite MG 314.

MG 448 Small Business Strategies 3 Cr.
A course that integrates the functional areas of management-human resources, finance, marketing, and operations they uniquely affect the small business enterprise. Case studies and lectures develop the students problem solving abilities. Prerequisites: MG 309, MG 310, FN 311, and MG 314.

MG 449 Administrative Policy and Strategy 3 Cr.
A capstone course designed to integrate the students' undergraduate studies. Case studies, collaborative assignments, writing assignments and oral presentations provide opportunities to synthesize and apply the knowledge gained from courses in the management program. Prerequisites: MG 309, MG 310, FN 311, and MG 314.

MG 450 Internship in Management 3 Cr.
The internship program is designed for students who want to apply their studies by working with a business, industry, or public agency. The student will be required to work closely with a faculty supervisor to develop and implement a structured experience tailored to the career goals of the student. Repeatable up to 6 credits. Prerequisites: Senior standing, and approval of the department chair and internship committee.

MG 488 No Norwich Equivalent 6 Cr.

MG 4XX Management Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

Modern Language (ML)

ML 101 American Sign Language I 3 Cr.
This course offers students with no or minimal prior sign language skills the opportunity to gain individual, hands on experience in American Sign Language. Emphasis is given to a study of cultural behaviors, values, and norms to demonstrate respect for and understanding of the Deaf Community and Deaf Culture. (Fall).

ML 102 American Sign Language II 3 Cr.
A continuation of ML 101 American Sign Language I. Further practice with basic elements of American Sign Language. Attention is given to issues and concerns of the Deaf and Hard of Hearing. (Fall).

ML 188 No Norwich Equivalent 6 Cr.

ML 199 Pilot Course 3 Cr.
A course is permitted to run as a pilot without seeking faculty approval for one academic year. The section will include the title course. A student will not earn credit for a pilot course and the course when approved as its own course.

ML 288 No Norwich Equivalent 6 Cr.

ML 388 No Norwich Equivalent 6 Cr.

ML 488 No Norwich Equivalent 6 Cr.

ML 588 No Norwich Equivalent 6 Cr.

Courses

ML 101 American Sign Language I 3 Cr.
This course offers students with no or minimal prior sign language skills the opportunity to gain individual, hands on experience in American Sign Language. Emphasis is given to a study of cultural behaviors, values, and norms to demonstrate respect for and understanding of the Deaf Community and Deaf Culture. (Fall).

ML 102 American Sign Language II 3 Cr.
A continuation of ML 101 American Sign Language I. Further practice with basic elements of American Sign Language. Attention is given to issues and concerns of the Deaf and Hard of Hearing. (Fall).

ML 188 No Norwich Equivalent 6 Cr.

ML 199 Pilot Course 3 Cr.
A course is permitted to run as a pilot without seeking faculty approval for one academic year. The section will include the title course. A student will not earn credit for a pilot course and the course when approved as its own course.

ML 288 No Norwich Equivalent 6 Cr.

ML 388 No Norwich Equivalent 6 Cr.

ML 488 No Norwich Equivalent 6 Cr.

Military Science (MS)

Courses

MS 111 Military Science I 1 Cr.
Leader Development and Individual Soldier Skills I – an introduction to Army customs, courtesies, and traditions. An introduction to leadership development, values and ethics of the Army; physical wellness and fitness, and stress management. Laboratory work: Basic land navigation skills, field craft skills, and basic rifle marksmanship. Includes 1 lecture hour and 2 other hours enrolled in MS 111 LL1, plus 3 hours of Physical Training, weekly. United States Armed Service members who have completed Basic Combat Training (BCT) may receive credit for MS 111 and/or MS 112 courses with a JST [Joint Service Transcript]. Norwich Army ROTC office also needs students' DD 214 form [Certificate of Release from Active Duty] or form NGB-22 [Government National Guard Bureau]. Prerequisite: freshmen and sophomores only.

MS 112 Military Science I 1 Cr.
Leader Development and Individual Soldier Skills II - Introduction to basic leadership fundamentals: as setting direction, problem-solving, listening, presenting briefs, providing feedback, and using effective writing skills. Exploration of the dimensions of leadership attributes and core leader competencies in the context of practical, hands-on, and interactive exercises. Introduction to the professional challenges and competencies that are needed for effective execution of the profession of arms and Army communication. Class training and labs prepare students to advance basic Soldier skills and tactical techniques. Laboratory work: Advanced land navigation skills, basic rifle marksmanship, and troop leading procedures. Includes 1 lecture hour and 2 other hours enrolled in MS 112 LL1, plus 3 hours of Physical Training, weekly. This requirement may be waived by the Military Science Instructor. United States Armed Service members who have completed both Basic Combat Training (BCT) and an equivalent course may receive credit for MS 111 and/or MS 112 courses with a with a JST [Joint Service Transcript]. Norwich Army ROTC office also needs students' DD 214 form [Certificate of Release from Active Duty] or form NGB-22 [Government National Guard Bureau]. Prerequisites: MS 111, freshmen and sophomores only.

MS 188 No Norwich Equivalent 6 Cr.

MS 211 Military Science II 2 Cr.
The Principles of Small Unit Tactics-Leadership Laboratory. Explores the dimensions of creative and innovative tactical leadership strategies while examining team dynamics and leadership theories that form the basis of the Army leadership framework. Practical exercises include Operations Orders, briefings, and planning are emphasized in order to develop problem solving abilities and confidence building. Includes 2 lecture hours. United States Armed Service members who have completed both Basic Combat Training (BCT) and an equivalent course may receive credit for MS 111 and/or MS 112 courses with a with a JST [Joint Service Transcript]. Students pursuing an Army commission must also register for MS 211 LL1, which includes 2 hours of Leadership Lab plus 3 hours of Physical Training, weekly. Prerequisites: MS 111 and MS 112 or equivalent.

MS 212 Military Science II 2 Cr.
Principles of Leadership and Small Unit Tactics II – Examines the challenges of leading teams in the complex operational environment. The course highlights dimensions of terrain analysis, patrolling, and operation orders. Further study of the theoretical basis of the Army Leadership Requirements Model explores the dynamics of adaptive leadership in the context of military operations. Cadets develop greater self-awareness as they assess their own leadership styles and practice communication and team building skills. Laboratory work: Small unit tactics, advanced land navigation, physical fitness, and troop leading procedures. United States Armed Service members who have completed both Basic Combat Training (BCT) and an equivalent course may receive credit for MS 111 and/or MS 112 courses with a with a JST [Joint Service Transcript]. Students pursuing an Army commission must also register for MS 212 LL1, which includes 2 hours of Leadership Lab plus 3 hours of Physical Training, weekly. Includes 2 lecture hours. Prerequisite: MS 211 or equivalent.

MS 288 No Norwich Equivalent 6 Cr.

MS 311 Military Science III 3 Cr.
Training Management and the Warfighting Functions – A comprehensive study and application of the Army Training Management System as well as an introduction to the Army Warfighting Functions. Students will continue to develop oral and written communication skills through preparation and presentation of classes and information briefs as well as develop training plans geared toward individual Soldiers' skills to include land navigation, terrain analysis, and route planning. The course further integrates the Army's problem solving methodology while exhibiting dynamic leadership. Students must enroll in MS 311 LL1, which includes 2 hours of Leadership Lab plus 3 hours of Physical Training, weekly. 3 lecture hours. Prerequisite: MS 212 or equivalent.

MS 312 Military Science III 3 Cr.
Applied Leadership in Small Unit Operations – A comprehensive study and application of light infantry patrolling operations. Students learn leadership techniques while gaining a comprehensive understanding of the mission and organization of combat and reconnaissance patrols and the methods utilized by effective combat leaders. Explores historical examples to illustrate the critical importance of dynamic leadership. Activities used to demonstrate an understanding of the Army's problem solving processes, fully integrating leadership, technical knowledge, and applying doctrinally sound tactics while conducting full-spectrum operations at the platoon level. Students must enroll in MS 312 LL1, which includes 2 hours of Leadership Lab plus 3 hours of Physical Training, weekly. 3 lecture hours. Prerequisite: MS 311 or equivalent.

MS 388 No Norwich Equivalent 6 Cr.

MS 411 Military Science IV 3 Cr.
Transition from Cadet to U.S. Army 2nd Lieutenant -- The first of two senior capstone courses in Military Science. Training includes Army operations, training management, communications and leadership skills; will participate in selected studies of Military History including a visit to the Saratoga battlefield; will attain knowledge and proficiency in several critical areas, as follows: Army training management system, coordinating activities with staffs, and counseling skills. These skills will assist in leading Junior Army ROTC cadets throughout the school year. Instruction will include lecture/seminar, case studies, practical exercises and military laboratories to include field-training exercises. One third of the grade will include a measurement of the student's ability to develop subordinate leaders and personnel. With the addition of MS 412 in the spring, this training assists in the transition to the Branch specific Basic Course as Commissioned Army Officers possessing high moral character, instilled with Army values, physically fit, knowledgeable in basic soldier skills and a meaningful understanding of leadership and management. Includes 3 lecture hours and also is required to enroll in MS 411 LL1, which is 2 Leadership Lab hours plus 3 hours of Physical Training, weekly. Prerequisites: MS 312 or equivalent and students pursuing a commission.

MS 412 Military Science IV 4 Cr.
Transition from Cadet to U.S. Army 2nd Lieutenant – The second of two senior capstone courses. Study of origins, development, and implementation of U.S. National Security Policy as it applies to the application of land power; focus on understanding and conducting Military Operations, the parameters in which the U.S. will participate, and the role of the military in PKOs. Intense understanding how to prepare and the students' particular organization to ensure their objectives support the National policy; case studies of recent Military Operations; how tactical decisions can affect strategic outcomes, and the study of current events. Further development of individual leadership skills and knowledge through class seminars, leadership laboratories, and field training exercises; will assess the level of training in their organizations, develop a training plan to correct deficiencies and re-enforce strengths, and how to evaluate training results. The second half of the semester will further develop an understanding of leadership in organizations, team building, counseling subordinates, and the various support systems available to leaders. Advanced oral and written communications skills--preparing written assignments in the military writing style, along with oral presentations. Includes 3 lecture hours and also is required to enroll in MS 412 LL1, which is 2 Leadership Lab hours plus 3 hours of Physical Training, weekly. May be used as part of the six ROTC credits allowed for degree electives. Prerequisite: MS 411 or equivalent and students pursuing a commission.

MS 488 No Norwich Equivalent 6 Cr.

Music (MU)

Courses

MU 101 Music Appreciation 3 Cr.
A survey course of western music from the medieval through the contemporary periods.

MU 188 No Norwich Equivalent 1-6 Cr.

MU 200 Applied Music 1 Cr.
A course that provides studio instruction in keyboard instruments, orchestra and band instruments, and voice under the guidance of a performing artist. Offered at various levels of advancement appropriate to the individual student. Objectives include analysis and mastery of technical problems and the study of literature characteristic of the instrument or voice. This course is repeatable for credit. Prerequisites: permission of instructor and audition, if required. Three accumulated hours will comprise one three-degree-credit course upon petition by the student.

MU 210 Campus Choraleers 1 Cr.
A select group of 40 mixed voices organized for the study and performance of advanced choral works of all periods. Repeatable for credit to three accumulated hours. Repeatable without credit indefinitely. Three accumulated hours will comprise one three-degree-credit course upon petition by the student. Prerequisite: Audition.

MU 230 Instrumental Ensemble 1 Cr.
A course that provides study, analysis, and performance of music for small instrumental groups of verse combinations. An objective is to become acquainted with a wide variety of music and styles pertaining to the student's instrument and to other instruments as well. (This requires several sections to accommodate combinations. Sections are scheduled by the instructor with the students). Three accumulated hours will comprise one, three credit free elective course.

MU 260 Regimental Band 1 Cr.
A course that provides study and performance of marching band literature and technique, as well as rehearsal and presentation of small ensemble pep band music. Membership is open, through audition, to members of the Corps of Cadets. This course is repeatable for credit. Three accumulated hours will comprise one three credit free elective course.

MU 271 History of Jazz 3 Cr.
History of Jazz is a historically based music course to expose the student to American jazz. Jazz occupies a unique place in American cultural history. Although it has been influenced by the music of many countries, it remains a purely American phenomenon. The course will include the study of historical readings, listening to the many styles and artists of American jazz, and attendance at live performances. Upon completion of the course, the student should have a general knowledge of the various styles, artists, and social history of the period from 1890 to 2006.

MU 288 No Norwich Equivalent 1-6 Cr.

MU 299 Pilot Course in Music 1-3 Cr.
A course is permitted to run as a pilot without seeking faculty approval for one academic year. The section will include the title of the course. A student will not earn credit for a pilot course and the course when approved as its own course.

MU 2XX Music Transfer Elective 1-3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

MU 388 No Norwich Equivalent 1-6 Cr.

MU 488 No Norwich Equivalent 1-6 Cr.

Naval Science (NS)

Courses

NS 121 Introduction to Naval Science 2 Cr.
Required for all freshman midshipmen. Provides a comprehensive overview of the Navy and Marine Corps organization, military courtesies and traditions. 2 lecture hours.

NS 122 Sea Power and Maritime Affairs 3 Cr.
Required for all freshman midshipmen. Provides a comprehensive overview of the Navy's heritage, mission and role in the development of the United States. 3 lecture hours. Prerequisite: Permission of Instructor.

NS 131 Naval Science Laboratory 0 Cr.
Required for all contracted, MECEP, and STA-21 students. This course enforces the concepts of Military drill, customs and courtesies, elements of unit leadership, physical fitness, administration, equal opportunity, safety, sexual harassment/sexual assault, military justice, force protection, operational security, watch standards, nutrition, stress management, and other professional development subjects to train prospective Naval Officers. This lab develops students morally, mentally, and physically to instill in them the highest ideals of honor, courage, and commitment and is required for Naval (Navy and Marine Corps) Midshipmen and may be repeated with change in topics. Attendance to field training exercise and one formal event are mandatory. 2 hour lab. Graded as Satisfactory/ Unsatisfactory. Prerequisite: Permission of instructor.

NS 188 No Norwich Equivalent 1-6 Cr.

NS 221 Leadership and Management 3 Cr.
Required for all sophomore midshipmen. Provides an introduction to the principles of both leadership and management for future leaders. 3 lecture hours.

NS 222 Navigation 3 Cr.
Required for all sophomore Navy midshipmen. Provides an introduction to the principles of navigation and basic seamanship. 3 lecture hours.

NS 242 Marine Corps Weapons Systems 2 Cr.
Required for all sophomore Marine midshipmen. Provides a comprehensive overview of weapons in the Marine Corps inventory. 2 lecture hours.

NS 288 No Norwich Equivalent 1-6 Cr.

NS 321 Naval Ship Systems I 3 Cr.
Required for all junior Navy midshipmen, except Nurses. Provides an introduction to basic naval engineering concepts and naval propulsion systems. 3 lecture hours. Some sections may require permission of Instructor.

NS 322 Naval Ship Systems II 3 Cr.
Required for all junior Navy midshipmen, except Nurses. Provides an introduction to basic naval weapons engineering concepts and weapons systems. 3 lecture hours.

NS 331 Evolution of Warfare 3 Cr.
This course is required for NROTC, Marine option, midshipmen 2nd class and MECEP students. Students trace the development of warfare to the present day. This course covers the causes of continuity and change in the means and methods of warfare. It addresses the influence of political, economic, and societal factors on the conduct of war, with significant attention focused on the role of technological innovation in changing the battlefield. Students will explore the contribution of preeminent military theorists and battlefield commanders to our modern understanding of the art and science of war. 3 lecture hours.

NS 342 Small Unit Leadership Skills 2 Cr.
Required for all junior Naval ROTC contracted Marine Option Midshipmen and non OCS complete seniors. Optional for Students/Cadets who are approved to attend Officer Candidate School OCS through a Marine Corps Recruiting Command commission program. Provides candidates with all basic skills, knowledge, and physical preparation before attending OCS during summer training. Candidates will continue to develop their oral and written communications skills through preparation of warning, fragmentary, and operation orders and their leadership and management skills through analytical and decision making abilities. 2 lecture hours. Prerequisite: Navel ROTC contracted members. Corequisite: NS 342L.

NS 342L Small Unit Leadership Skills Lab 1 Cr.
Required for all junior Naval ROTC contracted Marine Option Midshipmen and non OCS complete seniors. Optional for Students/Cadets, pending medical waivers and approval by the Professor of Naval Science, who are approved to attend Officer Candidate School OCS through a Marine Corps Recruiting Command commission program. Lab is also referred to bulldog training and will test the physical and mental standards candidates are expected to achieve while attending OCS. Students/ Candidates will be evaluated based upon the application of military topics discussed in Small Unit Leadership Skill lecture. In this course students acquire an understanding and application of USMC military terms and small unit level operations.1 hour lab. Graded as Satisfactory/ Unsatisfactory. Prerequisite: Naval ROTC contracted members. Corequisite: NS 342.

NS 388 No Norwich Equivalent 1-6 Cr.

NS 421 Naval Operations and Seamanship 3 Cr.
Required for all senior Navy midshipmen, except Nurses. Provides an introduction to advanced navigation and seamanship, shipboard operations and naval warfare doctrine. 3 lecture hours. Prerequisite: Naval ROTC contracted members and instructor permission.

NS 422 Leadership and Ethics 3 Cr.
Required for all NROTC commissioning seniors. Provides all prospective commissionees with advanced leadership, ethics, and service etiquette, training. 3 lecture hours. Additional 2 lab hours, contracted students only. Prerequisite: Senior standing and instructor permission.

NS 435 Fundamentals of Maneuver Warfare 3 Cr.
Required for all senior Naval ROTC Marine Option Midshipmen. This course analyzes the United States Marine Corps as the overarching case study for the advent of maneuver warfare based upon historic events and doctrine. Students learn the characteristics, requirements, and problems on maneuver warfare. The study of history is not simply to learn from the past, but as practitioners of maneuver warfare, to use the lessons of the past as the basis for making practical judgments for the present and future. Maneuver warfare is merely a subset of warfare in general; it exhibits certain unique characteristics within the broader field. The required case studies focus in the overall concepts of warfare itself. 3 lecture hours. Prerequisite: NS 331.

NS 488 No Norwich Equivalent 1-6 Cr.

Nursing (NR)

Courses

NR 104 Focus on Nursing 3 Cr.
This survey course introduces the profession of nursing and offers insight into career options, roles and opportunities open to the baccalaureate nurse. This course encourages the student to think broadly about nursing while it provides an introduction to the foundations of the profession. Prerequisite: Nursing major.

NR 105 Nutrition and Health Promotion 3 Cr.
This course focuses on the use of basic concepts from nursing, nutrition, integrative therapies and biophysical sciences, as well as Healthy People 2020 to explore the determinates of health, wellness, and illness of individuals. Environmental, and sociocultural economic and lifestyle factors that influence health will be discussed. This course provides the beginning foundation for an understanding of the relationship of nutrition to physiological and pathophysiological functions. Evaluation of health information as relevant and reliable will be incorporated as a foundation for health promotion. Prerequisite: Grade of C + or higher NR 104, BI 215; Nursing Major.

NR 188 No Norwich Equivalent 1-6 Cr.

NR 206 Health Assessment Across the Lifespan 3 Cr.
Students study age specific approaches to assessment of human health. Focusing on evaluation of health and function of individuals, students acquire knowledge of health assessment and promotion in relation to comprehensive nursing care. The concepts are presented within the context of human growth and development, culture, and environment. Students learn to perform a comprehensive and holistic assessment of the patient including: systematic collection, analysis, and synthesis of health data from patients and secondary sources. Successful students will demonstrate a physical examination on a laboratory partner at the end of the course. 2 hours of lecture and 2 hours of lab. Prerequisites: Grade of C+ or higher in BI 215, BI 216, NR 105, CH 101, MA 232; Nursing major.

NR 215 Client, Psychological/Mental Health Problems 3 Cr.
In this course students are introduced to current theory and research about contemporary practices in mental health nursing. Students develop their use of self as a therapeutic tool and focus on a holistic approach to assessment and care of persons with psychological issues and selected psychiatric disorders and conditions. Students will provide care to patients with mental health and social health problems and their families as part of the interdisciplinary health care team. Prerequisites: Grade of C+ or higher in CH 102, NR 206, NR 232; PY 220; Nursing major. Corequisite: NR 215L.

NR 215L Client, Psychological/Mental Health Problems 2 Cr.
This immersion course teaches students how to apply current theory and research about contemporary practices in care of patients with mental health and social health problems. Students demonstrate the use of self as a therapeutic tool and focus on a holistic approach to assessment and care of persons with psychological issues and selected psychiatric disorders and conditions. Students will provide care to patients with mental health and social health problems and their families as part of the interdisciplinary health care team. Prerequisites: Nursing major. Corequisite: NR 215.

NR 217 Simulation for Nursing Practice 4 Cr.
Simulation for Nursing Practice 4 Cr. Students learn fundamental cognitive, psychomotor, and behavioral practices of professional nursing. Essential nursing skills, process, and diagnoses are addressed through concept based learning. Simulations foster critical thinking about patients, families, and related nursing interventions that promote beginning competence prior to entering acute care facilities. 3 lecture hours and 2 hours of lab. Prerequisites: Grade of C+ or higher in MA 232, NR 206, NR 232, CH 102; PY 220: Nursing major.

NR 225 Research For Evidence-Based Practice 3 Cr.
This course introduces the student to the principles, methods, and process of research for evidence-based practice. Content includes how research contributes to the development of nursing knowledge, improves nursing practice, supports design of nursing systems, and enhances education and professional accountability. Students will participate in appropriate data collection and other research activities while evaluating the ethical legal issues applied to research. The successful student will learn to integrate reliable evidence from multiple ways of knowing to better inform their practice and make clinical judgments. Prerequisites: Grade of C+ or higher in NR 215, NR 215L, NR 217, NR 365; Nursing major.

NR 232 Technology and Informatics in Healthcare 3 Cr.
This course stresses the ethical and legal issues, including privacy and security, related to electronic systems in healthcare. It is designed to provide students with an introduction to and an initial experience of accessing information from a variety of sources, including information systems and technologies as the foundation for evidence-based practice, clinical-decision support tools, the electronic health record (EHR) and quality improvement systems. While Nursing Informatics is a highly specialized field, this course provides foundational informatics competencies that all practicing nurses and graduating nursing students should possess to meet the standards of providing safe, quality, and competent care. Prerequisite: Grade of C+ of higher in NR 105 (C+); Nursing Major.

NR 288 No Norwich Equivalent 1-6 Cr.

NR 316 Care of the Adult 1 3 Cr.
In this course students integrate the physiological, psychological, spiritual, developmental and socio-cultural dimensions of adults as they study nursing care during wellness and illness. Focus is on the musculoskeletal, endocrine, immune, integumentary, gastrointestinal and genitourinary systems. Students learn the professional nursing role in planning care of the adult client. Prerequisites: Grade of C+ or higher in NR 215, NR 215L, NR 217; Nursing major. Corequisite: NR 316L.

NR 316L Care of the Adult 1 Practicum 3 Cr.
This course asks students to apply knowledge of the physiological, psychological, spiritual, developmental and socio-cultural dimensions of adults as they study nursing care during wellness and illness. Students learn the professional nursing role in planning care of the adult client through clinical experiences at external agencies. Acquisition of communication and psychomotor skills is critical to providing nursing care. Prerequisites: Nursing major. Corequisite: NR 316.

NR 321 Nursing Leadership 3 Cr.
In this course students focus on theoretical foundations and conceptual principles of nursing leadership and the skills necessary to practice leadership competently in healthcare environments. The course is designed to enhance leadership self-awareness and to encourage students to fashion personal perspectives on how to lead professionally. Analyzing trends and issues in the current healthcare system has implications for exercising leadership and will help students determine the way they can make a difference. Prerequisites: Grade of C+ or higher in NR 316, NR 316L, NR 225; Nursing major.

NR 331 Care of Women and Childbearing Family 3 Cr.
In this course students are introduced to current evidence based knowledge, theory and skills of the practice of maternal/newborn and women's health nursing building on knowledge from preceding courses in the social and physical sciences, and nursing courses, to help the student further develop the professional role behavior. Covered topics may include health promotion, disease prevention, genetics, social justice, issues of access and gender in healthcare. The continuity of care delivery from practitioner's office to hospital to home is stressed enabling the emerging clinician to see the interdisciplinary team at work in the care of women and childbearing families. Prerequisites: Grade if C+ or higher in NR 316, NR 316L, NR 225; Nursing major. Corequisite: NR 331L.

NR 331L Care of Women-Childbearing Family Prac 2 Cr.
In the clinical practicum of Nursing Care of Women and Childbearing Families students apply current knowledge, research and skills in contemporary practice of maternal/newborn and women's health nursing to the care of selected clients. Client selection will be based on availability and will include newborns, postpartal mothers, antepartal mothers and families, and intrapartal mothers and families. The emphasis will be on safe, evidence based care for this vulnerable patient population. Prerequisites: Nursing major. Corequisite: NR 331.

NR 341 Care of Children/Child Rearing 3 Cr.
In this course students focus on the nursing care of children, adolescents and families dealing with health and developmental challenges of childhood and explore health promotion needs of childrearing families. This course employs a developmental perspective through which major causes of morbidity and mortality are examined while it challenges students to develop critical and creative reasoning skills and utilize empathetically appropriate communication skills as the basis for care. Prerequisites: Grade of C+ or higher in NR 316, NR 316L, NR 225; Nursing major. Corequisite: NR 341L.

NR 341L Care of Children&Child Rearing 2 Cr.
In this course students apply knowledge of the causes of childhood and adolescent illness in context with the relevant developmental challenges specific to the patient. Health promotion needs of the child and family in illness are stressed. Critical thinking and empathetically appropriate communication serve as the context for care. Prerequisites: Nursing major. Corequisite: NR 341.

NR 365 Pathopharmacology for Nurses 4 Cr.
This course builds upon the student's prerequisite biological/chemical science courses. Students begin a comprehensive study of human pathophysiology and the application of pharmacotherapies commonly encountered with each of these disease processes. Epidemiology, disease state presentation with common clinical evaluations, mortality and morbidity will be addressed. At the conclusion, students demonstrate cumulative knowledge of the pathophysiologic and pharmacologic processes utilized in the care of and promotion of health and wellness across the lifespan. Evidence based practice for use, cost, ease of administration, compliance and efficacy will be discussed. Prerequisites: grade of C+ or higher in CH 102, NR 206, BI 216, MA 232; Nursing Major.

NR 388 No Norwich Equivalent 1-6 Cr.

NR 416 Care of the Adult II 4 Cr.
In this course students are required to integrate the physiological, psychological, spiritual, developmental and socio-cultural dimensions of adults as they study nursing care during wellness and illness. Focus is on the neurological system, cardiovascular system, respiratory system, hematology and oncology. Students learn the professional nursing role in planning care of the adult client. 4 lecture hours per week. Prerequisites: Grade of C+ or higher in NR 321, NR 331, NR 331L, NR 341, NR 341L; Nursing major. Corequisite: NR 416L.

NR 416L Care of Adult II 4 Cr.
In this course students apply knowledge of the physiological, psychological, spiritual, developmental and socio-cultural dimensions of adults as they study nursing care during wellness and illness. Students learn the professional nursing role in planning care of the adult client through clinical experiences at external agencies. Acquisition of communication and psychomotor skills is critical to providing nursing care. Prerequisite: Nursing major. Corequisite: NR 416.

NR 420 Care at End of Life 2 Cr.
In this course students will study current theory and research about contemporary practices caring for clients and their families at the end of life. It teaches students effective interaction skills with clients, families and health care providers. Throughout the course, students develop their use of self as a therapeutic tool and focus on a holistic approach to assessment and care of persons with a variety of life-limiting illnesses/diseases. Interventions will be discussed regarding the physical care as well as psychological, social, cultural and spiritual care of clients and their families as they face life's final journey. Prerequisites: Grade of C+ or higher in NR 321, NR 331, NR 331L, NR 341, NR 341L; Nursing major.

NR 421 Coordinator of Care 3 Cr.
In this course students integrate the physiological, psychological, spiritual, developmental and socio-cultural dimensions of adults as they study nursing in the context of uncertain and complex clinical environments. Students will use previous medical surgical nursing knowledge and builds skill sets as they prepare to enter the nursing professions as a new graduate nurse. Students will work one on one with an agency preceptor in a specialty of interest. Prerequisites: Grade of C or higher in NR 416, NR 416L, NR 420; Nursing major. Corequisite: NR 421L.

NR 421L Coordinator of Care Practicum 4 Cr.
In this final undergraduate clinical practicum, students demonstrate achievement of knowledge and skills in nursing practice as they enter into professional practice. Clinical experience includes practice under the guidance of an agency preceptor. Students integrate knowledge and skills from the humanities and basic, behavioral, social leadership and nursing sciences in developing the professional role in selected adult and pediatric health environments. Learning experiences allow students to gain confidence; practice critical thinking, leadership and ethical decision making in clinical situations. 168 hours clinical. Prerequisite: Nursing major. Corequisite NR 421.

NR 431 Promoting Health in Communities 3 Cr.
In this course students learn current theory and research about contemporary practices in community/public health nursing. In population-focused nursing, the group, aggregate, community, or population is the unit of care. Epidemiologic studies have shown that lifestyle, environmental and genetic factors are major determinants of population health. Students will work collaboratively with community agencies to address population-focused health issues. Prerequisites: Grade of C+ or higher in NR 416, NR 416L, NR 420; Nursing major. Corequisite: NR 431L.

NR 431L Promoting Health in Communities: Clinical Practicum 2 Cr.
In this course, students will apply concepts of community/public health in providing population-focused care to groups, aggregates, and communities. Clinical experiences are coordinated in a variety of settings and require students to engage with individual agencies and in collaboration with community partners in addressing community/public health issues. Students are encouraged to clarify their own beliefs and values in order to provide nonjudgmental nursing care. Prerequisites: Nursing major. Corequisite: NR 431.

NR 441 Nursing Capstone 4 Cr.
In this course the student begins to transition to the role of graduate nurse and explores issues relevant to contemporary nursing practice including the ethics and regulation of practice. Local, state, national and international policies and initiatives and their influence on health of populations are examined. Students create and implement an approved capstone leadership project which is undertaken with guidance of faculty and clinical partners and reflects integration of all elements of the BSN curriculum. Classroom 2 hours; seminar leadership project 2 hours. Prerequisites: Grade of C+ or higher in NR 416, NR 416L, NR 420; Nursing major.

NR 488 No Norwich Equivalent 1-6 Cr.

Physical Education (PE)

Courses

PE 107 Foundations of Physical Education 3 Cr.
A course designed to provide students with an introduction to the professional aspects of the physical education profession. Includes historical and philosophical implications with emphasis on modern trends in program design. Acquaints students with professional organizations and reviews career possibilities in the field.

PE 163 Scientific Foundations of Health and Wellness 3 Cr.
This course is a comprehensive introduction to the effects physical activity and fitness have on health and wellness, at the individual and community level. Additionally, exercise prescription for health and fitness and the principal of performance exercise prescription are covered. Consideration will be given to the nature of communicable diseases and preventative measures used individually, in schools and community. (Fall, Spring).

PE 188 No Norwich Equivalent 1-6 Cr.

PE 1XX Physical Education Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

PE 223 Motor Skills Development I 3 Cr.
This course teaches students to apply principles of best practice to the development and delivery of appropriate instructional programs in individual and elementary activities currently being taught in the public schools e.g. dance, throwing, catching, kicking, and gymnastics. Strong consideration is given to the development of personal performance and skill acquisition in order to more effectively lead practical lessons in school. Students must demonstrate an understanding of, and competence in motor skill acquisition. 4 hour lab. (Fall).

PE 224 Motor Skills Development II 3 Cr.
This course teaches students to apply principles of best practice to the development and delivery of appropriate instructional programs in team, dual, and secondary activities currently being taught in the public schools (e.g. basketball, volleyball, soccer, racquet sports) as well as non-traditional activities, e.g. Indiaka, Takraw, pateka, tchoukball. Consideration is given to the development of personal performance and skill acquisition in order to effectively lead practical lessons in school. Students must demonstrate an understanding of, and competence in motor skill acquisition and physical education pedagogy in the context of public school instruction programs. 4 lab hours. (Spring).

PE 245 Assessment in PE & Sports 3 Cr.
Introduction to construction, evaluation, and interpretation of assessments utilized in K-12 Health and Physical Education. Emphasis is placed on standards-based assessments and analysis of data to inform instruction. C or better needed in this course for PE majors.

PE 261 Foundations in Health Education 4 Cr.
This course will teach historical development, professional standards, philosophy and program planning, including current best practices in the development, implementation and evaluation of health education programs. It will focus on developing personal and social health skills, including decision making, interpersonal communication, goal setting and self-management skills. Also, this course will integrate teaching students media literacy, personal advocacy, and how to access valid health information, products and services and how to teach this to prospective students. 2 field experience hours. 3 lecture hours. Prerequisite: PE 163 (Fall).

PE 265 Lifelong Motor Development 3 Cr.
This course studies the sequential, continuous age-related process whereby movement behavior changes. The class will cover information processing theories, theories of motor learning, effects of practice regimens and feedback and biological changes experienced over a lifetime, which affect motor skill acquisition. Understanding lifespan motor development is important for educators at all levels, special education teachers, physical educators, coaches, and adult fitness leaders.

PE 271 Outdoor Physical Education I 3 Cr.
This course provides students with a comprehensive background in warm weather Outdoor Physical Education. Skills in trip planning, risk management, equipment selection concerning use and care, and group leadership techniques will be covered. This class will prepare students to recognize the assumption of risk, attractive nuisances, negligence, and the standard of care when facilitating an Outdoor Physical Education program. Students will study and practice principles and protocols for administering safe, high-quality outdoor education experiences in canoeing and kayaking, mountain biking, hiking & backpacking, adventure, etc. Also covered will be topics in animal and wilderness conservation, nutrition, compass use and navigation, and environmental ethics. 2 lecture hours, 3 field experience hours. Prerequisite: PE 163, or permission of instructor. (Fall).

PE 272 Outdoor Physical Education II 3 Cr.
This course provides students with a comprehensive background in cold weather Outdoor Physical Education. Students will be actively engaged in winter activities. This class will prepare students to conduct classes in outdoor education during the winter, covering snowshoeing, cross-country skiing, ice skating, etc. Also presented will be, but not limited to, topics in animal and wilderness conservation, nutrition, mountain and cold weather illness and injuries, and snow science, such as avalanche assessment and ice assessment. An emphasis will be placed on preparing individuals to be active in cold weather under winter conditions. 2 lecture hours, 3 field experience hours. Prerequisites: PE 163, or permission by instructor. (Spring).

PE 288 No Norwich Equivalent 1-6 Cr.

PE 2XX Physical Education Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

PE 333 Management Sports Facilities 3 Cr.
This course is designed to help prepare students for careers associated with sport facility management. A detailed examination of facility utilization, including safety and security, scheduling, maintenance, and emergencies and emergency response will be applied to a variety of facilities. Additionally, the administration of a facility with special attention to preventative supervision, risk management, facility assessment and design, project planning, and staffing will be examined. Facilities covered will include but not be limited to parks, recreation centers, gymnasiums, aquatic facilities, fitness centers, sports arenas, tennis courts, and golf courses. 3 lecture hours. Prerequisites: PE 163 (Fall).

PE 341 Instructional Strategies for Physical Education in Elementary School 4 Cr.
A course that provides classroom and laboratory experience designed to acquaint the student with basic materials, methods, and principles necessary to meet the educational needs of the elementary school child. Emphasis on curriculum development with consideration given to concepts of movement education and perceptual motor development. Application of movement theory to specific sports skills and activities. Health information protection and student privacy issues are included throughout the course of instruction. 2 lecture hours, 3 lab hours on site at Barre Town Middle Elementary School.

PE 342 Instructional Strategies for Physical Education in Middle-Secondary School 4 Cr.
A course that places emphasis on ethics, principles, procedures, and techniques related to teaching health and physical education in the elementary and secondary schools. Methods of organization, types of programs, and content and materials of health and physical education courses. Laboratory experience provided in traditional and new media, self and peer evaluation, and micro teaching. Health information protection and student privacy issues are reinforced throughout this course. 2 lecture hours, 3 lab hours site at U-32 Jr.- Sr. High School.

PE 355 Coaching:Leadership in Sports 3 Cr.
A course with a strong focus on the philosophy, ethics, principles, and techniques of coaching individual and team sports. Identifying and addressing the ethical dilemmas pervading our sport organizations today will be emphasized. This course provides an emphasis on the organization of interscholastic athletics in relation to the achievement of education objectives. In addition, students will be prepared for the National Federation of State High School coaching certification. 3 lecture hours.

PE 365 Kinesiology 4 Cr.
A review of the structure and function of the skeletal and muscular systems with special emphasis on an analysis of human motion as related to human performance. 3 lecture hours, 2 lab hours. Prerequisite: C or better in BI 215, BI 216 or permission of the instructor.

PE 371 Physiology of Exercise 4 Cr.
A review of physiological principles of muscular activity with emphasis on the integration of body systems in the performance of exercise and various athletic activities. 3 lecture hours, 2 lab hours. Prerequisite: C or better in BI 215, BI 216 or permission of the instructor.

PE 375 Adapted Physical Activity 3 Cr.
A study and overview of activities and programs focused on meeting the needs of special populations. Topics include cognitive, neuromuscular, sensory, and othopedic impairments. Consideration will be given to teaching methodology, including, design and implementation of physical activity programs for individuals with disabilites. This course includes off-campus activities. Prerequisites: PE 341 (Spring).

PE 388 No Norwich Equivalent 1-6 Cr.

PE 399 Pilot course 3 Cr.

PE 406 Readings in Physical Education 3 Cr.
This course examines the current literature on issues facing future professional educators of an ethical, legal or pedagogical nature. Students are expected to think, read, write and speak critically about these professional issues in the physical education discipline. The submission of a professional portfolio is required. Seminar 3 hours.

PE 426 Internship 1-12 Cr.
A course designed to provide the Physical Education students with an intern-type experience in a professional setting appropriate to their career goals. A maximum of 12 credits may be applied to the student record. Prerequisites: Junior standing or higher, and permission of instructor. (Fall, Spring, Summer).

PE 432 Organization and Administration in Physical Education 3 Cr.
A course that emphasizes the study of administrative principles, functional organization, and supervision in relation to the total physical education program in grades K-12 and to managing sports facilities and sports programs. Major topics include personnel, curriculum, legal liability, intramurals, evaluation, budgeting and risk management.

PE 441 Advanced Exercise Physiology and Prescription 4 Cr.
This course prepares and qualifies students to work as personal trainers and fitness specialists in corporate fitness and health club facilities. The course bridges the gap between exercise physiology and the practical application skills of personal training. Advanced exercise physiology knowledge is presented to assure new knowledge and exercise techniques are acquired. Students will learn how to design and implement exercise prescriptions for multiple populations and as well as successful goal attainment. Students will be prepared to sit for certification examinations. 3 lecture hours per week and 2 laboratory hours component. Prerequisites: C or better in PE 365, PE 371 or permission of instructor. (Fall).

PE 450 Exercise Testing and Electrocardiography 4 Cr.
This course focuses on the theory and methods of administering exercise stress tests using different modes of exercise and consideration of different populations. Further analysis of information gained from exercise testing, studying deviations from normal, and applications of exercise test information in adult fitness and cardiac rehabilitation programs will be highlighted. Emphasis will be placed on the recognition and interpretation of normal and abnormal resting and exercise ECG monitoring. 3 lecture hours per week and 2 laboratory hours component. Prerequisites: C or better in BI 215, BI 216, PE 371 or permission of instructor. (Fall).

PE 488 No Norwich Equivalent 1-6 Cr.

Philosophy (PH)

Courses

PH 110 Think! Intro to Philosophy 3 Cr.
Students will develop an understanding of the major philosophical questions concerning ethics, knowledge, politics, aesthetics, metaphysics, and religion in their ancient and recent articulations as they pertain to the question of what it means to live a just and truthful life and to articulately communicate belief in our complex world. 3 lecture hours.

PH 188 No Norwich Equivalent 1-6 Cr.

PH 1XX Philosophy Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

PH 215 Survey of Ethics 3 Cr.
An introduction to critical thinking about the fundamental principles on which moral judgments and ethical conduct are based. This course will survey the major historical and contemporary approaches to ethical reflection. It meets the General Education requirement for Ethics. 3 Lecture hours. Goal 6. Offered: Fall, Spring.

PH 218 Global History of Philosophy 3 Cr.

PH 220 Comparative Religion 3 Cr.
This course serves as an introduction to several major religious traditions of the world including Hinduism, Buddhism, Indigenous and East Asian religions, Judaism, Islam, and Christianity, focusing on various dimensions in each: myth, doctrine, ethics, ritual, ontology, and origin, among others. 3 lecture hours.

PH 230 Logic 3 Cr.
A study of the principles of valid reasoning and argument: how to analyze arguments, detect fallacies, apply logical rules, prove and refute conclusions from given premises. Both syllogistic methods of argument and modern systems of symbolic inference are studied.

PH 288 No Norwich Equivalent 1-6 Cr.

PH 299 Pilot Course in Philosophy 3 Cr.
A course is permitted to run as a pilot without seeking faculty approval for one academic year. The section will include the title of the course. A student will not earn credit for a pilot course and the course when approved as its own course.

PH 2XX Philosophy Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

PH 301 Topics in Philosophy 3 Cr.
This course focuses on a specific topic of interest in the field of Philosophy. Sample topics may include Philosophy of Personal Development, Philosophy of Sport, Philosophy and Science Fiction, Philosophy of Mind, or Sexual Ethics.

PH 322 Money, Meaning and Morality 3 Cr.
This course considers the central philosophical question, 'what is a good life' as it relates to a number of ethical theories and issues arising from the uses and abuses of money and market structures, including labor, production, marketing, investment, liability, taxation, globalization, and ecological considerations, providing students with a working knowledge of ethics and money as related to their own choice of profession.

PH 323 Environmental Ethics 3 Cr.
An introduction to ethical issues concerning the human and non-human environment. The course provides a working knowledge of the concepts, theories, and types of argument characteristic of ethics in general. It analyzes and debates a selection of such topics as: ethical implications of continued economic and population growth; designing the infrastructure and architecture of human communities for optimal integration into the natural environment; sustainable agriculture and wilderness management; biodiversity and endangered species; pollution, waste disposal and climate change. Mainstream philosophical approaches will be compared with radical perspectives such as deep ecology and eco-feminism; and responses to ecological hazards ranging from free market strategies, through government regulation, local economic and ecological initiatives, to civil disobedience and eco-sabotage, may be examined.

PH 324 Criminal Justice Ethics 3 Cr.
This course provides a short introduction to general ethics (about 1/3 of the semester) with applications to practices and problems in the criminal justice field. Its focus is less on specific rules of ethical conduct for criminal justice professionals than on their interface with issues of common public concern. We will debate the legitimate functions and limitations of the criminal law, as well as a selection of moral problems in policing, judicial processing and corrections. In addition, a number of recent high-profile Supreme and Appeals Court cases in the areas of civil rights and civil liberties will be analyzed. The emphasis will be on developing discussion skills and familiarity with essential patterns of legal and moral reasoning.

PH 340 Philosophy of Non-Violence 3 Cr.
A study of permissible uses of force by individuals and nations. Topics include the theory of the just war, pacifism and non-resistance, conscientious objection, civil disobedience, and the moral problem of nuclear armaments.

PH 350 Medical Ethics 3 Cr.
This course examines general ethics and professional ethics; patient rights and professional responsibilities; terminating and prolonging life; allocating scarce medical resources; human experimentation and informed consent; genetic intervention; and other issues.

PH 360 Philosophy of Science 3 Cr.
A course examining the basic principles of scientific reasoning, questions concerning scientific progress and scientific revolutions and ethical issues in the technological application of scientific discoveries. Case studies are drawn both from the history of science and from contemporary controversies.

PH 388 No Norwich Equivalent 1-6 Cr.

PH 3XX Philosophy Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

PH 400 Reading and Research 3 Cr.
An inquiry into the pertinent literature and source materials of a specific area concerned with a special project to be agreed upon by instructor and student. Prerequisite: instructor permission.

PH 488 No Norwich Equivalent 1-6 Cr.

Political Science (PO)

Courses

PO 105 American Politics 3 Cr.
A study of the theoretical, institutional, and behavioral elements of the U.S. political system. Prerequisite: Freshmen or sophomore standing. (Fall, Spring).

PO 106 Introduction to Public Policy and Administration 3 Cr.
An introductory examination of theoretical and practical approaches to policy making and administration, the essential steps in the process, and the roles of key actors at all levels. This course prepares students for more in-depth study of all other facets of the political realm. Prerequisite: Freshmen or sophomore standing.

PO 188 No Norwich Equivalent 6 Cr.

PO 1XX Political Science Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

PO 202 Introduction to Comparative Politics 3 Cr.
An introductory course that acquaints students with the comparative study of politics. The course will compare executive and legislative relationships, electoral systems, ideologies, and political parties. Various countries from around the world will be used to illustrate the application and consequences of different institutions and ideas. Prerequisite: Freshmen or Sophomore standing.

PO 215 International Relations 3 Cr.
An inquiry in assumptions, theories, and dogmas of the modern state system. Examination and evaluation of such topics as realist theory; conflict resolution; game theory; decision-making theory; and ecopolitics. Prerequisite: Freshmen or Sophomore standing.

PO 220 Research Methods 3 Cr.
An introduction to the methods of political analysis, standard nomenclature, and basic research methods relied upon in the study of politics. Emphasis is placed on quantitative methods and ethical issues in conducting research. Prerequisite: Sophomore standing or higher.

PO 288 No Norwich Equivalent 6 Cr.

PO 2XX Political Science Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

PO 300 Special Topics in Politics 3 Cr.
Select topics offered in Politics. Prerequisite: permission of instructor.

PO 301 Special Topics in International Relations 3 Cr.
Select topics in the area of International Relations. A maximum of four classes may be applied to the student record when taken under different course title/topic. 3 lecture hours. Prerequisite: PO 215, grade of C or higher.

PO 303 Political Philosophy 3 Cr.
After introducing the political philosophies of Socrates, Plato and Aristotle, this course explores the ideas of major Western thinkers from the Renaissance through the Industrial Revolution. The course not only examines each philosopher's understandings of power, justice, equality and freedom, but also contemporary applications and implications of these ideas. Prerequisite: Sophomore 2 standing or higher.

PO 305 Geopolitics 3 Cr.
Geopolitics will give students an increased appreciation of the influence of geography on political decision-making. This course will help students "visualize" world politics and understand how geography affects both national and transnational political behaviors. Students will learn to think and write critically about such issues and forces as globalization, development, and conflict. Students will develop an understanding of how interests and perceptions are shaped by geography. Prerequisite: C or higher in PO 202 or PO 215.

PO 310 European Politics 3 Cr.
A study of the political systems, cultures, and issues of selected countries from western, northern and southern Europe as well as Russia and the European Union. This course will also consider the relationship between domestic and foreign policies and the relationship between the United States and Europe. Prerequisite: PO 202, C or higher.

PO 312 The Presidency 3 Cr.
A study of the presidential office and its relationship with the major American political institutions. Prerequisite: PO 105, C or higher.

PO 313 Political Parties and Interest Groups 3 Cr.
A study of political parties and interest groups as they influence the decision making process, the formulation of government policy, and the selection of official personnel. Prerequisite: PO 105, C or higher.

PO 314 The Legislative Process 3 Cr.
A study of the national and state legislatures in the United States through a combination of lectures, readings, contact with legislators, and actual investigations on the state legislative scene itself. Prerequisite: PO 105, C or higher.

PO 315 Public Opinion and Political Behavior 3 Cr.
A study of the development of political attitudes and the formation of public opinion; the influence of public opinion on governmental policy through its relationship to political participation representation and leadership. Prerequisite: PO 105, C or higher.

PO 320 Topics in Area Studies 3 Cr.
Selected topics in area studies will be offered on occasion. This course will be used to cover subjects not included in the regular offerings in comparative politics. Topics may include the politics of a particular country or region such as Latin America, Africa, Eastern Europe, or the Middle East. A topics course may also be offered on a particular issue area such as foreign and defense policy, healthcare policy, welfare policy, or environmental policy. Prerequisite: PO 202, C or higher.

PO 321 U.S. Constitutional Law 3 Cr.
Introduction to the evolution and structure of the American constitutional system, focusing on the federal relationship, the separation of powers, and judicial review, relying primarily upon the case method of analysis. Open to Sophomore 2 and above, otherwise instructor permission.

PO 324 Civil Liberties 3 Cr.
An examination of the relationship of individuals to government, relying primarily upon the case method of study, with specific consideration of problems of equal protection, due process, privacy, and freedoms of speech and religion. Open to Sophomore 2 and above, otherwise instructor permission.

PO 326 Model United Nations 1 Cr.

PO 330 American Citizenship 3 Cr.
Using the Declaration of Independence, the Constitution and the Bill of Rights as a foundation, this course examines what it means to be a citizen of the United States. The course addresses such questions as: What are citizens entitled to and what do they owe the state and each other? Is there an obligation to obey political authority? Is there ever an obligation to disobey authority? An important consideration is the role of the military in American political life and in particular, the relationship between the military ethic and republican values. Prerequisite: PO 105, C or higher.

PO 331 State and Local Politics 3 Cr.
The primary objective of this course is to gain an understanding of the role of the state and local political institutions within the context of American federalism. Emphasis is placed on procedural and policy differences as well as political issues in state, regional, and local governments. Prerequiste: PO 105, C or higher.

PO 333 American Foreign Policy 3 Cr.
Through studies of the three "levels of analysis" personal political psychology, bureaucratic politics, and international relations-this course examines the processes of American foreign policy formulation and execution; it explores the objectives, methods, and consequences of major U.S. foreign and military policies. If practicable, students will take part in role-playing simulations. Prerequisite: C or higher in PO 105 or PO 202.

PO 340 Revolution and Forces of Change 3 Cr.
A critical analysis of several revolutions that will examine causes, outcomes, and accepted explanations in an attempt to discern generalities applicable to all revolutions. Prerequisite: PO 202, C or higher.

PO 348 Asian Politics 3 Cr.
A study of the political systems, cultures, and issues of the People's Republic of China, Taiwan, Japan, North and South Korea, Vietnam, Indonesia, Pakistan, and India. This course will pay particular attention to the relationship between the West and Asia, the processes of "modernization," and the role of Asia in contemporary international relations. Prerequisite: PO 202, C or higher.

PO 388 No Norwich Equivalent 6 Cr.

PO 3XX Political Science Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

PO 400 Independent Study 3 Cr.
An opportunity for qualified upperclass students to engage in an intensive reading or research program in fields of interest not satisfactorily covered by regular course offerings. Periodic conferences will be required. Prerequisite: written consent of the instructor to a specific project presented by the applicant. Open to upperclassmen, otherwise by permission of the instructor. (Occasionally).

PO 403 Internship 3-15 Cr.
Direct participation in the practical workings of state, municipal, and Federal government. Ordinarily open only to seniors. Offered on availability to internships. Credits to be determined by instructor. Prerequisite: permission of the instructor.

PO 405 International Organizations 3 Cr.
This course focuses on the increasingly influential and varied roles international organizations play in the world today from peace and security to international development, human rights, and environmental protection. It traces the evolution of the thinking behind, and efforts to establish international organizations, and analyzes not only their promise and challenges, but also their successes and failures to date. Although particular attention is paid to the United Nations and its many affiliated bodies, regional organizations (e.g. European Union, Organization of American States, African Union, NATO), international non-governmental organizations (NGOs), and multi-national corporations are also assessed. Prerequisite: PO 215, C or higher. Offered alternate years.

PO 410 Capstone Seminar in Political Science 3 Cr.
A research and writing course designed to introduce students to graduate standards of original research and critical writing in political science. Prerequisite: permission of the instructor.

PO 412 War and Peace 3 Cr.
An inquiry into the ostensible causes of war-- biological, economic, psychological, strategic, and theological; and an examination of the purported causes of war -- personal probity, military counterpoise, political utopia, and world government. Preparation of a substantial paper is required. Prerequisite: permission of the instructor.

PO 415 International Law 3 Cr.
This course examines the development of international law, and assesses its effectiveness in governing the relations among nation-states. The course examines early as well as more recent efforts to build a body of such law. It compares international law with domestic law, and explores the principal sources of international law. The course uses cases to analyze the development of international law in areas such as extraterritorial jurisdiction, the range of sovereignty, diplomatic relations, the treaty system, arbitration and adjudication, the use of force, human rights, the environment, and economic relations. Prerequisite: PO 215, C or higher. Offered alternate years.

PO 488 No Norwich Equivalent 6 Cr.

PO 490 Honors in Political Science 3 Cr.
A substantial, sequential, research and writing project. See description of department honors program. Prerequisite: permission of the instructor. (Occasionally).

PO 491 Honors in Political Science 3 Cr.
The second semester of honors in political science. Devoted to writing and defending the honors thesis. Prerequisite: PO 490, B or higher and permission of the instructor and program coordinator.

Physics (PS)

Courses

PS 107 Solar System Astronomy 4 Cr.
A descriptive study of the solar system, including the sun, planets, asteroids, comets and interplanetary space. The role of observation in the evolution of astronomy is emphasized. 3 lecture hours and 2 lab hours. Does not count as a lab science if taken for 3 credits.

PS 108 Stellar and Galactic Astronomy 4 Cr.
A descriptive introduction to the universe, including stars, galaxies, and recent deep space discoveries. Discussions survey the techniques used by astronomers to interpret the wide variety of observed phenomena in the cosmos. 3 lecture hours and 2 lab hours. Does not count as a lab science if taken for 3 credits.

PS 188 No Norwich Equivalent 6 Cr.

PS 1XL Physics Lab Transfer Elective 4 Cr.
This course is used for transfer when no equivalent Norwich course exists.

PS 201 General Physics I 4 Cr.
An algebra-based study of mechanics, sound and heat, with correlated laboratory experiments. 3 lecture hours and 2 lab hours. Prerequisite: MA 107. Credit cannot be received for both PS 201 and PS 211.

PS 202 General Physics II 4 Cr.
An algebra-based study of magnetism, electricity, light, and atomic physics, with correlated laboratory experiments. 3 lecture hours and 2 lab hours. Prerequisite: PS 201. Credit cannot be received for both PS 202 and PS 212. (Spring).

PS 211 University Physics I 4 Cr.
A calculus-based study of vectors; Newton's laws; uniform, accelerated, rotational and harmonic motion; conservation laws; fluid mechanics; elasticity. 3 lecture hours and 2 lab hours. Prerequisite: MA 121. Credit cannot be received for both PS 201 and PS 211. (Fall).

PS 212 University Physics II 4 Cr.
A calculus-based study of topics in electricity, magnetism, waves and optics. 3 lecture hours and 2 lab hours. Prerequisite: PS 211; Pre or Co-requisite: MA 122. Credit cannot be received for both PS 202 and PS 212. (Spring).

PS 288 No Norwich Equivalent 6 Cr.

PS 2XX Physics Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

PS 334 Classical Mechanics 3 Cr.
A study of Newtonian mechanics including motion of a particle, a system of particles and rigid bodies; gravitation; oscillations; central forces; conservation laws. Introduction to Lagrangian and Hamiltonian formulations of dynamics. 3 lecture hours. Prerequisites: PS 212 and MA 224 or permission of instructor. (Spring, even years).

PS 341 Modern Physics 3 Cr.
A study of the quantum revolution including special relativity, structure and spectra of atoms and molecules, radioactivity, nuclear models, and nuclear interactions. 3 lecture hours. Prerequisites: PS 212 and MA 224 or permission of instructor. (Fall, odd years).

PS 356 Thermal & Statistical Physics 3 Cr.
A study of the foundations of thermodynamics and statistical physics: first and second laws of thermodynamics with applications; thermodynamic potentials and applications to systems in equilibrium; statistical mechanics including Boltzmann statistics, quantum statistics and statistical interpretation of entropy. 3 lecture hours. Prerequisites: PS 212 and MA 224 or permission of instructor. (Spring, odd years).

PS 373 Junior Laboratory I 2 Cr.
A laboratory course devoted to scientific inquiry through a collaborative research project under faculty supervision. Introduction to formulation of research questions, experimental design, system modeling, measurement, data collection and data analysis. Laboratory methodology including safety procedures. Read published literature; communicate research results. Written and oral reports required. 4 lab hours. Prerequisites: PS 212 and MA 224 or permission of instructor. (Fall).

PS 374 Junior Laboratory II 2 Cr.
A laboratory course devoted to scientific inquiry through a continuation of the collaborative research project started in Junior Laboratory I. Project culminates in public presentations, written and oral, of research results. 4 lab hours. Prerequisite: PS 373 or permission of instructor. (Spring).

PS 388 No Norwich Equivalent 6 Cr.

PS 399 Pilot Course in Physics 1-4 Cr.
A course is permitted to run as a pilot without seeking faculty approval for one academic year. The section will include the title of the course. A student will not earn credit for a pilot course and the course when approved as its own course.

PS 421 Advanced Laboratory I 1-4 Cr.
A laboratory investigation in a specific area of experimental physics designed in consultation with physics faculty. Prerequisite: Permission of the instructor. (Fall).

PS 422 Advanced Laboratory II 1-4 Cr.
A laboratory investigation in a specific area of experimental physics designed in consultation with physics faculty. Prerequisite: Permission of the instructor. (Spring).

PS 426 Electricity and Magnetism 3 Cr.
A study of electrical circuits, and electrostatic and magneto static fields. Includes RLC circuits; applications of Gauss' Law and Laplace's equation; dielectric theory; magnetic fields; and theory of magnetic materials. 3 lecture hours. Prerequisites: PS 212, MA 223 and MA 224 or permission of instructor. (Fall, even years).

PS 428 Electrodynamics & Optics 3 Cr.
This course continues PS 426 Electricity & Magnetism, combining electricity, magnetism and optics into a unified theory embodied by Maxwell’s equations. Includes an introduction to relativistic applications and optical phenomena. 3 lecture hours. Prerequisites: PS 426 or permission of instructor. (Spring, odd years).

PS 444 Quantum Physics 3 Cr.
A study of the mathematical structure of quantum mechanics and applications to atomic and nuclear phenomenon. Topics include: postulates of quantum mechanics, operators, Schrödinger's equation, one dimensional potentials, angular momentum, spin, perturbation theory, and identical particles. 3 lecture hours. Prerequisites: PS 341 or permission of instructor. (Spring, even years).

PS 451 Seminar I 1 Cr.
A study of special topics of current interest. This course integrates reading, writing, speaking and critical thinking skills. 1 lecture hour. Prerequisite: permission of the instructor. (Fall).

PS 452 Seminar II 1 Cr.
A continuation of PS 451, investigating special topics of current interest. This course integrates reading, writing, speaking, and critical thinking skills. 1 lecture hour. Prerequisite: Permission of the instructor. (Spring).

PS 473 Senior Laboratory I 3 Cr.
A laboratory course devoted to scientific inquiry through a collaborative research project under faculty supervision. Introduction to formulation of research questions, experimental design, system modeling, measurement, data collection and data analysis. Laboratory methodology including safety procedures. Read published literature; communicate research results. Written and oral reports required. Students serve as project leaders as well as research investigators. 1 lecture hour and 6 lab hours. Prerequisites: PS 374 or permission of instructor. (Fall).

PS 474 Senior Laboratory II 3 Cr.
A laboratory course devoted to scientific inquiry through a collaborative research project under faculty supervision. Introduction to formulation of research questions, experimental design, system modeling, measurement, data collection and data analysis. Laboratory methodology including safety procedures. Read published literature; communicate research results. Written and oral reports required. Students serve as project leaders as well as research investigators. 1 lecture and 6 lab hours. Prerequisites: PS 473 or permission of instructor. (Spring).

PS 488 No Norwich Equivalent 6 Cr.

Psychology (PY)

Courses

PY 188 No Norwich Equivalent 6 Cr.

PY 210 Psychology of Leadership 3 Cr.
This course is designed to introduce students to the theoretical aspects of leadership, and to help them understand how theory applies to real situations. Topics include leadership models, leader behavior, leadership skills, followership, teams and motivation. Students will be expected to analyze cases, current situations and their own leader style.

PY 211 Introduction to Psychology 3 Cr.
An introduction to psychology as the science of behavior. Topics to be discussed will include learning, motivation, emotions, perception, personality, tests and measurements, and additional selected topics.

PY 212 Abnormal Psychology 3 Cr.
A course on the origin and development of psychopathology with emphasis on the biological, social, and psychological determinants. Prerequisite: PY 211 or permission of the instructor.

PY 220 Developmental Psychology 3 Cr.
A lifespan study of normal development with emphasis on physical, intellectual, social, and emotional growth. Prerequisite: PY 211 or permission of the instructor.

PY 230 Biopsychology 3 Cr.
This course is a survey of the neurophysiological bases of human behavior. Topics include basic brain anatomy and physiology, neurotransmitters and drugs, sensation and perception, learning and memory, sleep, and neurological disorders.

PY 232 Engineering Psychology 3 Cr.
The objective of this course is to expose students to the theoretical foundations of research in human factors. Students will be introduced to basic concepts in psychology such as perception, attention, decision making, and motor control. Knowledge of these concepts is critical for the intelligent design of human-technological systems.

PY 234 Forensic Psychology 3 Cr.
A survey of psychological research and theory dealing with criminal behavior and the legal system. Topics include prediction of violent behavior, sexual assault, victimization, juvenile delinquency, scientific jury selection, criminal investigation and profiling, eyewitness testimony, assessment of mental competency, lie detection, DNA testing, and forensic science.

PY 236 Cross-Cultural Psychology 3 Cr.
This course will expose students to the influence of culture on human behavior, and will illustrate differences and commonalities in behavior, verbal and non-verbal, attitudes, and values across a range of cultures around the world. Issues concerning cultural contact and inter-cultural relations will be considered to enhance a student's ability to deal with and understand variations in human behavior across cultures and ethnic groups. Methodological issues of particular importance to cross-cultural research will be discussed.

PY 238 Political Psychology 3 Cr.
This course will examine key research in political psychology which includes the interactions of political and psychological processes and their impact on behavior in personal, local and global communities.

PY 240 Introduction to Social Psychology 3 Cr.
A general survey of theories, methods and research on individual behavior in a social context. Among topics to be considered are: aggression, interpersonal attraction, affiliation, person perception, attitudes, group processes, and social influence. Prerequisite: PY 211.

PY 241 Introduction to Personality Theory 3 Cr.
An overview of selected influential statements regarding the structure, dynamics, and development of the human personality. Included are the theories of the Freudians, Freud, Jung, Adler, the Environmentalists Dollard and Miller, Skinner, and the Existentialists and Humanists Rogers, Maslow, Frankl. Comparisons among theorists are organized around philosophical and historical themes. Prerequisite: PY 211.

PY 263 Perception 3 Cr.
Coverage of the major themes and research in perception. Topics include perception of color, form, motion, depth, illusions, perceptual learning, development, and the physiology of perception. Prerequisite: PY 211 or permission of the instructor.

PY 288 No Norwich Equivalent 6 Cr.

PY 2XX Psychology Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

PY 313 Experimental Psychology I 3 Cr.
A course on the principles and skills required to plan, execute, and interpret psychological research. Topics include the nature of science, the value of empirical evidence, psychology viewed as a science, the logic of experiments, and the ethics of using human subjects. Students are taught to develop a testable idea, to write and read research reports, and to design, conduct, and analyze univariate and correlational studies. Prerequisite: PY 211 or permission of the instructor.

PY 314 Experimental Psychology II 3 Cr.
This course will teach students how to design, conduct, and report psychological experiments. The purpose of the course is to link the academic subject matter of psychology to the conduct of research in the laboratory and the field. Topics include the nature of science, formulation of hypotheses, measurement and reliability, research methods, including experimental, correlational, and observational techniques, research design, and ethics of using human subjects. Issues of experimental control, its relation to confounding and research design, and internal and external validity will be included. The course will also focus on the teaching of library research and scientific writing skills. Students will design, implement, analyze, and report results of several research projects. Prerequisite: PY 313, or MA 232, or permission of instructor.

PY 321 Organizational Psychology 3 Cr.
An analysis of organizational behavior including motivation, climate, leadership, and the use of such techniques as behavior modification in changing human behavior. Theoretical consideration will be followed by application experiences through role playing and case analysis. Prerequisite: PY 211 or permission of the instructor.

PY 324 Adolescent Psychology 3 Cr.
This course examines the physical, emotional, social, cognitive aspects of adolescence from a developmental perspective. Identity, autonomy, sexuality, achievement, and intimacy are examined within the context of the school, the peer group, and the family. Students will have the opportunity to work with adolescents in schools, recreational centers, counseling centers, or through youth service agencies. Required for secondary teacher licensure candidates. Prerequisite: PY 211.

PY 344 Cognition 4 Cr.
Overview of research and theory on human cognitive processes emphasizing the acquisition, storage, representation, retrieval and use of knowledge. Topics include memory, concept formation, language and thought, problem solving and creativity, and cognitive development. Lab will include hands-on experiments in cognitive research paradigms.

PY 350 Environmental Psychology 3 Cr.
A study of the relationship between people and the environment, the use of space as a means of regulating social interaction, and human responses to environmental stressors such as overcrowding, toxic agents, noise, air, and water pollution. Also a brief look at ecological psychology in which setting-specific rather than person-specific determinants of a person's reaction to the environment are analyzed. Prerequisites: PY 211.

PY 352 Learning and Memory 4 Cr.
This course provides an overview of historical and current research findings in the area of learning and memory. The subject will be approached from various theoretical approaches, including behaviorist, cognitive, and neurobiological paradigms. Labs will include hands-on experiments using research paradigms from the field of learning and memory.

PY 355 Psychology and the Law 3 Cr.
A course that examines the research of psychology as it relates to the judicial process; the nature, source, and development of antisocial behavior; and forensic psychology relative to the development of law and policy at the national and international levels. Prerequisites: PY 211.

PY 360 History and Systems of Psychology 3 Cr.
An overview of significant movements, theories and individuals in the development of contemporary psychology. The course is organized around significant themes and includes discussion of the philosophy of scientific growth, structuralism, functionalism, behaviorism, Gestalt psychology and psychoanalysis. Included will be examples, cases, and discussions of the APA ethics code that governs the performance of professionals in the field of psychology. This course satisfies the university's General Education Ethics requirement. Prerequisite PY 211.

PY 388 No Norwich Equivalent 6 Cr.

PY 398 Thesis Preparation 3 Cr.
The students will prepare a senior thesis prospectus in accordance with the ethical standards of the Human Subjects Committee. This course precedes PY 498. Prerequisites: PY 211, PY 313, PY 314.

PY 3XX Psychology Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

PY 401 Senior Seminar 3 Cr.
This course is the capstone experience marking the end of a student's undergraduate studies. Students both majoring and minoring in psychology will be provided the experience of synthesizing their learning across their courses in the context of a liberal arts education. Prerequisites: PY 211, PY 313, PY 314.

PY 402 Conference 0 Cr.
Each Psychology major, must during his/her tenure at Norwich attend at least one professional Psychology meeting.

PY 403 Presentation 0 Cr.
In order to complete the process of psychological inquiry and communication, each psychology major must present his/her senior research at an appropriate professional forum, senior year. (Spring).

PY 451 Thematic Seminar 3 Cr.
A seminar course which deals with particular theories or areas of psychology not elsewhere covered in depth or within present course offerings. Prerequisite: PY 211 and permission of the instructor.

PY 452 Thematic Seminar 3 Cr.
A seminar course which deals with particular theories or areas of psychology not elsewhere covered in depth or within present course offerings. Prerequisite: PY 211 and permission of the instructor.

PY 453 Internship 3-9 Cr.
Assignments will include work and observation in local, state, and federal institutions or agencies concerned with the education, health, or the protection of society. Written and oral reports. Prerequisites: PY 211 and permission of the instructor.

PY 471 Directed Readings 3 Cr.
A course in which there is an opportunity to select and read in a specific area of interest that is not available through regular course offerings. Prerequisites: three psychology courses and permission of the instructor.

PY 488 No Norwich Equivalent 6 Cr.

PY 498 Senior Thesis 3 Cr.
A research course designed to enable a student to experience all phases of the experiment from literature research, experimental design, data collection and analysis, and written and oral reports. The student will learn all of the procedures, considerations, and standards necessary to ensure the ethical treatment of human participants. Prerequisites: PY 211, PY 313, PY 314, PY 398.

PY 4XX Psychology Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

Quantitative Methods (QM)

Courses

QM 213 Business and Economic Statistics I 3 Cr.
A course emphasizing the development and presentation of statistical data for business and economic decision-making. Topics will include survey methods, statistical description measures, sampling distributions, statistical inference procedures, simple regression and time series analysis, and construction and use of index numbers.

QM 317 Business and Economic Statistics II 3 Cr.
A course in which the statistical concepts developed in QM 213 are continued. New topics developed are multiple correlation and regression theory and analysis, the assumptions of regression analysis and econometric problems, and an introduction to simultaneous models and advanced topics. Prerequisite: QM 213 (Fall, even years).

QM 370 Quantitative Methods for Marketing & Finance 3 Cr.
A course in which the statistical concepts developed in QM 213 are continued. The focus of the course will be the application of statistical techniques to real world issues in Finance and Marketing. Emphasis will be placed on problem solving, class participation, computer applications and completion of a term paper. 3 lecture hours. Prerequisite QM 213.

Studio Arts (SA)

Courses

SA 103 Introduction to Drawing 3 Cr.
An introduction to drawing, emphasizing articulation of space and pictorial syntax while developing abilities of perception and ways of seeing. Class work is primarily based on observational study. Assigned projects address fundamental and conceptual problems through historical and contemporary artistic practice. 3 hour studio and 1 lecture hour.

SA 104 Introduction to Visual Design 3 Cr.
An introduction to the language of visual expression, using studio projects to explore the basic principles of visual art and design as a fundamental component of visual communication. Students acquire a working knowledge of visual syntax applicable to the study of art history, popular culture, and the art of composition. 1 lecture hour and 3 studio hours. Goal 3 (Occasionally).

SA 105 Introduction to Painting 3 Cr.
An introduction to the issues of contemporary painting, stressing a beginning command of the conventions of pictorial space, narrative, and the language of color. Students explore painting as a means of communicating ideas through visual symbols and metaphors. Class assignments and individual projects explore technical, conceptual, and historical issues central to the language of painting. 1 lecture hour and 3 studio hours. Goal 3 (Occasionally).

SA 106 Introduction to Printmaking 3 Cr.
An introduction to a diverse range of printmaking media: linocut, woodcut, and screen-printing process. Both color and black-and-white printing methods are explored. Class assignments and individual projects explore technical, conceptual, and historical issues central to the language of printmaking and its connections to contemporary culture. 1 lecture hour and 3 studio hours. Goal 3 (Occasionally).

SA 107 Introduction to Photography 3 Cr.
An introduction to photographic principles as a means of visual communication and its relationship to history and contemporary issues while examining the invention and history of photography. A single-lens reflex manual 35mm film camera is required. 1 lecture hour and 3 studio hours. Goal 3 (Occasionally).

SA 111 Foundations of Art and Architecture I 3 Cr.
An introduction to drawing and design, emphasizing articulation of space and pictorial syntax while developing abilities of perception, ways of seeing, and the language of visual perception as it relates to art and architecture design principles. Students acquire a working knowledge of visual expression applicable to the study of art and architecture history and artistic practice. 1 lecture hour and 3 studio hours. Goal 3 (Fall).

SA 112 Foundations of Art and Architecture II 3 Cr.
An introduction to art and architectural three-dimensional design, emphasizing contemporary and traditional three-dimensional processes, concepts, and materials. Students present projects designed to introduce and fuse content, craftsmanship and the principles of design and composition. Emphasis is on solving visual problems and thinking critically, analytically and creatively. 1 lecture hour and 3 studio hours. Goal 3 (Spring).

SA 188 No Norwich Equivalent 1-6 Cr.

SA 200 Intermediate Studio 3 Cr.
This course is for students pursuing further study in one of the following areas: drawing, design, painting, photography, and printmaking. The focus is on developing more complex levels of thought more thorough incorporation of theory and individual initiative in project content and completion. Only one area of study will be pursued each semester. Can be repeated for credit. 6 studio hours. Prerequisite: SA 100 level course or permission of the instructor. Goal 3 (Occasionally).

SA 205 Water Media 3 Cr.
Examines water media, stressing an advanced command of the conventions of pictorial space, narrative, and the language of color and design. Assignments and projects explore technical, conceptual, contemporary, and historical issues central to water media. Attention is given to each student's unique and expressive handling of the media. 6 studio hours. Prerequisite: SA 103 or instructor's permission. Goal 3 (Spring).

SA 210 The Portrait 3 Cr.
Explores the perceptual and conceptual means to construct the human face as a way to explore, understand, and portray the human condition. The structure of the head is examined as anatomy and as form. Historical examples are presented and examined as well as contemporary theory of the portrait and self-portrait. 6 studio hours. Prerequisite: SA 103, or instructor's permission. Goal 3 (Spring).

SA 265 Life Drawing 3 Cr.
Focuses on study and exploration of the human figure using a range of approaches, with emphasis on observation, anatomy, spatial structure, and the use of life drawing as a means to analyze and explore the nature of the human condition. Historical examples ranging from cave painting to contemporary art are presented, researched, and discussed. 6 studio hours. Prerequisite: SA 103 or instructor's permission. Goal 3 (Spring).

SA 288 No Norwich Equivalent 1-6 Cr.

SA 300 Advanced Studio 3 Cr.
Student must have an approved outline for their individual course of study. Can be repeated for credit. 6 studio hours. Prereq: SA 100 or 200 level course. Goal 3 (Spring).

SA 388 No Norwich Equivalent 1-6 Cr.

SA 400 Business of Being an Artist 3 Cr.

SA 402 Design Arts Capstone 6 Cr.

SA 404 Design Arts Internship 1-6 Cr.

SA 488 No Norwich Equivalent 1-6 Cr.

Sports Medicine (SM)

Courses

SM 188 No Norwich Equivalent 1-6 Cr.

SM 199 New Course 4 Cr.

SM 1XX Sports Medicine Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

SM 201 Clinical Education in Athletic Training II 2 Cr.
This course provides students the opportunity to integrate clinical proficiencies introduced in prerequisite courses during a supervised practicum in an athletic training setting. Clinical rotation(s) 6 hours/week and clinical proficiency evaluations. Prerequisites: SM 200 and SM 214 (Spring).

SM 210 Assessment of Injury and Illness 4 Cr.
Building on the assessment principles acquired in SM 138 and SM 220; this course focuses on the techniques necessary to evaluate body systems for injury/illness. 3 lecture hours and 2 lab hours. Prerequisites: BI 216 (Fall).

SM 229 Clinical Physiology II 4 Cr.
This course is part two of a series of two physiology courses in a modular format aligned with clinical practice. It provides an introduction to human physiology with a basic survey of the physiologic pathological processes. Students will learn concepts related to respiratory, gastrointestinal, endocrine, and reproductive physiology and temperature regulation. Classroom 3 hours, laboratory 3 hours. Prerequisite: SM 228. Offered spring semesters.

SM 231 Management of Spine and Pelvic Conditions 3 Cr.
This course will focus on a critical analysis of injuries and conditions that may affect the spine and pelvis in physically active individuals. The application of joint and musculoskeletal anatomy will be utilized to assess the various joints and body regions of the spine and pelvis to determine the appropriate management of these conditions. 3 lecture hours. Prerequisite: SM 232, SM 233, SM 214. (Spring).

SM 233 Upper Extremity Injuries 3 Cr.
This course will focus on a critical analysis of injuries and conditions that may affect the upper extremity in physically active individuals. The application of joint and musculoskeletal anatomy will be utilized to assess the various joints and body regions of the upper extremity to determine the appropriate management of these conditions. 3 lecture hours. Prerequisite: SM 214 (Fall).

SM 288 No Norwich Equivalent 1-6 Cr.

SM 300 Clinical Education in Athletic Training III 4 Cr.
This course provides students the opportunity to integrate clinical proficiencies introduced in prerequisite courses during a supervised practicum in an athletic training setting. Clinical rotation(s) including non-traditional seasons, 12 hours/week and clinical proficiency evaluations. Prerequisites: SM 201, PE 163, SM 230 and SM 232 (Fall).

SM 301 Clinical Education in Athletic Training IV 4 Cr.
This course provides students the opportunity to integrate clinical proficiencies introduced in prerequisite courses during a supervised practicum in an athletic training setting. Clinical rotation(s) 12 hours/week and clinical proficiency evaluations. Prerequisites: SM 300 (Spring).

SM 388 No Norwich Equivalent 1-6 Cr.

SM 400 Clinical Education in Athletic Training V 4 Cr.
This course provides students the opportunity to integrate clinical proficiencies introduced in prerequisite courses during a supervised practicum in an athletic training setting. Clinical rotation(s) including non-traditional seasons 12 hours/week and clinical proficiency evaluations. Prerequisites: SM 301,PE 371, SM 231, and SM 422 (Fall).

SM 401 Clinical Education in Athletic Training VI 4 Cr.
This course provides students the opportunity to integrate clinical proficiencies introduced in prerequisite courses during a supervised practicum in an athletic training setting. Clinical rotation(s) 12 hours/week and clinical proficiency evaluations. Prerequisites: SM 400 and SM 439 (Spring).

SM 420 Therapeutic Modalities 4 Cr.
Investigation of the physiological response of selected human body tissues to trauma and inactivity as well as the implications of said responses for the selection, use, and application of therapeutic modalities. 3 lecture hours and 2 lab hours. Prerequisites: Sophomore 2 standing or higher; Athletic Training (SPA) or Health Science (HLS) standing.

SM 422 Therapeutic Exercise 4 Cr.
Investigation of principles, objectives, indications, contraindications and progression of various modes of conditioning and reconditioning exercises. Methods for evaluation, progress assessment and development of criteria for return to activity. 3 lecture hours and 2 lab hours. Prerequisite: Sophomore 2 standing or higher; Athletic Training (SPA) or Health Science (HLS) standing.

SM 426 Internship 12 Cr.
Provide the Sports Medicine students with an intern-type experience in a professional setting appropriate to their career goals. Prerequisite: Athletic Training (SPA) or Health Sciences (HLS) majors. Offered Fall, Spring and Summer.

SM 439 Leadership & Management in Sports Medicine 3 Cr.
Part of a two-semester capstone experience in sports medicine/athletic training focusing on leadership, management, and professional ethics in sports medicine. Students complete a series of organization and administrative projects and papers focused on personal and professional ethics. Students lead weekly discipline journal club discussion. 3 lecture hours. Prerequisite: Junior 2 standing or higher.

SM 450 Capstone Experience I 1 Cr.
This course will focus on the development of two evidence-based practice projects that have direct application to clinical practice. 1 lecture hour. Prerequisite: Junior 2 standing or higher; Athletic Training (SPA) or Health Sciences (HLS) major. (Fall).

SM 451 Capstone Experience II 1 Cr.
This course will focus the presentation and evaluation of two evidence-based practice projects from SM 450. 1 lecture hour. (Spring).

SM 460 Emerging Practice Skills 3 Cr.
This course will focus on emerging topics in sports medicine practice. Included in the course will be advanced airway management, advanced wound closure techniques, IV therapy, advanced cardiac examination and advanced immobilization techniques. 2 lecture hour and 2 lab hours. Prerequisite: Junior 2 or higher standing; Athletic Training major. (Spring).

SM 488 No Norwich Equivalent 1-6 Cr.

Sociology (SO)

Courses

SO 188 No Norwich Equivalent 6 Cr.

SO 201 Introduction to Sociology 3 Cr.
An analysis of the order and change in social life, both at the micro (interactional) and macro (societal) levels. An examination of fundamental concepts and research methods applied to understanding culture and socialization; social groups and organizations; social stratification; and social change.

SO 202 Problems of Modern Society 3 Cr.
This course examines the problems of American social institutions such as the family, the economy, and education, using basic sociological principles and paradigms. The course also covers problems of inequality, deviance, and problems of change and modernization.

SO 209 Methods of Social Science Research 4 Cr.
An examination of the methodological foundations of the social sciences; the logic and technique of empirical inquiry; the nature of social facts, the operationalization of concepts, and the construction of hypotheses; research designs including surveys, interviews, experiments, observation, and evaluation; the organization and analysis of data; graph and table construction and interpretation; the common problems of empirical social research; and research ethics. Emphasis given to criminal justice applications. The lab part of the course instructs students how to use and apply SPSS and other relevant software. Classroom and Laboratory 4 hours. Cross-listed with CJ 209; not permitted to earn credit for both SO 209 and CJ 209. (Fall, Spring).

SO 212 Cultural Anthropology 3 Cr.
Principles and methods in the comparative study of cultures. An examination of the concepts and theories in terms of which cultural anthropology is pursued. Cross-listed with SOCI 401; not permitted to earn credit for both SO 212 and SOCI 401. (Fall).

SO 214 Racial and Cultural Minorities 3 Cr.
A study of relations between racial and ethnic groups in modern America. Attention is also given to selected subordinate groups in the U.S. and other countries. Prerequisite: Open to sophomore or higher status.

SO 216 Sociology of Health, Wellness & Medicine 3 Cr.
Introduction to the sociology of health, wellness and medicine. Examines the cultural and institutional aspects of health, wellness, and healthcare systems through basic sociological principles, paradigms and methods. Explores inequality in health outcomes, access to resources, and within the medical field. Includes an international comparative approach. Prerequisite: Open to Nursing majors and Sociology minors. (Fall).

SO 218 Intro to Cultural Competence 3 Cr.
Introduces key concepts and theories in the study of cultures and societies, explores how culture and cultural contexts and language influence values, expectations, behavior, communication styles and conflict resolution. Examines the role that culture plays in the human communication process and how this is related to conflict at the interpersonal and international level. Emphasizes intercultural communication competence in an increasingly diverse society through immersion in a different socio-cultural context. Reflection on personal experience of a new cultural environment is an integral part of this course. Cross-listed with SOCI 335; not permitted to earn credit for both SO 218 and SOCI 335.

SO 288 No Norwich Equivalent 6 Cr.

SO 2XX Sociology Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

SO 300 Topics in Sociology 3 Cr.
Selected topics in Sociology. (Occasionally).

SO 316 Aging in Society 3 Cr.
Introduction to the sociological study of aging in society. This course examines the cultural, relational and institutional interpretations of aging through the life course using basic sociological principles, paradigms and methods. Students will explore inequality as it relates to aging and diverse populations in terms of health outcomes, in access to resources, and within the medical field. Prerequisite: SO 216 or SO 201. 3 lecture hours. (Fall).

SO 320 Drugs and Society 3 Cr.
This course focuses on the interrelationships between drugs and the social order. Issues considered include: the nature and effects of legal and illegal drugs; the determinants of drug effects, especially the social determinants; the history of drug prohibition; drug addiction and drug treatment; and drug policy. Prerequisite: Open to Sophomore status or higher. Cross-listed with CJ 320; not permitted to earn credit for both SO 320 and CJ 320. (Every other year).

SO 330 Military Sociology 3 Cr.
This course provides a sociological perspective of the military as both an institution as an occupation. It examines the social structure and functions of the military and the social factors that influence behavior in and of the military. In terms of function, it examines the changing purposes of the military in view of changing national and international conditions; and in terms of structure, it examines the norms, values, traditions, organizations, and culture of the military. It is designed to provide greater insight into the routine life within the military and into contemporary issues confronting the military. Prerequisite: Open to Sophomore status or higher. (Spring, every other year).

SO 360 Inequality and Society 3 Cr.
Compare major classical and contemporary sociological theories of social stratification and inequality, and review the historical development of class systems with emphasis on American society. Apply theory to a contemporary case study on topics such as: income and wealth; mobility; gender and race inequality; power and global inequality. 3 Lecture hours. Prerequisite: SO 214 (Spring, even years).

SO 362 Media, Justice and Society 3 Cr.
An overview of major theories regarding mass society, mediation, and social constructionism, exploring media impact and public perceptions of social problems, policies, justice, crime and deviance. 3 Lecture hours. Prerequisites: SO 201, or SO 202 or CJ 101 (Fall, odd years).

SO 364 Theories of Justice 3 Cr.
An introduction to major classical and contemporary theories of justice, with applications to social interactions and institutions from both a historical and contemporary perspective. 3 Lecture hours. Prerequisites: SO 201 or CJ 101 Sophomore status or higher. (Spring, even years).

SO 388 No Norwich Equivalent 6 Cr.

SO 400 Independent Study 3 Cr.
An opportunity for qualified upper class students to engage in an intensive research program in fields of interest not satisfactorily covered by regular course offerings. Periodic conferences will be required. Prerequisite: written consent of the instructor to a specific project presented by the applicant. Prerequisite: Sociology minor and SO 201; Cumulative quality point average of 2.5.

SO 402 Law and Society 3 Cr.
An analysis of various theoretical perspectives on the nature, courses, organization and operation of law and legal systems. Emphasis will be placed on law creation, conflict resolution, the legal profession, and the role of law in social change. Cross-listed with CJ 402; not permitted to earn credit for both SO 402 and CJ 402. Prerequisite: Open to Sophomore status or higher. (Every other year).

SO 488 No Norwich Equivalent 6 Cr.

Spanish (SP)

Courses

SP 121 Beginning Spanish I 4 Cr.
Students progress along the first steps towards acquiring basic languages skills: speaking, listening, reading, and writing, with a focus on their use for several modes of communication, such as the interpersonal, the interpretive, and the informative, within the context of the cultures of the Spanish-speaking world. For students with little or no previous exposure to Spanish. 4 lecture hours.

SP 122 Beginning Spanish II 4 Cr.
Students continue progress toward novice-high skill levels in speaking, listening, reading, and writing - and their use in several modes of communication: the interpersonal, the interpretive, and the informative - all within the context of the cultures of the Spanish-speaking world. 4 lecture hours. Prerequisite: SP 121 or equivalent score on the Foreign Language Placement Test.

SP 150 Topics Course 3 Cr.
Specialized topics relating to culture, business practices, or language. Topic will be indicated in the schedule of classes. This is an introductory-level course. Course may be repeated for credit if the topic differs. Taught in Spanish.

SP 150EN Topics Course in English 3 Cr.
Specialized topics relating to culture, literature, business practices, or language. Topic will be indicated in the schedule of classes. Taught in English. This course does not count toward the B.A. Modern Language requirement.

SP 188 No Norwich Equivalent 1-6 Cr.

SP 1XX Spanish Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

SP 205 Intermediate Spanish I 3 Cr.
A course that provides aural-oral practice in Spanish, in which students are enabled to enter into full discussion of topics that include abstract themes; review and expanded use of syntactical structures; intensive and extensive reading; and composition. Classroom 3 hours, laboratory 1 hour. Prerequisite: SP 122, or equivalent score on the Foreign Language Placement Test.

SP 206 Intermediate Spanish II 3 Cr.
A course that provides aural-oral practice in Spanish, in which students are enabled to enter into full discussion of topics that include abstract themes; review and expanded use of syntactical structures; intensive and extensive reading; and composition. Classroom 3 hours, laboratory 1 hour. Prerequisites: SP 205, or equivalent score on the Foreign Language Placement Test.

SP 250 Topics Course 3 Cr.
Specialized topics relating to culture, literature, business practices, or language. Topic will be indicated in the schedule of classes. Taught in Spanish. Prerequisite: SP 206 or permission of the instructor. Counts as General Education Arts & Humanities elective. Course may be repeated for credit if the topic differs.

SP 250EN Topics Course in English 3 Cr.
Specialized topics relating to culture, literature, business practices, or language. Topic will be indicated in the schedule of classes. Taught in English. Topics in Literature count as a General Education Literature elective; others as a General Education Arts & Humanities elective. This course does not count toward the B.A. Modern Language requirement. Prerequisite: EN 102.

SP 288 No Norwich Equivalent 1-6 Cr.

SP 2XX Intermediate Spanish Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

SP 301 Advanced Spanish I 3 Cr.
Oral and written practice of the language through class discussions of selected Hispanic authors. Selective review of grammar, especially of the more difficult and subtle aspects, designed to facilitate an idiomatic and fluent use of the language. Classroom 3 hours. Prerequisite: SP 206, or equivalent score on the Foreign Language Placement Test.

SP 302 Advanced Spanish II 3 Cr.
Oral and written practice of the language through class discussions of selected Hispanic authors. Selective review of grammar, especially of the more difficult and subtle aspects, designed to facilitate an idiomatic and fluent use of the language. Classroom: 3 hours. Prerequisite: SP 206.

SP 318 Spanish American Short Stories 3 Cr.
An examination of Spanish American short stories from the 19th century through the present day by the authors Horacio Quiroga, Juan Rulfo, Gabriel García Márquez, Julio Cortázar, Ricardo Piglia, and Isabel Allende, among others. Addresses major themes and formal aspects of the short story. Taught in Spanish. Prerequisite: SP 301.

SP 321 Introduction to the Literature of Spain I 3 Cr.
A survey of peninsular Spanish literature from prehistoric Spain to the Modern Age. Lectures, readings, discussion, and written reports in Spanish. Prerequisite: SP 301, or may be taken concurrently.

SP 322 Introduction to the Literature of Spain II 3 Cr.
A survey of peninsular Spanish literature from the Modern Age up through the 20th Century. Lectures, readings, discussion, and written reports in Spanish. Prerequisite: SP 301, or may be taken concurrently.

SP 327 Spanish-American Literature I 3 Cr.
A survey of Spanish-American literature from the pre-Columbian period up through the 19th Century. Lectures, readings, discussion, and written reports in Spanish. Prerequisite: SP 301, or equivalent Language placement; may be taken concurrently.

SP 328 Hispano-American Literature II 3 Cr.
A survey of Spanish-American literature from the end of the 19th Century up through the 20th Century. Lectures, readings, discussion, and written reports in Spanish. Prerequisite: SP 301.

SP 350 Topics Course 3 Cr.
Specialized topics relating to culture, literature, business practices, or language. Topic will be indicated in the schedule of classes. Taught in Spanish. Topics in Literature count as General Education Literature elective; others as General Education Arts & Humanities elective. Course may be repeated for credit if the topic differs. Prerequisite: SP 301.

SP 350EN Topics Course in English 3 Cr.
Specialized topics relating to culture, literature, business practices, or language. Topic will be indicated in the schedule of classes. Topics in Literature count as a General Education Literature elective. This course does not count toward the B.A. Modern Language requirement.Taught in English. Course may be repeated for credit if the topic differs. Prerequisite: SP 301, or may be taken concurrently.

SP 352EN La guerrilla 3 Cr.
Explores the contexts, ideological foundations, goals, success or failure, and legacy of revolutions and insurrectionary movements from colonial times to the present as represented in oral histories, poetry, short stories, murals, paintings, songs, films and historical accounts, as well as the theories of guerrilla warfare and lives of Che Guevara, Mao Zedong and other revolutionary leaders. Taught in English. 3 lecture hours. Prerequisite: EN 102. (Every other year).

SP 354EN El narco 3 Cr.
This course studies Mexico's violent drug industry--el narco--through its representations in Latin American narrative in the many media comprising an entire narco cultura, and in the symbolic language used by cartel paramilitary assassins to create public terror. The literary and cultural perspective will be augmented by historical analysis. Taught in English. Prerequisite: EN 102. Goal 3. (Every other year).

SP 356 Cinema of Spain 3 Cr.
An introduction to Spanish cinema spanning the early decades of the twentieth century, influenced by the avant-garde, moving into the period of censorship, under the Franco dictatorship, and finally covering the transition of the post-Franco era that give rise to the Movida madrileña of the 80's. The course will focus on the films of Luis Buñuel, Carlos Saura, and Pedro Almodóvar. Taught in Spanish. Prerequisite: SP 301, may be taken concurrently. Goal 3. (Every other year).

SP 388 No Norwich Equivalent 1-6 Cr.

SP 3XX Advanced Spanish Transfer Elective 3 Cr.
This course is used for transfer when no equivalent Norwich course exists.

SP 415 Seminar: Topics in Spanish Literature and Culture 3 Cr.
A study of a particular author, theme, genre, or literary movement including cultural themes. Topic varies each year these courses are offered. Prerequisite: SP 302, Spanish major or minor, junior status or higher.

SP 421 Reading and Research in Spanish Literature and Culture 3 Cr.
A report on an approved project of original research in Spanish or Spanish-American literature or civilization under the direction of a department member. Limited to students who have demonstrated aptitude for independent work. Prerequisite: SP 302, Spanish Major or minor, Junior status or higher, and permission of the Program Chair, Program Director and instructor.

SP 488 No Norwich Equivalent 1-6 Cr.

Faculty

Faculty

Faculty

The year after a name indicates the year hired at Norwich University; the date after the academic title indicates the year of that title; the year after each degree indicates the year the degree was earned.

MARIE AGAN (2018) Lecturer in Chemistry (2018); B.S. 2011, Saint Michael's College.

DEBORAH AHLERS (1991) Head of Cataloging and Interlibrary Loan; Assistant Professor (1991); B.A., 1989, SUNY Binghamton; M.L.S., 1991, SUNY Albany.

DANIEL P ALCORN (2010) Assistant Professor (2020): Program Manager, Bachelor of Science in Management Studies (2017): Program Manager, Bachelor of Science in Business Administration (2020): A.A., 2008, Kent State University. B.A. 2009, Kent State University. MBA 2011, Norwich University. MPA 2015, Norwich University.

NADIA AL-AUBAIDY (2014) Associate Professor of Construction Management (2020); B.S. 1998, University of Baghdad; M.S. 2005, University of Baghdad; Ph.D. 2015, Civil Engineering, University of Texas.

MICHAEL C. ANDREW (1993) Associate Professor of Political Science (2002); B.A. 1986, de Sales University; M.A. 1990, de Sales University; Ph.D. 1994, SUNY Binghamton.

PETER APPLETON (2019) Visiting Associate Professor of Management (2019); B.A. 1970, Carleton University; M.Sc. 1972, University of Alberta; Ph.D. 1982, Universidad Mayor de San Simon.

CARA ARMSTRONG (2011) Associate Professor of Architecture (2019), Director of the School of Architecture & Art (2013); B.E.D. 1991, Miami University; B. Phil. 1991, Miami University; M.F.A. 2013, Drew University; M.Arch. 1994, Columbia University.

ADDIE E. R. ARMSTRONG (2016) Assistant Professor of Mathematics (2016); B.S. 2010, Norwich University; M.S. 2012, Ph.D., 2016, University of Rhode Island

ELISABETH ATEMS (2014) Lecturer of Physics (2014); A.B. 1977, University of Michigan; Ph.D. 1993, Wayne State University.

MARK G. ATWOOD (2019) Lecturer of Civil Engineering (2019); B.S., Civil Engineering 1990, Norwich University; M.S. Civil Engineering 1992, Purdue University; Registered Professional Engineer.

CAROLE L. BANDY (1995) Charles A. Dana Professor of Psychology (2015); B.A. 1970, Rhodes College; M.S. 1973, University of Memphis; Ph.D. 1989, George Washington University.

ANDREW BARGERSTOCK (2020) Associate Professor of Accounting (2020); B.A. 1971, Muhlenburg College; M.B.A. 1972, University of Pittsburgh; Ph.D. 1995, Maharishi International University; C.P.A. 1973 State of Pennsylvania; XBRL Certification 2013.

ROBERT BARTLETT (2019) Lecturer of Spanish (2019); B.S. 2008, University of Vermont; M.Ed. 2013, Jones International University.

NARAIN D. BATRA (1986) Professor of Communications (1990); B.A. 1956, Punjab University; M.A. 1958, Delhi University; Ph.D. 1980, Gujarat University.

MICHAEL BATTIG (1998/2020) Professor of Computer Science (2020), Director of the School of Cybersecurity, Data Science, and Computing (2020); B.S. 1984, Miami University; M.S. 1991, University of North Texas; Ph.D. 1998, Mississippi State University.

SEAN BEEBE (2012) Assistant Professor of Military Science (2012).

JACQUES N. BENEAT (2002) Professor of Electrical and Computer Engineering (2015); DEA 1990, Universite de Brest; Ph.D. 1993 Worcester Polytechnic Institute; Doctorate 1994, Universite de Bordeaux.

COREY BENNETT (2019) Lecturer of Nursing (2019); A.S.N. 2011, Castleton State College; B.S.N. 2018, University of Vermont; M.S.N. 2019, Norwich University; Registered Nurse.

NATALIA F. BLANK (2005) Professor of Chemistry (2018); Associate Provost (2017); Chair of Department of Chemistry and Biochemistry (2015-2017); Homer L. Dodge Award Recipient (2011); B.S., M.S. 1996, Nizhegorod State University; Ph.D. 2005 Dartmouth College.

KYLIE BLODGETT (2016) Lecturer Physical Education (2016); B.S. 2010, Norwich University; M.S. 2011, University of Michigan. M.S. 2015, University of New Hampshire; PhD. 2020, Walden University.

DAVID J. BLYTHE (1991) Director of the School of Business (2016); Associate Professor of Management (2010); B.S. 1981, Rutgers University; J.D. 1986, Vermont Law School.

MATTHEW W. BOVEE (2010) Associate Professor of Computer Science (2019); B.S. 1981, Arizona State University; M.A. 1986, The University of Kansas; MSISA 2018, Norwich University; Ph.D. 2004, The University of Kansas; AccessData Certified Examiner v6 (2018); Cellebrite Certified Mobile Examiner (2020).

CHARLES BRINK (2018) Assistant Professor of Military Science (2018); B.A. 2003, Michigan State University. Major, U.S. Army.

JOHN BROOM (2006) Associate Program Director of Academics, M.A. in Military History program (2008);

B.A. 1976, University of Minnesota; M.A. 1989, Norwich University; Ph.D. 1993, Union Institute.

ROWLAND BRUCKEN (2001) Professor of History (2013); Homer L. Dodge Award Recipient (2007); B.A. 1991, College of Wooster; M.A. 1993; Ph.D. 1999, Ohio State University.

ANNE BUTTIMER (2004) Lecturer in Criminal Justice (2010); B.S. 1979, Northeastern University; M.A. 1982, Anna Maria College; J.D. 1993, Vermont Law School.

FRANCESCO CALABRESE (2019) Assistant Professor of Naval Science (2019), B.S. 2012, University of North Florida.; Lieutenant, U. S. Navy.

MEGAN CANELLA (2016) Lecturer of English (2019); B.A. 2000, St. Lawrence University; MATESL 2003, St. Michael's College.

ANGELA D. CARPENTER-HENDERSON (2020) Lecturer of Health and Human Performance; B.S. 2008, Castleton State College; M.E. 2015, Southern New Hampshire University.

LINN CAROLEO (2017) Lecturer of Mathematics (2017); B.A. 1997, University of California; M.S. 1999, California State University; ed.D. 2005, University of West Florida.

NATALIE A. CARTWRIGHT (2019) Assistant Professor of Mathematics (2019); B.S. 1993, University of Vermont; M.S. 2000, University of Vermont; Ph.D. 2004, University of Vermont.

JEFFRY CASEY (2017) Assistant Professor of Theater (2017); B.A. 2002, University of Texas; M.A. 2007, University of Texas; Ph.D. 2016, University of Wisconsin.

JOSEPH E. CATES (2015) Curator of Education and Public Programs; Assistant Professor (2020); B.A. 2000, Auburn University at Montgomery; M.A. 2002, University of Southern Mississippi.

WILLIAM H. CLEMENTS (1987) Professor of Criminal Justice (2001); Vice-President for Academic Affairs (2011), Dean of the College of Graduate and Continuing Studies (2005); B.S.1980, Clarkson University; M.A. 1982, University of Delaware; Ph.D. 1987, University of Delaware.

JASON CLIFFORD (2019) Assistant Professor of Aerospace Studies (2019); B.A. Historic Preservation, 1996, University of Mary Washington; M.S. 2008, Trident University International; Lt Colonel, U.S. Air Force.

HENRY COLLIER (2014) Assistant Professor (2019); Program Manager Bachelor of Science Cybersecurity (2014); Program Manager Bachelor of Science Computer Science and Information Systems (2019); B.S., Information Technology (2008), M.S., Managing Innovation & Information Technology (2011).

SCOTT E. CONWAY (2020) Professor of Naval Science and Commanding Officer Naval ROTC (2020); B.S. 1993, United States Naval Academy; M.S. 2008, Marine Corps University; M.S. 2014, Inter-American Defense College; Colonel, U. S. Marine Corps.

JOSE CORDOVA (2008) Associate Professor (2008); Director, Master of Business Administration (2008); Economist, Central University of Quito, 1976; M.A. Administrative Studies, Ohio University, 1978; M.A. Economics/Finance, Ohio University, 1979; Ph.D. Telecommunications Management/ Economics, Ohio University, 1987.

MELISSA CORNWELL (2014) Online Learning & Scholarship Librarian; Instructor (2017); B.A., 2011, Southern Illinois University; M.L.I.S., 2013, University of Illinois.

FRANCIS BRETT COX (2002) Charles A. Dana Professor of English (2018); B.A. 1981, University of South Carolina; M.A. 1984, University of South Carolina; Ph.D. 1992, Duke University.

WENDY COX (2000) Associate Professor of Architecture (2010); B.S. 1981, Miami University; M. Arch. 1989, University of Colorado; Master of Design Theory + Pedagogy 2018, Southern California Institute of Architecture; Registered Architect.

MICHAEL CROSS (2015) Assistant Professor of Electrical and Computer Engineering (2020); B.S. 1997, Rochester Institute of Technology; M.S. 2000, University of Vermont; Ph.D. 2005, University of Vermont

JAMES DALTON (2014) Assistant Professor (2019); Manager, Master of Arts in Strategic Studies (2017), Bachelor of Science in Strategic Studies and Defense Analysis (2014), Bachelor of Science in National Security Studies (2016); B.S., Secondary Education-Social Studies, 1987, University of Missouri; M.A. National Security and Strategic Studies, 2006, United States Naval War College.

MANAWADUGE de SILVA (2017) Lecturer of Physics (2017); B.S.c, 2010, University of Colombo, Sri Lanka; M.S. 2013 University of Connecticut.

ELEANOR D'APONTE (2000) Associate Professor of Architecture (2016); B.A. 1988, Barnard College; M.Arch 1991, University of Virginia. Registered Architect.

ROBERT DENOYER (2020) Assistant Professor of Naval Science, Marine Officer Instructor (2020); B.S. 2013, Kennesaw State University; Captain U.S. Marine Corps.

DOMENICK J. DISTANO (2019) Assistant Marine Officer Instructor (2019); Staff Sergeant, U. S. Marine Corps

MEGAN A. DOCZI (2011) Associate Professor of Biology (2017), Chair of the Department of Biology (2019); B.A. 2003, Drew University; Ph.D. 2010, University of Vermont.

KATE M. DONLEY (2007) Lecturer in English (2017); B.A. 1994, Macalester College; M.A. 2001, Northern Arizona University.

YURY DRANKER (2017) Assistant Professor of Military Science (2017); Captain, U.S. Army.

JOHN DULMAGE (2016) Lecturer in Psychology (2017); B.A. 2012, Norwich University; B.A. 1968, St. Columban's College and Seminary; M.Ed. 1972, Boston College, 1972.

RICHARD K. DUNN (2000) Charles A. Dana Professor of Geology (2014); B.A., B.S. 1987, University of Minnesota Duluth; M.S. 1990, Wichita State University; Ph.D. 1998, University of Delaware.

DAVID EBENSTEIN (2016) Lecturer in Biology; B.A. 1982, University of Vermont; M.S. 1986, University of Southern California.

JAMES EHRMAN (2004) Associate Professor (2013); Associate Dean of Graduate Programs (2017), Director, Master of Arts in Military History (2006) and Master of Arts in History (2011); B.A. 1991, Creighton University; M.A., 1997, Kansas State University; Ph.D. 2006, Kansas State University.

CONNER FERGUSON, (2019) Assistant Professor of Naval Science (2019); B.A. 2013, State University of New York at Plattsburgh; Lieutenant, U. S. Navy.

PATRICIA FERREIRA (1996) Professor of English (2012); Homer L. Dodge Award Recipient (2001); B.A. 1982, Keene State College; M.A. 1988, University of Vermont; Ph.D. 1996, McGill University.

MATTHEW FISCHER (2019) Assistant Professor of Criminal Justice (2019); A.A.S. 2004, University of Wisconsin; B.A. 2006, University of Wisconsin; M.A. 2009, University of Michigan; ABD 2019, University of Louisville.

KEVIN FLEMING (2006) Professor of Psychology (2009); Chair of Department of Psychology and Education (2015); B.A. 1985, Lehigh University; M.A. 1987, University of New Hampshire; Ph.D. 1990, University of New Hampshire.

CATHY M. FREY (1985) Professor of Mathematics (2001); B.S. 1983, University of Vermont; M.S. 1985, University of Vermont.

R. DANNER FRIEND (2003) Professor of Mechanical Engineering (2016), Chair of Department of Mechanical Engineering (2017); B.S. 1987, Virginia Military Institute; M.S. 1991, Clemson University; Ph.D. 1999, Texas A& M. Registered Professional Engineer.

TRAVIS FRISBEY (2019) Military Science Instructor (2019); Staff Sergeant; U.S. Army.

SETH FRISBIE (2006) Associate Professor of Chemistry (2014), Director of Introductory Chemistry Labs; B.S. 1986, University of Massachusetts; M.S. 1989, Cornell University; Ph.D. 1992, Cornell University.

ROMMY FULLER (2019) Visiting Associate Professor of Education, Director of Education (2019); BA, 2000, University of New Hampshire; M.Ed. 2002, University of New Hampshire; Ed.S. 2010, Simmons College; Ph.D. 2015, Simmons College.

JEAN-SEBASTIAN GAGNON (2019) Assistant Professor of Physics (2019); B.Sc. 1999, Laval University; M.Sc. 2001, McGill University; Ph.D. 2007 McGill University.

JASON GALLIGAN-BALDWIN (2008) Associate Professor of Studio Art (2014); B.F.A. 2001, University of Louisiana; M.F.A. 2004, University of Mississippi.

DEANDRE L. GARNER (2018) Assistant Professor of Military Science (2018). B.A. 2002, Saint Martins University; M.A. 2007, Webster University. Lieutenant Colonel, U.S. Army.

JOHN GARTNER (2018) Lecturer in Earth and Environmental Sciences (2019); B.A. 1994, Middlebury College; M.A. 2003, University of Colorado, Boulder; Ph.D. 2015 Dartmouth College.

LYNDSEY GATES (2015) Assistant Professor of Nursing (2019); B.S. 2008, St. Lawrence University; B.S.N. 2013 Norwich University; M.S.N. 2015 Norwich University; D.N.P. 2020, University of Vermont; Registered Nurse.

BRIAN GLENNEY (2015) Assistant Professor of Philosophy (2016); B.A. 1999, University of Washington; M.Litt 2000, University of St. Andrews; Ph.D. 2007, University of Southern California.

EMILY GRAY (2007) Associate Professor of History (2013); Homer L. Dodge Award Recipient (2015); B.A. 1996, Utah State University; Ph.D. 2004, University of Pennsylvania.

LAURIE GRIGG (2011) Assistant Professor (2017); B.S. 1991, Colorado College; Ph.D. 2000, University of Oregon.

ELIZABETH GURIAN (2011) Associate Professor of Criminal Justice (2017); Associate Director of the School of Justice Studies & Sociology (2018); B.S. 2001, Boston University; M.S. 2006, Northeastern University; Ph.D. 2012, University of Cambridge.

ETHAN GUTH (2011) Associate Professor of Chemistry (2017); Department Chair of Chemistry (2020); B.S. 1999, Goucher College; Ph.D. 2007, University of Vermont.

AHMED ABDEEN HAMED (2019) Assistant Professor of Computer Science (2019); B.A. 1990, Ain Shams University; M.S. 2005, Indiana University; Ph.D. 2014, University of Vermont.

JEREMY A. HANSEN (2010) Associate Professor of Computer Science (2016); B.S. 1998, University of Wisconsin; M.S. 2005, University of Wisconsin; Ph.D. 2009, University of Wisconsin.

KATE HARNEY (2018) Lecturer in Athletic Training (2018); B.S. 2013, Stony Brook University; M.A. 2015, Adelphi University. Certified Athletic Trainer.

John Hart, Jr. (2013) Director of the Sullivan Museum and History Center; Assistant Professor (2018); B.A., 2006, St. Michael's College; M.A. History Museum Studies, 2008, The Cooperstown Graduate Program/SUNY Oneonta.

CONSTANCE HASSETT-WALKER (2020) Assistant Professor of Criminal Justice (2020); B.A. 1990, Rutgers College, Rutgers University; MPA 1997, New York University; Ph.D. 2007, Rutgers School of Criminal Justice.

KATE T. HEALY (2011) Associate Professor of Nursing (2017); B.S.N. 2003, University of Pennsylvania; M.S.N. 2007, University of Pennsylvania.

DANIEL HELMAN, JR. (2018) Military Science Instructor (2018). Staff Sergeant, U.S. Army.

KAREN L. HINKLE (2003) Charles A. Dana Professor of Biology (2017); Homer L. Dodge Award Recipient (2009); B.S. 1995, University of California; Ph.D. 2002, University of Michigan.

MATTHEW C. HIRSCH (2018) Assistant Professor of Naval Science, Marine Officer Instructor, (2018); B.A. 2014, Purdue University; Captain, U. S. Marine Corps.

K. TABETHA HOLE (2015) Assistant Professor of Physics (2015); B.A.1998, Oberlin College; M.S. 2004; Ph.D. 2009, University of Wisconsin.

JOHN HOLM (2011) Head of Digital Services; Assistant Professor (2015); B.A., 2000, St. Olaf College; M.A., 2006, University of Wisconsin; M.L.I.S., 2009, University of Wisconsin.

JARED HOLSHOUSER (2020) Assistant Professor of Mathematics; B.S. 2010, University of Texas at Austin; M.S. 2013, University of North Texas; Ph.D. 2017 University of Texas at Austin.

NASIM HOSEIN (2020) Associate Professor of Management (2020); B.Sc. 1984, University of Manitoba; M.B.A. 2002, Athabasca University; Ph.D. 2006, International Institute of Studies, Ramkhampaeng University.

LAUREN D. HOWARD (1976) Professor of Biology (1993); Homer L. Dodge Award Recipient (1979); B.A. 1971, Hartwick College; Ph.D. 1979, University of Vermont.

LINGYI HU (2019) Visiting Assistant Professor of Chinese (2019); B.A. 1984, Shanghai Teachers' University; M.A. 1988, University of Illinois; M.A. 1990, University of British Columbia; Ph.D. 1999, University of Toronto.

BRANDON HUGO (2016) Electronic Resources Librarian; Instructor (2016); B.A., 2010, Hillsdale College; M.L.I.S., 2014, University of Pittsburgh.

JACOB I. HUMMEL (2018) Assistant Professor of Aerospace Science (2018); B.S. 2008, University of Nevada, Major, U.S. Air Force.

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GINA LOGAN (1987) Adjunct Instructor of English; B.A. 1986, Regents College; M.F.A. in Writing 1986, Norwich University.

IAIN MACHARG (2005) Adjunct Instructor of Music; B.A. 1996, University of Vermont; M.Ed. 1997, University of Vermont.

JULIE MAZZA (2016) Adjunct Clinical Instructor of Nursing (2016); B.S.N. (1997), University of Vermont; M.S.N. (2016), Norwich University. Registered Nurse.

SUSAN McAULIFFE (2016) Adjunct Instructor of Mathematics; B.S. 1990, University of Vermont; M.S. 2000, University of Vermont.

RICHARD MEGAHAN (2016) Adjunct Instructor of Management (2018); M.M.A.S.(1990), U.S. Army Command and General Staff College; Master's Degree (2000), U.S. Army War College.

RENATO E. MEROLLI (2014) Adjunct Instructor of Accounting; B.A. 1970, Fairleigh Dickinson University; J.D. 1974, The Columbus School of Law.

ELLEN MOODY (2020) Adjunct Clinical Instructor of Nursing (2020); B.S.N. 2006, Norwich University; M.S.N.; Registered Nurse.

JOE NG (2018) Adjunct Instructor of Computer Science; B.S., San Francisco State University; Oracle Developer Certification, University of California.

SARAH NOYES (2019) Adjunct Clinical Instructor of Nursing (2019); B.A. 2012, Saint Michael's College; B.S.N. 2014, Remington College of Nursing; M.S.N. 2019, Grand Canyon University; Registered Nurse.

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BRITTANY POWELL (2017) Adjunct Instructor of Art; B.F.A. 2003, California College of the Arts; M.F.A. 2015, San Francisco State University.

WENDY PRATT (2016) Adjunct Instructor of Mathematics; BA 2002, Norwich University; M.S. 2008, University of New England; Ed.D., University of New England.

MICHELLE ROBERT (2020) Adjunct Clinical Instructor of Nursing (2020); A.D.A. 2008, Johnson State College; A.D.N. 2012, Clinton Community College; B.S.N. 2016, University of Vermont; Registered Nurse.

JAMI ROBERTSON (2015) Adjunct Instructor of Mathematics; B.A. 1985, Antioch College; M.S. 1991, Queens College.

DAVID SEM (2017) Adjunct Instructor of Criminal Justice; B.S. 1990, Salem State College; M.S. 1991, Northeastern University.

GEORGE SILOWASH (2016) Adjunct Instructor of Computer Science (2017); B.S. (2001), California University of Pennsylvania; M.S. (2007), Norwich University.

SUZANNE M. SIMONE (2020) Adjunct Clinical Instructor of Nursing (2020); Diploma 1986, St. Elizabeth School of Nursing; B.S.N. 2010, Franklin Pierce University; M.S.N. Leadership; Registered Nurse.

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DOUGLAS A. SMITH (1999) Adjunct Instructor of Communications; Advisor to WNUB; B.A. 1982, Lyndon State College; M.A. 1998, Southern Illinois University.

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WILLIAM S. SMITH, III, ESQ (2017) Adjunct Instructor of Business and Management (2017); B.A. 1987, University of Vermont; Juris Doctor 1992, Vermont Law School.

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RAYMOND P. ZIRBLIS (2001) Adjunct Instructor of History (2001); B.A. 1976, Goddard College; M.S. 1986, University of Vermont.

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ROBERT J. McKAY (1981-2019) Professor Emeritus of Philosophy (2020); B.A. 1969, Swarthmore College; M.A. 1973, University of Chicago; Ph.D. 1980, University of Chicago.

MELVIN E. MILLER (1981-2017) Charles A. Dana Professor of Psychology (2008); Director of Counseling

and Psychological Services (1983); B.A. 1968, Westminster College; M.A. 1972, West Georgia College; Ph.D. 1981, University of Pittsburgh; C.A.G.S. 1979, Duquesne University.

MEHDI MOHAGHEGH (1986) Professor Emeritus of Economics and Finance (2018); B.A. 1973, College of Business (Iran); M.A. 1978, University of Teheran; M.A. 1985, Clark University; Ph.D. 1986, Clark University.

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MANUEL NUNEZ-de-CELA (1977-1999) Professor Emeritus of Spanish; Bachillerato 1950, Universidad de Murcia; Licentiate in Law 1957, Universidad de Salamanca; M.A. 1966, Middlebury College; Ph.D. 1974, University of Toronto.

GARY D. PARKER (1978-2013) Charles A. Dana Professor Emeritus of Physics (2007); B.A., 1965, Dartmouth College; M.S., 1970, University of Colorado; Ph.D., 1973, University of Denver.

CARLOS F. A. PINKHAM (1982-2009) Professor Emeritus of Biology B.S., 1965, Norwich University; M.S., 1969 and Ph.D., 1971, University of Illinois.

ANITA FREGOSI RISTAU (1972-1993) Professor Emeritus of Nursing B.S.N., 1959, University of Vermont; M.S., 1977, St. Michael's College.

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EUGENE ANTHONY SEVI (1975-2013) Professor Emeritus of Civil Engineering; Sc.B., 1968, Brown University; M.S., 1969, University of Colorado. Registered Professional Engineer; Diplomat, American Academy of Environmental Engineers.

STANLEY K. SHERNOCK (1985-2018) Charles A. Dana Professor Emeritus of Criminal Justice (2018); B.A. 1968, University of California Berkeley; M.A. 1971, Indiana University; Ph.D. 1979, University of Virginia.

JOHN BELMONT STEVENS (1979) Professor Emeritus of Civil Engineering B.S.C.E., 1964, Norwich University; M.S.C.E., 1966, West Virginia University. Registered Professional Engineer.

PETER R. STEPHENSON (2002-2016) Professor Emeritus of Computer Security & Information Assurance (2015); B.S.E.E., 1999, Summit University; M.A. 2007, Norwich University; Ph.D. 2004, Oxford Brookes University. Certified Information Systems Security Professional, Certified Information Security Manager, Fellow, Institute for Communications Arbitration and Forensics.

FLOYD CHARLES STUART (1965-2003) Charles A. Dana Professor Emeritus of English; B.A.1963, Fordham University; M.A. 1965, John Carroll University; Ph.D. 1972, SUNY Binghamton.

RAHMATHULLAH SYED (1984-2016) Professor Emeritus of Physics; B.Sc. and M.Sc. 1963, Sri Venkateswara University, India; M.S., 1980, Ph.D. 1983, The Catholic University of America.

PAUL TARTAGLIA (1977) Professor Emeritus of Mechanical Engineering (2017); B.M.E. 1967, The University of Detroit; M.S. 1968, Northwestern University; Ph.D. 1970, The University of Detroit.

THERESA ANN THOMAS (1972-2000) Professor Emeritus of Nursing Diploma, 1953, Fanny Allen Hospital School of Nursing; B.S., 1962, Boston College; M.A., 1964, Columbia University; Ed.D., 1985, Nova University.

WILLIAM CLAYTON TILL (1982-1992) Professor Emeritus of Electrical Engineering B.S., 1956 and M.S., 1962, Case-Western Reserve University.

ERNEST D. TRUE (1974-2016) Professor Emeritus of Mathematics; B.A. 1962, University of Maine; M.A. 1964, University of Maine; Ph.D. 1972, Montana State University.

DAVID S. WESTERMAN (1982-2017) Charles A. Dana Professor of Geology (2000), Associate Vice President for Research (2007); B.S. 1969, Allegheny College; M.S. 1971; Ph.D. 1972, Lehigh University.

DOUGLAS FRANCIS WHITE (1982-1992) Professor Emeritus of Mechanical Engineering B.S. 1947 and B.M.E. 1948, Rensselaer Polytechnic Institute; Ph.D., 1958, Pennsylvania State University. Registered Professional Engineer.

FREDERICK EUGENE WHITE (1983-2013) Professor Emeritus of Civil Engineering; B.S.C.E., 1967 and M.S. Sanitary Engineering, 1969, Virginia Polytechnic Institute; Ph.D. Environmental Engineering, 1980, Pennsylvania State University. Registered Professional Engineer.

MARGARET BLACKBURN WHITE (1981-1992) Professor Emeritus of Graduate Studies B.A., 1956, Maryville College; M.A., 1966 and Ph.D., 1968, University of Rochester.

STEPHEN A. WIITALA (1980-2009) Professor Emeritus of Mathematics B.A., 1968 and M.A., 1971, Western Washington University; M.A., 1973 and Ph.D., 1975, Dartmouth College.

GREGORY D. WIGHT (1977-2016) Professor Emeritus of Civil Engineering (1994); B.S.M.E. 1967, Massachusetts Institute of Technology; M.S.M.E. 1968, University of Florida. Registered Professional Engineer.

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The dates after the names indicate years of full-time service to Norwich University.

W. Russell Todd (1982-1992) President Emeritus of the University B.A., 1950, Norwich University; M.B.A., 1964, University of Alabama; M.D.S. (Hon), Norwich University; MAJ GEN, USA (Ret.)

Richard W. Schneider (1992-2020) President Emeritus of the University B.S., 1968, U.S. Coast Guard Academy; 1973 M.A., Wesleyan University; 1985 Doctor of Philosophy, University of Delaware; 2020 Doctor of Higher Education Administration (Hon), Norwich University; Rear Admiral, USCGR (Ret.)

Alumni Association, Board of Fellows, Board of Trustees

Alumni Association

Alumni Association

Mission
The Norwich University Alumni Association (NUAA) promotes the Norwich experience and the bond that exists between the university and its alumni. The NUAA champions the vision, guiding values, principles and traditions of Norwich to build camaraderie, commitment, and lifelong relationships.

Vision
The NUAA is committed to creating a unified, informed, and proud body of alumni that is involved and committed to the interests and activities that perpetuate Norwich University and the Norwich family.

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The NUAA was founded in 1852, and is one of the oldest collegiate Alumni Associations in the nation. It represents the largest of the university's constituencies: Norwich alumni past and present from both the graduate and undergraduate programs. NUAA programs foster the connection between alumni and their alma mater, and with each other. These programs include the annual Homecoming Weekend, the NU Club network, the Legacy of Learning continuing education series, networking and social events, and professional development opportunities. Norwich graduates automatically become lifetime members of the Association and are encouraged to participate in all alumni activities. For additional information about the NUAA, visit www.alumni.norwich.edu/nuaa (http://www.alumni.norwich.edu/nuaa/).

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Board of Fellows

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