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# College of Liberal Arts and Sciences Academic Handbook

## College of Liberal Arts and Sciences

### College of Liberal Arts and Sciences Directory

Adele Lindenmeyr, Ph.D., Dean  
Emory Woodard, Ph.D., Dean, Graduate Studies  
Crystal J. Lucky, Ph.D., Associate Dean for Baccalaureate Studies  
Barry Selinsky, Ph.D., Associate Dean for Research and Faculty Development  
Joseph Lennon, Ph.D., Associate Dean for International & Interdisciplinary Studies  
Edward Fierros, Ph.D., Associate Dean for Diversity and Inclusion  
Rebecca Rebalsky, Assistant Dean for External and College Relations  
Susan Jacobs, M.A., Assistant Dean for Undergraduate Students  
Seth Matthew Fishman, Ph.D., Director of Curriculum and Assessment

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E-mail Dean: [asdean@villanova.edu](mailto:asdean@villanova.edu)  
Web site: <http://www.villanova.edu/artsci/>

*Set love as the criterion of all that you say, and whatever you teach, teach in such a way that the person to whom you speak, by hearing, may believe, by believing hope, and by hoping love.*

#### THE INSTRUCTION OF BEGINNERS

##### St. Augustine

### History

The College of Liberal Arts and Sciences of Villanova University was founded by the

Augustinian Order in 1842. The College traces its origins to old St. Augustine's Church in Philadelphia, which the Augustinians founded in 1796, and to its parish school, St. Augustine's Academy, established in 1811.

In 1842 the Augustinians purchased "Belle Air," the country estate of John Rudolph, a Revolutionary War officer and Philadelphia merchant. There they established the "Augustinian College of Villanova," under the patronage of St. Thomas of Villanova, a 16th century Augustinian educator and Bishop of Valencia, Spain. Eventually the College came to be known as Villanova and gave its name to the town which grew up around it.

Classes for the new college began on September 18, 1843, when 13 students embarked on a traditional liberal arts curriculum. At the outset, however, difficulties plagued the new college. The anti-Catholic "Know Nothing" riots in Philadelphia in 1844 resulted in the burning of St. Augustine's Church. The need to rebuild the church and maintain the new college created a financial crisis for the Order. As a result, the College closed its doors on February 20, 1845. It was able to reopen in September, 1846, with a student population of 24; the first commencement took place on July 21, 1847. The following year, on March 10, 1848, the Governor of Pennsylvania, Francis R. Shunk, signed the Act of Legislature incorporating the College.

In 1857, Villanova College closed for a second time. Demands on the services of priests through the expansion of parishes in the area created staffing problems for the Augustinians, while the "Panic of 1857" brought on hard economic times. The onslaught of the Civil War in 1860 affected student enrollment, and the College was not reopened until September 1865.

In the years that followed, the College prospered, increasing its student population and adding significantly to its physical facilities. Although in the first 50 years of its existence the College concentrated exclusively on the liberal arts, it nevertheless remained open to the changes in curriculum which were required to meet the needs of the time and the demands for specialization.

Today, the College continues to offer a variety of educational programs that are aimed at the total growth of the individual and which prepare

students for viable careers. Graduates of the College have taken their place in almost every field of endeavor, serving in education, business, government, law, medicine, and research, where they make vital contributions to the communities and the world in which they live.

## Academic Mission

The College of Liberal Arts and Sciences exists to provide an atmosphere of responsible learning to a varied group of students who are called to intellectual, moral, and professional leadership. To fulfill these goals, the College seeks to promote intellectual curiosity and rigor within the university; to instill the fundamentals of critical insight, mature judgment, and independent thinking; and to awaken in its students a sense of the importance of values and the moral responsibility of caring for others and working for the betterment of society.

Villanova has always openly and proudly declared that it is a Catholic institution of higher learning. The University maintains a strong respect for the beliefs of its diverse community of faculty, students, and staff. In keeping with its central place in a Catholic university, the College of Liberal Arts and Sciences has a special commitment to the Christian belief that creation is an expression of the divine truth through the redemptive life, death, and resurrection of Jesus Christ, the incarnate Word of God. It also seeks to provide a Christian intellectual and moral environment, and believes that it is the common right of all to participate in creation, to seek truth, and to apply such truth attained to protect and enrich personal and communal life.

Villanova's special Augustinian heritage enables the College to draw upon the dynamic legacy of St. Augustine, whose passionate pursuit of wisdom, understood through the metaphor of one heart and one mind, inspires its own quest for knowledge in open, intelligent, responsible, and mutually respectful interaction of points of view. This legacy is classically illustrated by the Augustinian Order's impact on the medieval universities, its distinguished cultivation of Renaissance art, and its fostering of the scientific discoveries of Gregor Mendel. It is further expressed in the conviction that all authentic human wisdom is ultimately in harmony with Divine Wisdom, and it invites collaboration with

other Christians and peoples of other traditions who might share at least the general features and dynamics of this Augustinian vision.

In light of this legacy, the College has developed a diversified academic program and a core curriculum that provide students with a scale of well-defined universal values that equips them to be wise critics of the society in which they live, and which sustains a moral base and social consciousness that transcends economic barriers and questions of race, gender, and creed.

## Mission to Students, Faculty, and Staff

The College strongly adheres to the principles of the University Mission Statement that commits Villanova to "developing and sustaining an academic environment in which the potentialities of its members may be realized." In so doing, the College is guided by the teachings of Vatican II, which emphasized that "the human spirit must be cultivated in such a way that there results a growth in its ability to wonder, to understand, to contemplate, to make personal judgments, and to develop a religious, moral, and social sense" (Pastoral Constitution on the Church in the Modern World, 59).

In order to fulfill its academic mission of transmitting, pursuing, and discovering knowledge, the College commits itself to the hiring and retaining of outstanding teacher-scholars and dedicated staff personnel whose academic and professional interests will develop and foster the goals of the University's mission. In hiring faculty and staff personnel, the College further commits itself to the goal of maintaining a richness of diversity by actively recruiting women and minorities. In all hiring strategies and decisions, the College strives to utilize procedures that will reliably determine the best qualified applicants.

While the College is committed to maintaining its Catholic identity, it does not seek a particular religious affiliation within its personnel. Rather, as formulated in the University's mission, it asks that all respect its "attempts to develop an environment in which students, faculty, and staff may experience a Christian intellectual and moral perspective," and have a willingness to enter into the conversation that gives its mission life and character.

The College is strongly committed to academic freedom that makes open discussion and inquiry possible. It believes open discussion among scholars and students is a self-correcting process that is intrinsic to academic freedom and that this process is in accord with responsible freedom, a central value of the Christian tradition, and of the thought of St. Augustine, the great theologian of Christian freedom.

The College seeks to encourage and equitably reward the valuable performance of its faculty and staff by offering competitive salaries and by making available opportunities that will enhance their professional development. It also seeks to promote a congenial work environment that is conducive to self-motivation. In recruiting students, the College seeks to ensure the best applicant pool possible. It strives to retain students by offering excellent academic programs and by providing them with quality campus activities.

The University's LEARNING GOALS may be found on the Provost's website under 'University Learning Goals'.

## Office for Undergraduate Students

### Office for Undergraduate Students Directory

explore. experience. evolve.

#### Directory

Susan Jacobs, M.A., Assistant Dean for Undergraduate Students  
SaraBeth Baker, Graduation Certification Specialist  
Sofia Bermudez, M.Ed., Assistant Director of Professional Development  
Linda Boettcher, M.A., Director for Academic Advising  
Andy Bove, M.A., Associate Director for Academic Advising  
Emily Wetzel-Ulrich, Retention Coordinator  
Charles Francisco, Outreach Specialist  
Charlotte Holmes, Coordinator for Professional Development  
Kathleen Matkowski, Administrative Coordinator  
Kate Melony, M.S.S., M.L.S.P., Director Villanova's Program at SCI Phoenix

Betty Lee Patch, M.A., Transfer Student Advisor  
Charisma Presley-Dougherty, Retention Manager  
Louise Russo, Ph.D., Director of Health Professions Advising  
Drew Stackhouse, Assistant Director, Systems Management  
Kate Szumanski, M.A., M.S., Director of Professional Development  
Jordan Toy, Director of Student Services  
Ann Trail, M.Ed., Health Professions Advisor  
Christina Winterton, Ph.D., Faculty Advisor, Exploratory Sciences

Office: 107 St. Augustine Center for the Liberal Arts

Telephone: 610-519-3900

Website: <http://ous.villanova.edu>

## Vision

The Office for Undergraduate Students aspires to be at the forefront in student support by continuously improving our services and advising in academics, professional development, and experiential education. We strive to create a welcoming and supportive environment for an increasingly diverse student population. We seek to foster collaborative relationships between University community members to promote student growth in mind, body, and spirit.

## Mission

The Office for Undergraduate Students guides and supports students from orientation to graduation as they explore the many experiential possibilities that the College of Liberal Arts and Sciences provides. We empower students to begin a process of self-discovery, providing them with the resources to forge their own educational and professional direction.

The Office for Undergraduate Students collaborates with other University resources, enabling students to realize their full potential personally, educationally, and professionally.

## Academic Advising

Linda Boettcher, M.A., Director  
Andrew Bove, M.A., Associate Director  
Kathleen Matkowski, Administrative Coordinator  
107 St. Augustine Center for the Liberal Arts  
610-519-3900

Academic Advising provides individual attention and guidance to students as they transition into the University and begin to explore their educational interests. Faculty Advisors encourage students to reflect on their course selections and experiential learning opportunities, enabling them to make informed choices about their educational and professional direction. By connecting students to a wide variety of support services, we seek to promote students' development and to facilitate their success.

Through our first-year *Academic Advising* course, we teach students how to obtain the most from their education. Topics include understanding the value of a liberal arts education and the core requirements, conveying professionalism, assessing and strengthening study skills, learning time management, making informed educational and professional choices, and maintaining student wellness.

## Exploratory Science Advising

Christina Winterton, Ph.D., Faculty Advisor,  
Exploratory Sciences  
107 St. Augustine Center for the Liberal Arts  
610-519-3900

Exploratory-Science affords students who have a genuine interest in the natural sciences, but who are somewhat uncertain as to which discipline to pursue, an opportunity to explore a variety of options during their first year at Villanova University. During their freshman year, students enroll in one or two natural science courses with laboratory and mathematics. The Exploratory-Science option provides students with the opportunity to make a considered and data-based decision as to which discipline they wish to pursue for their four years.

## Health Professions Advising

Louis Russo, Ph.D., Director Health Professions  
Advising  
Ann Trail, Advisor  
143 Mendel Science Center  
610-519-4822  
hpa@villanova.edu

Those students planning to apply to any health professional degree program (Medical, Dental, Physician Assistant, Veterinary, Optometry, Physical Therapy, etc.) should contact the Health Professions Advising Office for information on

prerequisite coursework, pre-admittance examinations, experiential opportunities, and application procedures. Information sessions related to career exploration, program specifications, and application preparation are held throughout the academic year to enhance applicant knowledge and application quality.

## Internship Program

Kate Szumanski, M.A., M.S., Director of  
Professional Development  
Sofia Bermudez, M.Ed., Assistant Director of  
Professional Development  
Charlotte Holmes, Coordinator of Professional  
Development  
107 St. Augustine Center for the Liberal Arts  
610-519-4232

The Internship Program provides resources to students, which include individual professional development one-on-one meetings and brainstorming sessions, professional development workshops, and other special events, to assist students as they explore experiential educational opportunities. Through internships, students refine their career interests, develop their professional skills, network with working professionals, and gain valuable experience in a variety of fields. The Internship Program allows students to earn academic credit toward their major or minor, or earn general elective liberal arts credits. Students are required to submit an internship-for-credit application to seek academic credit for their internship experiences. The application is available on the OUS Web site.

## Leadership and Professional Development

Kate Szumanski, M.A., M.S., Director of  
Professional Development  
Sofia Bermudez, M.Ed., Assistant Director of  
Professional Development  
117 St. Augustine Center for the Liberal Arts  
610-519-3942

The Professional Development area within OUS offers programming, mentoring support, and courses that enable students to identify their strengths, explore professional and educational options, and develop the skills necessary to prepare them for professional life. Through this process, we empower students to pursue their aspirations. The Professional Development

curricular component provides students with a foundation for learning how their academic knowledge and skills transfer into the professional world. Students learn how to create a professional résumé, research careers and industries, identify internships, answer job interview questions, and network with alumni. Additional courses offered to enhance professional growth include the Legal Profession, Professional Communication, Networking for Success, Social Networking, Creativity and Innovation, and Introduction to Professional Writing.

## Retention and Student Support

Charisma Presley, M.A., Manager  
Emily Wetzel-Ulrich, B.S., Coordinator  
107 St. Augustine Center for Liberal Arts  
610-519-7429 or [ousretention@villanova.edu](mailto:ousretention@villanova.edu)

OUS Retention & Student Support promotes student persistence and retention, with an emphasis on factors that may affect a student's academic progress. In the areas of mental health, unforeseen events, a lack of academic resources such as books or technological issues, or food or housing instability, we respond to concerns and provide leadership. In order to promote academic performance, we also obtain data, give leadership, professional development, web resources, and assistance to students, faculty, staff, and parents. We oversee the Resource Pantry, which offers a variety of programs aimed at removing or reducing barriers to degree completion. The office's mission is furthered by strong collaborative partnerships.

We manage the College's Academic Early Alert Systems, Faculty Feedback Request, and Attendance Verification, all of which are designed to provide feedback on academic performance to advisors and students with the goal of assisting students in successfully completing their courses and connecting them with important campus resources. All Leave of Absences and CLAS Withdrawals are also handled by us.

## The Bridge Society

Kate Szumanski, Advisor  
107 St. Augustine Center for the Liberal Arts  
610-519-4232

The BRIDGE Society in the College of Liberal Arts and Sciences is designed to: build relationships among students and alumni in the College of Liberal Arts and Sciences; inspire both student professional development and alumni institutional development; provide a forum for students to gain the experiences necessary to forge their future direction. The BRIDGE Society: provides an opportunity for students to identify with the College, in addition to their major; creates the opportunity for student leadership within the College of Liberal Arts and Sciences; gives Arts & Sciences students the opportunity to explore potential career paths and meet alumni & employers in their fields of interest.

## The Core Curriculum

### Core Curriculum Overview

Every degree program in the College of Liberal Arts and Sciences is made up of three components: the Core Curriculum, courses in the major, and free electives.

Free electives are required for all students in the College of Liberal Arts and Sciences and are often used to explore academic interests and determine educational directions. They may also be used to fulfill minors, concentrations, or additional majors.

Courses in the Core Curriculum treat a broad range of disciplines from a variety of approaches; at the same time, the Core Curriculum strives to ensure depth of study and intellectual sophistication while recognizing that learning implies different modes of inquiry. An essential component of the Core Curriculum is a focus on writing. In the pursuit of their degrees, students take a number of courses in which writing requirements play a central role, from the Foundation Courses, including the Augustine and Culture Seminars and the Core Ethics course, to the Core Literature and Writing Seminar. In addition, each major program includes a required research course, normally taken during junior or sophomore years, and a senior capstone course, which is a significant culminating experience that leads students to reflect on the various components of their major curriculum.

The Core aims to advance culture in a broad sense, training students to understand and to appreciate the interrelated patterns of customary

beliefs and practices, social forms, aesthetics, and material traits that act to define a culture and its position within a larger historical and intellectual framework. This educational program does not simply look to the past, but acknowledges that culture is vibrant and continuously redefined. The Core Curriculum challenges students to understand how the present is recognizably formed from past influences, and that in order to assess our culture and arrive at a view of its future, students must be trained to scrutinize and bring into perspective the relationship of the present culture with that of the past.

In fostering active participation in learning, the Core prepares students to become active participants within society, to engage in the process of informed political debate, and to encourage an understanding and appreciation of the diversity of cultures and experiences, a respect for the individual, and the development of a multi-cultural and international perspective. The Core thus encourages personal development in preparing students to regard themselves as citizens living in a democratic society, as belonging to a world community, and as therefore having communal responsibilities.

## Summary of Core Curriculum Course Requirements

### I. Foundation Courses

- a. Augustine and Culture Seminar (ACS 1000/1001) (2 courses)
- b. Theology and Religious Studies (THL 1000) (1 course)
- c. Philosophy (PHI 1000) (1 course)
- d. Ethics (ETH 2050) (1 course)

### II. Language Requirement (Proficiency)

### III. Mathematics or Statistics (1 course)

### IV. Natural Sciences (2 courses w/ labs)

### V. Literature and Writing Seminar (1 course)

### VI. History (1 course)

### VII. Social Sciences (2 courses)

### VIII. Fine Arts (1 course)

### IX. Theology and Religious Studies - Upper Division (1 course)

## Diversity Requirement

Two of the courses counting towards degree requirements must have a Diversity attribute. Select one course from two of the three possible areas of diversity as indicated by the Diversity 1, Diversity 2, or Diversity 3 attributes. (See detailed explanation below)

## Fulfilling Core Curriculum Course Requirements

### Foundation Courses

#### **Augustine and Culture Seminar (ACS) Sequence (2 courses)**

ACS focuses on the question: Who am I? The first seminar (ACS 1000 Ancients) contains readings from Hebrew and Christian scriptures, Greek and Roman antiquity, Augustine, and the High Middle Ages, and is dedicated to understanding the foundations of our shared intellectual tradition. ACS 1001 Moderns continues to address the question of identity with texts from the Renaissance to the modern era.

The two-semester ACS course sequence must be taken by all students during the first year of study. Because it is important that students take the Augustine and Culture seminars early in their college careers, students are permitted to drop or withdraw from the courses without academic penalty only under special circumstances. Requests to drop or withdraw must be made to the Assistant Dean for Undergraduate Students. If a student receives permission to drop or withdraw, he or she must take the course at the next possible opportunity.

#### **Theology and Religious Studies (1 course)**

THL 1000 involves students of every religion, culture, and worldview in examining the Augustinian vision of "understanding what we believe" (*On Free Choice of the Will* 1.4). Students investigate Christian and non-Christian religious practices, beliefs, and traditions that have developed over time in diverse cultural and religious contexts as they explore faith, reason, and culture in their many, textured relationships.

The course may examine Catholicism theologically, historically, and culturally (Catholic Studies track); explore Christian theological traditions in their cultural contexts (Faith, Reason, and Culture track); or survey religiosity in general and global religions, including Christianity, in

particular as well as their commonalities, differences, and cultural expressions (Global Religious Experience track).

With these foci, the course introduces students to the sources and major thinkers that have shaped responses to the fundamental human questions that underlie all religions and shape the human search for meaning. Students engage religious truth claims, themes, values, and witness as resources for analyzing and critically evaluating contemporary cultural challenges.

### ***Philosophy (1 course)***

Knowledge, Reality, Self (PHL 1000) explores the philosophical responses to the questions of how we can know, what is real, and what is the nature of the human person.

### ***Ethics (1 course)***

The Good Life: Ethics and Contemporary Moral Problems (ETH 2050) provides critical reflection on distinctive and viable visions of the moral life, with particular focus on Christian, especially Roman Catholic, Augustinian accounts, and explores the significance of different visions through an examination of various contemporary moral questions. ETH 2050 is the capstone of the foundation courses. Normally students should take ETH 2050 by the end of their junior year, after taking the other four foundation courses.

### ***Language Requirement (Proficiency)***

Language proficiency is required either: 1) through the intermediate level in French, Italian, Spanish, or Latin; or 2) through the introductory level in Ancient Greek, Arabic, Chinese, Irish, Japanese, or Russian. Students who are already proficient in other languages may petition for an exemption from the Core Curriculum Language Requirement subject to the conditions under F below.

Students may satisfy the Core Curriculum Language requirement in one of the following ways:

#### ***Option A: Advanced Placement Examination***

Students may satisfy the requirement by attaining a score of 4 or 5 on the applicable Advanced Placement exam. Exams that fulfill the requirement and the course equivalency are listed on the Advanced Placement table in Part III of this handbook.

For any language not offered at Villanova (such as German), students will not receive course credit for the AP exam in that language. As with other languages, however, students who attain a score of 4 or 5 will satisfy the language requirement. Students who satisfy the requirement without receiving course credit may need to take additional free elective courses to meet the required number of credits for degree completion. Any questions regarding Advanced Placement credit should be directed to the Office for Undergraduate Students in SAC 107.

#### ***Option B: Comprehensive Examination (Proficiency exam)***

Students may satisfy the requirement through satisfactory performance on a proficiency exam administered by the appropriate department. Proficiency exams are administered on specific dates and students must register in advance. Students deemed proficient by achieving a grade of C or better on the proficiency examination may need to take additional free elective courses to meet the required number of credits for degree completion.

#### ***Option C: Credit by Exam***

Students who would like to pursue credit for language fluency may do so through the Credit by Exam program for any language taught at Villanova other than their native language. Students must meet all conditions in place through the College of Liberal Arts and Sciences to be eligible for the Credit by Exam program. There is an associated fee per credit. Arrangements for Credit by Exam should be made in the Office for Undergraduate Students in SAC 107. Information about Credit by Exam is available under the policies section of this handbook.

#### ***Option D: Latin Alphabet Languages - Latin and Romance Languages (French, Italian, Spanish)***

Students selecting this option must take courses through the intermediate II level in the language they have chosen. Students who studied French, Italian, Latin, or Spanish in high school must complete an online language placement exam (French, Italian, Spanish) or questionnaire (Latin) to be placed into the appropriate level. Because placement tests provide only a rough indicator of a student's level, students who are placed into the intermediate II level or higher must complete the course to fulfill the requirement. Students who are placed directly into an intermediate II

course or higher may need to take an additional course to meet the required number of credits for degree completion.

**Option E: Non-Latin Alphabet Languages - Irish And Critical Languages (Ancient Greek, Arabic, Chinese, Japanese, Russian)**

Students selecting this option must take courses through the introductory II level for the language they have chosen. These courses are typically four to six credits and meet four to five days per week, depending on the language. Students should contact individual departments with any questions regarding placement in these languages. Because placement tests provide only a rough indicator of a student's level, students who are placed into the introductory II or higher must complete the course to fulfill the requirement. Students who are placed directly into an introductory II course or higher may need to take an additional course to meet the required number of credits for degree completion.

**Option F: Petition for Exemption Due to Documented Language Proficiency**

Students who are fluent in languages for which no proficiency exam is offered through the College of Liberal Arts and Sciences may petition for an exemption from the Core Curriculum Language requirement by submitting the Petition for Core Language Requirement Exemption in MyNOVA along with documentation of proficiency from an accredited institution. International students may submit Test of English as a Foreign Language (TOEFL) scores as documentation of proficiency for the purposes of the petition process. Students deemed proficient through the petition process may need to take additional courses to meet the required number of credits for degree completion.

NOTES:

- Placement tests are used to place students only and are not to be confused with a proficiency exam.
- Students seeking accommodations for documented learning disabilities should contact the Office of Learning Support Services in Falvey 212.
- Additional questions regarding the Core Curriculum Language requirement should be addressed to a student's faculty advisor or to the Office for Undergraduate Students in SAC 107.

**Mathematics or Statistics (1 course)**

Students must take one course in either Mathematics or Statistics. Any course offered by the Department of Mathematics and Statistics fulfills the Core Curriculum requirement. Certain courses offered by other departments (e.g., Computer Science and Philosophy) also fulfill the requirement. These courses are designated by the Mathematics A & S Core attribute.

**Natural Science (2 courses with laboratory)**

Non-science majors meet the Core Curriculum Natural Science requirement by taking two semesters of Mendel Science Experience (MSE), thematically-based lecture/laboratory courses designed for non-science majors; or two semesters of lecture/laboratory courses designed for science majors.

Science (AST, BIO, BIOC, CHM, CBN, CSC, ENV, MAT, PHY - B.S. only, PSY - B.S. only) majors meet the science requirement through the regular program of study in their major.

**Literature and Writing Seminar (1 course)**

All students take a thematic literature and writing seminar course. Courses designated with the Core Lit & Writing Sem attribute fulfill the requirement.

**History (1 course)**

This requirement is met by taking a specifically designed course designated by the Core History attribute.

**Social Sciences (2 courses)**

Students satisfy the requirement by taking two courses designated by the Core Social Sciences attribute.

Students majoring in Criminology, Economics, Geography, Political Science, Psychology, or

Sociology fulfill the Core Social Science requirement through the regular program of study in their major.

### *Fine Arts (1 course)*

The requirement is met by taking a course that focuses either on the creative processes that go into making a work of art, or on analysis and interpretation of the products of that artistic creativity. All courses designated with the Fine Arts Requirement attribute fulfill the Core Curriculum requirement.

### *Theology and Religious Studies - Upper Division (1 course)*

The upper division Theology and Religious Studies Core Curriculum requirement develops the theme of faith seeking understanding, engaging culture from a specific disciplinary perspective. Students must take THL 1000 before taking an upper division course designated by the Core Theology attribute.

### *Diversity Requirement (2 courses)*

Consistent with the University's Mission Statement and its implementation of the new Core Curriculum in the College of Arts and Sciences, students will take at least two courses designated as "diversity." Learning to see through the eyes of other peoples and cultures is essential to becoming a citizen of the world. Beyond introducing students to the contextual study of diverse groups, diversity education must foster understanding of how individuals are affected within systems of power, oppression, deprivation, marginalization, and privilege.

Students are required to select two courses, covering two out of the three areas below:

*Diversity 1:* Courses that focus on populations (often named as non-dominant, minority, or impoverished groups) in the U.S. or Western Europe, and the systems or mechanisms that give rise to the experiences of power, privilege, and marginalization.

*Diversity 2:* Courses that focus on women's experiences and/or highlight the relationship between gender, culture, and power.

*Diversity 3:* Courses that focus on the culture, economics, politics or ecology of societies and nations other than those of Western Europe and the United States and that emphasize power, privilege, and marginalization or a critical analysis of how these cultures define and express themselves.

#### NOTES:

- Service-learning courses, internships, and other experiential or community-based learning courses may be applied toward the Diversity requirement, provided they include a significant reflective component and have been pre-approved for diversity course credit.
- Study abroad courses may be applied toward this requirement; such courses will be assessed the same way as Villanova courses.
- Although some courses have more than one Diversity attribute, all students must take two different courses; a single course with multiple attributes may not be used to fulfill both Diversity course requirements.
- The Diversity Requirement cannot be fulfilled by independent study or a senior thesis.
- Language courses cannot fulfill the requirement, although literature courses in another language may fulfill the requirement if they are designated with a Diversity attribute.
- A student may fulfill one Diversity course requirement (DIV 1) by taking three 1-credit IGR workshops.

## Learning Outcomes and Assessment

## University and CLAS Policies

Unless otherwise noted, the College of Liberal Arts and Sciences follows the general University academic policies and regulations listed in the University Catalog. It is the responsibility of the student to know and comply with all academic

policies and regulations of the University and the College of Liberal Arts and Sciences. Such policies may change without prior notice. The policies in this handbook are a sample of University and College policies that are frequently referenced by students and are intended for summary purposes only.

## Academic Bankruptcy

The Academic Standing Committee may allow a freshman student to declare academic bankruptcy and repeat the semester or academic year with a new start on the cumulative average (though a record of the year's work will remain on the transcript).

Internal transfer students and students who have switched degree programs within the CLAS may be permitted to bankrupt individual courses from their previous program that do not apply to their new curriculum. Students must successfully complete two consecutive semesters in the CLAS and attain a minimum GPA of 2.50 each semester before they are eligible to request bankruptcy for specific courses. Bankrupted courses will remain on the student's transcript but will be excluded from the calculation of the GPA and earned credit hours. Students must petition the Assistant Dean for Undergraduate Students (Susan Jacobs in OUS, SAC 107) for the exclusion.

All requests for Academic Bankruptcy are granted at the discretion of the Assistant Dean for Undergraduate Students (Susan Jacobs in OUS, SAC 107). Once a course has been bankrupted the action is permanent and cannot be reversed. In no case will tuition be refunded.

## Academic Dismissal

Students whose cumulative GPA remains below 2.0 for two consecutive semesters or who fail to make satisfactory academic progress (i.e., successful completion of at least 12 credits per semester) may be dismissed from the College of Liberal Arts and Sciences. Students on academic probation who receive final grades of N, Y, F, NF, U, or W are also subject to academic dismissal. The Assistant Dean for the Office of Undergraduate Students will inform the student of the dismissal as soon as possible. Normally, the student will be allowed to appeal the dismissal to the CLAS Academic Standing Committee. In some cases (e.g., when a student has been dismissed previously or been placed on academic

probation multiple times) the student may be dismissed without right of appeal. There is no further process of appeal beyond the Assistant Dean, OUS.

## Academic Integrity

Academic integrity is vital to any university community for many reasons. Students receive credit for doing assignments because they are supposed to learn from those assignments, and the vast majority do so honestly. Anyone who hands in work that is not his or her own, or who cheats on a test, or plagiarizes a paper, is not learning, is receiving credit dishonestly and is, in effect, stealing from other students. As a consequence, it is crucial that students do their own work. Students who use someone else's work or ideas without saying so, or who otherwise perform dishonestly in a course, are cheating. In effect, they are lying. Such dishonesty, moreover, threatens the integrity not only of the individual student, but also of the university community as a whole. The full Academic Integrity Policy can be [found at on this webpage](#).

## Academic Probation

Any student with a cumulative or technical GPA below 2.0 or who fails to make satisfactory academic progress (i.e., successful completion of at least 12 credits per semester) will be placed on academic probation by the CLAS Academic Standing Committee. Students who have been placed on academic probation are required to contact their faculty advisor immediately to discuss their probationary status and develop an academic success plan. While on academic probation, students are required to earn a grade of C or higher in all courses and may be restricted to taking 13 credits. Any F, U, W, or Y grades may lead to academic dismissal. Students on probation are not eligible for N (incomplete) grades. Students on academic probation will normally be allowed only one semester to raise their GPA to the required minimum of 2.0.

## Academic Progress

To qualify for a bachelor's degree, a student must earn a cumulative grade point average of at least 2.00 (in addition to completing the studies prescribed for the degree sought). Students must also advance in their studies by successfully completing a minimum of 12 credits per semester.

Students who fail to make satisfactory academic process are subject to review by the Academic Standing Committee. Those students may be placed on Academic Probation. In circumstances involving those students who have entered Villanova University through the Academic Advancement Program, satisfactory progress of the student will be determined by the Academic Standing Committee and/or Assistant Dean for Undergraduate Students. In the event that, due to poor high school preparation, additional time is necessary for the student to complete the requirements towards graduation, the student will be viewed as being in a five year program. Satisfactory progress will be viewed accordingly.

## Academic Standing

Students with a cumulative or semester GPA below 2.00 will be reviewed by the Academic Standing Committee for appropriate action. Students in Bachelor of Science programs whose technical GPA falls below 2.00 will also be reviewed by the committee. In most cases, students will either be placed on academic probation or dismissed. The Academic Standing Committee also reviews the records of students who have failed to make satisfactory academic progress by successfully completing a minimum of 12 credits per semester.

## Advanced Placement and International Baccalaureate Credit

Students who wish to receive Advanced Placement (AP) credit should request that the College Board send their AP scores to Villanova University (code #2959). AP scores are received by the Registrar's Office and forwarded to the Office for Undergraduate Students (OUS), which determines course credit according to the criteria in the tables below. AP scores for incoming freshmen usually reach Villanova by mid-July. If scores are received before Fall Semester classes begin, the OUS will communicate with the student and authorize the Registrar's Office to add the appropriate course credit to the student's academic record. If scores are received after classes begin, the OUS will direct the Registrar to add any further course credit for which students are eligible. AP credits appear in the Transfer Credit area of the student's

academic transcript. All AP/IB scores must be accepted and approved before a student completes two semesters at Villanova.

New students who have taken AP or International Baccalaureate Higher Level (IB) exams should check with their academic advisor during the first week of classes to verify Villanova's receipt of official scores and ensure that proper adjustments have been made to their academic record and course schedule.

Except for Language, AP and IB credit may not be used to fulfill Core Curriculum requirements. AP and IB credit may be used to fulfill requirements for majors, minors, concentrations, and certificates. AP/IB credit will be treated as transfer credit and all transfer credit policies will apply. Students who wish to remove any AP/IB credit from their record should complete the "Request to Remove AP Credit" form available on MyNova. Once this request has been completed, it cannot be reversed.

[Core Math Options may be viewed here.](#)

## Academic Placement Equivalency Chart

Advanced Placement Subject-Test Number	Score of 3	Score of 4 or 5	Courses	Credits
Art History- (13)			AAH 1101	3
			AAH 1102	
Biology- (20)			BIO 2105	4
			BIO 2106	4
Calculus AB- (66) <b>or</b>			MAT 1500	4
Calculus Subgrade- (69)			MAT 1500	4
Calculus BC- (68)			MAT 1505	4
			CHM 1103	1
			CHM 1104	1
Chemistry- (25)			CHM 1151	4
			CHM 1152	4
			CHI 1111	6
Chinese Language & Culture- (28)				

	CHI 1112	6
Computer Science A- (31)	CSC 1051	4
Computer Science Principles- (32)	CSC 1020	3
Economics: Macro- (35)	ECO 1002	3
Economics: Micro- (34)	ECO 1001	3
English Language & Composition- (36) <b>or</b>	ENG 1050	3
English Literature & Composition- (37)		
Environmental Science (40)	GEV 1052	3
French Language & Culture- (48)	FFS 1121	3
Government and Politics: Comp- (58)	PSC 1300	3
Government and Politics: US- (57)	PSC 1100	3
History, European- (43)	HIS 1021	3
	HIS 1002	<b>or</b>
History, U.S.- (07)	HIS 1003	3
	HIS 1040	<b>or</b>
History, World- (93)	HIS 1050	3
Human Geography- (53)	GEV 1002	3
Italian Language & Culture- (62)	ITA 1121	3
Japanese Language & Culture- (64)	JPN 1111	6
	JPN 1112	6
Latin- (60)	LAT 1121	3
	Placement Only	
Physics C: Mechanics- (80)	LAT 1122	3
	PHY 1100	3
	PHY 1101	1
Physics C: Electricity and Magnetism- (82)	PHY 1102	3
	PHY 1103	1
Psychology- (85)	PSY 1000	3
Spanish Language- (87) <b>or</b>	SPA 1121	3
Spanish Literature & Culture- (89)	SPA 1122	3
	MAT 1230	<b>or</b>
Statistics- (90)	CSC 2300	3

## International Baccalaureate Credit and Course Equivalence

<b>Subject</b>	<b>Score of 5</b>	<b>Credit</b>	<b>Score of 6 or 7</b>	<b>Credit</b>
			BIO 2105	4
Biology			BIO 2106	4
			CHM 1103	1
			CHM 1104	1
Chemistry			CHM 1151	4
			CHM 1152	4
Computer Science HL	CSC 1051	4	CSC 1051	4
Information Technology	CSC 1930	3	CSC 1930	3
	ECO 1001	3	ECO 1001	3
Economics	ECO 1002	3	ECO 1002	3
English	ENG 1050	3	ENG 1050	3
			FFS 1121	3
French A2 or B		0	FFS 1122	3
Geography	GEV 1002	3	GEV 1002	3
History Americas			HIS 4495	3
History Europe			HIS 1021	3
			ITA 1121	3
Italian A2 or B		0	ITA 1122	3
			LAT 1121	3
Latin	Placement	0	LAT 1122	3
Mathematics			MAT 1500	4
			MAT 1500	4
Math Further	MAT 1500	4	MAT 1505	4
Music			SAR 3030	3
Philosophy			PHI 2990	3
			PHY 1100/11	4
Physics			PHY 1102/13	4
Psychology			PSY 1000	3
			SPA 1121	3
Spanish A2 or B		0	SPA 1122	3

\* *Sample of lab work needed.*

**Note: Credit is Only Given for Higher Level Exams**

## Apply for Re-Admission

Students applying for re-admission to the full-time undergraduate day program should complete the "Application for Re-Admission to the College of Liberal Arts & Sciences" form. Generally, a degree program should be completed within six years of original start date. However, students may return to full-time day student status within approximately ten years of

their original date of enrollment. Once more than twelve years have passed from original start date, former students **must** apply to complete their degree through the College of Professional Studies.

If fewer than ten to twelve years have passed, and you wish to take classes in person on a full-time basis, please forward this form and the accompanying items to the Office for Undergraduate Students (SAC 107) via email at [as-ous@villanova.edu](mailto:as-ous@villanova.edu), fax at (610) 519-6322 or the address below:

Office for Undergraduate Students  
Attn: Susan Jacobs  
800 E. Lancaster Avenue  
SAC 107  
Villanova, PA 19085

Applications take several weeks to be reviewed since we may need to access old records. Please submit the application no later than November 15 for a possible spring start, April 15 for a summer start and July 15 for a possible fall start. Applications received less than one month prior to the start of a new semester will be considered for the following semester.

## Attendance

Class and laboratory attendance for first year students is mandatory. A first-year student will receive a grade of "Y" (failure) whenever the number of unexcused absences in a course exceeds twice the number of weekly class meetings for the course. For students beyond the first year, attendance policies are determined by the instructors of the various courses. The full policy regarding attendance is [available on the Provost's website](#).

## Auditing a Course

A student may elect to audit a course to reinforce and strengthen his/her current knowledge or to explore new areas without the pressure of tests and grades. No academic credit is earned for auditing a course; however, the audited course is noted on the student's official record. Permission to audit a course must be obtained from the course instructor. Forms to request to audit the course are available online. Visit MyNova and search for OUS Forms.

## CLAS Students Taking College of Professional Studies Courses

Students in the College of Liberal Arts & Sciences are not permitted to enroll in courses restricted to the College of Professional Studies. Course restriction information is available through searching the master schedule in MyNova.

## Closed Section

Students will not be permitted to enroll in closed sections. Exceptions to this rule will be made only by the chairperson of the academic department offering the course. If other sections or other courses are available to satisfy the degree requirements, then the exception will not be granted. Student employment conflict is not a legitimate reason for admittance to a closed section.

## Complaints Against Faculty

Student complaints concerning an instructor's handling of a class, classroom presentation, professional demeanor, or course policies should be directed to the chair of the faculty member involved. Normally, such complaints should be made within six months of the end of the course in which the complaint arose. If the complaint is against the chair the procedures will be modified in accordance with the University's policy regarding complaints against faculty. The full policy and guidelines for enforcement are [available to view on this page](#).

## Confidentiality

Villanova University's student records policy was established in accordance with the Family Educational Rights and Privacy Act (FERPA) of 1974 as amended. The complete policy can be viewed in the current Villanova University Catalog. Students who do not wish directory information to be made public must complete and submit a Student Record Confidentiality Request Form (available on the Registrar's website), along with photocopied proof of identification. A student's directory information can only be prevented from appearing in publications compiled after the date on which the Office of the Registrar receives the student's request form; to ensure that your directory information is excluded from the student

directory and other annual publications, submit your request form within 10 days of when Fall registration opens. To revoke a confidentiality request, contact the Office of the Registrar in person (Kennedy Hall, 2nd Floor) or mail/fax a written request with photocopied proof of identification.

## Credit by Exam

To encourage independent study and recognize personal knowledge and mastery of subject matter, Villanova University provides qualified matriculated students with the opportunity to “test out” of certain courses. The student who successfully passes such an examination satisfies the requirements of and earns the credit for the respective course. For more information, see the [webpage located here](#).

## Limitations

Participation in the program is not automatically given, and is contingent upon the following limitations:

1. The student must be matriculated, and offer evidence of sufficient background to the department offering the exam to have a reasonable command of the subject matter;
2. If the student has previously taken the exam to waive course requirements, the student may not take an exam for credit in the same course;
3. A student cannot use this program to pass a course for which the student has failed, either at Villanova or any institution;
4. A student on probation, or who is suspended, may not take an exam for credit;

## Conditions

The granting of credit is contingent upon the following conditions:

1. A student may not challenge a foreign language requirement in their primary language. Once a sequence of language has begun, a student may not revert to a lower-level course.
2. A fee of \$130 per credit hour will be levied
3. Credit granted will not exceed that assigned to the course as listed in the University Catalog
4. The maximum credit allowed the student through this program is 30 hours

5. Credit for no more than three courses may be applied to a student’s major
6. A passing grade of “CE” will appear on the student’s transcript; a failing grade will not be recorded
7. The test dates, determined by the Director of Student Services, will take place shortly after the mid-semester break and before the pre-registration period in the Fall and Spring. The exam is also given in July.

## Procedure

1. The application process is the responsibility of the student and must be completed one month before the date of the exam. The student begins the application process with the director who will provide them with the appropriate forms and directions for completion.
2. The form is then taken to the Bursar’s Office for validation once the appropriate fee is paid. A “no show” student forfeits all fees.
3. During the week prior to the exam, the department will provide the director with a copy of the exam for each candidate. This will be in a sealed envelope properly identified with the student’s name, Banner ID, department, and exam title on its front.
4. Notification of students of time and place of the exam, and other arrangements, are the responsibility of the Director.
5. Students who fail the exam have the right to review it with the faculty in question. Exams are destroyed in the semester in which they are administered.
6. The Director will notify the students and the Registrar’s Office of the exam results.

## Credit Increases

Students should complete the “Request for a Credit Increase” form if trying to register for five courses of three or more credits (and additional 1 to 2 credit courses) and need more than 17 credits, if an Arts student, or 19 credits, if a Sciences student. The form should be completed prior to the assigned registration time and submitted it to the Office for Undergraduate Students.

Note: If a student’s cumulative GPA is at least 3.0 and she/he/they would like to take a sixth course with credits totaling to 19 credits, the credit limit is raised after the final registration period for

students with a cumulative GPA of 3.0 or higher for arts students. Students that fall under this category do not need to fill out a form.

## Cross College Majors

Students in the College of Engineering, M. Louise Fitzpatrick College of Nursing, and the Villanova School of Business may pursue a second major in the College of Liberal Arts and Sciences. The CLAS major will be considered a second major added to the student's primary degree program; the student will not be required to complete CLAS Core or Free Elective requirements and will not be awarded a second degree. The second major will be noted on the student's official transcript. Students who wish to pursue this option must complete the appropriate form (available in the Office for Undergraduate Students, SAC 107) and obtain all required signatures.

## Dean's List

At the end of the fall and spring semesters, the College of Liberal Arts and Sciences officially recognizes its high-achieving students by including their names on the Dean's List. Inclusion on this list recognizes a student's commitment to an intellectually rigorous education in the liberal arts and sciences, one that fosters critical insight, mature judgment, and independent thinking. Students must complete at least 12 credits of letter grade courses each semester with a minimum GPA of 3.50. No S, WX, or N grades are permitted in these 12 credits.

## Declaring or Changing a Major for CLAS Students

Students wishing to declare or change their major/program should complete the "Application to Change or Declare Major" available on MyNova. The department will review and if approved will assign an advisor to the student and forward the form to the Office for Undergraduate Students. Once received, the Office for Undergraduate Students will notify the student of the status of their request.

## Declaring a CLAS Minor or Concentration

To declare a concentration or minor within the College of Liberal Arts and Sciences, complete

the "Application to Add or Remove a CLAS Minor or Concentration" available on MyNova. Some CLAS departments have additional requirements to apply to the minor. Consult with the department for additional information.

## Degree Requirements

Every degree program in the College of Liberal Arts and Sciences is made up of three components: the Core Curriculum, Courses in the Major, and Free Electives. The Baccalaureate degree is awarded when the curriculum prescribed by the College for one or more of the various degree programs has been satisfied. Candidates for graduation must meet all of the following seven requirements:

1. A minimum of 122 credit hours;
2. The successful completion of the Core Curriculum, academic major requirements, and free electives\*;
3. A cumulative GPA of at least 2.00. (Science students must also have a minimum technical grade point average of at least 2.00);
4. A minimum of half of the Core Curriculum requirements must be fulfilled at Villanova University;
5. A minimum of half of the requirements for the major must be fulfilled at Villanova University;
6. The final 30 credits of the degree program must be earned at Villanova University or a Villanova University approved program;
7. At least 61 credits must be earned at Villanova University.

*\*Please note that a maximum of 10 credits in courses fewer than 3-credits may be applied to a student's free-elective area. Lab courses do not count toward the 10-credit limit. Further restrictions regarding subject of these courses apply.*

See the College of Professional Studies Catalog for information on the Bachelor of Interdisciplinary Studies Degree (BIS), the Bachelor of Arts in General Arts, etc.

## Disclosure of Student Records

Villanova University, in accordance with the Family Educational Rights and Privacy Act

(FERPA) of 1974, as amended, has adopted a Student Records Policy to address the following issues with respect to education records: (1) disclosure of directory information; (2) confidentiality of personally identifiable information; and (3) student rights to inspect, review and seek amendment of their records. In general, education records are defined as records maintained in any form by the University that are directly related to a student. The full text of this policy is available on the [Provost's webpage](#).

## Double Majors/Primary & Secondary Majors

By default, the first major that a student declares is treated as their primary major. A student may not declare a secondary major without first declaring their primary major.

Students may declare a secondary major by completing the "Application to Declare/Change/Drop Major" form available on MyNova. Students may not double major in both Comprehensive Science and another science OR Liberal Arts and another major.

## Drop/Add

During the first five (5) class days of a semester, students are given the option of dropping or adding courses by using their pin number and going online through MyNOVA, or by completion of a paper form available in the Office for Undergraduate Students without incurring academic penalty or affecting the student's official transcript. After this period, students may withdrawal (WX) from courses but may not add a course.

## Dual Degree Policy

Normally, a student may receive only one degree, regardless of how many majors the student earns. Students who have completed all the requirements for two or more degrees - e.g., B.B.A. and B.S.A, or B.B.A. and B.A, or B.A. and B.S.. - must choose which degree to take - unless they have completed 43 or more additional credits beyond the greater of the two program credit requirements, in which case they may receive two degrees and two diplomas. Multiple majors, regardless of college, will appear on a student's transcript.

## F Grade

Required courses carrying a final grade of F must be repeated unless the student transfers to another college of the University where the course for which the F grade was received is not a requirement for the degree. The reasons for student deficiencies are reported by the faculty member at mid-semester and at the end of the semester to the Office for Undergraduate Students.

## Fast Forward Courses

Transfer Credit will not be awarded for Accelerated or Fast Forward courses. In order for a non-professional three-credit course to be considered for transfer credit, the course must have met on at least 15 different days and with a minimum total meeting time of at least 37 hours. For courses in question, the student must provide documentation stating the manner in which the course was taught along with the official transcript. Courses in professional studies will be evaluated on a case- by-case basis. The College reserves the right to test students to assess course outcomes.

## Final Exams and Finals Week

Occasionally students will encounter conflicts in the examination schedule such that two of a student's examinations are scheduled at the same time or three examinations are scheduled on the same day. In the event of such a conflict, the student must notify the instructor at least seven days in advance of the scheduled exam. The instructor will make alternative arrangements for the student to complete the examination. In resolving conflicts, multiple section exams should take precedence over exams for a single section, and courses in the major should take precedence over non-major courses. Extraordinary difficulties encountered in effecting such an arrangement will be resolved by the Assistant Dean for Undergraduate Students (Susan Jacobs in OUS, SAC 107). The full text of this policy is available on [this webpage](#).

## Full-Time Student Status vs. Part-Time Student Status (i.e. Scholastic Load)

A student must take a minimum of 12 credits a semester to be a full-time student. Permission to take fewer than 12 credit hours may be obtained in exceptional circumstances with the written approval of the Assistant Dean for Undergraduate Students. In the College of Liberal Arts & Sciences, students with a G.P.A. over 3.0 may overload with registration for the sixth course, possible only after the main registration period is over. No special approval would be needed.

## Grade Appeals

Student complaints concerning a grade should be directed to the chair of the faculty member involved. The chair shall normally require, but do no less than urge, a student who brings a complaint about a grade in the first instance to try to resolve the matter with the course instructor. That failing, the chair should attempt to resolve the issue between the student and instructor. The chair may consult with others in connection with his or her review of the complaint. Such complaints should be made according to the following deadlines: Spring Semester and Summer Semester grade complaints: Last Friday in August; Fall Semester grade complaints: Last Friday in January. If the complaint is against the chair, it should be directed to the Dean. The full text of the policy and process regarding grade appeals is available [on this website](#).

## Grade Changes

All grades are permanent except for N and NG, which are temporary grades and must be replaced with grades submitted by the instructor. If a change is not submitted, the N or NG automatically becomes an NF. Students must submit all work to instructors by the last Friday in January (Fall semester) or June (Spring semester). Instructors must submit replacement grades by the second Friday in February (Fall semester) or July (Spring semester).

## Grade Definitions and Values

### A (4.00), A- (3.67)

The highest academic grade possible; an honor grade which is not automatically given to a student who ranks highest in the course, but is reserved for accomplishment that is truly distinctive and demonstrably outstanding. It represents a superior mastery of course material and is a grade that demands a very high degree of understanding as well as originality or creativity as appropriate to the nature of the course. The grade indicated that the student works independently with unusual effectiveness and often takes the initiative in seeking new knowledge outside the formal confines of the course.

### B+ (3.33), B (3.00), B- (2.67)

A grade that denotes achievement considerably above acceptable standards. Good mastery of course materials evident and student performance demonstrates a high degree of originality, creativity, or both. The grade indicates that the student works well independently and often demonstrates initiative. Analysis, synthesis, and critical expression, oral or written, are considerably above average.

### C+ (2.33), C (2.00), C- (1.67)

Indicates a satisfactory degree of attainment and is the acceptable standard for graduation from college. It is the grade that may be expected of a student of average ability who gives to the work a reasonable amount of time and effort. This grade implies familiarity with the content of the course and acceptable mastery of course material; it implies that the student displays some evidence of originality and/or creativity, and works independently at an acceptable level and completes all requirements.

### D+, (1.33), D (1.00), D- (0.67)

Denotes a limited understanding of the subject matter, meeting only the minimum requirement for passing the course. It signifies work which in quality and/or quantity falls below the average acceptable standard for passing the course. Performance is deficient in analysis, synthesis, and critical expression; there is little evidence of originality, creativity, or both. Note: D- is the lowest passing grade awarded.

## F (0.00)

Indicates inadequate or unsatisfactory attainment, serious deficiency in understanding of course material, and/or failure to complete requirements of the course.

**N Incomplete:** Course work not completed.

**S Satisfactory:** Assigned in Satisfactory/Unsatisfactory courses.

**SP Satisfactory:** Progress (for use at Mid-Term Only)

**U Unsatisfactory:** Assigned in Satisfactory/Unsatisfactory courses.

**WX:** Approved withdrawal without penalty.

**W:** Approved withdrawal with penalty.

**AU:** Audit.

**Y:** Unofficial withdrawal from course (or for freshmen, failure for excessive absences)

**NG (Or Blank):** no grade reported. All grades are permanent except for N and NG, which are temporary grades and must be replaced with grades submitted by the instructor. If a change is not submitted, the N or NG automatically becomes an NF. Students must submit all work to instructors by the last Friday in January (Fall semester) or June (Spring semester). Instructors must submit replacement grades by the second Friday in February (Fall semester) or July (Spring semester).

View the full policy and grading information on the [Office of the Registrar's website here](#).

## Grade Point Average (GPA)

In addition to passing all required courses, a cumulative grade point average (GPA) of at least 2.0 is necessary for graduation. For science students, a Technical GPA of at least 2.0 is also required. For Arts students, some majors may also require a minimum GPA for all courses that are used to meet the major requirements. Grades for all courses taken at Villanova University (except S/U grades and WXs) are calculated in the GPA. If a course is repeated, then both grades are included in the computation. If a transfer course is accepted to fulfill a requirement for a failed Villanova University course, then the failed Villanova course is still included in the GPA computation. The grade point average is determined by taking the number of credits for each course times the quality points earned and dividing the total quality points by the total

credit hours attempted. For more information on grade point average, [view the Office of the Registrar's policy here](#).

## Example of GPA Calculation

GPA = Total Quality Points / Total Attempted Credits

	Course Grade	Credits	Quality Points
Course #1	B	3	9.00
Course #2	C	3	6.00
Course #3	C	3	6.00
Course #4	C	3	6.00
Course #5	F	3	0.00

Total Attempted Credits: 15 Total Earned Credits: 12 Total Quality Points: 27

GPA = 27/15 = 1.80

## Grade Reports

Grade reports are computed at the middle and end of each semester. However, only the grade report at the end of the semester is part of the student's permanent record. These reports are available to students online through their MyNOVA account. Students are directed to the [University Catalog](#) for a complete description of the University Grading System. Any inaccuracy in this record must be reported to the Office of the Registrar within two weeks of its receipt; otherwise, the grade will stand as it is.

## Graduation Honors

Graduation honors will be noted on the degrees of graduating students meeting the following requirements:

1. Summa cum laude.....minimum cumulative GPA of 3.90
2. Magna cum laude.....minimum cumulative GPA of 3.75
3. Cum laude.....minimum cumulative GPA of 3.50

## Grade Extensions on Incomplete Grades

Students who have taken an incomplete (i.e., "N") grade and need additional time to complete the work due to further extenuating circumstances must first gain the professor's approval. If the professor grants the request, the student and professor must agree upon a completion date for

the work, complete a “Request for Grade Extension on an Incomplete Grade” form, and submit it to the Office for Undergraduate Students for the Assistant Dean’s approval prior to the initial deadline for the submission of incomplete work, which is posted on the online academic calendar. Students may only extend the deadline for courses in which an incomplete was taken once with the Assistant Dean’s approval. Students may be required to submit supporting documentation.

The remaining coursework must be completed and submitted by the established deadline or the grade will convert to an “NF” grade, which is calculated as an F in the student’s GPA. No further grade extensions are possible. Any discrepancies for an Incomplete N grade must be resolved before the completion of the following semester.

Students requesting an extension can complete the “Request for a Grade Extension on an Incomplete Grade” form available on MyNova.

## Incomplete Grades for Undergraduate Students

Requests for incompletes are considered for extenuating circumstances only (illness, family emergencies, etc.). Students who request an “N” grade must have completed the majority of their work and must establish with the instructor a plan and a timeline for completing outstanding requirements. Incomplete grades might have an impact on a student’s financial aid, so students should consult with their financial aid counselor regarding incomplete grades. Undergraduate students who have two or more incomplete grades at the end of a semester will be reviewed by the Academic Standing Committee. Students who have multiple incomplete grades over the course of an academic year may be placed on academic probation for failure to make satisfactory academic progress.

## Laboratory Science Accommodation for Student with Disabilities

Villanova University recognizes its responsibility to provide alternatives to the laboratory experience for those students who have documented physical disabilities and are unable

to perform laboratory work. Mendel Science Experience courses are a part of the Core Curriculum in the College of Liberal Arts and Sciences, and each of these courses is coordinated lecture/laboratory. In the event that a student has a proven disability, verified by a physician, the student should meet with the course professor at the start of the semester to discuss alternative to the co-requisite laboratory. In lieu of a laboratory, an appropriate alternative experience may be obtained by performing library research on a specific topic agreed upon by the student and the professor – one relevant to the course material and equivalent in rigor to a three hour laboratory.

The student and faculty member should fill out a form designating, the topic to be researched, the expectations of the faculty member in terms of coverage, rigor, and due date. Both the faculty member and student should sign and date the form prior to sending it to Dr. Crystal Lucky, Associate Dean for Baccalaureate Studies, SAC 105.

## Leave of Absence

Students who plan to leave the University on a temporary basis should request a non-medical leave of absence. Official leave of absence from the University must be authorized by the Assistant Dean or Dean’s designee. Students interested in pursuing a non-medical or medical leave should contact Ms. Charisma Presley, Retention Manager, to learn more about the process.

The full text of this policy is available [on this webpage](#).

## Mathematics Placement

The Core Curriculum requirement for all students in the College of Liberal Arts and Sciences is one course. Science majors and some others are required to take a two-semester sequence or more. Incoming students in the College of Liberal Arts and Sciences will normally take a Math or Statistics course in either the fall or spring semester of their first year. A student’s potential choice of major and career plan affects his or her choice of Mathematics courses.

## Medallion of Excellence

Each department in the College of Liberal Arts and Sciences may nominate one graduating senior each year to receive a Medallion of Excellence. Generally, to be eligible for nomination, students must have earned a minimum of three fourths of their degree at Villanova in the College of Liberal Arts and Sciences and must have a minimum cumulative GPA of 3.50.

Each department has named its medallion either for a luminary from the past who has deeply affected the discipline or an outstanding person who helped to shape the course of study at Villanova University.

## Medical Leave of Absence

A student may experience physical or psychological conditions that significantly impair the student's ability to function successfully or safely in his or her role as a student. In such cases, the student may decide that time away from the University for treatment and recovery can help restore functioning to a level that will enable the student to return to the University and perform successfully in and out of the classroom. Students interested in pursuing a Medical Leave of Absence should contact the Office for Undergraduate Students to review the process and make an appointment with Ms. Charisma Presley, Retention Manager.

## Official Date of Graduation

The Academic Calendar for each year shall indicate the official graduation dates for the University. (These dates should not be confused with the dates for the annual commencement exercises). The Deans shall send the Registrar a list of all students in their College or School who have satisfactorily completed by the official graduation date all the requirements for graduation. The Registrar shall issue diplomas only to those students whose names appear on the list.

The current graduation dates are May 31, September 1, and December 31. Students certified after any of these dates will graduate officially at the next commencement.

## Overload Policy

The normal course load each semester for full-time students is five courses of three credits or more (excluding labs and other 1-credit courses). The credit limit set by the Registrar during the pre-registration period is 17-credit hours for Arts students and 19-credit hours for Science students. In order to be granted permission for an overload, a student must have a cumulative grade point average of at least 3.0 (2.75 for the summer), or have achieved senior status and need a sixth course to fulfill graduation requirements.

After all students have had the opportunity to register for five courses, credit limits will be raised by the Registrar for students with a GPA of 3.0 or higher and for seniors in order to allow them to register for a sixth course through MyNOVA using their semester PIN. In no case will permission be granted for a student to take 7 courses or more than 21 credits.

Students with a GPA lower than 3.0 that need to enroll in more than 17 credits a semester to achieve the normal course load for full time students of five courses will need to have their credit limit raised prior to the registration period. Students with this circumstance should complete a "Request for Credit Increase" form available on MyNova.

## Phi Beta Kappa (**ΦBK**)

Phi Beta Kappa (FBK) is a National Honors Fraternity for Colleges of Liberal Arts and Sciences. It was founded at the College of William and Mary in 1776. Since that time, its rigorous and comprehensive standards have made election to it a premier sign of excellence. The Sigma of Pennsylvania Chapter of Phi Beta Kappa was founded at Villanova University in April 1986.

Phi Beta Kappa standards reflect the highest ideals of liberal arts education at Villanova: education that is concerned with values and facts, as well as wisdom and knowledge; education that seeks freedom from ignorance, alienation, and inhumanity; education that values intellectual integrity and tolerance over expediency, and breadth of scholarly achievement over specialized expertise.

Juniors and seniors who are candidates for a degree in the College of Liberal Arts and Sciences, whose academic achievements reflect the goals of Phi Beta Kappa, and who meet the following specific criteria shall be eligible for consideration for election to Phi Beta Kappa.

1. Candidates must have a GPA of at least 3.50 (3.80 to be elected as a junior).
2. At least three-fourths of a candidate's academic work must have been taken in the liberal arts and sciences, as distinct from applied or professional work.

The Chapter chooses candidates with evidence of academic achievement that is of exceptional distinction and gives weight to the breadth and the quality of the overall program of courses taken by each candidate.

Election to membership in Phi Beta Kappa is wholly within the discretion of the members of the Chapter, subject only to the limitations imposed by its Constitution and By-Laws. Fulfillment of the minimum qualifications does not assure election to membership.

*President*

Lauren Shohet, Ph.D. (English), Professor

*Vice President*

Valentina DeNardis, Ph.D. (Classical Studies), Teaching Professor and Director

*Secretary/Treasurer*

Douglas Norton, Ph.D. (Mathematics and statistics), Associate Professor and Chair

## Refunds/Tuition Reversal

Refunds as a result of official withdrawal will be made according to the schedule [posted here by the Bursar's office](#). Excluded from the refund calculation will be the costs related to on-campus housing and university meal plans. Activity, library, and medical fees are not refundable. There will be no refund for unauthorized withdrawals. Students who do not register or who notify the Registrar's Office prior to the first day of class that they will not enroll are entitled to a full refund. Students should consult the [full policy on the Bursar's website here](#).

## Removal of AP Course Credit

Students requesting to remove credit for AP courses should complete the "Request to Remove AP Credit" form available on MyNova to remove credit previously earned through an advanced placement test and submitted to Villanova University. Submitting this request finalizes the removal of the credits from your transcript which cannot be reversed.

## Repeat Course Request

Students may request to repeat a course that they have previously taken while at Villanova. The following conditions are in place:

1. The previous course will still be listed on the official transcript; repeating a course does not eliminate the previous attempt taken.
2. A combination of the two course grades will factor into the GPA; getting a different grade on the second attempt of a course does not replace the first attempt's grade with the second attempt's grade.
3. The course repeated will only count for credit once on the transcript; taking a course a second time does not mean a student receives credit for both attempts.
4. No course can be taken a third time; a student may only repeat a course once.

To request to repeat a course, students should complete the "Request to Repeat a Course" form available on MyNova.

## Required Units for Admission

Although individual consideration is given to each applicant, it is expected that all applicants, except in the most unusual circumstances, will minimally satisfy the unit requirements listed below. A unit represents a year's work.

**For Arts Curricula:**

English	4	Mathematics	3
Foreign Language	2	Science	1
History or Social Science	2	Electives	3

**For Science and Mathematics Curricula:**

English	4	Foreign Language	2
Chemistry	1	Physics	1
Mathematics	4	Electives	4

## Residency Requirement for Graduation

Normally, a student must complete the final 30 credit hours of an academic program at Villanova. Exceptions may be made by the College Dean.

## Satisfactory/Unsatisfactory Grades

Grades of Satisfactory (equivalent to a "C" or better) and Unsatisfactory (equivalent to a "C-" or worse) are shown on the transcript but not included in the quality point average.

Sophomores, juniors, and seniors may take one elective course a semester on a satisfactory/unsatisfactory basis. The Satisfactory/Unsatisfactory (S/U) option may not be used for courses that fulfill core, major, or minor requirements, but individual departments may offer the major seminar on a S/U basis.

Credits for courses with Satisfactory grades are included in credits earned. Students must opt for Satisfactory/Unsatisfactory by the end of the Drop/Add period.

Unsatisfactory grades need not be repeated. Each college may have additional regulations governing the satisfactory/unsatisfactory option, available from the college dean.

## Students with Disabilities

Villanova University strives to provide an environment for personal and intellectual growth of all its students, and also complies with the Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973. In order to meet these commitments, Villanova offers educational opportunities and reasonable academic accommodations for the needs of qualified students with disabilities. The University's goal is to provide access and reasonable accommodations in helping the students achieve those expectations. Services for students with physical disabilities are coordinated through the Office of Disability Services. Services for students with disabilities that impact on learning are provided by various offices and coordinated by Learning Support Services (LSS). The full policy regarding students with disabilities is available [may be viewed on the page](#).

## Transfer Credit Hours

### Transferring Courses from Full-Time Enrollment

Students who wish to receive credit for college courses taken at another institution prior to attending Villanova must present an official transcript, course descriptions, and other documentation as needed to the Office for Undergraduate Students. Transfer credit may be awarded for college-level courses used to meet high school graduation requirements (subject to the criteria listed below). Courses will be considered for transfer credit only upon receipt of an official transcript and copies of official course descriptions. In some cases, it may be necessary to review the course syllabus to determine whether credit may be granted. It is the responsibility of the student to supply all necessary documentation.

Please note the following policies concerning transfer courses:

- In order to receive credit for a course taken at another institution, a student must have earned a grade of C or higher, and there must be an equivalent Villanova course.
- Grades earned in courses taken at other institutions are not factored into a student's Villanova grade point average.
- Transfer credits may be used to fulfill no more than half of courses for each of the following: CLAS degree, major, minor or concentration, and CLAS Core Curriculum.
- Courses taken at two-year institutions, including community colleges, are eligible for transfer credit.
- Students may transfer a maximum of five non-CLAS courses that have equivalents in the other Villanova academic colleges (Business, Engineering, and Nursing). Students who wish to have such courses evaluated for transfer credit must submit course descriptions and/or syllabi to the appropriate college for review.
- Courses should be presented for evaluation prior to a student's first semester at Villanova. Courses presented after the student's first year at Villanova will no longer be eligible for credit.

## College Courses Taken Prior to High School Graduation

College-level work completed prior to high school graduation, including college courses that fulfill high school graduation requirements, may be awarded transfer credits upon receipt of the following:

1. an official letter from the high school principal, secondary school counselor or other educational professional describing the college-level program of study.
2. an official letter from the college/university stating that the courses were taught by members of the regular faculty, open to enrollment by and graded in competition with regularly matriculated undergraduates at the college and a regular part of the normal curriculum published in the college catalog;
3. a course syllabus; and
4. an official, seal-bearing transcript from the college/university showing a grade of C or better. Credit or advanced standing for courses taught at the high school will not be accepted.

With respect to courses taught in a distance learning format, and for other requirements, each academic program will review on a case by case basis. Each supporting document is to be sent to the Dean of the College in which the student is enrolling.

All pre-matriculated credit must be accepted and approved before the completion of two semesters at Villanova.

## Enrolling in Courses at Another Institution as a Villanova Student

Once a student has matriculated in a degree program at Villanova University, credit for courses from other universities may only be transferred to Villanova under certain circumstances. Students may request to enroll in courses at another institution through filling out the "Request to Enroll in Courses at Another Institution" online form. The Office for Undergraduate Students must receive official transcripts for approved courses taken elsewhere before the completion of two subsequent semesters at Villanova. Credits will not be

accepted for courses that take place during terms that do not align with Villanova's academic calendar.

## Transfer Students

### External Transfer Students

Students wishing to transfer to the College of Liberal Arts and Sciences after having attended a college or university other than Villanova must submit a formal application to the Office of University Admission. Candidates for transfer admission ordinarily will have completed a minimum of five college courses of three credits or more with a grade of C or better in each course and earned a grade point average (GPA) of at least 3.0. Students who previously applied to the College of Liberal Arts and Sciences and were placed on the waiting list will be considered for transfer admission. External transfer applicants must indicate if they are applying to another Villanova academic college in addition to the CLAS. Students who have transferred from another institution to the CLAS are not eligible to transfer internally to any of the other Villanova academic colleges. If you intend to earn a degree from the School of Business, College of Nursing, or College of Engineering, you must apply directly to that college. Transfer applications must be received by June 1 for Fall Semester applicants and November 1 for Spring Semester applicants. Offers of admission are contingent upon successful completion of the current semester's courses and may be rescinded. Applicants must present appropriate documentation in order to receive credit for courses taken at their previous institution (see above criteria). Students intending to transfer more than fifteen courses must apply to and be accepted into a major prior to enrollment.

### Internal Transfer Students

Students who wish to transfer to the CLAS from other Villanova academic colleges CLAS must complete the Application to Enter the College of Liberal Arts and Sciences and must read and sign the CLAS Internal Transfer Policy form. (These forms are available on-line and in the Office for Undergraduate Students.) Applicants will be notified of an admissions decision at the end of the semester during which the application was submitted. The minimum criterion for admission to the CLAS is a GPA of 2.33 for all Arts courses

taken at Villanova. Students are not permitted to transfer from the College of Liberal Arts and Sciences to the College of Professional Studies.

## Unauthorized Withdrawal

Students who leave the University without authorization will be treated as having withdrawn from the University. They may not return to the University without reapplying directly to one of Villanova's colleges.

## Undergraduates Taking Graduate Level Courses

Undergraduates may take graduate courses, provided they meet the standards set down by each college: e.g., senior standing (in terms of credits, not in terms of years at Villanova), grade point average, and appropriate permissions (advisor, assistant dean, chair). Undergraduates may take a maximum of two graduate courses in any semester. If an undergraduate takes a graduate class, in that semester the student is limited to taking a maximum of 16 credit-hours of work. Further restrictions and the full policy can be [found on the Provost website](#).

## Withdrawal from the University

Students who wish to leave and who do not plan to return to the University should request a Withdrawal. Official withdrawal from the University must be authorized by the Assistant Dean or Dean's designee. In order to request an official withdrawal, students should contact the Office for Undergraduate Students to get information about the process and to make an appointment with the Retention Manager, Ms. Charisma Presley. Students who request an official withdrawal during the semester may be eligible for refund of some or all of the tuition paid for that semester. A student who has withdrawn from the University who wishes to return, must apply directly to the college the student wishes to attend (admission is granted at the sole discretion of the dean of that college). The full policy addressing University withdrawal is available [on the Provost website](#).

## W Grade

Withdrawal after the official deadline is indicated by a W grade, withdrawal with academic penalty. The grade is calculated as an F in determining the GPA.

## Walkers at Commencement

Each year there are a small number of students who have not fulfilled all of the requirements for May graduation but who wish to participate in commencement exercises with their entering class. Students who have only three or fewer courses remaining to fulfill the requirements for graduation, or who can complete the degree requirements before the beginning of the next Fall Semester, may petition to participate in the graduation ceremony. The names of all such students throughout the University will not be included in the commencement program until the following May, after they have, in fact, been graduated. Students may participate in only one commencement ceremony.

Students wishing to walk at commencement should complete the petition form available on MyNova and in the Office for Undergraduate Students. This petition is due no later than April 15. Any student wishing to walk must meet with the Director of Student Services.

## Withdrawal from a Course

Until the final day for authorized withdrawal from courses, (for an exact date, see the [academic calendar](#)), a student may withdraw from a course without penalty and will receive the grade of "WX." After that date, a student seeking authorized withdrawal without penalty must petition the Dean of his or her college, who has sole authority to grant withdrawals without penalty.

Note that withdrawals without permission will receive a "W" grade, which is calculated as an "F" in computing one's quality point average.

## WX Grade

The grade WX indicates an authorized withdrawal; the grade is not considered in the calculation of the GPA and tuition will not be refunded. The last day for Authorized Withdrawal Without Academic Penalty (WX grade) is published on the official University calendar and

usually occurs after mid-term grades have been submitted and during the academic advising and course selection period for the upcoming semester. Authorization for such withdrawal may be given only by the Assistant Dean for Undergraduate Students (Susan Jacobs in OUS, SAC 107).

## Y Grade

The grade Y is given when a student unofficially withdraws from a course (usually stops attending class). It is reflected in the grade point average (GPA) as an F. If a course is repeated, then the grades in both courses will be included in the GPA calculation. A first-year student will receive a grade of Y (failure) whenever the number of unexcused absences in a course exceeds twice the number of weekly class meetings for the course.

# Degrees College of Liberal Arts & Sciences

## Individually Designed Major

Program Director: Joseph Lennon, Ph.D.  
Office Location: 105E Saint Augustine Center  
Telephone: 610-519-4647  
[IDM Application](#)

### About

An individually designed major (IDM) is motivated by the learner's own goals and guided by a roadmap that the student develops in close consultation with faculty. Unlike an independent study, where a faculty member takes the lead in preparing a set of readings and assignments, an IDM places the primary responsibility on the learner to identify the goals, explicitly define periodic assessment benchmarks, and construct a long-term plan of study.

An objective of IDM is to foster a more explicit pursuit of interdisciplinary study, providing a mechanism for you to design a major that will intentionally integrate different methodologies, topics, disciplinary cultures, and learning styles.

Faculty members and the established programs and departments within the College of Liberal Arts and Sciences (CLAS) serve as resources for the students. Students must be highly motivated and independent learners in order to pursue this course of study, which is only viable if existing majors and minors do not provide a pathway to the learner's goals. Lastly, and crucially, these goals must be articulated early in the student's college career by the end of the first semester of sophomore year.

### MAJOR (33 credits)

An Individually Designed Major (IDM) is motivated by students' own learning goals, and guided by a curriculum map that you will develop in consultation with faculty mentors, the Associate Dean, and the IDM committee.

This is not a series of Independent Study courses, wherein a faculty member takes the lead in developing a reading and writing program for

students. Rather, faculty members and the established programs and departments within the College of Liberal Arts and Sciences (henceforth, LAS), function as collaborative resources for students to pursue a defined course of study. This is only allowable if no established majors are able to provide a pathway for students to achieve their stated goals.

The IDM provides an interdisciplinary mechanism for students to design a major that will integrate different methodologies, topics, disciplinary cultures, and learning styles.

**Type:** B.A. OR B.S.

## Aerospace Studies (Air Force ROTC)

### Aerospace Studies Program (Air Force ROTC)

Program offered through St. Joseph's University

### About

Villanova students are eligible to participate in the Air Force Reserve Officer Training Corps (AFROTC) through a cross-enrollment agreement with Saint Joseph's University. All Aerospace Studies courses will be held on the Saint Joseph's campus. The AFROTC program enables a college student to earn a commission as a Second Lieutenant in the U. S. Air Force while concurrently satisfying requirements for his/her baccalaureate degree.

Detailed information may be obtained from the Professor of Aerospace Studies, AFROTC Det 750, Saint Joseph's University, Philadelphia, Pennsylvania 19131, (610) 660-3190. Go to <http://www.afrotc.com/> for further details.

**Type:** Program

## Africana Studies

### Africana Studies Minor

Contact: [Vincent Lloyd, PhD](#), Director, Africana Studies Program  
Location: St. Augustine Center 228

Villanova's Africana Studies Program connects faculty, students, and community members interested in the academic study of Africa and the African diaspora. With 25 faculty affiliates, about 20 courses offered each semester, a robust calendar of public events, and a major and a minor, the Program has grown significantly since its founding in 1994. Whether the topic is politics in Africa, the literature of the Black diaspora in France, the history of the US civil rights movement, or Black theology, the Africana Studies Program encourages critical thinking, crossing disciplinary boundaries, and connecting academic work with lived reality. The Africana Studies Program pursues knowledge that has often been overlooked or undervalued as we strive to develop deeply inclusive community. Indeed, as an Augustinian Catholic university, Villanova is oriented to its core by the vision of an African diasporic faith leader.

**A B.A. in Africana Studies is offered through the G.I.S. program. Information on that major may be found at this location.**

**Type:** Minor

### MINOR (15 credits)

The Africana Studies program consists of 15 credits.

#### Program Notes:

- Students may combine three 1-credit IGR courses to count as one of the undesignated Africana courses.
- Courses taken as a part of a study abroad program may also be counted toward completion of the requirements.

#### Required Minor Courses:

Item #	Title	Credits
AFR 3000	Constructs of Blackness	3
	Africana History or Literature Elective	3
	AFR Elective	9

### Category Descriptions

[Africana History or Literature Elective](#)

Credits: 3

Choose one course of three or more credits in History (HIS) or English (ENG) with the Africana Studies (AFR) attribute. Other courses may be taken with approval of the program advisor. Below are examples of eligible courses.

Item #	Title	Credits
HIS 2291	African Amer His during Slaver	3
HIS 2292	African Amer His since Emancip	3

#### AFR Elective

Credits: 9

Select any three courses of three or more credits with the AFR attribute.

## Arab and Islamic Studies

### Arab and Islamic Studies Minor (GIS)

Program Director: Catherine Warrick, Ph.D.  
Office Location: 264 Saint Augustine Center  
Telephone: (610) 519-7712  
[Website](#)

#### About

The Arab and Islamic Studies program offers a major and minor within the Department of Global Interdisciplinary Studies (GIS). The major and minor provide an interdisciplinary and comparative approach to deepen students' understandings of the history, politics, culture, religion, and literature of Arab and Islamic societies. The Arab and Islamic Studies major provides outstanding preparation for careers in government, the military, business, and nonprofits, as well as essential training for graduate education. Villanova's Center for Arab and Islamic Studies, created in 1983, offers not only the AIS major and minor, but a range of programs and events on campus every semester.

**A B.A. in Arab and Islamic Studies is offered through the G.I.S. program. Information on that major may be found at this location.**

**Type:** Minor

## MINOR (15 credits)

A minor is open to all students and requires 5 courses and 15 credits.

### Program Notes:

- Courses taken abroad may count toward the minor requirements with pre-approval from the director of the program.
- Certain topics courses listed under departments (ARB, COM, GIS, HIS, HUM, PSC, THL, etc.) with significant content relevant to AIS may qualify as an elective with the permission of the Director of the Arab and Islamic Studies Program

### Required Minor Courses:

Item #	Title	Credits
	AIS Capstone Elective	3
	AIS History, Political Science or Theology Courses	6
	AIS Elective	6

## Category Descriptions

### AIS Capstone Elective

Credits: 3

One capstone course with an AIS attribute with the approval of the AIS director.

### AIS History, Political Science or Theology Courses

Credits: 6

Any two of the courses below.

Item #	Title	Credits
HIS 4041	Hist Modern Middle East	3
HIS 4365	Modern India and Pakistan	3
PSC 2340	Politics of the Arab World	3
THL 5150	Islam:History,Thought,Culture	3

### AIS Elective

Credits: 6

Choose any course of three or more credits with the Arab and Islamic Studies (AIS) attribute.

## Art History

### Art History, B.A.

Program Director: Timothy McCall, Ph.D.

Office Location: Saint Augustine Center, Room 403

Telephone: (610) 519-3897

### About

The Art History Program at Villanova provides students with the knowledge and skills to interpret and critically evaluate art – and its production, reception, and materiality – from the perspectives of different societies across time. We encourage students to investigate art not only as cultural artifacts that record and reflect particular aspects of the human experience, but also as a dynamic force that has shaped complex interactions of social, political, and economic processes both in the past and the present.

In harmony with the university's Augustinian mission and unique identity, the Art History Program emphasizes the benefits of a broader, liberal arts education. More particularly, art history students can expect to leave Villanova as sophisticated viewers and critical consumers of the visual imagery that surrounds us.

**Type:** Bachelor of Arts

### MAJOR (33 credits)

The Art History major consists of 33 credits.

### Required Major Courses

Item #	Title	Credits
AAH 1101	His West Art: Ancient-Med	3
AAH 1102	His West Art: Renaiss - Cont	3
	AAH Pre-1700 Elective	9
	AAH Post-1700 Elective	6
AAH 4010	Interpreting Art	3
	AAH Senior Research Seminar	3
	Non-AAH Elective	3-4
	Upper-Level AAH Elective	3

## Category Descriptions

### AAH Pre-1700 Elective

Credits: 9

Choose three courses from the following list.  
AAH 4003 also satisfies this requirement.

Item #	Title	Credits
AAH 2000	Ancient Art	3
AAH 2001	Medieval Art	3
AAH 2002	Early Renaissance Art in Italy	3
AAH 2003	Age of Rembrandt & Bernini	3
AAH 2012	High Renaissance Art in Italy	3
AAH 3007	The Art of Ireland	3
AAH 4004	Spec Top: Renais-Baroque	3

### AAH Post-1700 Elective

Credits: 6

Choose two courses from the following list:

Item #	Title	Credits
AAH 1103	Visual Arts in US 1607-1876	3
AAH 1104	Visual Arts in US 1877-Present	3
AAH 2004	Modern Art	3
AAH 2005	Modern Architecture	3
AAH 2007	Hist. of Western Architecture	3
AAH 2009	Contemporary Art	3
AAH 3001	Women in Art	3
AAH 3002	Art of Philadelphia	3
AAH 3003	Romantic to Post-Impress	3
AAH 3005	Gender Sexuality Visl Culture	3
AAH 3006	History of Photography	3
AAH 4005	Picasso and Friends	3

### AAH Senior Research Seminar

Credits: 3

Choose a Senior Research Seminar option from those listed:

Item #	Title	Credits
AAH 5010	Senior Research Seminar	3
AAH 5515	Independent Research	3

### Non-AAH Elective

Credits: 3-4

From the following list, choose one course related to art history in another discipline; or:

- A team-taught interdisciplinary course with one Art History faculty member (GIS, History, etc.)
- Occasionally courses offered in various departments meet this requirement at the discretion of the Program Director.
- This list also includes PHI 2750.

Item #	Title	Credits
CLA 2051	Cities of Ancient Greece	3
CLA 2052	Rome: The Ancient City	3
COM 1300	Film Analysis	3
COM 3340	Film History	3
COM 3341	Gender and Film	3
COM 3243	Performance Art	3
COM 3342	International Cinema	3
COM 3343	Contemporary Cinema	3
ENG 2350	Narrative Television	3
ENG 2360	Adaptation:Film as Literature	3
FFS 2075	Introduction to French Cinema	3
FFS 2076	Intro To Francophone Cinema	3
HIS 2309	Artifacts in History	3
HUM 3600	Amer Architecture since 1865	3
ITA 3075	Visual History of Italy	3
MSE 2303	CHM:The Science of Art	4
PHI 2750	Philosophy of Art	3
PHI 4150	Philosophy & Film	3
SAR 2010	Intro to Calligraphy	3
SAR 2020	Basic Watercolor Techniques	3
SAR 2021	Basic Drawing Techniques	3
SAR 2022	Basic Oil Painting	3
SAR 2023	Basic Acrylic Painting	3
SAR 2150	Intermediate Watercolor	3
SAR 2151	Intermediate Drawing	3
SAR 3031	Special Topics in Studio Art	3
SAR 4007	Painting of Icons	3
SAR 5004	Basic Printmaking	3

### Upper-Level AAH Elective

Credits: 3

Choose an upper-level Art History course from AAH 2000 to AAH 4999.

## Art History Minor

Program Director: Timothy McCall, Ph.D.  
Office Location: Saint Augustine Center, Room 403  
Telephone: (610) 519-3897

The Art History Program at Villanova provides students with the knowledge and skills to interpret and critically evaluate art – and its production, reception, and materiality – from the perspectives of different societies across time. We encourage students to investigate art not only as cultural artifacts that record and reflect particular aspects of the human experience, but also as a dynamic force that has shaped complex interactions of social, political, and economic processes both in the past and the present.

In harmony with the university's Augustinian mission and unique identity, the Art History Program emphasizes the benefits of a broader, liberal arts education. More particularly, art history students can expect to leave Villanova as sophisticated viewers and critical consumers of the visual imagery that surrounds us.

**Type:** Minor

## Minor (18 credits)

The Art History Minor consists of 18 credits and 6 courses.

*Program Notes:*

- One of the art history courses could be substituted for one course related to art history in another discipline from the following list: ENG 2350, 2360, CLA 2051, 2052, COM 1300, COM 3340, 3341, 3342, 3343, FFS 2075, 2076, HIS 2309, HUM 3600, ITA 4075, MSE 2303, PHI 2750, 4150, SAR 2010, 2020, 2021, 2022, 2023, 2150, 2151, 3031, 4007, 5004.
- Art history minors are encouraged to take AAH 4010 in the fall of their senior year. With approval from the program director, students may satisfy this requirement with another upper-level course.

Item #	Title	Credits
	AAH 1101 or AAH 1102	3
AAH 4010	Interpreting Art	3
	Art History Minor Elective	12

## Category Descriptions

### AAH 1101 or AAH 1102

Credits: 3

Item #	Title	Credits
AAH 1101	His West Art: Ancient-Med	3
AAH 1102	His West Art: Renaiss - Cont	3

### Art History Minor Elective

Credits: 12

Select 4 courses of 3 or more credits in with the AAH subject code.

## Asian Studies

### Asian Studies Minor

Program Director: HaiLin Zhou, Ph.D.  
Office Location: Gary Hall 34  
Telephone: (610) 519-6996  
[Website](#)

## About

Asia is a dynamic world region and its cultures and societies are a complex mix of both ancient traditions and modern ideas. Asia has the fastest growing economy in the world and is the birthplace of many of our new technologies. Asia is rapidly changing, democratizing, and internationalizing in ways that present both perils and possibilities for people across the globe.

In the Villanova Asian Studies Program, we offer a Major in Asian Studies as Global Interdisciplinary Studies specialization as a way for undergraduates to learn to examine the world — and themselves — through the lens of another language and culture.

The Asian Studies program offers a major and minor within the Department of Global Interdisciplinary Studies (GIS) that helps students understand the diverse histories, politics, economies, cultures, religions, arts and literatures of Asia. The program encourages in-depth study while also promoting more general inquiry into fundamental issues, such as cultural differences among Asian nations and their social and political implications, as well as learning critical thinking and problem solving to prepare students to be responsible global citizens. The program offers them not only specialized knowledge and appreciation of a region that has had, and will undoubtedly continue to have, a profound impact on the material and spiritual well-being of humanity, but also prepares them to play their own roles in a globalized world in the “Asian Century.”

**Type:** Minor

## Minor (15 credits or 5 courses)

### Program Notes

- Up to two Asian language (intermediate or above) courses may count.
- Courses with the ASN attribute may count towards the minor.
- The courses must cover at least 2 countries or areas, and no more than 3 may focus on a single country. For example, if a student takes two Japanese-language courses, then only one Japanese-culture course may count; the other two courses must focus on cultures other than Japanese.
- Courses taken as part of a Study Abroad program and one internship done abroad may count towards the minor.

Item #	Title	Credits
	Five Asia-Related Courses	15

## Category Descriptions

### Five Asia-Related Courses

Credits: 15

Five Asia-related courses, including three or more courses with the Asian-Studies attribute (at least 15 credits)

## Astrophysics and Planetary Science

### Astronomy & Astrophysics, B.S.

Chair: Edward L. Fitzpatrick, Ph.D.

Office Location: 456A Mendel Science Center

Telephone: (610) 519-4820

[Website](#)

## About

The APS Department offers a major in Astronomy & Astrophysics, leading to a Bachelor of Science degree. The major combines rigorous academic preparation with a strong research component, which usually culminates in the presentation of original research results at national astronomical conferences. The program is designed to prepare students for graduate studies in astronomy and

related fields. In addition, and due to the strong and balanced Liberal Arts education, the Astronomy & Astrophysics major provides outstanding preparation for careers in science journalism and science education, as well as for essentially any technically based career.

Research facilities utilized by staff and students in the APS Department include a high-speed computing facility and a suite of computer-controlled telescopes located on the roof of Mendel Science Center. In addition, the Department is a member of the Robotically Controlled Telescope consortium, which operates a 1.3 meter telescope located at Kitt Peak National Observatory. Students also have access, via faculty research programs, to state-of-the-art astronomical data from NASA-supported facilities such as the Hubble Space Telescope and the Spitzer Space Telescope, and a variety of national and international ground-based facilities.

**Type:** Bachelor of Science

## MAJOR (86 credits)

The major consists of 86 credits, including courses in astronomy, physics, mathematics, and computer science. Students completing the major will also qualify for a minor in physics.

### Required Major Courses

Item #	Title	Credits
AST 2120	Sun and Stars	3
AST 2121	Solar System Astronomy	3
AST 2122	Understanding Our Universe	3
AST 2123	Astrodynamics:Kepler & Beyond	3
AST 2133	Observational Lab I	2
AST 2134	Observational Lab II	2
AST 3141	Galactic Astronomy	3
AST 3142	Intro to Astrophysics	3
AST 3143	Astrobiology, Planets, & Life	3
AST 3148	The Prncpl of Scientific Model	3
AST 4121	Undergrad Research I	3
AST 4122	Undergrad Research II	3
CSC 4630	Software Dev and Systems	3
MAT 1500	Calculus I	4
MAT 1505	Calculus II	4
MAT 2500	Calculus III	4
MAT 2705	Diff Equation with Linear Alg	4
PHY 2410	University Phy:Mechanics	3
PHY 2411	Lab: Mechanics	1
PHY 2412	Univ Physics:Elec & Mag	3
PHY 2413	Lab:Elec & Magnetism	1
PHY 2414	Univ Physics: Thermo	3
PHY 2415	Lab: Thermodynamics	1
PHY 2416	Modern Physics	3
PHY 2417	Lab:Modern Physics	1
PHY 2601	Computational Phy Lab I	1
PHY 2603	Computational Phy Lab II	1
PHY 4100	Mechanics I	3
PHY 4200	Mathematical Physics I	3
	Upper-Level Physics Elective	9

### Category Descriptions

#### Upper-Level Physics Elective

Credits: 9

Select 3 Classes of three or more credits in PHY 3000:9999.

## Astronomy & Astrophysics Minor

Chair: Edward L. Fitzpatrick, Ph.D.  
Office Location: 456A Mendel Science Center  
Telephone: (610) 5019-4820  
[Website](#)

### About

The APS Department offers a major in Astronomy & Astrophysics, leading to a Bachelor of Science degree. The major combines rigorous academic preparation with a strong research component, which usually culminates in the presentation of original research results at national astronomical conferences. The program is designed to prepare students for graduate studies in astronomy and related fields. In addition, and due to the strong and balanced Liberal Arts education, the Astronomy & Astrophysics major provides outstanding preparation for careers in science journalism and science education, as well as for essentially any technically based career.

Research facilities utilized by staff and students in the APS Department include a high-speed computing facility and a suite of computer-controlled telescopes located on the roof of Mendel Science Center. In addition, the Department is a member of the Robotically Controlled Telescope consortium, which operates a 1.3 meter telescope located at Kitt Peak National Observatory. Students also have access, via faculty research programs, to state-of-the-art astronomical data from NASA-supported facilities such as the Hubble Space Telescope and the Spitzer Space Telescope, and a variety of national and international ground-based facilities.

**Type:** Minor

## MINOR (24 credits)

A minor is open to all students and requires 9 courses and a minimum of 24 credits.

### Required Minor Courses

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
AST 2120	Sun and Stars	3
AST 2121	Solar System Astronomy	3
AST 2122	Understanding Our Universe	3
MAT 1500	Calculus I	4
MAT 1505	Calculus II	4
	Astrophysics Physics Elective	3
	Astrophysics Elective	2-3
	Astrophysics Elective	2-3

### Category Descriptions

#### Astrophysics Physics Elective

Credits: 3

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
PHY 1100	General Physics I	3
PHY 2400	Physics I Mechanics	3
PHY 2402	Physics II Elec & Magnet	3

#### Astrophysics Elective

Credits: 2-3

Choose one course from the following list:

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
AST 2123	Astrodynamic:Kepler & Beyond	3
AST 3141	Galactic Astronomy	3
AST 3142	Intro to Astrophysics	3
AST 3143	Astrobiology, Planets, & Life	3
AST 3148	The Prncpl of Scientific Model	3

## Biology

### Biology, B.S.

Chair: Dennis D. Wykoff, Ph.D.  
Office Location: 147 Mendel Science Center  
Telephone: 610-519-4830  
[Website](#)

## About

Biology is a broad-based program designed for students interested in life sciences. The program fulfills entry requirements for medical and other allied health programs as well as for graduate work in many areas of biology and related fields. The program also provides excellent preparation for careers in health sciences, research, and/or education.

**Type:** Bachelor of Science

## MAJOR (37 credits)

The biology major requires a minimum of 70 credits in biology and cognate courses with at least five biology laboratory courses at the 3000-level and higher.

### Program Notes:

- Combined BS/MS in Biology: Five-year double degree program. See departmental website for details regarding admission, requirements, the program of study, etc.
- Research opportunities: Undergraduate majors may opt to work with faculty to complete undergraduate research either informally or more formally in a senior or honors thesis project.

## Required Biology Courses:

Item #	Title	Credits
BIO 2105	General Biology I	4
BIO 2106	General Biology II	4
BIO 3351	Genetics	4
BIO 5300	Biology Capstone	3
	Organismal Biology Elective	4
	Ecology/Evolutionary/ Population Biology Elective	4
	Cellular/Molecular Biology Elective	4
	Upper-Level BIO Lab Elective	8
	Additional BIO Elective	2

## Required Cognate Courses:

Item #	Title	Credits
CHM 1151	General Chemistry I	4
CHM 1103	General Chemistry Lab I	1
CHM 1152	General Chemistry II	4
CHM 1104	General Chemistry Lab II	1
CHM 2211	Organic Chemistry I	3
CHM 2201	Organic Chemistry Lab I	1
CHM 2212	Organic Chemistry II	3
CHM 2202	Organic Chemistry Lab II	1
MAT 1312	Biocalculus	4
	Biology Math Elective	3
PHY 1100	General Physics I	3
PHY 1101	General Physics I Lab	1
PHY 1102	General Physics II	3
PHY 1103	General Physics II Lab	1

## Category Descriptions

### Organismal Biology Elective

Credits: 4

Choose 1 BIO laboratory course above the 3000 level in Organismal Biology from the list below.

7205, 7905; BIO 4251 +4252, BIO 8251 + 8252;  
Or any course with the Bio Organismal [BIOO] attribute of 4 or more credits may also count toward fulfillment of this requirement.

Item #	Title	Credits
BIO 3055	Animal Physiology	4
BIO 3155	Comparative Anatomy	4
BIO 3405	Higher Vertebrates	4
BIO 3455	Histology	4
BIO 3505	Invertebrate Zoology	4
BIO 3525	Entomology	4
BIO 3555	Lower Vertebrates	4
BIO 3755	Parasitology	4
BIO 3905	Vascular Plants	4

### Ecology/Evolutionary/Population Biology Elective

Credits: 4

Choose 1 BIO laboratory course above the 3000-level in Ecology/Evolutionary/Population Biology from those listed below.

BIO 7555, 8455, BIO 4451 + 4452, BIO 7151 + 7152, or any course with the EcoEvoPop [BIOE] attribute of four or more credits may also count toward fulfillment of this requirement.

Item #	Title	Credits
BIO 3015	Animal Behavior	4
BIO 3255	Evolutionary Ecology	4
BIO 3385	Global Change Ecology	4
BIO 3485	Marine Biology	4
BIO 4305	Evolution	4
BIO 7105	Vertebrate Ecology	4
BIO 7705	Plant Ecology	4
BIO 7755	Plant Ecophysiology	4
BIO 7955	Biodiversity & Systematics	4

#### Cellular/Molecular Biology Elective

Credits: 4

Choose 1 BIO laboratory course above the 3000 level in Cellular/Molecular Biology from the list below.

BIO 7905; BIO 7321 + 7322; BIO 7960 + 7962; BIO 8051 + 8052; BIO 8171 + 8172; BIO 8295, 8555, 8705; or any course with the CellMolecular [BIOCM] attribute may also count toward fulfillment of this requirement.

Item #	Title	Credits
BIO 3595	General Microbiology	4
BIO 4105	Medical Microbiology	4
BIO 4205	Cell Biology	4
BIO 4285	Developmental Biology	4
BIO 4355	Experimental Genetics	4
BIO 4505	Molecular Biology	4
BIO 4605	Neurobiology	4

#### Upper-Level BIO Lab Elective

Credits: 8

Choose 2 additional BIO laboratory courses. Select from: BIO 3000:9999 (with the exception of BIO 6509), CHM 4603, 4621, HON 5000, 6000.

#### Additional BIO Elective

Credits: 2

Two additional credits fulfilled either through a research experience or another approved course. Select from BIO 2000:9999, CHM 4611; 4622, 4621

#### Biology Math Elective

Credits: 3

Choose one additional MAT course from the following:

Item #	Title	Credits
MAT 1314	Modeling for the Life Sciences	3
MAT 1505	Calculus II	4
STAT 1313	Statistics for Life Sciences	3
STAT 4310	Stat Methods	3

## Biology Minor

Chair: Dennis D. Wykoff, Ph.D.

Office Location: 147 Mendel Science Center

Telephone: 610-519-4830

[Website](#)

### About

Biology is a broad-based program designed for students interested in life sciences. The program fulfills entry requirements for medical and other allied health programs as well as for graduate work in many areas of biology and related fields. The program also provides excellent preparation for careers in health sciences, research, and/or education.

**Type:** Minor

## MINOR (23 credits)

A minor is open to all students and requires a minimum of 23 credits in Biology. Minors must complete at least 12 of their Biology credits at Villanova and achieve a minimum GPA of 2.0.

### Required Minor Courses:

Item #	Title	Credits
BIO 2105	General Biology I	4
BIO 2106	General Biology II	4
	Upper-Level BIO Lab Elective for Minor	12
	Upper-Level BIO Elective	3-4

### Category Descriptions

#### Upper-Level BIO Lab Elective for Minor

Credits: 12

Biology Electives with Lab [3000 level or above] (12 cr) - Select any course from BIO 3000:9999.

#### Upper-Level BIO Elective

Credits: 3-4

Choose 1 additional Biology elective course numbered 3000 or above. (3-4cr)

## Business

### Business Minor Options

Villanova School of Business  
Associate Director Business Minor Programs:  
Patricia (Trish) Burdo  
Office Location: Bartley Hall Rm. 1054 [The Clay Center at VSB]  
Telephone: (610) 519-5532  
[Website](#)

### ABOUT

There are two options for CLAS students to earn a business minor: The Academic Year Business Minor and the Summer Business Institute. Students considering either of these programs should meet with their primary academic advisor before applying to determine if/how business

minor courses may apply to degree or major requirements. Completion of either program may allow students to pursue a discipline-specific business minor or enroll in other VSB courses; VSB approval is required and additional pre-requisite coursework may be necessary.

### ACADEMIC YEAR BUSINESS MINOR

The Academic Year Business Minor is designed for full-time undergraduates enrolled in other Villanova colleges. This traditional-year program typically requires four semesters to complete; required courses are part of the VSB core curriculum and are taken alongside VSB students. The admission process for the program is competitive; students must attend an info session prior to applying and are admitted on a yearly basis after spring semester grades are posted. The deadline for applications is May 1; program and application requirements can be found at [business.villanova.edu](http://business.villanova.edu), search Business Minors for Non-Business Students.

### SUMMER BUSINESS INSTITUTE (SBI)

The Summer Business Institute (SBI) is a 10 week, full-time, 16-credit program created exclusively for non-business majors. SBI, using a cohort-based model, is an accelerated program designed to be completed in one summer. The admission process for the program is competitive; students are admitted on a rolling basis. The application period is December 1 - April 15. Additional Information, including the application, can be found at [business.villanova.edu/sbi](http://business.villanova.edu/sbi)

**Type:** Minor

## Center for Irish Studies

### Irish Studies Minor

Director: Joseph Lennon, Ph.D.  
Office Location: Saint Augustine Center, 105E  
Telephone: (610) 519-4647  
[\[Website\]](#)

### About

Irish Studies explores the history and culture of the Irish people in Ireland and the Irish diaspora from a variety of disciplines—art, economics, folklore, history, language, literature, music, philosophy political science, and theater.

Students can major in Irish Studies through the department of Global Interdisciplinary Studies, culminating in a rigorous multidisciplinary thesis. The minor is open to students from all colleges and can be completed by taking five courses, two required and three electives, either on campus and abroad. For students in the College of Arts and Science, two four-credit courses in the Irish language may be taken to complete the College language requirement.

The Center works with local organizations and hosts a lively series of readings, academic lectures, performances, and receptions, also welcoming cultural, political, and business leaders to campus for networking. Interested students may also study in Ireland in a Semester Abroad program or through the Villanova Summer in Ireland Program or apply for one of several professional internships abroad or in Philadelphia. Details are available through the Center for Irish Studies.

**Type:** Minor

### MINOR (15 credits)

A minor is open to all students. Completion of the required English course and History course is a pre-requisite for beginning the minor.

#### Required Minor Courses:

Item #	Title	Credits
	ENG 2450 or ENG 2500	3
	HIS 3216 or HIS 2286	3
	IS Elective	3
	IS Elective	3
	IS Elective	3

### Major (21 credits)

The Department of Global Interdisciplinary Studies (GIS) offers a major with a specialization in Irish Studies, please see [that page](#) for detailed requirements of the major.

#### Category Descriptions

ENG 2450 or ENG 2500

Credits: 3

Choose one literature survey

Item #	Title	Credits
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HIS 3216 or HIS 2286

Credits: 3

Choose one history survey.

Item #	Title	Credits
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HIS 3216	Ireland since 1800	3
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HIS 2286	Irish-American Saga	3
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IS Elective

Credits: 3

Choose a course with IS attribute.

## Biochemistry

The biochemistry program is designed for students who are interested in life at the molecular level. In our program, you will study the chemical processes involved in DNA replication, transcription, and translation. The structure of biomacromolecules and the structural implications on cellular processes will also be emphasized.

Most of the biochemistry faculty use their biochemistry training to understand disease at the molecular level, including breast cancer, lung cancer, African sleeping sickness, and pain management. Biochemistry also supports the studies of students majoring in the chemistry and life-sciences by offering introductory courses for students interested in medicine or the allied health fields.

### Biochemistry, B.S.

Program Directors: Jennifer Palenchar, PhD., James W. Wilson, PhD

Office Location: Mendel Science Center Rm. 215

Telephone: (610) 519-4840

[\[Website\]](#)

### About

Biochemistry is an interdisciplinary major requiring comprehensive coursework in both Biology and Chemistry. The biological relevance

of chemical concepts is stressed throughout the curriculum. Students are encouraged to pursue one of the many available research experiences.

**Type:** Bachelor of Science

## MAJOR (69 credits)

Students are accepted into the major as incoming freshmen, or upon consultation with a program director when achieving a 2.0 or better in required courses.

### Required Major Courses

*Program Notes:*

- The student is required to continue their Physics course sequence in the second semester following their first semester of Physics.
- Students may substitute the sequence of MAT 1500 and MAT 1505 for MAT 1312 and STAT 1313 with permission from the program directors.
- The Biochemistry program offers three mechanisms for participation in research by undergraduate majors. Competitive fellowships for 8-10 weeks of summer research are funded by University, government, or industrial sources. Recipients of these fellowships carry out a research program under the direction of a faculty member. Students may also enroll in research mentored by a faculty member for academic credit during the school year, which fulfills the elective requirement in the relevant department (CHM 4801, 4802, 4803, 4851, 4851 or BIO 6509, 6609). Students may also volunteer in research laboratories. In each case, students should discuss participation in research with Program of Biochemistry faculty members.

Item #	Title	Credits
CHM 1000	Profesl Development Sem	1
CHM 1151	General Chemistry I	4
CHM 1103	General Chemistry Lab I	1
CHM 1152	General Chemistry II	4
CHM 1104	General Chemistry Lab II	1
	CHM 2201/2211 or CHM 3201/3211	4
	CHM 2202/2212 or CHM 3202/3212	4
CHM 3417	Biophysical Chemistry	3
CHM 3514	Bioanalytical Chemistry	3
CHM 3503	Bioanalytical Chem Lab	1
CHM 4603	Biochem Tech. and Pract.	1
CHM 4604	Biochem Tech. and Pract II	1
CHM 4621	Biochemistry I: Structure	3
CHM 4622	Biochemistry II:Metabolism	3

CHM 4623	Biochemistry III	3
BIO 2105	General Biology I	4
BIO 3351	Genetics	4
BIO 4505	Molecular Biology	4
MAT 1500	Calculus I	4
MAT 1505	Calculus II	4
	PHY 2410/2411 or PHY 1100/ 1101	4
	PHY 2412/2413 or PHY 1102/ 1103	4
	Approved Chemistry Elective	3
	Approved Biology Elective	2-3

## Category Descriptions

CHM 2201/2211 or CHM 3201/3211

Credits: 4

Choose one sequence.

Item #	Title	Credits
CHM 2201	Organic Chemistry Lab I	1
CHM 2211	Organic Chemistry I	3
Item #	Title	Credits
CHM 3201	Organic Chemistry Lab I	2
CHM 3211	Organic Chemistry I	3

CHM 2202/2212 or CHM 3202/3212

Credits: 4

Choose one sequence.

Item #	Title	Credits
CHM 2202	Organic Chemistry Lab II	1
CHM 2212	Organic Chemistry II	3
Item #	Title	Credits
CHM 3202	Organic Chemistry Lab II	2
CHM 3212	Organic Chemistry II	3

PHY 2410/2411 or PHY 1100/1101

Credits: 4

Choose 1 pair of lecture + lab courses from the following:

Item #	Title	Credits
PHY 2410	University Phy:Mechanics	3
PHY 2411	Lab: Mechanics	1

Item #	Title	Credits
PHY 1100	General Physics I	3
PHY 1101	General Physics I Lab	1

PHY 2412/2413 or PHY 1102/1103

Credits: 4

Choose 1 pair of lecture + lab courses from the following:

Item #	Title	Credits
PHY 2412	Univ Physics:Elec & Mag	3
PHY 2413	Lab:Elec & Magnetism	1

Item #	Title	Credits
PHY 1102	General Physics II	3
PHY 1103	General Physics II Lab	1

Approved Chemistry Elective

Credits: 3

Chemistry Elective (3000 level or above) (3 cr)  
- Select 1 course of three or more credits from CHM 3000:9999.

Approved Biology Elective

Credits: 2-3

Biology Elective (3000 level or above) (3 cr) -  
Select 1 course of three or more credits from BIO 3000:9999 or BIO 6509 (2 cr).

## Biochemistry Minor

Program Directors: Jennifer Palenchar, PhD.,  
James W. Wilson PhD  
Office Location: Mendel Science Center Rm. 215  
Telephone: (610) 519-4840  
[\[Website\]](#)

## About

Biochemistry is an interdisciplinary major requiring comprehensive coursework in both Biology and Chemistry. The biological relevance of chemical concepts is stressed throughout the curriculum. Students are encouraged to pursue one of the many available research experiences.

**Type:** Minor

## MINOR (23 credits)

The Biochemistry minor requires 23 credits not including pre-requisite coursework.

### Program Notes:

- The Biochemistry program offers three mechanisms for participation in research by undergraduate majors. Competitive fellowships for 8-10 weeks of summer research are funded by University, government, or industrial sources. Recipients of these fellowships carry out a research program under the direction of a faculty member. Students may also enroll in research mentored by a faculty member for academic credit during the school year, which fulfills the elective requirement in the relevant department (CHM 4801, 4802, 4803, 4851, 4851 or BIO 6509, 6609). Students may also volunteer in research laboratories. In each case, students should discuss participation in research with Program of Biochemistry faculty members.
- Chemistry courses listed below for the minor may have additional pre-requisite not listed on this page.

### Required Minor Courses:

Item #	Title	Credits
BIO 2105	General Biology I	4
BIO 3351	Genetics	4
BIO 4505	Molecular Biology	4
CHM 4603	Biochem Tech. and Pract.	1
CHM 4604	Biochem Tech. and Pract II	1
CHM 4621	Biochemistry I: Structure	3
CHM 4622	Biochemistry II:Metabolism	3
CHM 4623	Biochemistry III	3

## Chemistry

The Department of Chemistry at Villanova University offers masters and bachelors degrees, including an American Chemical Society accredited degree program for undergraduates. Our faculty actively conduct research in diverse areas such as environmental chemistry, protein biochemistry, fuel cell research, and computational chemistry. We recognize that undergraduate research provides a unique opportunity to work closely alongside a faculty mentor, gaining an experience that extends far

beyond typical classroom learning, and we encourage all undergraduates to participate in undergraduate research.

## Chemistry, B.S.

Chair: Kevin P.C. Minbiole, Ph.D.

Office Location: Mendel Science Center Rm. 215A

Telephone: (610) 519-4840

[Website](#)

### About

The Department of Chemistry at Villanova University offers masters and bachelors degrees, including an American Chemical Society accredited degree program for undergraduates. Our faculty actively conduct research in diverse areas such as environmental chemistry, protein biochemistry, fuel cell research, and computational chemistry. We recognize that undergraduate research provides a unique opportunity to work closely alongside a faculty mentor, gaining an experience that extends far beyond typical classroom learning, and we encourage all undergraduates to participate in undergraduate research.

**Type:** Bachelor of Science

## MAJOR (68 credits)

The Chemistry major, certified by the American Chemical Society, provides comprehensive classroom and laboratory training in all areas of chemistry. Students receive extensive training in laboratory techniques using modern chemical instrumentation.

### Required Major Courses:

Item #	Title	Credits
CHM 1000	Profesl Development Sem	1
CHM 1000	Profesl Development Sem	1
CHM 1311	Inorganic Chemistry I	3
CHM 1301	Inorganic Chemistry Lab I	2
CHM 1512	Quantitative Analysis	3
CHM 1502	Quant Anal Lab	2
CHM 3211	Organic Chemistry I	3
CHM 3201	Organic Chemistry Lab I	2
CHM 3212	Organic Chemistry II	3
CHM 3202	Organic Chemistry Lab II	2
CHM 3311	Inorganic Chem II	3
CHM 3301	Inorganic Chem Lab II	2
CHM 3413	Molecular Thermodynamics	3
CHM 3405	Physical Chem Lab II	2
CHM 3412	Quantum Chemistry	3
CHM 3404	Physical Chem Lab I	2
CHM 3511	Instrumental Analysis	3
CHM 3501	Instrumental Analysis Lab	2
	CHM 4611 or 4610: Biochemistry	3
MAT 1500	Calculus I	4
MAT 1505	Calculus II	4
PHY 2410	University Phy:Mechanics	3
PHY 2411	Lab: Mechanics	1
PHY 2412	Univ Physics:Elec & Mag	3
PHY 2413	Lab:Elec & Magnetism	1
	CHM Elective	3
	CHM Elective	3
	CHM Lab Elective	1

### Category Descriptions

CHM 4611 or 4610: Biochemistry

Credits: 3

Choose 1:

Item #	Title	Credits
CHM 4611	Survey of Biochemistry	3
CHM 4610	Principles of Biochemistry	3

### CHM Elective

Credits: 3

Choose 1 Chemistry course level 3000 or above.

### CHM Lab Elective

Credits: 1

Choose 1 Chemistry lab elective.

## Chemistry with Biochemistry Concentration, B.S.

Chair: Kevin P.C. Minbiolo, Ph.D.

Office Location: Mendel Science Center Rm. 215A

Telephone: (610) 519-4840

[Website](#)

### About

The Department of Chemistry at Villanova University offers masters and bachelors degrees, including an American Chemical Society accredited degree program for undergraduates. Our faculty actively conduct research in diverse areas such as environmental chemistry, protein biochemistry, fuel cell research, and computational chemistry. We recognize that undergraduate research provides a unique opportunity to work closely alongside a faculty mentor, gaining an experience that extends far beyond typical classroom learning, and we encourage all undergraduates to participate in undergraduate research.

**Type:** Bachelor of Science

## Major (81 credits)

Item #	Title	Credits
CHM 1000	Profesl Development Sem	1
CHM 1000	Profesl Development Sem	1
CHM 1311	Inorganic Chemistry I	3
CHM 1301	Inorganic Chemistry Lab I	2
CHM 3311	Inorganic Chem II	3
CHM 3301	Inorganic Chem Lab II	2
CHM 1512	Quantitative Analysis	3
CHM 1502	Quant Anal Lab	2
CHM 3211	Organic Chemistry I	3
CHM 3201	Organic Chemistry Lab I	2
CHM 3212	Organic Chemistry II	3
CHM 3202	Organic Chemistry Lab II	2
CHM 3412	Quantum Chemistry	3
CHM 3404	Physical Chem Lab I	2
CHM 3413	Molecular Thermodynamics	3
CHM 3405	Physical Chem Lab II	2
CHM 3511	Instrumental Analysis	3
CHM 3501	Instrumental Analysis Lab	2
CHM 4621	Biochemistry I: Structure	3
CHM 4603	Biochem Tech. and Pract.	1
CHM 4622	Biochemistry II:Metabolism	3
CHM 4604	Biochem Tech. and Pract II	1
	Biochemistry Biology Courses	8
PHY 2410	University Phy:Mechanics	3
PHY 2411	Lab: Mechanics	1
PHY 2412	Univ Physics:Elec & Mag	3
PHY 2413	Lab:Elec & Magnetism	1
MAT 1500	Calculus I	4
MAT 1505	Calculus II	4
	Molecular Based Biology Course	4
	Biochemistry Chemistry Elective	3

## Category Descriptions

### Biochemistry Biology Courses

Credits: 8

Choose two biology courses from the course below.

Item #	Title	Credits
BIO 2105	General Biology I	4
BIO 2106	General Biology II	4
BIO 4205	Cell Biology	4
BIO 4505	Molecular Biology	4

### Molecular Based Biology Course

Credits: 4

Item #	Title	Credits
BIO 3351	Genetics	4
BIO 3595	General Microbiology	4

### Biochemistry Chemistry Elective

Credits: 3

Choose any 3-credit course with the CHM subject code numbered 3000:9999.

## Chemistry Minor

Students must complete a year of general chemistry (or equivalent), a year of organic chemistry, two additional chemistry courses with associated laboratories, and one additional chemistry course (7 courses total). All course prerequisites and co-requisites apply<sup>1</sup>.

Biochemistry majors need to complete 2 CHM courses at the 3000 level or above that are not otherwise required for the biochemistry degree to fulfill the requirements for the Chemistry minor.

### *Program notes*

- 1. Or with approval of the Chemistry Advisor.

**Type:** Minor

## Required Courses

Item #	Title	Credits
	General Chemistry Requirement	8
	Organic Chemistry Requirement	8
	CHM Elective & Lab	8
	Upper-division Chemistry Course	3

## Category Descriptions

### General Chemistry Requirement

Credits: 8

1 year of general chemistry (6 credits) & Lab (2 or more credits). Choose one sequence.

Item #	Title	Credits
CHM 1151	General Chemistry I	4
CHM 1103	General Chemistry Lab I	1
CHM 1152	General Chemistry II	4
CHM 1104	General Chemistry Lab II	1
Item #	Title	Credits
CHM 1151	General Chemistry I	4
CHM 1103	General Chemistry Lab I	1
CHM 1156	General Chemistry II for Egr	4
Item #	Title	Credits
CHM 1311	Inorganic Chemistry I	3
CHM 1301	Inorganic Chemistry Lab I	2
CHM 1512	Quantitative Analysis	3
CHM 1502	Quant Anal Lab	2

#### Organic Chemistry Requirement

Credits: 8

Choose one sequence.

Item #	Title	Credits
CHM 2211	Organic Chemistry I	3
CHM 2201	Organic Chemistry Lab I	1
CHM 2212	Organic Chemistry II	3
CHM 2202	Organic Chemistry Lab II	1
Item #	Title	Credits
CHM 3211	Organic Chemistry I	3
CHM 3201	Organic Chemistry Lab I	2
CHM 3212	Organic Chemistry II	3
CHM 3202	Organic Chemistry Lab II	2

#### CHM Elective & Lab

Credits: 8

Additional Laboratory Chemistry requirement (choose two of the following lecture/lab combos)

#### Choice A

Item #	Title	Credits
CHM 3311	Inorganic Chem II	3
CHM 3301	Inorganic Chem Lab II	2

#### Choice B

Item #	Title	Credits
CHM 3413	Molecular Thermodynamics	3
CHM 3405	Physical Chem Lab II	2

#### Choice C

Item #	Title	Credits
CHM 4622	Biochemistry II:Metabolism	3
CHM 4604	Biochem Tech. and Pract II	1

#### Choice D

Only one of these two options can be used:  
CHM 3412 and 3404 OR CHM 3416 and 3402.

Item #	Title	Credits
CHM 3412	Quantum Chemistry	3
CHM 3404	Physical Chem Lab I	2
CHM 3416	Physical Chem for Engineers	3
CHM 3402	Physical Chem Lab II	1

#### Choice E

Only one of these two options can be used:  
CHM 3511 and 3501 OR CHM 3514 and 3503.

Item #	Title	Credits
CHM 3511	Instrumental Analysis	3
CHM 3501	Instrumental Analysis Lab	2
CHM 3514	Bioanalytical Chemistry	3
CHM 3503	Bioanalytical Chem Lab	1

#### Choice F

Only one of these two options can be used:  
CHM 4611 and 4601 OR CHM 4621 and 4603.

Item #	Title	Credits
CHM 4611	Survey of Biochemistry	3
CHM 4601	Survey Biochemistry Lab	1
CHM 4621	Biochemistry I: Structure	3
CHM 4603	Biochem Tech. and Pract.	1

#### Upper-division Chemistry Course

Credits: 3

One additional upper-division chemistry course (with approval of the Chemistry Advisor)

- One additional course with lab from other requirements.
- CHM 3417: Biophysical Chemistry\*
- CHM 5633: Nanomaterials & Surface Science
- Any 4000 level course

- Any 7000 level or higher course (*EXCEPT 7693 or 8662*)

*\*Cannot be used in combination with other Physical Chemistry courses and laboratories.*

## Classical Studies

### Classical Studies, B.A.

Program Director: Valentina DeNardis, Ph.D.  
Office Location: Saint Augustine Center Rm. 304  
Telephone: (610) 519-6165  
[Website](#)

#### About

The Classical Studies Program explores the cultures of ancient Greece and Rome, from the beginnings of Greek civilization to the fall of the Roman empire. Our program is interdisciplinary, embracing the study of classical languages, literatures, history, art and archaeology, philosophy and religion. The program offers courses which may satisfy requirements for the Core Curriculum of the College of Liberal Arts and Sciences.

**Type:** Bachelor of Arts

#### MAJOR (30 credits)

The major requires 10 courses and at least 30 credits.

##### *Required Courses:*

- Select one course of three or more credits: CLA 2021 or GRK 1000:9999 or LAT 1000:9999 (3 cr)
- Select eight courses of three or more credits from among the following: AAH 1101, CLA 1000:9999, GRK 1000:9999, LAT 1000:9999, or any course with the CLST attribute (24 cr)
- CLA 6001: Senior Classics Capstone (3 cr)

## FIVE YEAR B.A./M.A PROGRAM

The five-year B.A./M.A. program allows exceptional students to complete a bachelor's and a master's degree in Classical Studies in five years. In the last year of undergraduate study students take three graduate courses that count towards both their undergraduate and graduate degrees.

### Classical Studies Minor

Program Director: Valentina DeNardis, Ph.D.  
Office Location: Saint Augustine Center Rm. 304  
Telephone: (610) 519-6165  
[Website](#)

#### About

The Classical Studies Program explores the cultures of ancient Greece and Rome, from the beginnings of Greek civilization to the fall of the Roman empire. Our program is interdisciplinary, embracing the study of classical languages, literatures, history, art and archaeology, philosophy and religion. The program offers courses which may satisfy requirements for the Core Curriculum of the College of Liberal Arts and Sciences.

**Type:** Minor

#### MINOR (18 credits)

The minor requires a minimum of 18 credits. Language classes are not required.

##### *Required Courses:*

- Six courses of three or more credits in any combination of courses in the classical languages and/or courses taught in English on classical civilization. (18 cr) This includes:
  - Courses with the Subject codes GRK, LAT, CLA
  - Courses with the CLST attribute

# Cognitive Science

## Cognitive Science Minor

Program Director: Joseph Toscano, Ph.D.

Office Location: Tolentine Hall Rm M52

Telephone: (610) 519-4755

[Website](#)

### About

The Cognitive Science Program offers a course of study in the interdisciplinary field of Cognitive Science, bringing together perspectives from cognitive psychology, computer science, philosophy, and biology to understand how intelligent systems function. An undergraduate concentration and an undergraduate minor are available to all students in undergraduate colleges of the University. The program is particularly well-suited to students majoring in Psychology, Computing Sciences, Philosophy, and Cognitive & Behavioral Neuroscience.

**Type:** Minor

## MINOR (15 credits)

### Program Notes:

- The five courses used to fulfill the Minor must span at least three different disciplines.
- Choose two courses from the first three listed items. Select three electives from the list. Five courses in total are required to fulfill the minor requirements.
- Special topics, research, and independent study electives (BIO 6409, BIO 6509, CSC 5900, CSC 5930, CSC 5993, PHI 2990, PHI 4990, PSY 2900, PSY 5900) require approval of the Cognitive Science Program.
- For courses that have prerequisites, Cognitive Science students should apply to have the prerequisites waived. Decisions will be made on a case-by-case basis by the course instructor, or in some cases, the Director of the Cognitive Science Program, after considering the particular student's background. In most cases, it is expected that the prerequisites will be able to be waived.
- Students may take CSC 1010 in place of CSC 1051 for the purpose of fulfilling the elective.

### Required Minor Courses:

Item #	Title	Credits
PHI 4610	Philosophy of Mind	3
PSY 4500	Cognitive Psychology	3
	CSC 4500 or CSC 4510 or MSE 2400	3-4
	Cognitive Science Electives	9

### Category Descriptions

#### CSC 4500 or CSC 4510 or MSE 2400

Credits: 3-4

Choose one:

Item #	Title	Credits
CSC 4500	Artificial Intelligence	3
CSC 4510	Machine Learn&Theory&Evolution	3
MSE 2400	CSC:Evol Lrng Cmp Robtcs Agnts	4

#### Cognitive Science Electives

Credits: 9

Choose three Cognitive Science approved electives from the list below.

Other accepted electives which may be accepted include: BIO 3011, 6409, 7921, ECE 3420, 5445.

## Biology

Item #	Title	Credits
BIO 4605	Neurobiology	4
BIO 6509	Directed Research	2

## Cognitive Science

Item #	Title	Credits
CGS 5900	Cognitive Science Seminar	3
CGS 5910	Psychology of Language	3
CGS 5990	Special Topics	3

## Computer Science

Item #	Title	Credits
CSC 1051	Algorithms & Data Struct I	4
CSC 4170	Theory of Computation	3
CSC 4380	Info Visualization	3
CSC 4500	Artificial Intelligence	3
CSC 4510	Machine Learn&Theory&Evolution	3
CSC 4730	Human Computer Interaction	3
CSC 5900	Seminar in Computing	3
CSC 5930	Topics Computer Science	3
CSC 5993	Independent Study	3
MSE 2400	CSC:Evol Lrng Cmp Robtcs Agnts	4
ECE 2620	C++, Algorithms & Data Struct	4

## Philosophy

Item #	Title	Credits
PHI 2020	Symbolic Logic	3
PHI 2710	Information Knowledge Inquiry	3
PHI 2990	Topics in Philosophy	3
PHI 4200	Philosophy of Language	3
PHI 4610	Philosophy of Mind	3
PHI 4990	Independent Study & Research	3

## Psychological and Brain Sciences

Item #	Title	Credits
MSE 2701	PSY:The Sounds of Human Lang.	4
PSY 2050	Research Methods in Psy.	3
PSY 2800	Human Factors	3
PSY 2900	Special Topics	3
PSY 3300	Perception	3
PSY 4200	Biopsychology	3
PSY 4500	Cognitive Psychology	3
PSY 4600	Animal Learning & Cognition	3
PSY 5900	Independent Research Project	3

## Cognitive Science Concentration

Program Director: Joseph Toscano, Ph.D.

Office Location: Tolentine Hall Rm M52

Telephone: (610) 519-4755

[Website](#)

## About

The Cognitive Science Program offers a course of study in the interdisciplinary field of Cognitive Science, bringing together perspectives from cognitive psychology, computer science, philosophy, and biology to understand how intelligent systems function. An undergraduate concentration and an undergraduate minor are available to all students in undergraduate colleges of the University. The program is particularly well suited to students majoring in Psychology, Computing Sciences, Philosophy, and Cognitive & Behavioral Neuroscience.

**Type:** Concentration

## Concentration Required Courses (21 credits)

### Program Notes:

- Students may take CSC 1010 to fulfill the CSC 1051 requirement.
- Special topics, research, and independent study electives (BIO 6409, BIO 6509, CSC 5900, CSC 5930, CSC 5993, PHI 2990, PHI 4990, PSY 2900, PSY 5900) require approval of the Cognitive Science Program.
- For courses that have prerequisites, Cognitive Science students should apply to have the prerequisites waived. Decisions will be made on a case-by-case basis by the course instructor, or in some cases, the Director of the Cognitive Science Program, after considering the particular student's background. In most cases, it is expected that the prerequisites will be able to be waived.

Item #	Title	Credits
CSC 1051	Algorithms & Data Struc I	4
	CSC 4500 or CSC 4510 or MSE 2400	3-4
PHI 4610	Philosophy of Mind	3
PSY 4500	Cognitive Psychology	3
CGS 5900	Cognitive Science Seminar	3
	Cognitive Science Electives	9

## Category Descriptions

CSC 4500 or CSC 4510 or MSE 2400

Credits: 3-4

Choose one:

Item #	Title	Credits
CSC 4500	Artificial Intelligence	3
CSC 4510	Machine Learn&Theory&Evolution	3
MSE 2400	CSC:Evol Lrng Cmp Robtcs Agnts	4

Cognitive Science Electives

Credits: 9

Choose three Cognitive Science approved electives from the list below.

Other accepted electives which may be accepted include: BIO 3011, 6409, 7921, ECE 3420, 5445.

## Biology

Item #	Title	Credits
BIO 4605	Neurobiology	4
BIO 6509	Directed Research	2

## Cognitive Science

Item #	Title	Credits
CGS 5900	Cognitive Science Seminar	3
CGS 5910	Psychology of Language	3
CGS 5990	Special Topics	3

## Computer Science

Item #	Title	Credits
CSC 1051	Algorithms & Data Struc I	4
CSC 4170	Theory of Computation	3
CSC 4380	Info Visualization	3
CSC 4500	Artificial Intelligence	3
CSC 4510	Machine Learn&Theory&Evolution	3
CSC 4730	Human Computer Interaction	3
CSC 5900	Seminar in Computing	3
CSC 5930	Topics Computer Science	3
CSC 5993	Independent Study	3
MSE 2400	CSC:Evol Lrng Cmp Robtcs Agnts	4
ECE 2620	C++, Algorithms & Data Struct	4

## Philosophy

Item #	Title	Credits
PHI 2020	Symbolic Logic	3
PHI 2710	Information Knowledge Inquiry	3
PHI 2990	Topics in Philosophy	3
PHI 4200	Philosophy of Language	3
PHI 4610	Philosophy of Mind	3
PHI 4990	Independent Study & Research	3

## Psychological and Brain Sciences

Item #	Title	Credits
MSE 2701	PSY:The Sounds of Human Lang.	4
PSY 2050	Research Methods in Psy.	3
PSY 2800	Human Factors	3
PSY 2900	Special Topics	3
PSY 3300	Perception	3
PSY 4200	Biopsychology	3
PSY 4500	Cognitive Psychology	3
PSY 4600	Animal Learning & Cognition	3
PSY 5900	Independent Research Project	3

## Communication

### Communication, B.A.

Chair: Heidi Rose, Ph.D.

Office Location: Garey Hall 028

Telephone: (610) 510-4750

[Website](#)

### About

Communication shapes who we are, both individually and socially. We in the Communication Department believe our future depends upon our communication with one another. The study of Communication in the liberal arts tradition focuses on the understanding and use of symbols that create meaning in multiple communicative contexts—global and local, personal and professional, in-person and mediated. The discipline of Communication is grounded in ancient rhetorical traditions and is influenced by contemporary intellectual, artistic and technological developments. Our program integrates theory and practice, so that skills-based courses build upon communication principles, concepts, insights, and research techniques. Our mission, then, is to produce well-rounded communicators who will speak eloquently and listen actively; think critically, creatively, and ethically; and write clearly and strategically. Our graduates are placed in top graduate programs and law schools, as well as prepared to build careers in industries from public relations and marketing to media

production and print/broadcast/digital journalism. Whether in corporate or nonprofit careers, serving their communities, or engaged in further academic study, our graduates illustrate that students of Communication are uniquely equipped to make a difference locally and globally, in their lives and in the lives of others.

**Type:** Bachelor of Arts

### MAJOR (36 credits)

To Declare the Major: Enrollment in COM 1000 and COM 1100.

#### **Specializations:**

Students may choose either to design their own major specialization or will choose one (or more) of the following specializations: Public Relations & Advertising, Journalism, Organizational Communication, Media Studies, Media Production, Rhetorical Studies, Performance Studies, and Interpersonal & Intercultural Communication. With or without a specialization, students must cover three different areas in their six 3000-level courses. A complete listing of specialization requirements and courses is available on the departmental Web page or in the departmental office. Some specializations require Communication majors to complete internships, which, if completed for credit, will be used to satisfy free electives for the College of Liberal Arts and Sciences.

#### *Program Notes:*

- Only two courses may be transferred to count towards the COM major.
- Students who plan to study abroad should take COM 1000, 1100, and at least one 2000-level course before going abroad.

### Required Major Courses:

Item #	Title	Credits
COM 1000	Surv of Communication Studies	3
COM 1100	Public Speaking	3
	Theories Electives	6
	Advanced Communication Topics Electives	18
	Qualitative or Quantitative Research in Communication	3
	Capstone Course	3

## Category Descriptions

### Theories Electives

Credits: 6

Theories Electives (6 cr) – Select 2 Classes from COM 2200:2440.

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
COM 2200	Theories of Rhetoric	3
COM 2240	Theories of Perform Studies	3
COM 2280	Theories of Persuasion	3
COM 2300	Theories of Mass Communication	3
COM 2340	Theories of Visual Com & Cultu	3
COM 2400	Theories of Interpersonal Com	3
COM 2440	Theories of Organizational Com	3

### Advanced Communication Topics Electives

Credits: 18

Advanced Communication Topics Electives (18 cr) – Select 6 Classes from: COM 3000:3999.

### Qualitative or Quantitative Research in Communication

Credits: 3

Qualitative or Quantitative Research in Communication (3 cr) – Select 1 Class from: COM 4001, 4002.

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
COM 4001	Qualitative Research in COM	3
COM 4002	Quantitative Research in COM	3

### Capstone Course

Credits: 3

Choose one Capstone course (taken during senior year). COM 3464 is an inactive course that also satisfies this requirement.

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
COM 5050	Senior Project	3
COM 5464	Public Relations Campaigns	3

## Communication Minor

Chair: Heidi Rose, Ph.D.

Office Location: Garey Hall 028

Telephone: (610) 510-4750

[Website](#)

### About

Communication shapes who we are, both individually and socially. We in the Communication Department believe our future depends upon our communication with one another. The study of Communication in the liberal arts tradition focuses on the understanding and use of symbols that create meaning in multiple communicative contexts—global and local, personal and professional, in-person and mediated. The discipline of Communication is grounded in ancient rhetorical traditions and is influenced by contemporary intellectual, artistic and technological developments. Our program integrates theory and practice, so that skills-based courses build upon communication principles, concepts, insights, and research techniques. Our mission, then, is to produce well-rounded communicators who will speak eloquently and listen actively; think critically, creatively, and ethically; and write clearly and strategically. Our graduates are placed in top graduate programs and law schools, as well as prepared to build careers in industries from public relations and marketing to media production and print/broadcast/digital journalism. Whether in corporate or nonprofit careers, serving their communities, or engaged in further academic study, our graduates illustrate that students of Communication are uniquely equipped to make a difference locally and globally, in their lives and in the lives of others.

**Type:** Minor

## MINOR (15 credits)

Students within the College of Liberal Arts & Sciences or Villanova School of Business can minor in Communication by taking five courses.

### Program Notes:

- Only one course may be transferred to count toward the COM minor.
- Students wishing to minor in Communication from within CLAS or other Villanova colleges/schools are encouraged to contact the Communication Department to learn about ways to build a minor that will complement their major programs of study.

### Required Minor Courses:

Item #	Title	Credits
COM 1000	Surv of Communication Studies	3
	Theories Course	3
	Advanced Communication Elective	3
	Communication Electives	6

## Category Descriptions

### Theories Course

Credits: 3

Theories Course (3cr): 1 Class in COM 2000:2999 with the exception of COM 2993, 2996.

### Advanced Communication Elective

Credits: 3

Advanced Communication Elective (3cr): 1 Class in COM 3000:3999.

### Communication Electives

Credits: 6

Communication Electives (6cr): 2 Classes in COM at any level 1000-4000.

- Taking 2 3000-level courses may permit minors to specialize in an area.

- A 3-credit internship focused on communication could satisfy one of the Additional COM Elective courses

## Comprehensive Science

### Comprehensive Science, B.S.

Program Director: Robert Styer, PhD

Office Location: Saint Augustine Center Rm. 372

Telephone: (610) 519-4845

[Website](#)

### About

The Comprehensive Science program allows students interested in the quantitative and physical and life sciences to get broad based competency to a full spectrum of scientific concerns and practices. Our majors gain both hands-on lab skills and quantitative aptitudes through a broad range of courses in mathematics, physical and life sciences, and computer science. The program equips students with the analytical, interpretive, and explanatory skill sets that enable their understanding of the scientific world. The flexible program allows students to create a tailored interdisciplinary program that can prepare the student for a variety of professions or graduate studies. Our majors go on to medical schools, dental schools, and other health related graduate programs, as well as careers as financial analysts, lab researchers, computing, pharmaceutical, and other careers that require a science/math background.

### Program Notes:

- Chemistry majors who transfer to Comprehensive Science (BSC) may count CHM 1311/CHM 1301 in place of the CHM 1151/CHM 1103 requirement listed below.
- Chemistry majors who transfer to Comprehensive Science (BSC) may count CHM 1521/CHM 1502 in place of the CHM 1152/CHM 1104 requirement listed below.
- A student can only get credit for one class from this list: CSC 2300, PSY 2000, STAT 1313, 4310.

**Type:** Bachelor of Science

## MAJOR (65 credits)

### Required Major Courses:

Item #	Title	Credits
BIO 2105	General Biology I	4
BIO 2106	General Biology II	4
CHM 1151	General Chemistry I	4
CHM 1103	General Chemistry Lab I	1
CHM 1152	General Chemistry II	4
CHM 1104	General Chemistry Lab II	1
CSC 1051	Algorithms & Data Struc I	4
MAT 1500	Calculus I	4
MAT 1505	Calculus II	4
	Approved Physics with Labs	8
	Science Major Statistics	3
	Approved Math or Computing Elective	3
SCI 5300	Capstone Seminar	3
	Approved Science Electives	18

### Category Descriptions

#### Approved Physics with Labs

Credits: 8

Two semesters of an approved (science major level) physics with labs. Choose one sequence from those listed below.

Item #	Title	Credits
PHY 2410	University Phy:Mechanics	3
PHY 2411	Lab: Mechanics	1
PHY 2412	Univ Physics:Elec & Mag	3
PHY 2413	Lab:Elec & Magnetism	1
Item #	Title	Credits
PHY 1100	General Physics I	3
PHY 1101	General Physics I Lab	1
PHY 1102	General Physics II	3
PHY 1103	General Physics II Lab	1

#### Science Major Statistics

Credits: 3

One semester of science major-level statistics. Select from those listed below, or choose any STAT course of 3000-level or above.

Item #	Title	Credits
BIO 3105	Biostatistics & Exp Design	4
CSC 2300	Statistics for Computing	3
PSY 2000	Intro Statistics	3
STAT 1313	Statistics for Life Sciences	3

#### Approved Math or Computing Elective

Credits: 3

One additional approved Mathematics or Computing course. Select from those listed below, or any MAT course of 2300 or above, or any STAT course of 3000 or above.

Item #	Title	Credits
BIO 3105	Biostatistics & Exp Design	4
CSC 1052	Algorithms & Data Struc II	4
CSC 1300	Discrete Structures	3

#### Approved Science Electives

Credits: 18

Science Electives (18 cr/6 courses) – Select from those listed below, or AST 2120:9999, BIO 2200:9999, CBN 2900:4000, CGS 5900:5950, CHE 2031, 2032, 5534, CHM 2200:4900, GEV 3300:3306, 4321:4329, 4351:4356, MAT 2300:5993, PHY 2414:6700, PSY 5100, STAT 3000:9999, or any course with the BSC attribute

Item #	Title	Credits
BIO 1205	Human Anatomy & Physiology I	4
BIO 1206	Human Anatomy & Physiology II	4
CEE 3704	CE Numerical & Stat Analysis	3
CHE 5534	Biomaterials	3
CSC 1051	Algorithms & Data Struc I	4
CSC 1052	Algorithms & Data Struc II	4
CSC 1300	Discrete Structures	3
CSC 1700	Analysis of Algorithms	3
CSC 1800	Organ of Prog Languages	3
CSC 2053	Platform Based Computing	3
CSC 2300	Statistics for Computing	3
CSC 2400	Computer Systems I	3
CSC 2405	Computer Systems II	3
CSC 2993	Internship in Computing	3
CSC 3080	Info Security & Protection	3
CSC 3400	Information Retrieval	3
CSC 3990	Computing Research Topics	3
CSC 4140	Theory of Information	3
CSC 4170	Theory of Computation	3
CSC 4181	Compiler Construction	3
CSC 4280	Parallel Algs & Architecture	3
CSC 4300	Computer Graphics	3
CSC 4380	Info Visualization	3
CSC 4480	Principles of Database Systems	3
CSC 4490	Data Warehousing & Mining	3
CSC 4500	Artificial Intelligence	3
CSC 4510	Machine Learn&Theory&Evolution	3
CSC 4550	Computing for Data Science	3
CSC 4600	Distributed Processing	3
CSC 4630	Software Dev and Systems	3
CSC 4700	Software Engineering	3
CSC 4730	Human Computer Interaction	3
CSC 4790	Senior Projects	3
CSC 4800	Web Application Development	3
CSC 4900	Networks and Security	3
CSC 5900	Seminar in Computing	3
ECE 1620	Egr Prog & Applic	3
ECE 2620	C++, Algorithms & Data Struct	4
ECO 3128	Intro Mathematical Econ	3
ECO 3138	Game Theory	3
FIN 2325	Introduction to Derivatives	3
GEV 1050	Environmental Science I	4

GEV 1051	Environmental Science II	4
GEV 1052	Environmental Studies	3
GEV 1053	Environmental Studies II	3
GEV 1750	Geo-Techniques	4
GEV 2310	Environmental Chemistry	4
GEV 3000	Special Topics	3
GEV 3003	Environmental Geology	3
GEV 3308	Environmental Health	3
GEV 3309	Coral Reefs	3
GEV 3310	Special Topics in Geology	3
GEV 3501	Geomorphic Environments	3
GEV 3550	Natural Hazards	3
GEV 3750	Remote Sensing	3
GEV 3775	Digital Image & Airphoto Inter	3
GEV 3790	Global Positioning Systems	4
GEV 4360	Field Methods in Env Science	4
GEV 4361	Field Research	4
GEV 4511	Climate Variability	3
GEV 4512	Medical Geography	3
GEV 4514	Geomorphology	3
GEV 4515	Terrestrial Ecosystems	3
GEV 4700	Geographic Information Systems	4
GEV 4710	Adv. Geographic Info Sys	4
MET 1221	Severe & Hazardous Weather	3
MET 1222	Climate Change:Past & Present	3
NS 3100	Navigation	3
NTR 2120	Principles of Nutrition	3
NUR 3030	Basic Conc Pharmacology	3
NUR 3108	Pathophysiology	3
PSY 2050	Research Methods in Psy.	3
PSY 2800	Human Factors	3
PSY 3200	Human Development	3
PSY 3300	Perception	3
PSY 4200	Biopsychology	3
PSY 4500	Cognitive Psychology	3
PSY 4600	Animal Learning & Cognition	3
PSY 5900	Independent Research Project	3
STAT 1313	Statistics for Life Sciences	3
VIA 3010	Indoor Air Quality/Hum Hlth	3

# Computing Sciences

Chair: Daniel Joyce, Ph.D.

Office Location: Mendel Science Center Rm. 161

Telephone: (610) 519-7307

[Website](#)

## About

The Department of Computing Sciences seeks to provide outstanding education, to advance scholarship, and to engage in activities that benefit society as a whole, in accordance to the University mission. The Department aims to equip students with a solid foundation in computing theory, and to prepare them for lifelong independent learning and innovative thinking in a constantly changing discipline. Its faculty members strive to maintain professional currency, and to involve students and colleagues in their research investigations. These endeavors support the University mission to transmit, pursue, and discover knowledge in an atmosphere of collegiality in the university community. Supported by a liberal arts education, the Department seeks to develop the total person, sensitive to social and ethical concerns affected by the computing discipline, and committed to addressing the needs of a diverse and interconnected modern society.

## Computer Science, B.S.

Chair: Daniel Joyce, Ph.D.

Office Location: Mendel Science Center Rm. 161

Telephone: (610) 519-7307

[Website](#)

## About

Computer science students explore a broad spectrum of computing technologies and concepts. Our courses provide a thorough foundation in the principles and practices of computing, paving the way for successful careers and ongoing graduate studies. Our students also learn skills in communication and the scientific, mathematical, and engineering principles that support the computing disciplines.

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students with a solid foundation in computing theory, and to prepare them for lifelong independent learning and innovative thinking in a constantly changing discipline. Its faculty members strive to maintain professional currency, and to involve students and colleagues in their research investigations. These endeavors support the University mission to transmit, pursue, and discover knowledge in an atmosphere of collegiality in the university community. Supported by a liberal arts education, the Department seeks to develop the total person, sensitive to social and ethical concerns affected by the computing discipline, and committed to addressing the needs of a diverse and interconnected modern society.

**Type:** Bachelor of Science

## MAJOR (73 credits)

### Program Notes:

- Combined BS/MS in Computer Science or Software Engineering: Five-year double degree program. See departmental website for details regarding admission, requirements, the program of study, etc.

### Required Major Courses:

Item #	Title	Credits
CSC 1990	Enrichment Sem in Computing	1
CSC 1051	Algorithms & Data Struc I	4
CSC 1052	Algorithms & Data Struc II	4
CSC 1300	Discrete Structures	3
CSC 1700	Analysis of Algorithms	3
CSC 1800	Organ of Prog Languages	3
CSC 2053	Platform Based Computing	3
	CSC 2300 or STAT 4310	4
CSC 2400	Computer Systems I	3
CSC 2405	Computer Systems II	3
CSC 4170	Theory of Computation	3
CSC 4480	Principles of Database Systems	3
CSC 4700	Software Engineering	3
CSC 4790	Senior Projects	3
PHI 2180	Computer Ethics	3
MAT 1500	Calculus I	4
MAT 2400	Linear Algebra for Computing	4
	Natural Science with Lab	8
	Computer Science Electives	12

### Category Descriptions

#### CSC 2300 or STAT 4310

Credits: 4

Selection one class from those listed.

- STAT 1230 will be accepted but only with the grade of 'AP'

Item #	Title	Credits
CSC 2300	Statistics for Computing	3
STAT 4310	Stat Methods	3

#### Natural Science with Lab

Credits: 8

Choose 2 Natural Science courses with labs from those listed below for a total of 8 credits.

Item #	Title	Credits
GEV 4700	Geographic Information Systems	4
GEV 4710	Adv. Geographic Info Sys	4
GEV 1050	Environmental Science I	4
GEV 1051	Environmental Science II	4
BIO 2105	General Biology I	4
BIO 2106	General Biology II	4
	PHY 1100 & 1101	4
	PHY 1102 & 1103	4
	PHY 2410 & 2411	4
	PHY 2412 & 2413	4
	CHM 1151 & 1103	5
	CHM 1152 & 1104	4

ASTRONOMY AND LAB - Students may select to take a lecture lab combo

- 1 Class in AST 2120, 2121, 2122 "Astronomy"
- 1 Class in MSE 2150, 2151, 2152, 2153 "Astronomy Lab"

#### Computer Science Electives

Credits: 12

Select 4 Classes from any of the courses listed below or CSC 8000:9999.

Item #	Title	Credits
CSC 2993	Internship in Computing	3
CSC 3010	Overview of Cybersecurity	3
CSC 3080	Info Security & Protection	3
CSC 3150	Game Development	3
CSC 3300	Linear Algebra for Computing	4
CSC 3400	Information Retrieval	3
CSC 3990	Computing Research Topics	3
CSC 4140	Theory of Information	3
CSC 4181	Compiler Construction	3
CSC 4280	Parallel Algs & Architecture	3
CSC 4300	Computer Graphics	3
CSC 4380	Info Visualization	3
CSC 4450	Digital Forensics	3
CSC 4490	Data Warehousing & Mining	3
CSC 4500	Artificial Intelligence	3
CSC 4510	Machine Learn&Theory&Evolution	3
CSC 4550	Computing for Data Science	3
CSC 4598	Machine Translation	3
CSC 4600	Distributed Processing	3
CSC 4630	Software Dev and Systems	3
CSC 4730	Human Computer Interaction	3
CSC 4800	Web Application Development	3
CSC 4810	Mobile App Development	3
CSC 4900	Networks and Security	3
CSC 5900	Seminar in Computing	3
CSC 5920	Logic	3
CSC 5930	Topics Computer Science	3
CSC 5993	Independent Study	3
ECE 3476	Computer and Network Security	3
ECE 4470	Computer Networks	4

## Computer Science Minor

Chair: Daniel Joyce, Ph.D.  
 Office Location: Mendel Science Center Rm. 161  
 Telephone: (610) 519-7307  
[Website](#)

### About

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students with a solid foundation in computing theory, and to prepare them for lifelong independent learning and innovative thinking in a constantly changing discipline. Its faculty members strive to maintain professional currency, and to involve students and colleagues in their research investigations. These endeavors support the University mission to transmit, pursue, and discover knowledge in an atmosphere of collegiality in the university community. Supported by a liberal arts education, the Department seeks to develop the total person, sensitive to social and ethical concerns affected by the computing discipline, and committed to addressing the needs of a diverse and interconnected modern society.

**Type:** Minor

## MINOR: Computer Science (25 credits)

The computer science minor consists of 8 courses from the requirements for the computer science major. The minor provides a strong foundation in computer science suitable for application to any other major field of endeavor.

### Required Courses:

Item #	Title	Credits
	CSC 1051 or ECE 1620	3-4
	CSC 1052 or ECE 2620	4
	CSC 1300 or MAT 2600	3
CSC 1700	Analysis of Algorithms	3
	CSC 2400, ECE 2042, or ECE 2430	3
CSC 4480	Principles of Database Systems	3
	Computer Science Electives for Minor	6

### Category Descriptions

CSC 1051 or ECE 1620

Credits: 3-4

Select 1 class from these options.

Item #	Title	Credits
CSC 1051	Algorithms & Data Struc I	4
ECE 1620	Egr Prog & Applic	3

CSC 1052 or ECE 2620

Credits: 4

Select 1 class from these options.

Item #	Title	Credits
CSC 1052	Algorithms & Data Struc II	4
ECE 2620	C++, Algorithms & Data Struct	4

CSC 1300 or MAT 2600

Credits: 3

Select 1 class from these options.

Item #	Title	Credits
CSC 1300	Discrete Structures	3
MAT 2600	Foundation of Math I	3

CSC 2400, ECE 2042, or ECE 2430

Credits: 3

Select 1 class from these options.

Item #	Title	Credits
CSC 2400	Computer Systems I	3
ECE 2042	Fundamentals of CPE I	3
ECE 2430	Embedded Systems I	3

Computer Science Electives for Minor

Credits: 6

Select 2 Classes from the list below.

- Note: Students can choose either CSC 4900 or ECE 4470 as an elective. Both may not be counted toward the minor.

Item #	Title	Credits
CSC 1600	Operating Systems	3
CSC 1800	Organ of Prog Languages	3
CSC 2053	Platform Based Computing	3
CSC 2405	Computer Systems II	3
CSC 3010	Overview of Cybersecurity	3
CSC 3080	Info Security & Protection	3
CSC 3150	Game Development	3
CSC 3300	Linear Algebra for Computing	4
CSC 3400	Information Retrieval	3
CSC 3990	Computing Research Topics	3
CSC 4140	Theory of Information	3
CSC 4170	Theory of Computation	3
CSC 4181	Compiler Construction	3
CSC 4280	Parallel Algs & Architecture	3
CSC 4300	Computer Graphics	3
CSC 4380	Info Visualization	3
CSC 4450	Digital Forensics	3
CSC 4490	Data Warehousing & Mining	3
CSC 4500	Artificial Intelligence	3
CSC 4510	Machine Learn&Theory&Evolution	3
CSC 4550	Computing for Data Science	3
CSC 4598	Machine Translation	3
CSC 4600	Distributed Processing	3
CSC 4630	Software Dev and Systems	3
CSC 4700	Software Engineering	3
CSC 4730	Human Computer Interaction	3
CSC 4800	Web Application Development	3
CSC 4810	Mobile App Development	3
CSC 4900	Networks and Security	3
CSC 5900	Seminar in Computing	3
CSC 5920	Logic	3
CSC 5930	Topics Computer Science	3
CSC 5993	Independent Study	3
ECE 4470	Computer Networks	4
PHI 2180	Computer Ethics	3

## Cybersecurity Minor

Chair: Daniel Joyce, Ph.D.

Office Location: Mendel Science Center Rm. 161

Telephone: (610) 519-7307

[Website](#)

## About

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**Type:** Minor

### MINOR: Cybersecurity (29 credits)

Offered jointly through the Computing Sciences in the College of Liberal Arts and Sciences and the Departments of Electrical and Computer Engineering, the Cybersecurity minor is open to all students who satisfy the prerequisites for the list of required courses.

- Provide students with a solid foundation in the principles of cybersecurity
- Equip students with the technical skills and knowledge to address constantly evolving cybersecurity threats
- Promote independent study and self-reliance so students can keep pace with rapid technological advancement
- Prepare graduates to enter the workforce as cybersecurity professionals

## Criminology

### Criminology, B.A.

Program Director: Kelly Welch, Ph.D.  
Office Location: 274 Saint Augustine Center  
Telephone: (610) 519-7048

[Website](#)

## About

The Criminology major is an interdisciplinary program designed to provide students with an understanding of the causes, social functions, nature and application of criminal law, and societal reactions to criminal law. Criminologists believe that people's actions are strongly influenced by the conditions and situations in which they live, work, and play. Everybody makes decisions, but we recognize and study how social structures and institutions affect and constrain those decisions. Our goal as researchers is to expose and analyze the impacts of those circumstances on human decisions, societies, and opportunities. Methodologically, we incorporate multiple perspectives and analytical approaches to help create a more holistic understanding of our society. Rather than a technical program which focuses on applied skills, our program emphasizes the justice component. Our mission as teachers is to empower students to think critically and rigorously about individuals and societies. Through our diverse offerings on local, regional, national and global social processes, we strive to create more complete human beings with a keen sense of humanity, social justice, and appropriate social policy.

**Type:** Bachelor of Arts

## MAJOR (33 credits)

To declare the Major, a student must have completed Introduction to Criminology (CRM 1001) with a “C” or higher. The Major consists of 33 credits. A student must allow three full semesters after the declaration of the Major to complete all requirements. One of the Criminology electives for the Major can be satisfied by an internship for credit with approval from the Program Director, provided that the student has at least 15 credits toward the Major.

### Program Notes:

- A student taking an internship in a field setting in the second semester of their junior year or during their senior year should consult with the Program Director.

### Required Major Courses:

Item #	Title	Credits
CRM 1001	Introduction to Criminology	3
CRM 5100	Criminological Theory	3
SOC 5300	Data Analysis-Social Scientist	3
SOC 5400	Applied Research in Soc	3
CRM 6500	Senior Seminar	3
	CRM B.A. Electives	15
	SOC Elective for CRM B.A.	3

## Category Descriptions

### CRM B.A. Electives

Credits: 15

Criminology Electives (15 cr) – Select 5 Classes from CRM 1000:7000 SOC 2200, SOC 3300, or any course with the CRM attribute

### SOC Elective for CRM B.A.

Credits: 3

Sociology Elective (3 cr) – Select 1 Class from SOC 1000:9999 except SOC 5000, 5050, 5100, 5300, 5400, 6500.

## Criminology Minor

Program Director: Kelly Welch, Ph.D.

Office Location: 274 Saint Augustine Center

Telephone: (610) 519-7048

[Website](#)

### About

Criminology an interdisciplinary program designed to provide students with an understanding of the causes, social functions, nature and application of criminal law, and societal reactions to criminal law. Criminologists believe that people’s actions are strongly influenced by the conditions and situations in which they live, work, and play. Everybody makes decisions, but we recognize and study how social structures and institutions affect and constrain those decisions. Our goal as researchers is to expose and analyze the impacts of those circumstances on human decisions, societies, and opportunities. Methodologically, we incorporate multiple perspectives and analytical approaches to help create a more holistic understanding of our society. Rather than a technical program which focuses on applied skills, our program emphasizes the justice component. Our mission as teachers is to empower students to think critically and rigorously about individuals and societies. Through our diverse offerings on local, regional, national and global social processes, we strive to create more complete human beings with a keen sense of humanity, social justice, and appropriate social policy.

**Type:** Minor

## MINOR (15 credits)

A Minor is open to all students and requires 5 courses and 15 credits. Courses taken on a satisfactory/unsatisfactory basis cannot be used to satisfy requirements for the Minor. Minors cannot receive Criminology credit for an internship.

### Program Notes:

- Only one course may be transferred from another university.

## Required Minor Courses:

Item #	Title	Credits
CRM 1001	Introduction to Criminology	3
	CRM Minor Electives	12

## Category Descriptions

### CRM Minor Electives

Credits: 12

Criminology Electives (12 cr) – Select 4 Classes from CRM 1000:7000 SOC 2200, SOC 3300, or any course with the CRM attribute except CRM 5100, CRM 6500, SOC 1500, SOC 5300, SOC 5400

## Economics

Chair: Erasmus Kersting, Ph.D.  
Associate Chair: Mary Kelly, Ph.D.  
Office Location: 2014 Bartley Hall  
Telephone: 610-519-4370  
[Website](#)

## About

Economics is the science that studies the behavior of social systems – such as markets, legislatures, corporations, and families – in allocating scarce resources. It is a discipline which brings together the diverse worlds of business, social science, and public policy. The study of economics is an excellent preparation leading to many career options. Economics majors are well positioned to be the future managers and leaders in both the private and

public sectors. The study of economics at the undergraduate level provides a solid basis for graduate study in the social sciences and for professional study in business administration, law, public administration, and in the health sciences.

## Economics, B.A.

Chair: Erasmus Kersting, Ph.D.  
Associate Chair: Mary Kelly, Ph.D.  
Office Location: 2014 Bartley Hall  
Telephone: 610-519-4370  
[Website](#)

## About

Economics addresses how individuals and firms make decisions in a world of scarcity and uncertainty while also presenting opportunities to learn how to analyze the performance and interaction of national economies. The curriculum is designed to promote the development of quantitative skills as well as written and verbal communication abilities so students are equipped to critically examine the effects of economic factors on market participants in the private and public sectors. Because of the growing complexity of the global economy, there is an increase in the demand for individuals who can provide and communicate quantitative analysis of economic variables and their effects on forecasting sales, managing costs, allocating budgets, and choosing investment options.

**Type:** Bachelor of Arts

## MAJOR (33 credits)

Students majoring in Economics should have good analytical skills along with good writing skills. Economic graduates find employment in banking, finance, retail, government, planning, and forecasting. Also, Economics is a perfect preparation for Law School.

### Program Notes:

- A minimum grade of B in ECO 1001 & 1002 are required to declare the economics major. Students not meeting these requirements should discuss with the Chair/Associate Chair of the Economics Department.
- Calculus (which can be used to satisfy the core) is a prerequisite for ECO 2101 and ECO 2102.

### Required Major Courses:

Item #	Title	Credits
	MAT 1235 or STAT 1430	3
ECO 1001	Intro to Micro	3
ECO 1002	Intro to Macro	3
ECO 2101	Macro-Econ Theory	3
ECO 2102	Micro-Econ Theory	3
ECO 3137	Intro to Econometrics	3
	Economics Senior Seminar	3
	ECO Electives for B.A.	12

### Category Descriptions

#### MAT 1235 or STAT 1430

Credits: 3

Select either MAT 1235: Intro to Statistics II or STAT 1430: Business Statistics (3 cr).

#### Economics Senior Seminar

Credits: 3

Select 1 course from ECO 4000:9999 (3 cr).

#### ECO Electives for B.A.

Credits: 12

Select 4 courses from ECO 3000:9999 worth 3 credits each (12 cr).

## Economics Minor

Chair: Erasmus Kersting, Ph.D.  
Associate Chair: Mary Kelly, Ph.D.  
Office Location: 2014 Bartley Hall  
Telephone: 610-519-4370  
[Website](#)

### About

Economics addresses how individuals and firms make decisions in a world of scarcity and uncertainty while also presenting opportunities to learn how to analyze the performance and interaction of national economies. The curriculum is designed to promote the development of quantitative skills as well as written and verbal communication abilities so students are equipped to critically examine the effects of economic factors on market participants in the private and public sectors. Because of the growing complexity of the global economy, there is an increase in the demand for individuals who can provide and communicate quantitative analysis of economic variables and their effects on forecasting sales, managing costs, allocating budgets, and choosing investment options.

**Type:** Minor

### MINOR (18 credits)

A minor is open to all students and requires 6 courses and 18 credits.

### Program Notes:

- Calculus (which can be used to satisfy the core) is a prerequisite for ECO 2101 and ECO 2102.

### Required Minor Courses:

Item #	Title	Credits
ECO 1001	Intro to Micro	3
ECO 1002	Intro to Macro	3
ECO 2101	Macro-Econ Theory	3
ECO 2102	Micro-Econ Theory	3
	ECO Electives for Minor	6

## Category Descriptions

### ECO Electives for Minor

Credits: 6

Choose 2 ECO courses numbered 3000 or higher.

## Education and Counseling

Chair: Christopher Schmidt, Ph.D.  
Office Location: 302 Saint Augustine Center  
Telephone: 610-519-4620  
[Website](#)

### About

The Education and Counseling Department undergraduate offerings include a Major in Secondary Education, two different Minor in Education programs, a Minor in Counseling, and a combined [BA/MA in Education](#). The Secondary Education degree has been approved by the Pennsylvania Department of Education (PDE) to recommend candidates for Level I Certification in order to teach in grades 7 through 12 in Pennsylvania's public schools. Faculty in the department are highly engaged in both theoretical and practical research related to education and counseling.

### Education, B.A.

Chair: [Teresa G. Wojcik, Ph.D.](#)  
Undergraduate Program Director: [Christa S. Bialka, Ed.D.](#)  
Office Location: 302 Saint Augustine Center  
Telephone: 610-519-8103  
[Website](#)

### About

The Education and Counseling Department undergraduate offerings include a Major in Secondary Education, two different Minor in Education programs, a Minor in Counseling, and a combined [BA/MA in Education](#). The Secondary Education degree has been approved by the Pennsylvania Department of Education (PDE) to recommend candidates for Level I Certification in order to teach in grades 7 through 12 in

Pennsylvania's public schools. Faculty in the department are highly engaged in both theoretical and practical research related to education and counseling.

**Type:** Bachelor of Arts

### MAJOR (34 credits + Concentration)

In addition to demonstrating competence within their chosen academic discipline, as well as fulfilling the College of Arts and Sciences' core curriculum requirements, students participate in a wide variety of classroom field experiences. Such experiences are carefully selected and supervised and always appropriate to both the academic and professional competence of the students.

#### *Program Notes:*

- Students majoring in Education need to select one concentration from those listed below. The credit total for the B.A. will vary depending upon the concentration.
- To be accepted into the major, students must have a 3.0 GPA, 6 credits in English and 6 credits in math completed prior to the start of their junior year.
- Candidates for the major should apply as soon as possible and no later than sophomore year

### Education Major Required Courses:

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
	EDU 2201 or EDU 2202	3
EDU 2300	Research Seminar in Education	3
EDU 3000	Prof. Development in Education	1
EDU 3251	Psych of Teaching & Learning	3
EDU 3263	Diversity and Inclusion	3
EDU 3264	Intro to Disability Studies	3
EDU 4245	Literacy & Eng Lang Learning	3
EDU 4290	Philosophy of Education	3
EDU 4291	Student Teaching	9
EDU 4292	Senior Seminar	3

## Select Concentration (43-65)

Students majoring in Education need to select one concentration from those listed below. The credit total for the B.A. will vary depending upon the concentration.

Item #	Title	Credits
	Teaching Biology Concentration (65 credits)	65
	Teaching Chemistry Concentration (60 credits)	60
	Teaching English Concentration (43 Credits)	43
	Teaching French Concentration (45 credits)	45
	Teaching Latin Concentration (48 credits)	48
	Teaching Mathematics Concentration (43 credits)	43
	Teaching Physics Concentration (52 credits)	52
	Teaching Social Studies Concentration (48 credits)	48
	Teaching Spanish Concentration (48 credits)	48

### Category Descriptions

EDU 2201 or EDU 2202

Credits: 3

Item #	Title	Credits
EDU 2201	Social Foundation Educ I	3
EDU 2202	Social Foundation Edu II	3

Teaching Biology Concentration (65 credits)

Credits: 65

- Students must be a declared education major to have this concentration.
- Students in the education major with a biology emphasis fulfill their core math, core natural science, and core social science with courses taken in the major.

Item #	Title	Credits
EDU 4284	Meth Science Sec School	3
	English Course for EDU BIO	3
	Math Course for EDU BIO	3
BIO 2105	General Biology I	4
BIO 2106	General Biology II	4
BIO 3055	Animal Physiology	4
BIO 3351	Genetics	4
BIO 3255	Evolutionary Ecology	4
CHM 1151	General Chemistry I	4
CHM 1103	General Chemistry Lab I	1
CHM 1152	General Chemistry II	4
CHM 1104	General Chemistry Lab II	1
CHM 2211	Organic Chemistry I	3
CHM 2201	Organic Chemistry Lab I	1
CHM 2212	Organic Chemistry II	3
CHM 2202	Organic Chemistry Lab II	1
GEV 3580	Natural Res and Conservation	3
PHY 1100	General Physics I	3
	Cell and Molecular Biology for EDU Bio Concentration	4
	Organismal Biology for EDU Bio Concentration	4
	Ecology and Population Biology for EDU Bio Concentration	4

Teaching Chemistry Concentration (60 credits)

Credits: 60

- Students in the education major with a chemistry emphasis fulfill their core math, core natural science, and core social science with courses taken in the major.
- Students must also take CHM 3411 (3 cr) AND CHM 3403 (2 cr).

Item #	Title	Credits
EDU 4284	Meth Science Sec School	3
	English Course for EDU CHM	3
	Mathematics Course for EDU CHM	4
CHM 1311	Inorganic Chemistry I	3
CHM 1301	Inorganic Chemistry Lab I	2
CHM 1512	Quantitative Analysis	3
CHM 1502	Quant Anal Lab	2
CHM 3211	Organic Chemistry I	3
CHM 3201	Organic Chemistry Lab I	2
CHM 3212	Organic Chemistry II	3
CHM 3202	Organic Chemistry Lab II	2
CHM 3511	Instrumental Analysis	3
CHM 3501	Instrumental Analysis Lab	2
CHM 4611	Survey of Biochemistry	3
CHM 4601	Survey Biochemistry Lab	1
	Chemistry Electives for EDU CHM	8
PHY 2410	University Phy:Mechanics	3
PHY 2411	Lab: Mechanics	1
PHY 2412	Univ Physics:Elec & Mag	3
PHY 2413	Lab:Elec & Magnetism	1

#### Teaching English Concentration (43 Credits)

Credits: 43

- Students in the education major with a Teaching English emphasis fulfill their core math and core social science with courses taken in the major.

Item #	Title	Credits
EDU 4281	Meth English Sec School	3
	Math Course for EDU ENG	3
	ENG 2000 or 2030	3
ENG 2250	Ways of Reading:Lit Analysis	3
ENG 2400	Western World Literature I	3
ENG 3150	Chaucer	3
ENG 3250	Shakespeare	3
	ENG 4001 or 2103	3
	ENG 4002 or 2104	3
ENG 5000	Senior Seminar	3
	Post-1800 British Literature, EDU B.A.	3
	African-American Literature, EDU B.A.	3
	Women's Literature, EDU B.A.	3

#### Teaching French Concentration (45 credits)

Credits: 45

- Students in the education major with a Teaching French emphasis fulfill their core language, core math, and core social science with courses taken in the major.

Item #	Title	Credits
EDU 4282	Meth Fgn Lang Sec School	3
	English Course for EDU FFS	3
	Math Course for EDU FFS	3
FFS 1121	Intermediate French I	3
FFS 1122	Intermediate French II	3
FFS 1131	Conversation and Composition I	3
FFS 1132	Conversation & Composition II	3
FFS 1138	Advanced Grammar	3
FFS 1140	Writing & Stylistics in French	3
FFS 2220	Lit and Culture of France	3
FFS 2221	Lit/Cult Francophone World	3
	FFS 2075 or FFS 2076	3
FFS 3925	Paris, Capital of the 19th-C	3
FFS 3970	Research Seminar	3
	French Elective for EDU B.A. Concentration	3

#### Teaching Latin Concentration (48 credits)

Credits: 48

- Students in the education major with a Teaching Latin emphasis fulfill their core language and core social science with courses taken in the major.

Item #	Title	Credits
EDU 4282	Meth Fgn Lang Sec School	3
	English Course for EDU LAT	3
	Math Course for EDU LAT	3
LAT 1111	Introductory Latin I	3
LAT 1112	Introductory Latin II	3
LAT 1121	Intermediate Latin I	3
LAT 1122	Intermediate Latin II	3
LAT 4051	Cicero	3
LAT 4150	Caesar	3
LAT 5250	Vergil	3
LAT 3050	Prose Composition	3
LAT 3150	Latin Language	3
	Latin Courses for EDU B.A. Concentration	9
	Latin or Classics course for EDU B.A. Concentration	3

#### Teaching Mathematics Concentration (43 credits)

Credits: 43

- Students in the education major with a Teaching Mathematics emphasis fulfill their core math and core social science with courses taken in the major.

Item #	Title	Credits
EDU 4283	Meth Math Sec School	3
	English Course for EDU MAT	3
MAT 1500	Calculus I	4
MAT 1505	Calculus II	4
MAT 2500	Calculus III	4
MAT 2600	Foundation of Math I	3
MAT 2705	Diff Equation with Linear Alg	4
MAT 3300	Advanced Calculus	3
MAT 3400	Linear Algebra	3
MAT 3500	Modern Algebra I	3
MAT 3930	History of Mathematics	3
STAT 4310	Stat Methods	3
MAT 5110	Topics in Geometry	3

#### Teaching Physics Concentration (52 credits)

Credits: 52

- Students in the education major with a Teaching Physics emphasis fulfill their core math and core social science with courses taken in the major.

Item #	Title	Credits
EDU 4284	Meth Science Sec School	3
	English Course for EDU PHY	3
MAT 1505	Calculus II	4
CHM 1151	General Chemistry I	4
CHM 1103	General Chemistry Lab I	1
CHM 1152	General Chemistry II	4
CHM 1104	General Chemistry Lab II	1
MAT 2705	Diff Equation with Linear Alg	4
PHY 2410	University Phy:Mechanics	3
PHY 2411	Lab: Mechanics	1
PHY 2412	Univ Physics:Elec & Mag	3
PHY 2413	Lab:Elec & Magnetism	1
PHY 2414	Univ Physics: Thermo	3
PHY 2415	Lab: Thermodynamics	1
PHY 2416	Modern Physics	3
PHY 2417	Lab:Modern Physics	1
	Physics Electives for EDU PHY	12

Teaching Social Studies Concentration (48 credits)

Credits: 48

- Students in the education major with a Teaching Social Studies emphasis fulfill their core math and core social science with courses taken in the major.

Item #	Title	Credits
EDU 4285	Meth Soc Stud Sec School	3
	English Course for EDU SS	3
	Math Course for EDU SS	3
	ECO 1001 or ECO 1002	3
GEV 1002	Geography of a Globalizing World	3
PSC 1100	American Government	3
PSC 1200	International Relations	3
PSY 1000	General Psychology	3
	SOC 3600 or SOC 1000	3
HIS 2000	Investigating U.S. History I	3
HIS 2001	Investigating US History II	3
	Pre-1750 European History for EDU SS	3
	Women's History for EDU SS	3
	HIS 2291 or HIS 2292	3
	GIS 2000 or CST 2100	3
	History Elective for EDU SS	3

Teaching Spanish Concentration (48 credits)

Credits: 48

- Students in the education major with a Teaching Spanish emphasis fulfill their core language, core math, and core social science with courses taken in the major

Item #	Title	Credits
EDU 4282	Meth Fgn Lang Sec School	3
	English Course for EDU SPA	3
	Math Course for EDU SPA	3
SPA 1121	Intermediate Spanish I	3
SPA 1122	Intermediate Spanish II	3
SPA 1131	Conversation & Composition I	3
SPA 1132	Conversation & Composition II	3
	SPA 1138 or SPA 1140	3
SPA 2220	Literature & Culture of Spain	3
SPA 2221	Lit. & Cult. of Latin America	3
SPA 3970	Research Seminar	3
	Spanish Electives for EDU SPA	15

## Counseling Minor

Program Director: Krista Malott, Ph.D.  
Office Location: 302 Saint Augustine Center  
Telephone: (610) 519-8103  
[Website](#)

### About

The Education and Counseling Department undergraduate offerings include a Major in Secondary Education, two different Minor in Education programs, a Minor in Counseling, and a combined [BA/MA in Education](#). The Secondary Education degree has been approved by the Pennsylvania Department of Education (PDE) to recommend candidates for Level I Certification in order to teach in grades 7 through 12 in Pennsylvania's public schools. Faculty in the department are highly engaged in both theoretical and practical research related to education and counseling.

**Type:** Minor

### COUNSELING MINOR (15 credits)

The Minor in Counseling exposes students to knowledge of the field of counseling and the counseling process, evidence-based therapeutic practices, and the application of counseling skills. The minor is not intended to replace graduate level professional training, but to prepare students for entry level helping careers, for advanced graduate work, or to complement coursework from a variety of majors.

#### Program Notes:

- Students interested in declaring the counseling minor must have a minimum GPA of 3.0

### Counseling Minor Required Courses:

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
COU 2000	Introduction to Counseling	3
	COU 3500 or PSY 3700	3
	COU 3100 or three one-credit COM 5300 workshops	3
	COU 3400 or COU 2500	3
	COU 3600 or COU 3700	3

## Category Descriptions

### COU 3500 or PSY 3700

Credits: 3

Select one of the following:

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
COU 3500	Devlp Perspective to Diagnosis	3
PSY 3700	Abnormal Psychology	3

### COU 3100 or three one-credit COM 5300 workshops

Credits: 3

Note: COM 5300 is a 1-credit, 10 hour workshop. Students who select this route must take three one-credit COM 5300 workshops to fulfill the requirement.

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
COU 3100	Group Counseling	3
COM 5300	Topics in Intergroup Dialogue	1

### COU 3400 or COU 2500

Credits: 3

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
COU 3400	Culturally Competent Counselng	3
COU 2500	Counseling for Women	3

### COU 3600 or COU 3700

Credits: 3

Select one of the following:

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
COU 3600	Motivational Counseling Skills	3
COU 3700	Family & Couples Counseling	3

## Education Minor

Program Director: Christa Bialka, PhD  
[Website](#)

**Type:** Minor

## About

The Education Minor is 15 credits. The minor in Education does not qualify one to teach in Pennsylvania public schools. If a student wishes to continue toward teacher certification after graduation, they will need to complete the coursework and student teaching required to apply for Pennsylvania certification. Students interested in obtaining teacher certification should speak to Education Undergraduate Program Director, [Dr. Christa Bialka](#), to create a plan for moving forward.

### Program Notes:

- Electives other than those listed below may be taken with approval of Chairperson. Please contact [Rita Siciliano](#) for more information on electives and registering for graduate level courses.
- All 8000 level courses need approval of Chairperson.

## Required Courses:

Item #	Title	Credits
	EDU 2201 or EDU 2202	3
EDU 3251	Psych of Teaching & Learning	3
EDU 3263	Diversity and Inclusion	3
EDU 4290	Philosophy of Education	3
	EDU Minor Elective	3

## Category Descriptions

### EDU 2201 or EDU 2202

Credits: 3

Item #	Title	Credits
EDU 2201	Social Foundation Educ I	3
EDU 2202	Social Foundation Edu II	3

### EDU Minor Elective

Credits: 3

Choose one course from the following list, or others as approved by Chairperson. Please contact [Rita Siciliano](#) for more information on electives and registering for graduate level courses.

List also includes EDU 8610, 8654, 8656, 8664, 8669, 8679.

Item #	Title	Credits
EDU 2300	Research Seminar in Education	3
EDU 3258	Education & Society in 1960s	3
EDU 3260	World War II Experience in EDU	3
EDU 3262	Edu Pearl Harbor to Sputnik	3
EDU 3264	Intro to Disability Studies	3
EDU 4245	Literacy & Eng Lang Learning	3

## Education Policy & Leadership Minor

Chair: Christopher Schmidt, Ph.D.

Office Location: 302 Saint Augustine Center

Telephone: 610-519-4620

[Website](#)

## About

The Education and Counseling Department undergraduate offerings include a Major in Secondary Education, two different Minor in Education programs, a Minor in Counseling, and a combined [BA/MA in Education](#). The Secondary Education degree has been approved by the Pennsylvania Department of Education (PDE) to recommend candidates for Level I Certification in order to teach in grades 7 through 12 in Pennsylvania's public schools. Faculty in the department are highly engaged in both theoretical and practical research related to education and counseling.

**Type:** Minor

## EDUCATION POLICY & LEADERSHIP MINOR (15 credits)

A minor in Educational Policy and Leadership is designed to help students develop an awareness of global issues in education in order to learn how educational institutions can transform and be transformed by society through school policy and leadership. A minor in Educational Policy and Leadership requires at least 15 credits. The minor in Educational Policy and Leadership does not lead to Pennsylvania teacher certification or qualify one to teach in Pennsylvania public schools.

### Program Notes:

- Other courses may count as an elective by approval of Chairperson.
- All 8000 level courses need approval of Chairperson.

### Education Policy & Leadership Minor Required Courses:

Item #	Title	Credits
EDU 3264	Intro to Disability Studies	3
	Diversity and Inclusion or Urban Education	3
	EDU 3253 or EDU 8654	3
	Education Policy & Leadership Electives	6

### Category Descriptions

#### Diversity and Inclusion or Urban Education

Credits: 3

Select 1 course (3 cr)

Item #	Title	Credits
EDU 3263	Diversity and Inclusion	3
EDU 3277	Urban Education	3

#### EDU 3253 or EDU 8654

Credits: 3

Item #	Title	Credits
EDU 3253	Educational Policy Analysis	3

#### Education Policy & Leadership Electives

Credits: 6

Choose six credits from the following list. Other courses may qualify based on approval of Chairperson. Please contact [Rita Siciliano](#) for more information on electives and registering for graduate level courses.

List also includes EDU 8610, 8656, 8664, 8669 and 8679.

Item #	Title	Credits
EDU 2201	Social Foundation Educ I	3
EDU 2202	Social Foundation Edu II	3
EDU 2300	Research Seminar in Education	3
EDU 3251	Psych of Teaching & Learning	3
EDU 4290	Philosophy of Education	3
EDU 4245	Literacy & Eng Lang Learning	3

### Teaching Certification

Chair: [Teresa G. Wojcik](#), Ph.D., Department of Education and Counseling  
 Program Coordinator: [Nancy Franz](#), M.Ed.  
 Office Location: 302 Saint Augustine Center  
 Telephone: 610-519-4620  
[Website](#)

### About

Villanova University's secondary teacher education program is approved by the Pennsylvania Department of Education as satisfying the requirements for teacher certification in 14 subject areas. Students with majors in departments other than Education and Counseling may be admitted to the teacher education program upon the approval of the Undergraduate Committee. Students admitted to the teacher education program must complete the same requirements as Education majors, including courses in ELL, special education, and student teaching.

Student Teaching is normally taken in the second semester of the senior year. Exploratory-Arts students who may be interested in Secondary Teacher Certification should stop by the Office of Education and Counseling, 302 St. Augustine Center for the Liberal Arts, as soon as possible.

Students enrolled in the Teacher Education Program will have their work reviewed each semester by a department committee to determine progress and professional development for certification. Students must achieve a 3.0 overall GPA and successful completion of the PAPA tests (or satisfaction of the \*SAT/ ACT exemption) before they are permitted to do student teaching. Students who do not achieve the required cumulative average by spring semester senior year will not be allowed to continue in the education major.

## AREAS OF CERTIFICATION:

Biology, Chemistry, Citizenship, Communication, English, French, General Science, Italian, Latin, Mathematics, Physics, Spanish, and Social Studies.

Upon successful completion of the major required certification courses, the special education workshops, and ELL courses, and the PAPA, and Praxis II exams, the student will be eligible for certification.

\*SAT/ACT exemption: Students who receive a score of at least a 1550 on the SAT, with a minimum score of 500 in each of the three testing sections OR a student who receives at least a score of 23 on the ACT test, will be exempt from taking the PAPA basic skills tests.

**Type:** Certificate

## English

### Upcoming Courses

- [Fall 2020 Upper-Level Courses](#)
- [Fall 2020 1842 First-Year Courses](#)

### English, B.A.

Chair: Heather Hicks, Ph.D.  
Office Location: 402 Saint Augustine Center  
Telephone: 610-519-4630  
[Website](#)

### About

The English department believes that skillful, self-aware reading, writing, and thinking provide a

foundation for meaningful living. We seek to develop forms of analysis and expression that are both critical and creative and that help us comprehend the multiple cultural practices and values of the twenty-first century. Villanova English majors acquire a broad understanding of Anglophone literary history as well as familiarity with the major genres of the tradition. A department of accomplished scholars, we focus on undergraduate education and make our majors the center of pedagogy. While preserving the value of literature as a cultural form, we cultivate in our students the analytical skills necessary for negotiating today's rapidly changing world.

- [View Fall 2020 English Topics Course Offerings](#)
- [View Spring 2021 English Course Offerings](#)

**Type:** Bachelor of Arts

## MAJOR (33 credits)

English majors take a range of courses, from required courses (chosen from a number of possibilities) that provide a sense of the historical range and diversity of literature in English to electives covering contemporary writers, film, creative writing, and many more topics. Students can also form tracks (such as Professional Writing, World Literature, or Race and Ethnicity) within the major. English courses are particularly well-suited to helping students become better readers, writers, and analytical thinkers; because of those skills, and because of the breadth of literature, English courses are valuable in all aspects of our lives.

### Program Notes:

- There is no prerequisite to the major, but we strongly recommend that you take English 3001 (Foundational Literature in English I) early, since it will introduce you to writers, texts, and issues that are crucial to most subsequent courses.

### Required Major Courses:

Item #	Title	Credits
	British/Irish Lit Pre-1800 Courses	6
	Post-1800 Literature Elective	6
ENG 2250	Ways of Reading:Lit Analysis	3
ENG 5000	Senior Seminar	3
	English Electives 1800 and Above	15

## Category Descriptions

### British/Irish Lit Pre-1800 Courses

Credits: 6

Choose two courses in British/Irish literature before 1800, in two different areas.

## Medieval

Item #	Title	Credits
ENG 3000	Intro to OE Lang & Lit	3
ENG 3150	Chaucer	3
ENG 3160	Fabulous Middle Ages	3
ENG 3181	Irish Epics, Visions&Hauntings	3
ENG 3190/ 3191	Medieval Brit/Ir Lit. & Cult.	3

## Renaissance

Item #	Title	Credits
ENG 3201	English Renaissance	3
ENG 3230	Eliz & Jacobean Drama	3
ENG 3250	Shakespeare	3
ENG 3260	Revenge Tragedy	3
ENG 3290/ 3291	Renaissance Br/Ir Lit. & Cult.	3
ENG 3300	17th Cent Poetry & Prose	3
ENG 3350	Milton	3

## Restoration & 18th Century

Item #	Title	Credits
ENG 3350	Milton	3
ENG 3420	18th Century British Novel	3
ENG 3430	Restor & 18th cent Drama	3
ENG 3440	Harlots, Rakes, & Libertines	3
ENG 3450	Dryden Swift & Pope	3
ENG 3490/ 3491	18th c. Brit/Ir Lit. & Culture	3

### Post-1800 Literature Elective

Credits: 6

One course must be Non-American Anglophone and the other Literature of the Americas. One course must be 19<sup>th</sup> Century literature and one must be literature after 1900.

## Non-American Anglophone 19th Century

Item #	Title	Credits
ENG 3501	Early Romantic Writers	3
ENG 3502	Later Romantic Writers	3
ENG 3504	19th Cent Brit Women Writers	3
ENG 3505	Poetry & Prose 1830-1865	3
ENG 3506	Poetry & Prose 1865-1900	3
ENG 3520	19th Cent British Novel	3
ENG 3525	Dickens	3
ENG 3530	Victorian Doubles	3
ENG 3580	Topics in 19th C Irish Lit&Cul	3
ENG 3590/ 3591	19th c. Brit/Ir Lit. & Culture	3
ENG 3617	Irish Revivalism	3

## Non-American Anglophone After 1900

Item #	Title	Credits
ENG 3610	Modern British Poetry	3
ENG 3615	James Joyce	3
ENG 3616	Irish American Drama & Film	3
ENG 3617	Irish Revivalism	3
ENG 3618	Intro to African Lit I	3
ENG 3619	Intro to African Lit II	3
ENG 3620	Modern British Novel	3
ENG 3621	Contemp British Novel	3
ENG 3630	Modern British Drama	3
ENG 3640	Irish Drama	3
ENG 3650	African Drama	3
ENG 3680	Top: 20th-21st C Irish Lit&Cul	3
ENG 3682	Contemporary Irish Literature	3
ENG 3690/ 3691	Br/Ir Lit. & Cult. after 1900	3

## Literature of the Americas to 1900

Item #	Title	Credits
ENG 4001	Major Amer Writers I	3
ENG 4003	African-American Lit Trad 1	3
ENG 4040	American Short Story	3
ENG 4500	American Slave Narrative	3
ENG 4501	Amer Transcendentalism	3
ENG 4505	Concord Writers	3
ENG 4510	19th Cent Amer Poetry	3
ENG 4515	American Gothic	3
ENG 4520	American Novel to 1895	3
ENG 4530	The American Renaissance	3
ENG 4540	The American Revolutionary Era	3

## Literature of the Americas after 1900

Item #	Title	Credits
ENG 4040	American Short Story	3
ENG 4500	American Slave Narrative	3
ENG 4515	American Gothic	3
ENG 4602	African American Lit Trad 2	3
ENG 4603	African American Short Story	3
ENG 4605	Amer Poetry: 1900-1950	3
ENG 4610	African American Poetry	3
ENG 4615	Amer Poetry since 1950	3
ENG 4618	Harlem Renaissance	3
ENG 4619	The Works of Edith Wharton	3
ENG 4620	American Novel 1895-1950	3
ENG 4621	Amer Novel since 1950	3
ENG 4622	African American Women Writers	3
ENG 4623	African American Novel	3
ENG 4630	American Drama to 1960	3
ENG 4631	Amer Drama since 1960	3
ENG 4632	African American Drama	3
ENG 4635	Contemporary American Poetry	3
ENG 4636	Contemp Amer Women's Poetry	3
ENG 4640	Contemp Amer Women's Lit	3
ENG 4645	Post Modern Amer Fiction	3
ENG 4646	Race & Ethnicity: Amer Novel	3
ENG 4647	Gender & Sexuality in US Lit	3
ENG 4648	U.S. Empire & Cont. Am. Lit.	3
ENG 4649	Intro to Asian American Lit	3
ENG 4651	Lives of the Undocumented	3
ENG 4652	Letters, Texts, & Twitter	3
ENG 4690/ 4691/ 4692	Amer. Lit. & Cult. after 1900	3
ENG 4700	Caribbean Literature	3

### English Electives 1800 and Above

Credits: 15

Choose five courses numbered 1800 and above, with the exception of 1975, which cannot be counted, and with the partial exception of the Foundational Literature in English and American

Literary Tradition courses (3001, 3500, 4000, 4600); a student may count only two of those courses toward the major.

## Creative Writing Minor

### Website

The Creative Writing Program offers an interdisciplinary Minor in Creative Writing to students across the university. The goal of the program is to support students in their creative writing endeavors. The Creative Writing Program seeks to offer students the opportunity to augment their degree by taking courses that will awaken their imagination, develop their skills as creative writers and thinkers, and foster greater empathy towards the experiences of others.

The Creative Writing Program also seeks to create a "space of creativity" within the university. Through courses and workshops, students will interact with and learn from their peers as well as published novelists, poets, playwrights and screenwriters.

Interested freshmen may wish to take part in our [Creative Writing Community](#).

**Type:** Minor

### MINOR (15 credits)

#### Program Notes:

- Students must take ENG 2003: Introduction to Creative Writing as a prerequisite to the minor.
- Students may also complete an Independent Study (Completion of a collection of stories or poems, or a novel) upon approval.

Item #	Title	Credits
ENG 2003	Intro to Creative Writing	3
ENG 4690/ 4691/ 4692	Amer. Lit. & Cult. after 1900	3
Creative Writing Electives 1		9

## Category Descriptions

### Creative Writing Electives 1

Credits: 9

Choose three courses from the following list:

Item #	Title	Credits
ENG 1842	Perspectives in Literature	3
ENG 2005	Writing of Short Story	3
ENG 2006	The Writing of Poetry	3
ENG 2007	The Writing of Screenplays	3
ENG 2009	Writing the Traditional Novel	3
ENG 2012	Advanced Creative Writing	3
ENG 2013	Writing of Memoir	3
ENG 2045	Sp Top in Writing & Rhetoric	3
ENG 2060	Desktop Publishing	3
COM 3303	Screenwriting	3
HON 5440	Literary Arts:Poetry	1
HUM 2900	Topics	3
THE 3007	Playwriting	3

## English Minor

Program Contact: Amanda Eliades, Advisor for English Minors

Office Location: Saint Augustine Center, Room 402

[Website](#)

### About

The English department believes that skillful, self-aware reading, writing, and thinking provide a foundation for meaningful living. We seek to develop forms of analysis and expression that are both critical and creative and that help us comprehend the multiple cultural practices and values of the twenty-first century. Villanova English minors acquire an understanding of the scope of Anglophone literature as well as familiarity with some of the major genres of the tradition. A department of accomplished scholars, we focus on undergraduate education and cultivate in our students the analytical skills necessary for negotiating today's rapidly changing world.

**Type:** Minor

## ENGLISH MINOR (15 credits)

To complete an English Minor, you take five English courses (15 credits) numbered 1800 or higher, with the exception of 1975, which cannot be counted. To declare an English Minor, students should complete the application for an English Minor located [here](#).

### Required Minor Courses:

- Non-American Anglophone Literature (3 cr) - Select 1 Class from: 3000:3999
- Literature of the Americas (3 cr) - Select 1 Class from: 4000:4999
- English Electives (9 cr) - Select 3 Classes from: ENG 1842:5000 (with the exception of ENG 1975)

### Program Notes:

- At least three of these courses must be taken at Villanova.
- Course numbers from 2000 to 4999 refer only to the subjects that the course cover, and do not reflect the level or difficulty.

## Ethics

### Ethics Minor

Program Director: Mark Doorley, Ph.D.

Associate Director: Brett T. Wilmot, Ph.D.

Office Location: 104 Saint Augustine Center

Telephone: 610-519-4692

[\[Website\]](#)

### About

Here at Villanova University, we believe that at the heart of every human endeavor we find assumptions about what it means to live well as human beings in the world and in relationships with others—human, non-human, and divine. The aim of the Ethics Program is to provide students with opportunities to explore these assumptions, to understand their origins in our great intellectual traditions, and to engage them critically using methods and resources both theological and philosophical.

## MINOR (18 credits)

Villanova University prides itself on presenting an educational alternative built around a clear ethical core, in particular, the moral teachings of the Catholic intellectual tradition. The ethics minor allows students to pursue the study of ethics explicitly and in depth as part of their undergraduate education. The minor contributes directly to the mission of the university. A focus on a particular set of questions/issues within ethics not only benefits students' intellectual and moral development and contributes to the public perception of the university but also has tangible benefits for students as they apply for graduate studies, fellowships, and job on completion of their studies.

### Program Notes

- Students choose a focus of study and pursue courses listed below, in consultation with their Ethics faculty advisor. To view examples of potential ethics minor foci, [click here](#).
- Each semester the upper-level courses that will count toward the minor will be marked in the Master Schedule, in the Attributes section with "Fulfills ethics minor requirement." These will also be listed on the Ethics Program website. It is important for students to be sure they take the upper level courses that are affiliated with their focus of study.
- The ETH 30xx courses will be planned five semesters in advance so that students will know what will be offered in future semesters, for planning purposes. This information will be available on the Ethics Program website.
- Students are able to do service work in lieu of one of their elective courses in all focus areas. The service must be related to their focus of study, amount to at least 60 hours of service, and not be credit-bearing or paid work. Students will register for ETH 4975 Ethics Independent Study (3 cr) and must complete their service and associated assignments in that same semester. Students must get approval of their service site from the Associate Director of the Ethics Program.

**Type:** Minor

## Required Courses

Item #	Title	Credits
ETH 2050	The Good Life:Eth & Cont Prob	3
	Upper-Level Ethics Elective	3
	Philosophical Ethics Course	3
	Theological Ethics Course	3
	Two Electives in the Student's Chosen Focus	6

## Category Descriptions

### Upper-Level Ethics Elective

Credits: 3

One Ethics course of 3000 level or higher. Ideally this course should advance the aims of the student's chosen focus.

### Philosophical Ethics Course

Credits: 3

A student will take one course in philosophical ethics, offered by ETH, HON, HUM, PHI or PJ, related to the chosen focus,

### Theological Ethics Course

Credits: 3

A student will take one course in theological ethics, offered by ETH, HON, HUM, PJ or TH, related to the chosen focus

### Two Electives in the Student's Chosen Focus

Credits: 6

Students must take two electives that may or may not be ethics courses, but which are relevant to the chosen theme/focus.

While there are many possible combinations of courses on particular themes than we can identify here, what follows are possible courses of study. The goal for the ethics advisor and the student is to identify a set of courses that have coherence in light of the focus of study.

To view examples of prospective areas of focus, [click here](#).

# French and Francophone Studies

## French & Francophone Studies, B.A.

Program Director: Étienne Achille, Ph.D.  
Office Location: 343 Saint Augustine Center  
Telephone: 610-519-5468  
[Website](#)

### About

The French and Francophone Studies Program (FFS) of the Department of Romance Languages and Literatures offers a major and a minor. FFS emphasizes language skills and offer interdisciplinary studies in the faculty's area of specialization: French literature and civilization; the evolution of Western thought in France; the cultures and literatures of the Francophone world; and stylistics and translation. The influence of French language and literature crosses centuries as well as geographic boundaries. Francophone studies is a dynamic and rapidly expanding field, focusing on the literatures, politics, history, cultures, language, identities and related studies of French-Speaking countries. Villanova's interdisciplinary FFS have been designed to provide students with a thorough grounding in the history, politics, cultural production, sociolinguistics, post-colonial experiences, and development of Francophone Countries.

**Type:** Bachelor of Arts

## MAJOR (31 credits)

The Major consists of 31 FFS credits above the intermediate level (FFS 1122), including courses in literature, cinema, and cultural studies. Students may obtain up to 6 credits through the Villanova summer program in Lille, France, and up to 9 credits through the semester program.

### Program Notes:

- One RLL course taught in English with FFS attribute may be accepted for the major.
- FFS 3971 is to be taken in conjunction with any 3000-level course.

### Required Major Courses:

Item #	Title	Credits
	FFS 1138 or FFS 1140	3
	FFS 2220 or FFS 2221	3
FFS 3971	Directed Research in FFS	1
	FFS 3000+ elective	3
	French and Francophone Studies Electives	21

### Category Descriptions

#### FFS 1138 or FFS 1140

Credits: 3

Item #	Title	Credits
FFS 1138	Advanced Grammar	3
FFS 1140	Writing & Stylistics in French	3

#### FFS 2220 or FFS 2221

Credits: 3

Item #	Title	Credits
FFS 2220	Lit and Culture of France	3
FFS 2221	Lit/Cult Francophone World	3

#### FFS 3000+ elective

Credits: 3

French and Francophone Studies Elective (3000 level or above) (3 cr) - Select 1 Class from FFS 3000:9999

#### French and Francophone Studies Electives

Credits: 21

Select 7 Classes from FFS 1123:9999 totaling 21 cr.

## French and Francophone Studies Minor

Program Director: Étienne Achille, Ph.D.  
Office Location: 343 Saint Augustine Center  
Telephone: 610-519-5468  
[Website](#)

### About

The French and Francophone Studies Program (FFS) of the Department of Romance Languages and Literatures offers a major and a minor. FFS emphasizes language skills and offer interdisciplinary studies in the faculty's area of specialization: French literature and civilization; the evolution of Western thought in France; the cultures and literatures of the Francophone world; and stylistics and translation. The influence of French language and literature crosses centuries as well as geographic boundaries. Francophone studies is a dynamic and rapidly expanding field, focusing on the literatures, politics, history, cultures, language, identities and related studies of French-Speaking countries. Villanova's interdisciplinary FFS have been designed to provide students with a thorough grounding in the history, politics, cultural production, sociolinguistics, post-colonial experiences, and development of Francophone Countries.

**Type:** Minor

## MINOR (15 credits)

A minor is open to all students and requires 5 courses above intermediate level (FFS 1122).

*Program Notes:*

- No course in English may count for the minor.

Required Minor Courses:

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
FFS 1131	Conversation and Composition I	3
FFS 1132	Conversation & Composition II	3
	FFS Electives for Minor	9

## Category Descriptions

[FFS Electives for Minor](#)

Credits: 9

Select 3 Classes of three or more credits from FFS 1130:9999

## Gender and Women's Studies

### Gender and Women's Studies Minor

Co-Directors: Travis Foster, Ph.D. and Melissa Hodges, Ph.D.

Office Location: 488 Saint Augustine Center  
Telephone: 610-519-450  
[\[Website\]](#)

### About

Gender and Women's Studies encourages critical analysis of gender and sexuality at local, national, and global levels—now and in the past. Our curriculum brings feminist and queer theory into conversation with fields of study across the University, from history to sociology to global finance, helping students discover new alternatives for thinking about the problems of the world and the contributions of its people. As teachers, we are profoundly influenced by feminist models of collaborative learning and

shared authority. We recognize our students and their life experiences as sources of vital expertise, and we help them find a voice, a sense of community, and a purpose as agents of social change.

**Type:** Minor

## MINOR (18 credits)

The minor is open to all students and requires 2 courses and 4 electives for a total of 18 credits. Student may choose their four electives from any GWS-attributed courses that are available in a variety of disciplines.

### Required Minor Courses:

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
GWS 2050	Introduction to Gender Studies	3
GWS 5000	Integrating Seminar	3
	GWS Electives for Minor	12

## Category Descriptions

### GWS Electives for Minor

Credits: 12

Select 4 Classes in any course of 3 credits or more in any subject with the GWS attribute

## Geography and the Environment

### Environmental Studies, B.A.

Chair: Nathaniel Weston, Ph.D.

Program Director: Peleg Kremer, Ph.D.

Office Location: Suite G61, Mendel Science Center

Telephone: 610-519-3336

[Website](#)

### About

The Department of Geography and the Environment offers B.A. degrees in Geography and Environmental Studies, and a B.S. in Environmental Science. The department also offers minors in Geography and Sustainability

Studies. The department's overarching objective is to integrate the disciplines of geography and environmental science to seek an understanding of human and environmental patterns, the processes that produce those spatial patterns, and salient human and environmental problems that face modern society. The department has three teaching and five research labs; and the department has a full suite of state-of-the-art geospatial software and scientific research equipment.

**Type:** Bachelor of Arts

## MAJOR (57 credits)

The B.A. in Environmental Studies program focuses on the interface between environmental science and relevant social sciences, including public policy, political science, law, economics, sociology, and planning. Towards this end, the program's graduates will have a fundamental understanding of the biological, chemical, and physical principles that underlie the structure and function of the natural and physical environments of the Earth coupled with a foundation in the social sciences that underlie the relationships between humans, as individuals and/or societies, and the natural and physical environments of Earth. The program is founded on the principle that the social sciences - both as a bodies of knowledge and as the bases for structuring human societal norms and behaviors - must be applied to assess and to address the direct and indirect influences of human activities on the integrity of the Earth's systems.

### Program Notes:

- Consider course offerings with environmental content when selecting the twelve free electives.
- BIO 3105 or MAT 4310 may fulfill the requirement for GEV 3300.
- GEV 6006 must be taken a total of three times prior to graduation.
- Students must select one track in either the Environmental Sustainability Concentration or Environmental Management Concentration, as listed below.

### Required Major Courses:

Item #	Title	Credits
GEV 1050	Environmental Science I	4
GEV 1051	Environmental Science II	4
GEV 2001	Professional Development in Geography and the Environment	1
GEV 4310	Environmental Issues Seminar	3
GEV 3300	Stats. in Environmental Sci.	3
GEV 4700	Geographic Information Systems	4
GEV 3004	Geographies Envrnl Justice	3
GEV 6005	Senior Research Seminar	1
GEV 6006	Research Colloquium	0
GEV 6006	Research Colloquium	0
GEV 6006	Research Colloquium	0

Environmental Social Sciences and Humanities Electives	0
GEV Independent Study Requirement	3-6

## Environmental Sustainability Concentration

Associated Career Paths: Corporate Sustainability, Environmental Planning, Environmental Journalism.

Item #	Title	Credits
GEV 3001	Intro to Sustainability Study	3
GEV 4001	Advanced Sustainability Study	4
	Geospatial Technology	3-4
	Policy and Management Electives for ES Concentration	12
	Science and Technology Electives for ES Concentration	9

## Environmental Management Concentration

Associated Career Paths: Environmental Consulting, Environmental Health, Environmental Law.

Item #	Title	Credits
	CHM 1151 & 1103	5
GEV 2310	Environmental Chemistry	4
GEV 1750	Geo-Techniques	4
	Policy and Management Electives for EM Concentration	6
	Science and Technology Electives for EM Concentration	12

## Category Descriptions

### Environmental Social Sciences and Humanities Electives

Credits: 0

- Select 2 Classes from this list.
- Course credits are counted under core curriculum or free electives.

Item #	Title	Credits
GEV 3004	Geographies Envrnl Justice	3
GEV 4340	Spec Topics in Environm Issues	3
HIS 2276	American Environmental Hist	3
PHI 2160	The Ethics of War	3
THL 4250	Global Poverty and Justice	3
THL 4330	Christian Environmental Ethics	3

#### GEV Independent Study Requirement

Credits: 3-6

- Choose GEV 6200: Independent Study (3 cr) OR
  - GEV 6210 and 6220: Senior Thesis I & II (6 cr – 3 cr of which count as a free elective)

Item #	Title	Credits
GEV 6200	Independent Study	3
GEV 6210	Senior Thesis Research I	3
GEV 6220	Senior Thesis Research II	3

#### Geospatial Technology

Credits: 3-4

Select 1 courses from the list (3-4cr)

Item #	Title	Credits
GEV 3521	GIS for Urban Sustainability	3
GEV 3750	Remote Sensing	3
GEV 3775	Digital Image & Airphoto Inter	3
GEV 3790	Global Positioning Systems	4
GEV 4710	Adv. Geographic Info Sys	4

#### Policy and Management Electives for ES Concentration

Credits: 12

Select 4 courses from the list, or GEV 4336, or any course of three or more credits with the GEPM attribute.

Item #	Title	Credits
GEV 3001	Intro to Sustainability Study	3
GEV 3570	Land Use Planning & Mgmt	3
GEV 3580	Natural Res and Conservation	3
GEV 4001	Advanced Sustainability Study	4
GEV 4330	Spec Topics in Environm Policy	3
GEV 4331	Env. Policy & Management	3
GEV 4332	Water Resources Planning	3
GEV 4333	Politics and the Env.	3
GEV 4334	Environmental Law	3
GEV 4335	Energy Policy	3
GEV 4517	Sustainable Development	3
MGT 2208	International Topics	3
PA 2000	Public Policy	3

#### Science and Technology Electives for ES Concentration

Credits: 9

Select 3 classes from the list below.

- GEV 4518 also counts toward fulfilling this requirement.

Item #	Title	Credits
GEV 2500	Global Change in Local Places	3
GEV 3002	Ecosystem Services	3
GEV 3003	Environmental Geology	3
GEV 3301	Fisheries	3
GEV 3302	Agricultural Science	3
GEV 3303	Soil Science	3
GEV 3304	Air Pollution	3
GEV 3305	Energy Systems	3
GEV 3306	Alternative Engery	3
GEV 3308	Environmental Health	3
GEV 3309	Coral Reefs	3
GEV 3310	Special Topics in Geology	3
GEV 3501	Geomorphic Environments	3
GEV 3503	Earth's Weather Systems	3
GEV 3521	GIS for Urban Sustainability	3
GEV 3550	Natural Hazards	3
GEV 3750	Remote Sensing	3
GEV 3775	Digital Image & Airphoto Inter	3
GEV 3790	Global Positioning Systems	4
GEV 4320	Spec. Topics in Env Lab Sci	4
GEV 4321	Microbial Processes	4
GEV 4322	Ocean Environments	4
GEV 4323	Watershed Biogeochemistry	4
GEV 4324	Wetland Science and Management	4
GEV 4325	Environmental Ecology	4
GEV 4326	Environmental Geology	4
GEV 4327	Process Geomorphology	4
GEV 4328	Climatology	4
GEV 4329	Global Change Research	4
GEV 4350	Spec Topics in Environm Sci	3
GEV 4351	Oceanography	3
GEV 4352	Physical Geology	3
GEV 4353	Green Science	3
GEV 4354	Biomimicry	3
GEV 4355	Tropical Ecology	3
GEV 4356	Global Change Science	3
GEV 4360	Field Methods in Env Science	4
GEV 4361	Field Research	4
GEV 4511	Climate Variability	3
GEV 4512	Medical Geography	3
GEV 4513	Geography of National Security	3
GEV 4514	Geomorphology	3
GEV 4515	Terrestrial Ecosystems	3
GEV 4516	Environmental Security	3
GEV 4710	Adv. Geographic Info Sys	4

#### CHM 1151 & 1103

Credits: 5

Item #	Title	Credits
CHM 1151	General Chemistry I	4
CHM 1103	General Chemistry Lab I	1

#### Policy and Management Electives for EM Concentration

Credits: 6

Select 2 courses from the list, or GEV 4336, or any course of three or more credits with the GEPM attribute.

Item #	Title	Credits
GEV 3001	Intro to Sustainability Study	3
GEV 3570	Land Use Planning & Mgmt	3
GEV 3580	Natural Res and Conservation	3
GEV 4001	Advanced Sustainability Study	4
GEV 4330	Spec Topics in Environm Policy	3
GEV 4331	Env. Policy & Management	3
GEV 4332	Water Resources Planning	3
GEV 4333	Politics and the Env.	3
GEV 4334	Environmental Law	3
GEV 4335	Energy Policy	3
GEV 4517	Sustainable Development	3
MGT 2208	International Topics	3
PA 2000	Public Policy	3

#### Science and Technology Electives for EM Concentration

Credits: 12

Select 4 classes from the list below.

- GEV 4518 also counts toward fulfilling this requirement.

Item #	Title	Credits
GEV 2500	Global Change in Local Places	3
GEV 3002	Ecosystem Services	3
GEV 3003	Environmental Geology	3
GEV 3301	Fisheries	3
GEV 3302	Agricultural Science	3
GEV 3303	Soil Science	3
GEV 3304	Air Pollution	3
GEV 3305	Energy Systems	3
GEV 3306	Alternative Energy	3
GEV 3308	Environmental Health	3
GEV 3309	Coral Reefs	3
GEV 3310	Special Topics in Geology	3
GEV 3501	Geomorphic Environments	3
GEV 3503	Earth's Weather Systems	3
GEV 3521	GIS for Urban Sustainability	3
GEV 3550	Natural Hazards	3
GEV 3750	Remote Sensing	3
GEV 3775	Digital Image & Airphoto Inter	3
GEV 3790	Global Positioning Systems	4
GEV 4320	Spec. Topics in Env Lab Sci	4
GEV 4321	Microbial Processes	4
GEV 4322	Ocean Environments	4
GEV 4323	Watershed Biogeochemistry	4
GEV 4324	Wetland Science and Management	4
GEV 4325	Environmental Ecology	4
GEV 4326	Environmental Geology	4
GEV 4327	Process Geomorphology	4
GEV 4328	Climatology	4
GEV 4329	Global Change Research	4
GEV 4350	Spec Topics in Environm Sci	3
GEV 4351	Oceanography	3
GEV 4352	Physical Geology	3
GEV 4353	Green Science	3
GEV 4354	Biomimicry	3
GEV 4355	Tropical Ecology	3
GEV 4356	Global Change Science	3
GEV 4360	Field Methods in Env Science	4
GEV 4361	Field Research	4
GEV 4511	Climate Variability	3
GEV 4512	Medical Geography	3
GEV 4513	Geography of National Security	3
GEV 4514	Geomorphology	3
GEV 4515	Terrestrial Ecosystems	3
GEV 4516	Environmental Security	3
GEV 4710	Adv. Geographic Info Sys	4

## Geography, B.A.

Chair: Nathaniel Weston, Ph.D.

Program Director: Stephen Strader, Ph.D.

Office Location: Suite G61, Mendel Science Center

Telephone: 610-519-3336

[Website](#)

### About

The Department of Geography and the Environment offers B.A. degrees in Geography and Environmental Studies, and a B.S. in Environmental Science. The department also offers minors in Geography and Sustainability Studies. The department's overarching objective is to integrate the disciplines of geography and environmental science to seek an understanding of human and environmental patterns, the processes that produce those spatial patterns, and salient human and environmental problems that face modern society. The department has three teaching and five research labs; and the department has a full suite of state-of-the-art geospatial software and equipment.

**Type:** Bachelor of Arts

## MAJOR (37 credits)

The B.A. in Geography provides a well-rounded and useful education and marketable skills to students with interests in the spatial patterns of society and the environment. It focuses on the interactions of humans with the natural and physical environments of Earth from a special perspective. Towards this end, the program's graduates will have a fundamental understanding of the human social dynamics and physical patterns and processes at the Earth's surface, such as globalization, climatic variation and natural disasters within the context of places, landscapes, and regions. Graduates will also be trained in the use of geospatial technologies as tools in addressing many modern concerns. The program is founded on the principle that geographical knowledge of place, space, and scale can provide essential insights into contemporary social and environmental issues and variation in human cultures and behaviors, and promotes the idea that such insight is critical to managing the Earth at local, regional and global scales.

### Program Notes:

- A 1000-level topics course may substitute for either GEV 1002 or GEV 1003.

### Required Major Courses:

Item #	Title	Credits
GEV 1002	Geography of a Globalizing World	3
GEV 1003	Geo. of Earth's Environments	3
GEV 1750	Geo-Techniques	4
GEV 2001	Professional Development in Geography and the Environment	1
GEV 2500	Global Change in Local Places	3
GEV 4700	Geographic Information Systems	4
GEV 6005	Senior Research Seminar	1
GEV 6006	Research Colloquium	0
GEV 6006	Research Colloquium	0
GEV 6006	Research Colloquium	0
	GEV Independent Study Requirement	3-6
	GEV Regional Perspectives Course	3
	GEV Geospatial Technology Course	3

## Category Descriptions

### GEV Independent Study Requirement

Credits: 3-6

- Choose GEV 6200: Independent Study (3 cr) OR
  - GEV 6210 and 6220: Senior Thesis I & II (6 cr - 3 cr of which count as a free elective)

Item #	Title	Credits
GEV 6200	Independent Study	3
Item #	Title	Credits
GEV 6210	Senior Thesis Research I	3
GEV 6220	Senior Thesis Research II	3

### GEV Regional Perspectives Course

Credits: 3

Choose one Regional Perspectives course from the list.

Item #	Title	Credits
GEV 3500	Geography of North America	3
GEV 3510	Geo of Europe & the Euro Union	3
GEV 3515	Geography of Africa	3
GEV 3522	Geography of the Middle East	3
GEV 3525	Geography of Asia	3

### GEV Geospatial Technology Course

Credits: 3

Item #	Title	Credits
GEV 3521	GIS for Urban Sustainability	3
GEV 3750	Remote Sensing	3
GEV 3775	Digital Image & Airphoto Inter	3
GEV 3790	Global Positioning Systems	4
GEV 4710	Adv. Geographic Info Sys	4

### Geography Electives for B.A.

Credits: 9

Select 3 classes from this list.

- GEV 4518 also counts toward this requirement.

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
GEV 2510	Political Geography	3
GEV 2525	Population Geography	3
GEV 3004	Geographies Envrnl Justice	3
GEV 3500	Geography of North America	3
GEV 3501	Geomorphic Environments	3
GEV 3503	Earth's Weather Systems	3
GEV 3510	Geo of Europe & the Euro Union	3
GEV 3515	Geography of Africa	3
GEV 3521	GIS for Urban Sustainability	3
GEV 3522	Geography of the Middle East	3
GEV 3525	Geography of Asia	3
GEV 3550	Natural Hazards	3
GEV 3570	Land Use Planning & Mgmt	3
GEV 3580	Natural Res and Conservation	3
GEV 3595	Int'l. Studies in Geography	3
GEV 3750	Remote Sensing	3
GEV 3775	Digital Image & Airphoto Inter	3
GEV 3790	Global Positioning Systems	4
GEV 4352	Physical Geology	3
GEV 4510	Special Topics in Geography	3
GEV 4511	Climate Variability	3
GEV 4512	Medical Geography	3
GEV 4513	Geography of National Security	3
GEV 4514	Geomorphology	3
GEV 4516	Environmental Security	3
GEV 4550	Geographical Issues Seminar	3
GEV 4710	Adv. Geographic Info Sys	4

## Environmental Science, B.S.

Chair: Nathaniel Weston, Ph.D.

Program Director: Kabindra Shakya, Ph.D.

Office Location: Suite G61, Mendel Science Center

Telephone: 610-519-3336

[Website](#)

## About

The Department of Geography and the Environment offers B.A. degrees in Geography and Environmental Studies, and a B.S. in Environmental Science. The department also offers minors in Geography and Sustainability Studies. The department's overarching objective is to integrate the disciplines of geography and environmental science to seek an understanding of human and environmental patterns, the processes that produce those spatial patterns, and salient human and environmental problems that face modern society. The department has three teaching and five research labs; and the department has a full suite of state-of-the-art geospatial software and scientific research equipment.

**Type:** Bachelor of Science

## MAJOR (70 credits)

The B.S. in Environmental Science Program provides the technical background necessary for understanding the biological, chemical, and physical aspects of the environment. It focuses on the application of biological, chemical and physical principals to understanding the natural and physical environments of the Earth. Towards this end, the program's graduates will have an understanding of and appreciation for the processes and interactions that occur both within and between the atmosphere, the biosphere, the lithosphere, and the hydrosphere. The program is founded on the principle that science - both as a body of knowledge and as a process that is grounded in intellectual inquiry and the scientific method - must be applied to assess the direct and indirect influences of human activities on the integrity of the Earth's systems.

### Program Notes:

- Consider course offerings with environmental content when selecting the ten free electives.
- BIO 3105 or MAT 4310 may fulfill the GEV 3300 requirement.
- MAT 1310 may fulfill the MAT 1500 requirement.
- GEV 6006 must be taken a total of 3 times prior to graduation.

### Required Major Courses:

Item #	Title	Credits
GEV 1050	Environmental Science I	4
GEV 1051	Environmental Science II	4
GEV 1750	Geo-Techniques	4
GEV 2001	Professional Development in Geography and the Environment	1
GEV 2310	Environmental Chemistry	4
	Statistics for Environmental Science	3
GEV 4310	Environmental Issues Seminar	3
GEV 4700	Geographic Information Systems	4
CHM 1151	General Chemistry I	4
CHM 1103	General Chemistry Lab I	1
PHY 1100	General Physics I	3
PHY 1101	General Physics I Lab	1
MAT 1500	Calculus I	4
GEV 6005	Senior Research Seminar	1

GEV 6006	Research Colloquium	0
GEV 6006	Research Colloquium	0
GEV 6006	Research Colloquium	0
	GEV Independent Study Requirement	3-6
	GEV Lab Elective	8
	GEV Science and Technology Electives	12
	GEV Policy and Management Electives	6

## Category Descriptions

### Statistics for Environmental Science

Credits: 3

Select 1 course from those listed.

- Note: MAT 1313 and MAT 4310 also satisfy this but were renumbered as STAT courses term 202120.

Item #	Title	Credits
BIO 3105	Biostatistics & Exp Design	4
GEV 3300	Stats. in Environmental Sci.	3
STAT 1313	Statistics for Life Sciences	3
STAT 4310	Stat Methods	3

### GEV Independent Study Requirement

Credits: 3-6

- Choose GEV 6200: Independent Study (3 cr) OR
  - GEV 6210 and 6220: Senior Thesis I & II (6 cr - 3 cr of which count as a free elective)

Item #	Title	Credits
GEV 6200	Independent Study	3
Item #	Title	Credits
GEV 6210	Senior Thesis Research I	3
GEV 6220	Senior Thesis Research II	3

### GEV Lab Elective

Credits: 8

Select 2 Classes of 4 or more credits from GEV 4320:4329, 4360, 4361

BIO or CHM lab courses >2000 may fulfill this requirement.

Item #	Title	Credits
GEV 4320	Spec. Topics in Env Lab Sci	4
GEV 4321	Microbial Processes	4
GEV 4322	Ocean Environments	4
GEV 4323	Watershed Biogeochemistry	4
GEV 4324	Wetland Science and Management	4
GEV 4325	Environmental Ecology	4
GEV 4326	Environmental Geology	4
GEV 4327	Process Geomorphology	4
GEV 4328	Climatology	4
GEV 4329	Global Change Research	4
GEV 4360	Field Methods in Env Science	4
GEV 4361	Field Research	4

GEV Science and Technology Electives

Credits: 12

Select 4 classes from the list below.

- GEV 4518 also counts toward fulfilling this requirement.

Item #	Title	Credits
GEV 2500	Global Change in Local Places	3
GEV 3002	Ecosystem Services	3
GEV 3003	Environmental Geology	3
GEV 3301	Fisheries	3
GEV 3302	Agricultural Science	3
GEV 3303	Soil Science	3
GEV 3304	Air Pollution	3
GEV 3305	Energy Systems	3
GEV 3306	Alternative Energy	3
GEV 3308	Environmental Health	3
GEV 3309	Coral Reefs	3
GEV 3310	Special Topics in Geology	3
GEV 3501	Geomorphic Environments	3
GEV 3503	Earth's Weather Systems	3
GEV 3521	GIS for Urban Sustainability	3
GEV 3550	Natural Hazards	3
GEV 3750	Remote Sensing	3
GEV 3775	Digital Image & Airphoto Inter	3
GEV 3790	Global Positioning Systems	4
GEV 4320	Spec. Topics in Env Lab Sci	4
GEV 4321	Microbial Processes	4
GEV 4322	Ocean Environments	4
GEV 4323	Watershed Biogeochemistry	4
GEV 4324	Wetland Science and Management	4
GEV 4325	Environmental Ecology	4
GEV 4326	Environmental Geology	4
GEV 4327	Process Geomorphology	4
GEV 4328	Climatology	4
GEV 4329	Global Change Research	4
GEV 4350	Spec Topics in Environm Sci	3
GEV 4351	Oceanography	3
GEV 4352	Physical Geology	3
GEV 4353	Green Science	3
GEV 4354	Biomimicry	3
GEV 4355	Tropical Ecology	3
GEV 4356	Global Change Science	3
GEV 4360	Field Methods in Env Science	4
GEV 4361	Field Research	4
GEV 4511	Climate Variability	3
GEV 4512	Medical Geography	3
GEV 4513	Geography of National Security	3
GEV 4514	Geomorphology	3
GEV 4515	Terrestrial Ecosystems	3
GEV 4516	Environmental Security	3
GEV 4710	Adv. Geographic Info Sys	4

## GEV Policy and Management Electives

Credits: 6

Select 2 Classes from the list, or GEV 4336, or any course of three or more credits with the GEPM attribute.

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
GEV 3001	Intro to Sustainability Study	3
GEV 3570	Land Use Planning & Mgmt	3
GEV 3580	Natural Res and Conservation	3
GEV 4001	Advanced Sustainability Study	4
GEV 4330	Spec Topics in Environm Policy	3
GEV 4331	Env. Policy & Management	3
GEV 4332	Water Resources Planning	3
GEV 4333	Politics and the Env.	3
GEV 4334	Environmental Law	3
GEV 4335	Energy Policy	3
GEV 4517	Sustainable Development	3
MGT 2208	International Topics	3
PA 2000	Public Policy	3

## Geography Minor

Chair: Nathaniel Weston, Ph.D.  
Program Director: Stephen Strader, Ph.D.  
Office Location: Suite G61, Mendel Science Center  
Telephone: 610-519-3336  
[Website](#)

## About

The Department of Geography and the Environment offers B.A. degrees in Geography and Environmental Studies, and a B.S. in Environmental Science. The department also offers minors in Geography and Sustainability Studies. The department's overarching objective is to integrate the disciplines of geography and environmental science to seek an understanding of human and environmental patterns, the processes that produce those spatial patterns, and salient human and environmental problems that face modern society. The department has three teaching and five research labs; and the department has a full suite of state-of-the-art geospatial software and equipment.

**Type:** Minor

## MINOR (16 credits)

The geography minor is open to all students and requires 5 courses and 16 credits, and it is designed for students who wish to deepen and broaden their knowledge of the world with a distinctive yet flexible program of courses encompassing the relationship between the environment and society. The minor enables students to develop a coherent strategy for understanding and explaining the manner in which people and the Earth interact.

## Required Minor Courses:

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
	GEV 1002 or GEV 1003	3
GEV 4700	Geographic Information Systems	4
	GEV Regional Perspectives Course	3
	Geography Electives for Minor	6

## Category Descriptions

### GEV 1002 or GEV 1003

Credits: 3

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
GEV 1002	Geography of a Globalizing World	3
GEV 1003	Geo. of Earth's Environments	3

### GEV Regional Perspectives Course

Credits: 3

Choose one Regional Perspectives course from the list.

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
GEV 3500	Geography of North America	3
GEV 3510	Geo of Europe & the Euro Union	3
GEV 3515	Geography of Africa	3
GEV 3522	Geography of the Middle East	3
GEV 3525	Geography of Asia	3

## Geography Electives for Minor

Credits: 6

Select 2 classes from this list.

- GEV 4518 also counts toward this requirement.

Item #	Title	Credits
GEV 2510	Political Geography	3
GEV 2525	Population Geography	3
GEV 3004	Geographies Envrnl Justice	3
GEV 3500	Geography of North America	3
GEV 3501	Geomorphic Environments	3
GEV 3503	Earth's Weather Systems	3
GEV 3510	Geo of Europe & the Euro Union	3
GEV 3515	Geography of Africa	3
GEV 3521	GIS for Urban Sustainability	3
GEV 3522	Geography of the Middle East	3
GEV 3525	Geography of Asia	3
GEV 3550	Natural Hazards	3
GEV 3570	Land Use Planning & Mgmt	3
GEV 3580	Natural Res and Conservation	3
GEV 3595	Int'l. Studies in Geography	3
GEV 3750	Remote Sensing	3
GEV 3775	Digital Image & Airphoto Inter	3
GEV 3790	Global Positioning Systems	4
GEV 4352	Physical Geology	3
GEV 4510	Special Topics in Geography	3
GEV 4511	Climate Variability	3
GEV 4512	Medical Geography	3
GEV 4513	Geography of National Security	3
GEV 4514	Geomorphology	3
GEV 4516	Environmental Security	3
GEV 4550	Geographical Issues Seminar	3
GEV 4710	Adv. Geographic Info Sys	4

## Global Interdisciplinary Studies

The Department of Global Interdisciplinary Studies (GIS) provides students with a tripartite

of skills, knowledge, and values that foster critical thinking, problem solving, and preparation for responsible global citizenship. Students gain an understanding of global studies, acquiring the know-how in global and digital literacy, cultural diversity and intercultural competences, interdisciplinary research, and a passion for social justice, nurtured in experiential learning.

All students must choose one specialization from the sections listed below.

The Department of Global Interdisciplinary Studies also offers minors in the following programs: Arabic Language and Cultural Studies, Chinese Language and Cultural Studies, Japanese Language and Cultural Studies, Russian Language and Cultural Studies. Visit these individual pages to view requirements.

### Africana Studies, B.A. (GIS)

Chairperson: Chiji Akoma, Ph.D.

Office Location: 36 Garey Hall

Telephone: 610-519-6302

[\[Website\]](#)

### About

Villanova's Africana Studies Program connects faculty, students, and community members interested in the academic study of Africa and the African diaspora. With 25 faculty affiliates, about 20 courses offered each semester, a robust calendar of public events, and a major and a minor, the Program has grown significantly since its founding in 1994. Whether the topic is politics in Africa, the literature of the Black diaspora in France, the history of the US civil rights movement, or Black theology, the Africana Studies Program encourages critical thinking, crossing disciplinary boundaries, and connecting academic work with lived reality. The Africana Studies Program pursues knowledge that has often been overlooked or undervalued as we strive to develop deeply inclusive community. Indeed, as an Augustinian Catholic university, Villanova is oriented to its core by the vision of an African diasporic faith leader.

**Type:** Bachelor of Arts

## MAJOR (31-34 credits)

### **Required Specialization Courses:**

Six courses with the AFR attribute for a minimum of 18 credits, including the courses listed below.

#### *Program Notes:*

- Students may also combine three 1-credit IGR courses to count as one of the undesignated Africana courses
- For GIS 5011, Team-taught Topics Student takes two different topics, the first of which counts as the Junior Research Seminar for the Major (6 credits).
- Courses taken as part of a study abroad program may be counted
- A GIS 5011 with AFR attribute (or other course approved by the program director) may be counted among the six courses, as long as the two required GIS 5011 courses for the GIS major have been fulfilled.

### **Required GIS Courses:**

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
GIS 2000	Intro to Global Interd Studies	3
GIS 5011	GIS Select	3
GIS 5011	GIS Select	3
GIS 6500	Capstone I: Research	3
GIS 6600	Capstone 2:Thesis	3
GIS 5000	Special Topics	1
	Study Abroad	
AFR 3000	Constructs of Blackness	3
	GIS Africana Elective	15

## Category Descriptions

### Study Abroad

One semester of Study Abroad.

### GIS Africana Elective

Credits: 15

Choose five courses with the AFR attribute in either Africana History or Literature, or HIS 2293. Below represents select courses eligible. Please consult the course catalog for additional courses with the AFR attribute.

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
HIS 2292	African Amer His since Emancip	3
ENG 3690/3691	Br/lr Lit. & Cult. after 1900	3

## Arab and Islamic Studies, B.A. (GIS)

Chairperson: Chiji Akoma, Ph.D.

Office Location: 36 Garey Hall

Telephone: 610-519-6302

[\[Website\]](#)

## About

The Department of Global Interdisciplinary Studies (GIS) provides students with a tripartite of skills, knowledge, and values that foster critical thinking, problem solving, and preparation for responsible global citizenship. Students gain an understanding of global studies, acquiring the know-how in global and digital literacy, cultural diversity and intercultural competences, interdisciplinary research, and a passion for social justice, nurtured in experiential learning.

**Type:** Bachelor of Arts

## MAJOR (31-34 credits)

### Program Notes:

- Courses taken as part of a study abroad may be counted.
- For GIS 5011, Team-taught Topics Student takes two different topics, the first of which counts as the Junior Research Seminar for the Major (6 credits).

### Required Major Courses:

Item #	Title	Credits
GIS 2000	Intro to Global Interd Studies	3
GIS 5011	GIS Select	3
GIS 5011	GIS Select	3
GIS 6500	Capstone I: Research	3
GIS 6600	Capstone 2:Thesis	3
GIS 5000	Special Topics	1
	GAIS Language Requirement	6-10
	GAIS Political Science Course	3
	GAIS History Course	3
	GAIS Theology Course	3
	Study Abroad	

### Category Descriptions

#### GAIS Language Requirement

Credits: 6-10

Two courses of Arabic at the intermediate or above level.

Item #	Title	Credits
ARB 1121	Intermediate Arabic I	5
ARB 1122	Intermediate Arabic II	5
ARB 1131	Intensive Adv Arabic I	3
ARB 1132	Intensive Adv Arabic II	3
ARB 1141	Intro to Colloquial Arabic	3

#### GAIS Political Science Course

Credits: 3

One Political Science course with an AIS attribute.

#### GAIS History Course

Credits: 3

One History course with an AIS attribute.

#### GAIS Theology Course

Credits: 3

One Theology course with an AIS attribute.

#### Study Abroad

One semester of Study Abroad.

## Asian Studies, B.A. (GIS)

Chairperson: Chiji Akoma, Ph.D.

Office Location: 36 Garey Hall

Telephone: 610-519-6302

[\[Website\]](#)

### About

The Department of Global Interdisciplinary Studies (GIS) provides students with a tripartite of skills, knowledge, and values that foster critical thinking, problem solving, and preparation for responsible global citizenship. Students gain an understanding of global studies, acquiring the know-how in global and digital literacy, cultural diversity and intercultural competences, interdisciplinary research, and a passion for social justice, nurtured in experiential learning.

All students must choose one specialization from the sections listed below.

The Department of Global Interdisciplinary Studies also offers minors in the following programs: Arabic Language and Cultural Studies, Chinese Language and Cultural Studies, Japanese Language and Cultural Studies, Russian Language and Cultural Studies. Visit these individual pages to view requirements.

**Type:** Bachelor of Arts

## MAJOR (31 credits)

### Program Notes:

- For GIS 5011, Team-taught Topics Student takes two different topics, the first of which counts as the Junior Research Seminar for the Major (6 credits).
- Courses taken as part of a study abroad may be counted.
- One internship course may be counted.
- Coursework must be done on more than one country in Asia and in more than one discipline.

### Required Major Courses:

Item #	Title	Credits
GIS 2000	Intro to Global Interd Studies	3
GIS 5011	GIS Select	3
GIS 5011	GIS Select	3
GIS 6500	Capstone I: Research	3
GIS 6600	Capstone 2:Thesis	3
GIS 5000	Special Topics	1
	Study Abroad	
	Asian Studies Language Requirement	9-13
	Asian Studies Major Electives	6

### Category Descriptions

#### Study Abroad

One semester of Study Abroad.

#### Asian Studies Language Requirement

Credits: 9-13

Three Chinese, Japanese, or other Asian language courses at the intermediate level or above.

### Chinese Language Options

Item #	Title	Credits
CHI 1121	Intermediate Chinese I	5
CHI 1122	Intermediate Chinese II	5
CHI 1131	Advanced Chinese I	3
CHI 1132	Advanced Chinese II	3
CHI 1133	Advanced Chinese III	3
CHI 1134	Advanced Chinese IV	3
CHI 1137	Advanced Chinese V	3
CHI 1138	Advanced Chinese VI	3

### Japanese Language Options

Item #	Title	Credits
JPN 1121	Intermediate Japanese I	5
JPN 1122	Intermediate Japanese II	5
JPN 1131	Advanced Japanese I	3
JPN 1132	Advanced Japanese II	3
JPN 1133	Advanced Japanese III	3
JPN 1134	Advanced Japanese IV	3

#### Asian Studies Major Electives

Credits: 6

Two non-language courses with the Asian Studies (ASN) attribute.

### Cultural Studies, B.A. (GIS)

Chairperson: Chiji Akoma, Ph.D.

Office Location: 36 Garey Hall

Telephone: 610-519-6302

[\[Website\]](#)

### About

The Department of Global Interdisciplinary Studies (GIS) provides students with a tripartite of skills, knowledge, and values that foster critical thinking, problem solving, and preparation for responsible global citizenship. Students gain an understanding of global studies, acquiring the know-how in global and digital literacy, cultural diversity and intercultural competences, interdisciplinary research, and a passion for social justice, nurtured in experiential learning.

**Type:** Bachelor of Arts

## MAJOR (31-34 credits)

Cultural Studies is an interdisciplinary academic field that seeks to understand, critique, and transform cultural phenomena. It draws on a number of disciplines in the humanities and social sciences to scrutinize questions of identity, race, gender, class, and community as well as to examine how these areas manifest themselves in different cultural practices; also addressed is the meaning assigned to these variables. By examining the link between power and discourse, cultural studies deals with the representation of these identities, for representation is the vehicle through which knowledge of cultures is acquired. Cultural Studies is considered the next generation of area studies for those who - instead of focusing on a specific geographical area-- wish to study the global cultural phenomena with a set of theoretical tools.

### Program Notes:

- For GIS 5011, Team-taught Topics Student takes two different topics, the first of which counts as the Junior Research Seminar for the Major (6 credits).
- Courses taken as part of a study abroad may be counted.
- One internship course may be counted.

### Required Major Courses:

Six courses with the CST attribute for a minimum of 18 credits.

Item #	Title	Credits
GIS 2000	Intro to Global Interd Studies	3
GIS 5011	GIS Select	3
GIS 5011	GIS Select	3
GIS 6500	Capstone I: Research	3
GIS 6600	Capstone 2:Thesis	3
GIS 5000	Special Topics	1
CST 2100	Intro. to Cultural Studies	3
	GCST Core Courses	9
	Study Abroad	

## Category Descriptions

### GCST Core Courses

Credits: 9

Choose three core courses, one from each of the following three categories:

### Representation

Item #	Title	Credits
CST 4100	Capstone Sem of Cultural Stud	3
PHI 2170	Mass Media Ethics	3
PHI 2760	Philosophy & Literature	3
PHI 4140	Phil of Contemporary Music	3
PHI 4150	Philosophy & Film	3

### Gender

Item #	Title	Credits
PHI 2410	Philosophy of Sex & Love	3
PHI 2420	Philosophy of Women	3
PHI 2430	Eco-Feminism	3
PHI 4900	Feminist Theories	3

### Race

Item #	Title	Credits
PJ 2800	Race, Class, & Gender	3
PHI 3160	History of Islamic Phil	3
ENG 4646	Race & Ethnicity: Amer Novel	3

### Study Abroad

One semester of Study Abroad.

## Gender and Women's Studies, B.A. (GIS)

Co-Directors: Travis Foster, Ph.D. and Melissa Hodges, Ph.D.

Office Location: 488 Saint Augustine Center  
Telephone: 610-519-450

[\[Website\]](#)

### About

Gender and Women's Studies encourages critical analysis of gender and sexuality at local, national, and global levels—now and in the past. Our curriculum brings feminist and queer theory into conversation with fields of study across the University, from history to sociology to global finance, helping students discover new alternatives for thinking about the problems of

the world and the contributions of its people. As teachers, we are profoundly influenced by feminist models of collaborative learning and shared authority. We recognize our students and their life experiences as sources of vital expertise, and we help them find a voice, a sense of community, and a purpose as agents of social change

**Type:** Bachelor of Arts

## MAJOR (30 credits)

The major in Gender and Women's Studies provides an interdisciplinary and comparative approach to deepen students' understandings of the history, culture, religion, politics, literature, and society. Students sign up for the major and choose their specialization through the Department of Global Interdisciplinary Studies. The GIS chair and GWS Academic Director will work closely with each student to develop their individual interests, abilities, and career goals while fulfilling the requirements for the major.

### Required Major Courses:

Item #	Title	Credits
GIS 2000	Intro to Global Interd Studies	3
GWS 2050	Introduction to Gender Studies	3
PHI 2420	Philosophy of Women	3
GWS 5000	Integrating Seminar	3
	GWS Electives for B.A.	18

### Category Descriptions

GWS Electives for B.A.

Credits: 18

Select 6 Classes in any course of 3 credits or more with GWS attribute

## Irish Studies, B.A. (GIS)

Chairperson: Chiji Akoma, Ph.D.  
Office Location: 36 Garey Hall  
Telephone: 610-519-6302  
[\[Website\]](#)

## About

The Department of Global Interdisciplinary Studies (GIS) provides students with a tripartite of skills, knowledge, and values that foster critical thinking, problem solving, and preparation for responsible global citizenship. Students gain an understanding of global studies, acquiring the know-how in global and digital literacy, cultural diversity and intercultural competences, interdisciplinary research, and a passion for social justice, nurtured in experiential learning.

**Type:** Bachelor of Arts

## MAJOR (31-34 credits)

*Program Notes:*

- Courses taken as part of a study abroad may be counted.
- One internship course may be counted.
- For GIS 5011, Team-taught Topics Student takes two different topics, the first of which counts as the Junior Research Seminar for the Major (6 credits).

### Required Major Courses:

Item #	Title	Credits
GIS 2000	Intro to Global Interd Studies	3
GIS 5011	GIS Select	3
GIS 5011	GIS Select	3
GIS 6500	Capstone I: Research	3
GIS 6600	Capstone 2:Thesis	3
GIS 5000	Special Topics	1
	Study Abroad	
	IS 1121 or IS 2222	3
	ENG 2450 or ENG 2500	3
	HIS 3216 or HIS 2286	3
	IS Elective	3
	IS Elective	3

### Category Descriptions

Study Abroad

One semester of Study Abroad.

IS 1121 or IS 2222

Credits: 3

Choose one course of Irish language at the intermediate level or above.

Item #	Title	Credits
IS 1121	Intermediate Irish Language I	3
IS 2222	Topics: Irish Language	3

ENG 2450 or ENG 2500

Credits: 3

Choose one literature survey

Item #	Title	Credits
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HIS 3216 or HIS 2286

Credits: 3

Choose one history survey.

Item #	Title	Credits
HIS 3216	Ireland since 1800	3
HIS 2286	Irish-American Saga	3

IS Elective

Credits: 3

Choose a course with IS attribute.

## Latin American Studies, B.A. (GIS)

Chairperson: Chiji Akoma, Ph.D.

Office Location: 36 Garey Hall

Telephone: 610-519-6302

[\[Website\]](#)

### About

The Department of Global Interdisciplinary Studies (GIS) provides students with a tripartite of skills, knowledge, and values that foster critical thinking, problem solving, and preparation for responsible global citizenship. Students gain an understanding of global studies, acquiring the know-how in global and digital literacy, cultural diversity and intercultural competences, interdisciplinary research, and a passion for social justice, nurtured in experiential learning.

**Type:** Bachelor of Arts

## MAJOR (31-34 credits)

*Program Notes:*

- Courses taken as part of a study abroad may be counted.
- One internship course may be counted.
- For GIS 5011, Team-taught Topics Student takes two different topics, the first of which counts as the Junior Research Seminar for the Major (6 credits).

### Required Major Courses:

Item #	Title	Credits
GIS 2000	Intro to Global Interd Studies	3
GIS 5011	GIS Select	3
GIS 5011	GIS Select	3
GIS 6500	Capstone I: Research	3
GIS 6600	Capstone 2:Thesis	3
GIS 5000	Special Topics	1
	LAS Language Requirement	6
	LAS Electives	12
	Study Abroad	

### Category Descriptions

LAS Language Requirement

Credits: 6

Two advanced Spanish courses above the intermediate level.

Item #	Title	Credits
SPA 1131	Conversation & Composition I	3
SPA 1132	Conversation & Composition II	3

LAS Electives

Credits: 12

Four courses with the LAS attribute.

Study Abroad

One semester of Study Abroad.

## Peace and Justice, B.A. (GIS)

Chair: Kathryn Getek Soltis, S.T.L., Ph.D.

Office Location: 106 Corr Hall

Telephone: 610-519-6849

[\[Website\]](#)

### About

The interdisciplinary curriculum of the Center for Peace and Justice Education is rooted in Villanova's Augustinian tradition of education in the service of peace and social justice, with particular emphasis on the poor and marginalized in society. Students are prepared to understand the essential elements of a moral and just society, reflect on models for socially responsible resolution of injustice and conflict, and learn the necessary skills to be advocates for a just and peaceful world.

**Type:** Bachelor of Arts

### MAJOR (30 credits)

The major in Peace and Justice Studies is offered in collaboration with the Department of Global Interdisciplinary Studies. To complete the major, students take five required courses and five elective courses in Peace and Justice, courses with a Peace and Justice attribute, or courses otherwise earning Peace and Justice credit.

#### *Program Notes:*

- Electives should be determined in consultation with the program director and tailored to the student's field(s) of interest.
- Up to 3 credits in courses fewer than 3 credits with the PJ attribute can be bundled to count as one elective.

### Required Major Courses:

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
GIS 2000	Intro to Global Interd Studies	3
PJ 2800	Race, Class, & Gender	3
PJ 2993	Internship	3
GIS 6500	Capstone I: Research	3
GIS 6600	Capstone 2:Thesis	3
	PJ Electives for the B.A.	15

## Category Descriptions

### PJ Electives for the B.A.

Credits: 15

5 Classes in courses of 3 credits or more in PJ 1000:9999, or any course number in any subject with PJ attribute (15 cr).

## Russian Area Studies, B.A. (GIS)

Chairperson: Chiji Akoma, Ph.D.

Office Location: 36 Garey Hall

Telephone: 610-519-6302

[\[Website\]](#)

### About

The Department of Global Interdisciplinary Studies (GIS) provides students with a tripartite of skills, knowledge, and values that foster critical thinking, problem solving, and preparation for responsible global citizenship. Students gain an understanding of global studies, acquiring the know-how in global and digital literacy, cultural diversity and intercultural competences, interdisciplinary research, and a passion for social justice, nurtured in experiential learning.

**Type:** Bachelor of Arts

## MAJOR (31-34 credits)

### Program Notes:

- Up to two courses taken as part of a study abroad program may be counted.
- For GIS 5011, Team-taught Topics Student takes two different topics, the first of which counts as the Junior Research Seminar for the Major (6 credits).

### Required Major Courses:

Item #	Title	Credits
GIS 2000	Intro to Global Interd Studies	3
GIS 5011	GIS Select	3
GIS 5011	GIS Select	3
GIS 6500	Capstone I: Research	3
GIS 6600	Capstone 2:Thesis	3
GIS 5000	Special Topics	1
	Study Abroad	
	RAS Language Requirement	6
	RAS Electives	12

### Category Descriptions

#### Study Abroad

One semester of Study Abroad.

#### RAS Language Requirement

Credits: 6

Two Russian language courses at the intermediate level or higher.

Item #	Title	Credits
RUS 1123	Intermediate Russian I	3
RUS 1124	Intermediate Russian II	3
RUS 1131	Conversation Composition	3
RUS 1132	Advanced Convers & Comp	3

#### RAS Electives

Credits: 12

Four Courses with the RAS attribute for a minimum of 12 credits.

## Arabic Language & Cultural Studies Minor

Coordinator: Chiji Akoma, Ph.D.

Office Location: 36 Garey Hall

Telephone: (610) 519-6302

[Website](#)

### About

The Arabic Language and Cultural Studies program offers Arabic language and linguistic study, and classical and modern literature and cultural study. Arabic is the language of a rich culture and civilization dating back many centuries; it is also the language of Islam and the Quran. This culture has produced such figures as Averroes, the medieval Aristotelian philosopher, Ibn Khaldun, the first social historian, and the modern poet Khalil Gibran. Between the 8th and 15th centuries the volume of literary, scholarly, and scientific book production in Arabic and the level of urban literacy among readers of Arabic were greater than any the world had even known until that time.

The program represents a cutting-edge intellectual experience that provides its minors with an advantage in critiquing, understanding, and navigating the global landscape.

**Type:** Minor

### MINOR (28 credits)

Students can earn a minor in Arabic Language and Cultural Studies with six courses, listed below.

### Required Minor Courses:

Item #	Title	Credits
ARB 1111	Basic Arabic I	6
ARB 1112	Basic Arabic II	6
ARB 1121	Intermediate Arabic I	5
ARB 1122	Intermediate Arabic II	5
	ARB Cultural Studies Elective	3
	ARB Cultural Studies Elective	3

## Category Descriptions

### ARB Cultural Studies Elective

Credits: 3

Choose one course of three or more credits from the following list, or another culture-based course with the Arab and Islamic Studies (AIS) attribute.

### ARB Cultural Studies courses

Item #	Title	Credits
ARB 1131	Intensive Adv Arabic I	3
ARB 1132	Intensive Adv Arabic II	3
ARB 2142	Arab Culture Thru Film & Text	3
ARB 2143	Arab Culinary Culture	3
ARB 3412	Special Topics	3
ARB 5900	ARB: Independent Study	3

## Chinese Language and Cultural Studies Minor

Coordinator: HaiLin Zhou, Ph.D.  
Office Location: Gary Hall Rm. 036  
Telephone: (610) 519-6302  
[Website](#)

### About

The Chinese Language and Cultural Studies program opens the way to the study of various elements of Chinese life. Chinese Language and Cultural Studies includes the rich heritage of novels, short stories, poetry, culinary art, film and the Chinese classics. Chinese Language and Cultural Studies represents a cutting-edge intellectual experience that provides its minors with a real advantage in critiquing, understanding, and navigating the global landscape.

**Type:** Minor

## MINOR (28 credits or 6 courses)

The Chinese Language and Cultural Studies minor is open to all students and requires 6 courses (28 credits), four courses in language and two in electives.

### *Program Notes:*

- Other culture-based courses with ASN attribute found across disciplines also qualify for the cultural studies elective.
- Advanced Chinese (CHI 1131) course and the Translation (CHI 1151) course may count as electives if the student has fulfilled the required language courses.
- Pertinent GIS team-taught courses and contents courses from other departments with ASN (Chinese) attribute also qualify for CHI electives.
- Courses on Chinese/China taken as part of a study abroad will be counted.
- An internship related to Chinese Studies may be counted as an independent study.

### Required Minor Courses:

Item #	Title	Credits
	Chinese Language Course	3-6
	Chinese Cultural Studies Elective	3
	Chinese Cultural Studies Elective	3

## Category Descriptions

### Chinese Language Course

Credits: 3-6

Note: *Advanced Chinese courses and the Translation course may count as electives if student has fulfilled the required four language courses*

Item #	Title	Credits
CHI 1111	Basic Chinese I	6
CHI 1112	Basic Chinese II	6
CHI 1121	Intermediate Chinese I	5
CHI 1122	Intermediate Chinese II	5
CHI 1131	Advanced Chinese I	3
CHI 1132	Advanced Chinese II	3
CHI 1133	Advanced Chinese III	3
CHI 1134	Advanced Chinese IV	3
CHI 1151	Spec. Top. in Chinese Language	3

#### Chinese Cultural Studies Elective

Credits: 3

Choose from the following list, or another culture-based course with the ASN attribute found across other disciplines.

Item #	Title	Credits
CHI 1131	Advanced Chinese I	3
CHI 1132	Advanced Chinese II	3
CHI 1133	Advanced Chinese III	3
CHI 1134	Advanced Chinese IV	3
CHI 3412	Chinese Special Topics	3
CHI 3413	Chinese Calligraphy	3
GIS 4281	The Tale of Shanghai and Tokyo	3
GIS 4675	East Asian Comparative Lit	3

## Japanese Language and Cultural Studies Minor

Acting Coordinator: Kayo Shintaku, Ph.D.  
Office Location: Garey Hall 38C  
Telephone: 610-519-5076  
kayo.shintaku@villanova.edu

### About

The Japanese Language and Cultural Studies program offers a variety of courses, including language, traditional and popular culture, society, history, and literature. The program represents a cutting-edge intellectual experience that

provides its minors with a real advantage in critiquing, understanding, and navigating the global landscape.

**Type:** Minor

## MINOR (28 credits)

A minor is open to all students and requires six courses with a maximum of 28 credits.

*Program Notes:*

- GIS team-taught courses and contents courses from other departments with ASN attribute also qualify for JPN electives.
- Courses taken as part of a study abroad will be counted.
- Internship related to Japanese studies may be counted as an independent study.

## Required Minor Courses:

Item #	Title	Credits
	Japanese Language Requirement	16-22
	JPN Elective	3
	JPN Elective	3

## Category Descriptions

### Japanese Language Requirement

Credits: 16-22

Choose four courses from Japanese language. Language courses may count toward elective requirements if the four language requirements are met.

Item #	Title	Credits
JPN 1111	Introductory Japanese I	6
JPN 1112	Introductory Japanese II	6
JPN 1121	Intermediate Japanese I	5
JPN 1122	Intermediate Japanese II	5
JPN 1131	Advanced Japanese I	3
JPN 1132	Advanced Japanese II	3

### JPN Elective

Credits: 3

Language courses may count toward elective requirements if the four language requirements course requirement is met.

The JPN 3412 topics course has the following eligible courses.

- JPN 3412 TOP: Culture and Society in Modern Japanese Literature (3 cr)
- JPN 3412-001 TOP: Japanese Popular Culture (3 cr)
- JPN 3412-001 TOP: Japanese Videogames and Gaming (3 cr)

Item #	Title	Credits
JPN 2102	Japanese Film	3
JPN 3412	Special Topics	3
JPN 5900	JPN:Independent Study	3

## Russian Language & Cultural Studies Minor

Coordinator: Boris Briker, Ph.D.  
Office Location: 36 Garey Hall  
Telephone: 610-519-6302  
[\[Website\]](#)

### About

The Russian Studies Program offers courses that cover from language study to all aspects of Russia — the history, literature, culture, folklore, music, film, news media, and women's studies. This allows students to become familiar with Russian culture and society and the life experiences of Russians. Students also become familiar with Russia through courses on Russian history and politics offered by other departments on campus.

**Type:** Minor

## MINOR (24 credits)

The Russian Language and Cultural Studies minor represents a cutting-edge intellectual experience that provides students with a real advantage in critiquing, understanding, and navigating the global landscape.

*Program Notes:*

- Other culture-based courses with RAS attribute found across disciplines also qualify

### Required Minor Courses:

Item #	Title	Credits
RUS 1111	Introductory Russian I	6
RUS 1112	Introductory Russian II	6
RUS 1123	Intermediate Russian I	3
RUS 1124	Intermediate Russian II	3
	RUS Elective	3
	RUS Elective	3

### Category Descriptions

#### RUS Elective

Credits: 3

Choose a 3-credit course with the RUS attribute.

## Sustainability Studies Minor

Program Director: Frank Galgano, Ph.D.  
Office Location: Mendel Science Center  
Telephone: 610-519-3337  
[\[Website\]](#)

**Type:** Minor

## MINOR (18 credits)

The sustainability minor is open to all students and requires 6 courses and ~21 credits (dependent on lab course selections). It is designed for students who wish to deepen and broaden their knowledge of sustainability with a distinctive program of study encompassing the relationship between the environment and society. In addition to taking GEV 3001 (which will replace one course from either the Humanities or Policy Stem), students will select two courses from each of the three stems below: Humanities, Policy, and Science and Technology.

### Program Notes:

- Students may count 1 course from their major or a relevant core course (including relevant MSE courses) toward the minor).
- Course list may be supplemented by the program director as new courses become available
- For PJ 3000, PJ 5000, ECO 4200, GEV 3000, GEV 4330, GEV 4340, GEV 4510, PSC 4275, CEE 4612, CHE 4831/32, MSE 20XX: Permission of program director required
- BIO 4451/52, CHE 4831/32, CHM 1311/01, GEV 1050, GEV 1051, GEV 432X, MSE 20XX: Associated Lab Required, see advisor

### Required Minor Courses:

Item #	Title	Credits
GEV 3001	Intro to Sustainability Study	3
Humanities Stem Courses		
Policy Stem Courses		
Science and Technology Stem Courses		

## Category Descriptions

### Humanities Stem Courses

Choose two courses from the Humanities Stem.

- The required GEV 3001 course counts towards either one Humanities Stem or one Policy Stem requirement.

## Humanities Stem

The list below also includes:

- ENG 4690 (Post-200 American Apocalypse section)

Item #	Title	Credits
ENG 1975	Core Lit and Writing Seminar	3
ETH 3010	Topics in Ethics	3
GEV 2525	Population Geography	3
GEV 3001	Intro to Sustainability Study	3
GEV 3004	Geographies Envrnl Justice	3
GIS 5000	Special Topics	1
HIS 1065	Topics Nature, Environ & Tech	3
HIS 2276	American Environmental Hist	3
HIS 4499	Topics in World History	3
PHI 2121	Environmental Ethics	3
PHI 2430	Eco-Feminism	3
PJ 3000	Selected Topics	1
PJ 5000	Selected Topics	3
THL 4330	Christian Environmental Ethics	3
THL 4250	Global Poverty and Justice	3
THL 4490	Themes Christian Ethics	3
HIS 4998	Topics in Public History	3

### Policy Stem Courses

Choose two courses from Policy Stem.

- The required GEV 3001 course counts towards either one Humanities Stem or one Policy Stem requirement.

The following courses are included in the list below:

- VIA 3000

Item #	Title	Credits
ECO 3108	Global Political Econ	3
ECO 4200	Advanced Topics in Economics	3
GEV 2500	Global Change in Local Places	3
GEV 2525	Population Geography	3
GEV 3000	Special Topics	3
GEV 3002	Ecosystem Services	3
GEV 3570	Land Use Planning & Mgmt	3
GEV 3580	Natural Res and Conservation	3
GEV 3590	Topical Research Problems	3
GEV 4330	Spec Topics in Environm Policy	3
GEV 4331	Env. Policy & Management	3
GEV 4332	Water Resources Planning	3
GEV 4333	Politics and the Env.	3
GEV 4335	Energy Policy	3
GEV 4340	Spec Topics in Environm Issues	3
GEV 4510	Special Topics in Geography	3
GEV 4517	Sustainable Development	3
MGT 2208	International Topics	3
MGT 2352	Business in Emerging Markets	3
PA 2000	Public Policy	3
PA 3000	Overview of Non-Profit Sector	3
PJ 5000	Selected Topics	3
PSC 4275	Topics in Internat'l Relations	3

#### Science and Technology Stem Courses

Choose two courses from the Science and Technology Stem.

## Science and Technology Stem

Students may also choose:

- MSE 20XX: Mendel Science Experience courses
- GEV 432X: Lab Science Courses
- BIO 3361
- BIO 3845

Engineering students may also choose:

- EGR 7110: Climate Change/Sustainability
- EGR 7111: Life Cycle/Impact Assessment
- EGR 7112: Econ/Social Equity Integ.
- EGR 7113: Sustainable Materials
- CEE 2211: Transportation Engineering
- CEE 4608: Project & Construction Management
- CEE 4612: CEE Undergrad Research\*
- CEE 7829: Sustainability Man Indust
- CEE 4607: Special Topics
- CHE 5715: Alternative Energy
- CHE 5001: Industrial Liquid and Solid Waste
- CHE 4831/32: Chem. Eng. Research\*^
- ME 5130: Intro to Sustainable Energy
- ME 5140: Design of Gravity Water Ntwrks

Item #	Title	Credits
BIO 3255	Evolutionary Ecology	4
BIO 3385	Global Change Ecology	4
BIO 4451	Field Ecol and Evol	2
BIO 4452	Field Ecol and Evol Lab	2
BIO 4801	Conservation Biology	3
CHM 1311	Inorganic Chemistry I	3
CHM 1301	Inorganic Chemistry Lab I	2
GEV 1050	Environmental Science I	4
GEV 1051	Environmental Science II	4
GEV 1052	Environmental Studies	3
GEV 1053	Environmental Studies II	3
GEV 3301	Fisheries	3
GEV 3302	Agricultural Science	3
GEV 3003	Environmental Geology	3
GEV 3303	Soil Science	3
GEV 3305	Energy Systems	3
GEV 3306	Alternative Engery	3
GEV 3308	Environmental Health	3
GEV 4328	Climatology	4
GEV 4329	Global Change Research	4
GEV 4350	Spec Topics in Environm Sci	3
GEV 4353	Green Science	3
GEV 4355	Tropical Ecology	3

GEV 4512	Medical Geography	3
GEV 4515	Terrestrial Ecosystems	3
MET 1222	Climate Change:Past & Present	3

## History

### History, B.A.

Chair: Marc Gallicchio, Ph.D.  
Office Location: 403 Saint Augustine Center  
Telephone: 610-519-4662  
[\[Website\]](#)

### About

The History Department at Villanova offers students a dynamic liberal arts education with courses that span from antiquity to the modern world and traverse every region of the globe. The undergraduate History program focuses on the attainment of deep historical knowledge and a critical understanding of the enduring influence of the past on contemporary societies. The Faculty members of the History Department work closely with our students and prioritize individual development. Our rigorous courses provide the essential transferable skills that make our students competitive on the job market after graduation, prepares them for graduate and professional training, and stimulates the intellectual curiosity our students need to become engaged citizens of the world.

History seeks to understand and to explain the story of human experience, since the past provides the only laboratory of human experience actually lived. Historical study compliments and builds on the foundational courses in the core through its appreciation of the complexity of humankind, recognizing in the men and women who make history the intellectual, the material, social, and spiritual diversity of the human condition. History further advances the goals of the core curriculum through an interdisciplinary methodology that seeks to reconstruct our collective past. It is the story of individuals, and the story of the political, religious, economic, and social ideologies and institutions they create in their search for identity, purpose, and value. History recognizes both the

commonality of the human experience and the reality of cultural, class, racial, and gender distinctions that enrich that experience.

**Type:** Bachelor of Arts

## MAJOR (33 credits)

*Program Notes:*

- The major is 33 credits and consists of 10 courses in history and one in art history.
- Majors must complete at least 18 credits/6 courses at Villanova.
- The Art History course required for the History major does not satisfy the Core Fine Arts requirement unless the History major is the student's secondary or tertiary major. Students for whom History is the primary major need to take an Art History course for the major and a different course with the Fine Arts attribute for the Core

### Required Major Courses:

Item #	Title	Credits
	Core History Course	3
	HIS 2000 or HIS 2001	3
HIS 5001	Junior Research Seminar	3
	HIS 5501 or HIS 5515	3
	History: Art History Elective	3
	HIS Electives	18

### Category Descriptions

#### Core History Course

Credits: 3

Choose one of the specially designated core history courses (HIS 1060 through HIS 1250).

#### HIS 2000 or HIS 2001

Credits: 3

Item #	Title	Credits
HIS 2000	Investigating U.S. History I	3
HIS 2001	Investigating US History II	3

#### HIS 5501 or HIS 5515

Credits: 3

Item #	Title	Credits
HIS 5501	Sem in Historical Methodology	3
HIS 5515	Independent Research	3

#### History: Art History Elective

Credits: 3

1 Class in any course of 3 credits or more in AAH 0000:9999.

\* This course does not fulfill the Fine Arts requirement.

#### HIS Electives

Credits: 18

6 Classes in courses of 3 credits or more in AAH 1101, 1102, HIS 0000:9999 (18 cr), or any course with the HIS attribute

## History Minor

Chair: Marc Gallicchio, Ph.D.  
Office Location: 403 Saint Augustine Center  
Telephone: 610-519-4662  
[\[Website\]](#)

### About

The History Department at Villanova offers students a dynamic liberal arts education with courses that span from antiquity to the modern world and traverse every region of the globe. The undergraduate History program focuses on the attainment of deep historical knowledge and a critical understanding of the enduring influence of the past on contemporary societies. The Faculty members of the History Department work closely with our students and prioritize individual development. Our rigorous courses provide the essential transferable skills that make our students competitive on the job market after graduation, and stimulate the intellectual curiosity our students need to become engaged citizens of the world.

**Type:** Minor

## MINOR (18 credits)

A minor is open to all students and requires 6 history courses for 18 credits, these 18 credit hours must include one specially designated core course.

History Courses (18 cr) – Select 6 Classes in AAH 1101, 1102, HIS 0000:9999, or any course with the HIS attribute.

#### *Program Notes:*

- History Minors must earn at least half (9 credits/3 courses) at Villanova
- See History Department Undergraduate Programs website for details on AP Credit Policy as it related to Major/Minor.

## Honors

### Honors

Director: Dr. Anna Moreland, Ph.D.  
Office Location: 111 Garey Hall  
Telephone: 610-519-4650  
[\[Website\]](#)

### About

Admission to the University Honors Program is by invitation or by application to the Director. Members of the Program are expected to take Honors courses at least every third semester, and to maintain high academic standards (at least a 3.33 overall GPA). Individual Honors courses are open to all Villanova students who have at least a 3.0 overall GPA or will bring a special expertise to the course, contingent upon class size limitations.

## DEGREE (30 credits)

**Type:** Program

## The Honors Degree, Thesis Track (10 Honors courses)

### Requirements:

At least 3 upper level Honors courses, which will include a six-credit HON 6000 and HON 6002 senior thesis; minimum 3.33 GPA.

### Required Courses:

Item #	Title	Credits
	Three Upper-Level Honors Courses	9
	Seven additional Honors courses	21

## The Honors Degree, Oral Examination Track (10 Honors courses)

### Requirements:

An Oral Comprehensive Examination in the senior year integrates three upper-level Honors courses in a primary major or area of academic interest; minimum 3.33 GPA.

Item #	Title	Credits
	Three Upper-Level Honors Courses	9
	Seven Honors Courses	21
HON 6003	Oral Exam Capstone	1

## Honors Minor (5 Honors courses)

### Requirements:

Five courses in Honors, at least two of which must be upper level; minimum 3.33 GPA. The Honors Program also offers upper-level seminars which fulfill degree requirements in specific academic disciplines. All courses are small seminars and have in common active class participation, and intensive writing requirements.

Item #	Title	Credits
	Two Upper-Level Honors Courses	6
	Three Additional Honors Courses	9

## Honors Politics, Philosophy, & Economics Minor (18 credits)

An interdisciplinary minor offered through the Honors Program focusing on the intersection of the disciplines of politics, philosophy and economics. Students may only contract one non-Honors course to complete the minor requirements. Excluding the 3 Honors Cohort classes, which must be taken at Villanova, students may fulfill two of any other requirements by taking the equivalent course in an Honors-approved student abroad experience. Students pursuing a PPE minor in Honors may contract only 1 course in total to fulfill the requirements. Students only receive 1 Minor from Honors. If students are pursuing the Honors Degree, the PPE Minor would be considered a "track" within their Honors Degree.

### Requirements:

To achieve the Honors PPE minor, students must take 6 courses from among the following requirements (minimum 3.33 GPA and active status in Honors required).

Item #	Title	Credits
	3 Honors Cohort Classes	9
	Honors Ethics Elective	3
	Honors Economics	3
	Honors Upper-Level Elective	3

## Honors Medical Humanities Minor (15 credits)

An interdisciplinary minor offered through the University Honors Program focusing on the intersection of the humanities, medical care, medical ethics, and an holistic approach to medicine. Students pursuing this minor may contract only one course to fulfill the requirements. Students pursuing a Medical Humanities minor in Honors may contract only 1 course in total to fulfill the requirements. Students only receive 1 Minor from Honors. If students are pursuing the Honors Degree, the Medical Humanities Minor would be considered a “track” within their Honors Degree.

### Requirements:

To achieve the Honors Medical Humanities Minors students must take 5 courses from among the following requirements (minimum 3.33 GPA and active status in Honors required).

Item #	Title	Credits
	Honors Liberal Arts Elective	6
	Honors Ethics Elective	3
	PHI 2117 or SOC 3400	3
	Honors Senior Capstone	3

### Category Descriptions

#### Three Upper-Level Honors Courses

Credits: 9

- HON 6000: Thesis Capstone I
- HON 6002: Thesis Capstone 2
- One three-credit course in HON 2000-20049 or one course with the HON attribute between 2051-5999 level.

#### Seven additional Honors courses

Credits: 21

Seven additional courses carrying the HON attribute worth 3 credits each.

#### Seven Honors Courses

Credits: 21

- Seven courses selected from HON courses between the 1000 and 5999 level or which carry the HON attribute.

#### Two Upper-Level Honors Courses

Credits: 6

- One 2000-2049 level course with the HON attribute.
- One 2051-5999 level course with the HON attribute.

#### Three Additional Honors Courses

Credits: 9

- Three courses with the HON attribute between 1000-5999 level worth 3 credits each.

#### 3 Honors Cohort Classes

Credits: 9

Honors ACS 1: (PPE Cohort)

Honors ACS II: (PPE Cohort)

HON 5700

Item #	Title	Credits
HON 5700	Colloquia	3

#### Honors Ethics Elective

Credits: 3

Item #	Title	Credits
ETH 2050	The Good Life:Eth & Cont Prob	3

#### Honors Economics

Credits: 3

Macro, Micro, International, e.g.

Students may also count an economics course during their study abroad semester in Cambridge with permission from the Honors Director.

#### Honors Upper-Level Elective

Credits: 3

- ECO 3115 Comparative Economic Systems may also be used to satisfy this requirement.
- Students may also count an upper-level elective course taken during their study abroad semester in Cambridge with permission from the Honors Director.

Item #	Title	Credits
PHI 2300	Philosophy of Law	3
PHI 2450	Catholic Social Thought	3
PSC 2220	International Law	3
PSC 2240	Internat'l Political Economy	3
ECO 3108	Global Political Econ	3
ECO 3126	Amer Econ Development	3
HUM 2100	HIS:The Goods & the Good Life	3
HUM 5950	Citizenship & Globalization	3

#### Honors Liberal Arts Elective

Credits: 6

Choose two of the following, or:

- Any course within the Honors Interdisciplinary Cohort.
- HUM 3450

Item #	Title	Credits
ACS 1000	Ancients	3
ACS 1001	Moderns	3
ENG 1975	Core Lit and Writing Seminar	3
THL 1500	Spirituality & Healing Arts	3
THL 3450	Pastoral Care of the Sick	3

#### PHI 2117 or SOC 3400

Credits: 3

Item #	Title	Credits
PHI 2117	The Good Doctor	3
SOC 3400	Health, Medicine & Society	3

#### Honors Senior Capstone

Credits: 3

Item #	Title	Credits
HON 6000	Senior Thesis I	3
HON 5500	Ind Study & Research	3
HON 5506	Ind Study & Res Science	3

## Humanities

### Humanities, B.A.

Chair: Michael Tomko, Ph.D.

Office Location: 304 Saint Augustine Center

Telephone: 610-519-6165

[Website](#)

### About

The Department of Humanities offers a coordinated series of seminars and courses designed to inquire into the human condition from an interdisciplinary perspective. Drawing on wisdom ancient and new, the curriculum encourages critical thinking about what is needed for human flourishing. Humanities faculty are specialists in complementary disciplines, including theology, philosophy, literature, political science, history, economics, and architectural history. Humanities courses fulfill certain requirements for the Core Curriculum of the College of Liberal Arts and Sciences.

**Type:** Bachelor of Arts

### MAJOR (30 credits)

The Humanities major requires the completion of ten courses. All majors are required to take the four Gateway courses. In their final semester students also take the Senior Symposium. Students also take five free electives, three of which must be taken within the Department of Humanities.

#### *Program Notes:*

- Three of the five humanities electives must have the HUM subject code.

### Required Major Courses:

Item #	Title	Credits
HUM 2001	THL:God	3
HUM 2002	Human Person	3
HUM 2003	PHI:World	3
HUM 2004	PSC:Society	3
HUM 6500	Senior Seminar	3
	Humanities Elective for B.A.	15

## Category Descriptions

### Humanities Elective for B.A.

Credits: 15

Select 5 Classes in courses of 3 credits or more in HUM 1975, 2100:6950, or any course of three or more credits with the HUM attribute.

## Humanities Minor

Chair: Michael Tomko, Ph.D.  
Office Location: 304 Saint Augustine Center  
Telephone: 610-519-6165  
[Website](#)

### About

The Department of Humanities offers a coordinated series of seminars and courses designed to inquire into the human condition from an interdisciplinary perspective. Drawing on wisdom ancient and new, the curriculum encourages critical thinking about what is needed for human flourishing. Humanities faculty are specialists in complementary disciplines, including theology, philosophy, literature, political science, history, economics, and architectural history. Humanities courses fulfill certain requirements for the Core Curriculum of the College of Liberal Arts and Sciences.

**Type:** Minor

### MINOR (15 credits)

Students take two of the four Gateway courses, plus 3 electives, 2 of which must be taken in the Department of Humanities.

#### *Program Notes:*

- Two of the required electives must have the HUM subject code

### Required Minor Courses:

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
	Humanities Gateway Courses	6
	Humanities Elective for Minor	9

## Category Descriptions

### Humanities Gateway Courses

Credits: 6

Choose two of the following:

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
HUM 2001	THL:God	3
HUM 2002	Human Person	3
HUM 2003	PHI:World	3
HUM 2004	PSC:Society	3

### Humanities Elective for Minor

Credits: 9

Select 3 Classes in HUM 1975:6950 or any course of three or more credits with the HUM attribute.

## Italian

### Italian, B.A.

Program Coordinator: Mary Migliozi, Ph.D.  
Office Location: 337 Saint Augustine Center  
Telephone: 610-519-4699  
[Website](#)

### About

Knowledge of Italian provides access to a rich cultural background, and, at the same time, to a singular perspective on contemporary world. While exploring the master of Western thought (Dante, Petrarca, Boccaccio, Machiavelli, Michelangelo, Bernini, Galileo, and Vico to name a few), the encounter with Italian culture provides also a singular reflection on current events, by embodying a unique business model (in fashion, design, and the culinary industry) and a peculiar political perspective on Europe and America.

**Type:** Bachelor of Arts

## MAJOR (31 credits)

The Italian Studies Program, within the Department of Romance Languages and Literatures, is designed to make students fluent in Italian, to expose them to Italian culture in all its aspects (literature, visual arts, design, history, cinema), to broaden their intellectual horizon, and to introduce them to the professional world. Italian offers a flexible major or minor, which can be easily combined with majors in psychology, communications, humanities, economics, business, nursing, law and politics.

### Program Notes:

- Majors and minors can earn some of their credits by studying in Italy through the affiliated summer programs in Perugia, Rome, and Milan.

### Required Major Courses:

Item #	Title	Credits
	ITA 1131 or ITA 1132	3
	ITA 1138 or ITA 1140	3
	ITA 2220 or ITA 2221	3
	RLL 3413 or RLL 3412	3
ITA 3971	Directed Research in Italian	1
	Italian Electives	18

### Category Descriptions

#### ITA 1131 or ITA 1132

Credits: 3

Item #	Title	Credits
ITA 1131	Conversation & Composition I	3
ITA 1132	Conversation & Composition II	3

#### ITA 1138 or ITA 1140

Credits: 3

Item #	Title	Credits
ITA 1138	Advanced Grammar	3
ITA 1140	Writing & Stylistics in Ita.	3

#### ITA 2220 or ITA 2221

Credits: 3

Item #	Title	Credits
ITA 2220	Italian Lit and Culture I	3
ITA 2221	Italian Lit. and Culture II	3

#### RLL 3413 or RLL 3412

Credits: 3

Note: Topics courses must have ITA attribute.

Item #	Title	Credits
RLL 3413	Topics on Italy and Beauty	3
RLL 3412	Topics	3

#### Italian Electives

Credits: 18

6 Classes in ITA 1123:9999 (18cr).

## Italian Minor

Program Coordinator: Mary Migliozi, Ph.D.  
Office Location: 337 Saint Augustine Center  
Telephone: 610-519-4699  
[Website](#)

### About

Knowledge of Italian provides access to a rich cultural background, and, at the same time, to a singular perspective on contemporary world. While exploring the master of Western thought (Dante, Petrarca, Boccaccio, Machiavelli, Michelangelo, Bernini, Galileo, and Vico to name a few), the encounter with Italian culture provides also a singular reflection on current events, by embodying a unique business model (in fashion, design, and the culinary industry) and a peculiar political perspective on Europe and America.

**Type:** Minor

## MINOR (15 credits)

A minor is open to all students and requires 5 Italian courses.

### Program Notes:

- Once a sequence of courses has begun, a student may not revert to a lower-level course.

### Required Minor Courses:

Item #	Title	Credits
ITA 1131	Conversation & Composition I	3
RLL 3413	Topics on Italy and Beauty	3
	Upper-Level Italian Electives	9

### Category Descriptions

#### Upper-Level Italian Electives

Credits: 9

Select 3 Classes in ITA 1130:9999 (9 cr).

## Latin American Studies

### Latin American Studies Minor

Program Director: Raúl Diego Rivera Hernández, Ph.D.

Office Location: 341 Saint Augustine Center

Telephone: (610) 519-3018

[\[Website\]](#)

### About

The Villanova Latin American Studies Program, established in 1988, offers students in all of the university's four undergraduate colleges the opportunity to acquire a broad multi-disciplinary understanding and appreciation of Latin America. Students may pursue either a minor or the more comprehensive major (GLAS). Both are designed to complement a variety of majors; many concentration and minor courses can also be used to satisfy core curriculum requirements.

Since language is essential to understanding any culture, a degree of language proficiency is an

integral part of both the major and the minor. And, since living in Latin America offers invaluable experience in language, culture, and contemporary life issues, students in the program are strongly encouraged to spend a summer or semester in the region.

**Type:** Minor

## MINOR (18 credits)

A minor is open to all students and requires 6 courses for 18 credits.

### Program Notes:

- The Latin American Studies program allows up to two courses, or six credits, to be counted in both the LAS minor and the Spanish major or minor. Overall, no more than two courses, or six credits, from Romance Languages and Literatures (RLL) may count as electives for the LAS minor.

### Required Minor Courses:

Item #	Title	Credits
	LAS Elective	12
	Spanish Elective	6

## Major (34 credits)

The Department of Global Interdisciplinary Studies (GIS) offers a major with a specialization in Latin American Studies. Please see [that page](#) for detailed requirements of the major.

### Category Descriptions

#### LAS Elective

Credits: 12

Four elective courses with the LAS attribute (12 cr).

#### Spanish Elective

Credits: 6

Two Spanish courses at the intermediate level (1121 and 1122) or above (6 cr).

# Liberal Arts

## Liberal Arts Major

Chair: Susan Jacobs, M.A.  
Office Location: 107 Saint Augustine Center  
Telephone: 610-519-3900  
[\[Website\]](#)

### MAJOR (30 credits)

The Liberal Arts Major is a rigorous academic major, which requires students to complete an intensive course of study that includes 40 courses and at least 122 credits. The Liberal Arts Major requires a plan of study outlined with a faculty advisor as part of the application process and is granted by special permission from the Assistant Dean for Undergraduate Students. Please visit the office for more details.

**Type:** Bachelor of Arts

# Mathematics and Statistics

## Mathematics, B.S.

Chair: Jesse Frey, Ph.D.  
Office Location: 305 Saint Augustine Center  
Telephone: 610-519-4850  
[Website](#)

### About

The Department of Mathematics & Statistics offers a standard course of study for a mathematics major to provide the student with an introduction to the major branches of mathematics as an academic discipline within the context of a comprehensive education in the liberal arts and sciences. Students who complete the Mathematics program will be prepared for a broad range of opportunities in business, government, and service industries, as well as being prepared to undertake graduate study in mathematics and related disciplines.

**Type:** Bachelor of Science

## MAJOR (59 credits)

The program leading to the degree of Bachelor of Science in Mathematics is designed to introduce students to the major aspects of contemporary mathematics.

By selecting appropriate electives students may become well prepared either for positions in industry or for graduate study in mathematics and related disciplines. The mathematics major can prepare one for a career in actuarial science, operations research, computer science, statistics, biostatistics, mathematical physics, or any of many other areas which use mathematics.

### Program Notes:

- A student pursuing a double major in mathematics and some other field may petition to have an approved upper-division course from their other major count as one of the four math electives. The course must have substantial mathematical content and may not significantly overlap with any of the other courses that the student is counting towards the major. A student pursuing a double major in mathematics and a closely related field such as computer science or engineering may petition to have two approved upper-division courses from their other major count as math electives.
- MAT majors may only count one course outside of the MAT and STAT subject code toward their elective credit within the major.

### Required Major Courses:

Item #	Title	Credits
MAT 1000	Math and Stat Communities	1
MAT 1500	Calculus I	4
MAT 1505	Calculus II	4
MAT 2500	Calculus III	4
MAT 2600	Foundation of Math I	3
MAT 2705	Diff Equation with Linear Alg	4
MAT 3300	Advanced Calculus	3
MAT 3400	Linear Algebra	3
MAT 3500	Modern Algebra I	3
MAT 5900	Seminar in Mathematics	3
	MAT Upper-Level Analysis	3
	Mathematics & Statistics Electives	12
	MAT Natural Science Elective	8

## Category Descriptions

### MAT Upper-Level Analysis

Credits: 3

Choose an approved upper-level analysis course from the list below(3 cr).

- Note: MAT 5700 and 8400 are inactive courses that satisfy this requirement.

Item #	Title	Credits
MAT 3305	Topics in Analysis	3
MAT 4270	Numerical Analysis	3
MAT 5400	Complex Analysis	3
MAT 5600	Differential Geometry	3
MAT 7605	Topics in Analysis	3
STAT 5700	Math Statistics I	3
STAT 8400	Statistical Theory I	3

### Mathematics & Statistics Electives

Credits: 12

4 additional mathematics courses numbered 3000 or higher.

### MAT Natural Science Elective

Credits: 8

Choose a two-semester sequence of natural science courses with lab at the science-major level from those listed below (8 cr minimum).

### Astronomy Sequence

Item #	Title	Credits
AST 2122	Understanding Our Universe	3
MSE 2151	AST:Astronomy Lab - Stars	1
AST 2121	Solar System Astronomy	3
MSE 2150	AST:Astronomy Lab - Planets	1

### Biology Sequence

Item #	Title	Credits
BIO 2105	General Biology I	4
BIO 2106	General Biology II	4

### Chemistry Sequence

Item #	Title	Credits
CHM 1151	General Chemistry I	4
CHM 1103	General Chemistry Lab I	1
CHM 1152	General Chemistry II	4
CHM 1104	General Chemistry Lab II	1

### Environmental Science Sequence

Item #	Title	Credits
GEV 1050	Environmental Science I	4
GEV 1051	Environmental Science II	4

### Physics Sequence, Option 1

Item #	Title	Credits
PHY 1100	General Physics I	3
PHY 1101	General Physics I Lab	1
PHY 1102	General Physics II	3
PHY 1103	General Physics II Lab	1

### Physics Sequence, Option 2

Item #	Title	Credits
PHY 2410	University Phy:Mechanics	3
PHY 2411	Lab: Mechanics	1
PHY 2412	Univ Physics:Elec & Mag	3
PHY 2413	Lab:Elec & Magnetism	1

### Additional Math Science Elective

Credits: 4

Choose one additional science course at the science-major level with lab if appropriate (4 cr minimum).

### Biology Selection 1

Select 1 class in ENV 1050, ENV 1051, or one of the other courses listed in this section:

Item #	Title	Credits
BIO 2105	General Biology I	4
BIO 2106	General Biology II	4

### Chemistry Selection 1

or 2 classes in:

Item #	Title	Credits
CHM 1103	General Chemistry Lab I	1
CHM 1151	General Chemistry I	4

## Chemistry Selection 2

or 2 classes in:

Item #	Title	Credits
CHM 1104	General Chemistry Lab II	1
CHM 1152	General Chemistry II	4

## Chemistry Selection 3

Or 2 classes in:

Item #	Title	Credits
CHM 2201	Organic Chemistry Lab I	1
CHM 2211	Organic Chemistry I	3

## Computer Science Selection 1

Item #	Title	Credits
CSC 1051	Algorithms & Data Struc I	4

## Physics Selection 1

or 2 classes in:

Item #	Title	Credits
PHY 2410	University Phy:Mechanics	3
PHY 2411	Lab: Mechanics	1

## Physics Selection 2

or 2 classes in:

Item #	Title	Credits
PHY 2412	Univ Physics:Elec & Mag	3
PHY 2413	Lab:Elec & Magnetism	1

## Physics Selection 3

or 2 classes in:

Item #	Title	Credits
PHY 2414	Univ Physics: Thermo	3
PHY 2415	Lab: Thermodynamics	1

## Statistics, B.S.

Chair: Jesse Frey, Ph.D.

Office Location: 305 Saint Augustine Center

Telephone: 610-519-4850

[Website](#)

## About

A major in Statistics provides students with the statistical expertise needed to secure employment in statistics and related fields, such as data science and biostatistics.

**Type:** Bachelor of Science

## Major (55 credits)

Students who are interested in the Major in Statistics should state this intention in their initial application to Villanova. Alternatively, after starting as a student at Villanova, students can switch to a Statistics Major or, if they are initially undeclared, declare a Statistics Major.

Item #	Title	Credits
MAT 1000	Math and Stat Communities	1
MAT 1500	Calculus I	4
MAT 1505	Calculus II	4
MAT 2500	Calculus III	4
	Linear Algebra Course	3
STAT 4310	Stat Methods	3
STAT 4315	Applied Statistical Models	3
STAT 4380	Data Science	3
STAT 5700	Math Statistics I	3
STAT 5705	Math Statistics II	3
CSC 1051	Algorithms & Data Struc I	4
	Statistics Major Electives	9
	Statistics Natural Science Elective	8
STAT 5905	Seminar in Statistics	3

## Category Descriptions

### Linear Algebra Course

Credits: 3

Select one linear algebra course from below.

Item #	Title	Credits
MAT 2705	Diff Equation with Linear Alg	4
MAT 3100	Applied Linear Algebra	3

### Statistics Major Electives

Credits: 9

Any three courses with the subject code STAT numbered 3000:9000 or from the list below.

Item #	Title	Credits
MAT 4600	Deterministic Oper Res	3

#### Statistics Natural Science Elective

Credits: 8

Choose a two-semester sequence of natural science courses with lab at the science-major level.

#### Astronomy Sequence

Item #	Title	Credits
AST 2122	Understanding Our Universe	3
MSE 2151	AST:Astronomy Lab - Stars	1
AST 2121	Solar System Astronomy	3
MSE 2150	AST:Astronomy Lab - Planets	1

#### Biology Sequence

Item #	Title	Credits
BIO 2105	General Biology I	4
BIO 2106	General Biology II	4

#### Chemistry Sequence

Item #	Title	Credits
CHM 1151	General Chemistry I	4
CHM 1152	General Chemistry II	4
CHM 1103	General Chemistry Lab I	1
CHM 1104	General Chemistry Lab II	1

#### Environmental Science Sequence

Item #	Title	Credits
GEV 1050	Environmental Science I	4
GEV 1051	Environmental Science II	4

#### Physics Sequence, Option 1

Item #	Title	Credits
PHY 1100	General Physics I	3
PHY 1101	General Physics I Lab	1
PHY 1102	General Physics II	3
PHY 1103	General Physics II Lab	1

#### Physics Sequence, Option 2

Item #	Title	Credits
PHY 2410	University Phy:Mechanics	3
PHY 2411	Lab: Mechanics	1
PHY 2412	Univ Physics:Elec & Mag	3
PHY 2413	Lab:Elec & Magnetism	1

## Mathematics Minor

Chair: Jesse Frey, Ph.D.

Office Location: 305 Saint Augustine Center

Telephone: 610-519-4850

[Website](#)

### About

Pursuing a minor in mathematics is a way for students who are not mathematics majors to demonstrate expertise in mathematics.

**Type:** Minor

## MINOR (27 credits)

Students who plan to pursue a mathematics minor should declare their intention by completing the Application to Add a CLAS Minor, preferably by the fall semester of their junior year. To receive a math minor certificate, the student should contact Dr. Paul Pasles prior to course registration for their final semester. Students may consult Dr. Pasles at any time for information and advice. If all requirements are satisfied, then the certificate will be issued about two weeks after graduation. The minor will also appear on the student's transcript.

### Program Notes:

- A student may petition to replace at most one of the five math minor electives with an upper division course from their own major. The proposed substitution must contain substantial mathematical content and not overlap with any other math minor elective courses. Examples of acceptable substitutions can be found at <https://www1.villanova.edu/villanova/artsci/mathematics/academic-programs/undergrad/minor.html>. Any course not listed there must be approved for substitution by the Department of Mathematics and Statistics.

## Mathematics Minor Required Courses:

Item #	Title	Credits
MAT 1500	Calculus I	4
MAT 1505	Calculus II	4
MAT 2500	Calculus III	4
	Mathematics & Statistics Electives for Minor	12
	Upper-Level MAT Elective for Minor	3

## Category Descriptions

### Mathematics & Statistics Electives for Minor

Credits: 12

Select 4 classes in MAT 2600, 2705, 3000:9999, STAT 3000:9999 (12 cr).

### Upper-Level MAT Elective for Minor

Credits: 3

Choose MAT 2600, MAT 2705, or a MAT or STAT course numbered 3000 or above.

## Statistics Minor

Chair: Jesse Frey, Ph.D.  
Office Location: 305 Saint Augustine Center  
Telephone: 610-519-4850  
[Website](#)

## About

Pursuing a minor in statistics is a way for students who are not statistics majors to demonstrate expertise in statistics.

**Type:** Minor

## MINOR: STATISTICS (27 credits)

Students who plan to get a minor in statistics should declare their intention as early as possible. Students may consult statistics minor coordinator Dr. Yimin Zhang ([yimin.z@villanova.edu](mailto:yimin.z@villanova.edu)) at any time for information and advice. If all requirements for the minor are satisfied, then the certificate will be issued about two weeks after graduation. The minor will also appear on the student's transcript.

### Program Notes:

- A student who is not a mathematics major may petition to have an upper-division course from their major count as one of the two statistics electives. The course must have substantial statistical content and must not substantially overlap with any of the other courses that the student is counting towards the minor.
- For mathematics majors, four courses may be counted towards both the mathematics major and the statistics minor: MAT 1500, 1505, 2500 and either STAT 4310 or STAT 5700. No other courses count towards both. Thus, obtaining the statistics minor requires taking four additional courses beyond those required for the mathematics major.
- For those students who pursue both the mathematics minor and the statistics minor, exactly four courses (no more) may be counted towards both minors simultaneously: MAT 1500, MAT 1505, MAT 2500, and STAT 4310. No other courses count towards both. Thus, obtaining the statistics minor requires taking four additional courses beyond those required for the mathematics minor.

### Statistics Minor Required Courses:

Item #	Title	Credits
MAT 1500	Calculus I	4
MAT 1505	Calculus II	4
MAT 2500	Calculus III	4
STAT 4310	Stat Methods	3
STAT 4315	Applied Statistical Models	3
STAT 5700	Math Statistics I	3
	Statistics Elective for the Minor	3
	Second Elective for the STAT Minor	3

## Category Descriptions

### Statistics Elective for the Minor

Credits: 3

Select 1 STAT course numbered 3000 or above (3 cr).

### Second Elective for the STAT Minor

Credits: 3

Select 1 STAT course numbered 3000 or above (3 cr).

## Military Science (Army ROTC)

### Military Sciences (Army ROTC)

Director: Major Michael J. Repasky, U.S. Army  
Telephone: 610-519-5953

### About

Villanova students are eligible to participate in the Army Reserve Officers Training Corps (ROTC) Program through a partnership agreement with the Widener University Department of Military Science. Army ROTC offers students the opportunity to graduate with a college degree and a commission in the United States Army, Army National Guard, or United States Army Reserve. All Army ROTC classes are conducted on the Villanova University campus.

Detailed information may be obtained from the Professor of Military Science, Widener University, Chester, PA 19013, (610) 499-4098. Go to [www.armyrotc.villanova.edu](http://www.armyrotc.villanova.edu) for further details.

**Type:** Program

## Required Courses

- MS 101: Army Critical Thinking Introduction
- MS 102: Adaptive Leadership and Professional Competence
- MS 201: Foundations of Leadership
- MS 202: Foundations of Tactical Leadership
- MSL 301: Training Management and the Warfighting Functions
- MSL 302: Applied Leadership In Small Unit Operations
- MS 401: Mission Command and the Army Profession
- MS 402: Mission Command and the Company Grade Officer

## Naval Science (Navy ROTC)

### Naval Science Program and Minor (Navy ROTC)

#### About

Villanova University, in a long-standing relationship with the United States Navy, maintains one of approximately 60 Naval Reserve Officers Training Corps units in the United States. The objective of the Unit is to educate prospective officers for the Navy and Marine Corps. Reserve commissions as Ensign or 2nd Lieutenant are awarded upon successful completion of prescribed naval science courses and graduation from the University. These commissioned officers will serve on active duty for a period of four to nine years, depending upon choice of warfare specialty.

All Scholarship and College Program students may select any major at the University. Midshipmen at Villanova study in a wide variety of majors in engineering, arts, sciences, business, and nursing. Detailed NROTC information may be obtained from the Naval Science Office, Room 103, John Barry Hall.

**Type:** Program

## Peace and Justice

- [Peace and Justice, B.A. \(GIS\)](#)

Location: Corr Hall, Rm. 106

## Peace and Justice Minor

Chair: Kathryn Getek Soltis, S.T.L., Ph.D.

Office Location: 106 Corr Hall

Telephone: 610-519-6849

[\[Website\]](#)

### About

The interdisciplinary curriculum of the Center for Peace and Justice Education is rooted in Villanova's Augustinian tradition of education in the service of peace and social justice, with particular emphasis on the poor and marginalized in society. Students are prepared to understand the essential elements of a moral and just society, reflect on models for socially responsible resolution of injustice and conflict, and learn the necessary skills to be advocates for a just and peaceful world.

**Type:** Minor

### MINOR (18 credits)

To complete a minor in Peace and Justice, students must take six courses, including one of the foundational courses and five other courses in Peace and Justice, courses with a Peace and Justice attribute, or courses otherwise earning Peace and Justice credit.

#### Program Notes:

- PJ ePortfolio (three pieces of work and a short reflection)
- No more than three foundational courses may receive credit for the minor.
- Up to 3 credits in courses fewer than 3 credits with the PJ attribute can be bundled to count as one elective.

### Required Minor Courses:

Item #	Title	Credits
	PJ Foundational Course	3
	PJ Electives for the Minor	15

### Category Descriptions

[PJ Foundational Course](#)

Credits: 3

Choose one Peace and Justice foundational course:

Item #	Title	Credits
PJ 2250	Violence & Justice in the Wrld	3
PHI 2450	Catholic Social Thought	3
PJ 2700	Peacemakers & Peacemaking	3
PJ 2800	Race, Class, & Gender	3
PJ 2900	Ethical Issues in P & J	3

PJ Electives for the Minor

Credits: 15

5 Classes in courses of 3 credits or more in PJ 1000:9999, or any course number in any subject with PJ attribute (15 cr).

## Philosophy

### Philosophy, B.A.

Chair: John Carvalho, Ph.D.  
 Office Location: 108 Saint Augustine Center  
 Telephone: 610-519-4690  
[Website](#)

### About

The Philosophy department offers interesting courses that help students better understand the world and their place in it. Philosophy courses teach students to analyze difficult texts, to write clearly and precisely, to defend their views with cogent arguments and to take pleasure in the struggle with complex ideas and questions.

**Type:** Bachelor of Arts

## MAJOR (10 courses, 30 credits)

The philosophy major consists of 10 courses and 30 credits.

### Double Majors

Because of the interdisciplinary nature of philosophy, the department welcomes and encourages double majors. With the permission of the chair, philosophy majors may count up to two related courses from the second major toward fulfillment of the philosophy major requirements.

Item #	Title	Credits
PHI 1000	Knowledge, Reality, Self	3
	Ancient Philosophy Elective	3
	Medieval Philosophy Elective	3
	Modern Philosophy Elective	3
	PHI Research Requirement	3
	Advanced Seminar for Philosophy majors (Capstone)	3
	PHI Electives for B.A.	12

## Category Descriptions

### Ancient Philosophy Elective

Credits: 3

Choose one of the following Ancient Philosophy courses or an approved Topics course.

Item #	Title	Credits
PHI 3020	History of Ancient Philosophy	3
PHI 4100	Plato & Aristotle	3

### Medieval Philosophy Elective

Credits: 3

Choose one of the following medieval philosophy courses, or an approved Topics course.

Item #	Title	Credits
PHI 3030	History of Medieval Philosophy	3
PHI 3100	Augustine & Antiquity	3
PHI 3120	Augustine & Modernity	3
PHI 3160	History of Islamic Phil	3
PHI 3410	Thomas Aquinas	3

### Modern Philosophy Elective

Credits: 3

Choose one of the following Modern Philosophy courses or an approved Topics course.

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
PHI 3040	Hist of Early Mod Philosophy	3
PHI 3050	Kant & 19th Cent Philosophy	3
PHI 3720	Marx & Marxism	3

### PHI Research Requirement

Credits: 3

Select 1 course from those listed below, or any PHI course with the RSRC attribute.

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
PHI 4140	Phil of Contemporary Music	3
PHI 4600	Psychoanalysis & Philosophy	3
PHI 4990	Independent Study & Research	3
PHI 5000	Adv Sem for Phil Majors	3
PHI 6000	Research Seminar	3

### Advanced Seminar for Philosophy majors (Capstone)

Credits: 3

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
PHI 5000	Adv Sem for Phil Majors	3
PHI 6000	Research Seminar	3
HON 4300/Philosophy 4301		3

### PHI Electives for B.A.

Credits: 12

Choose 4 Philosophy courses worth 3 credits each from PHI 1000:9999 for a total 12 credits.

## Philosophy Minor

Chair: John Carvalho, Ph.D.  
Office Location: 108 Saint Augustine Center  
Telephone: 610-519-4690  
[Website](#)

## About

The Philosophy department offers interesting courses that help students better understand the world and their place in it. Philosophy courses teach students to analyze difficult texts, to write clearly and precisely, to defend their views with cogent arguments and to take pleasure in the struggle with complex ideas and questions.

**Type:** Minor

## MINOR (5 courses)

Philosophy minors take any five courses in the philosophy department.

## Required Minor Courses:

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
	PHI Electives	15

## Category Descriptions

### PHI Electives

Credits: 15

Choose 5 Philosophy courses worth 3 credits each from PHI 1000:9999 for a total 15 credits.

## Physics

### Physics, B.A.

Chair: Michael Hones, Ph.D.  
Office Location: 347 Mendel Science Center  
Telephone: 610-519-4885  
[Website](#)

## About

Physics is an experimental science in which its practitioners investigate nature at the most fundamental level on scales ranging from subatomic distances to the size of the universe. It is a quest to understand the origin and behavior of all forces: forces that account for the observed stability and in some cases instability of the atomic nucleus; forces that account for the stability of the atom; and forces that account for the stability of matter and the large-scale structures of the universe.

In this sense, it is the most fundamental of all physical sciences, and the successful physics student will be adept at solving problems using techniques that probe the fundamental building blocks of nature. Being trained to analyze phenomena at the most fundamental level makes the physics major versatile. Therefore, the student who successfully completes the degree in physics will not only be well prepared for graduate studies in physics, but also for employment in research-oriented industries or study in professional fields.

**Type:** Bachelor of Arts

## MAJOR (B.A.) (67 credits)

The BA in Physics is for the student who wants to minor in another science or in engineering or who is planning employment in graduate studies outside of the sciences in fields such as medicine, law, business, journalism, secondary school teaching, or other fields. Instead of the normal advanced courses in physics, the candidate uses these slots for a minor in another area. There is a senior research option.

### *Program Notes:*

- 3-credit PHY elective OR technical elective. Approval of the Physics chairperson required.

### Major (B.A.) Required Courses:

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
PHY 2410	University Phy:Mechanics	3
PHY 2411	Lab: Mechanics	1
PHY 2412	Univ Physics:Elec & Mag	3
PHY 2413	Lab:Elec & Magnetism	1
PHY 2601	Computational Phy Lab I	1
PHY 2603	Computational Phy Lab II	1
MAT 1500	Calculus I	4
MAT 1505	Calculus II	4
PHY 2414	Univ Physics: Thermo	3
PHY 2415	Lab: Thermodynamics	1
PHY 2416	Modern Physics	3
PHY 2417	Lab:Modern Physics	1
PHY 3310	Electronics	3
PHY 3311	Electronics Lab	1
PHY 4200	Mathematical Physics I	3
MAT 2500	Calculus III	4
MAT 2705	Diff Equation with Linear Alg	4
CHM 1103	General Chemistry Lab I	1
CHM 1151	General Chemistry I	4
CHM 1152	General Chemistry II	4
PHY 4100	Mechanics I	3
PHY 4301	Experimental Methods I	2
PHY 4303	Experimental Methods II	2
PHY 4000	Elec & Magnetism I	3
PHY 4001	Elec & Magnetism I Lab	1
PHY 5100	Quantum Mechanics	3
	PHY Elective for B.A.	3

## Category Descriptions

### PHY Elective for B.A.

Credits: 3

Select 1 class in PHY 3000:6700 for a total of 3 credits.

## Physics, B.S.

Chair: Michael Hones, Ph.D.

Office Location: 347 Mendel Science Center

Telephone: 610-519-4885

[Website](#)

## About

Physics is an experimental science in which its practitioners investigate nature at the most fundamental level on scales ranging from subatomic distances to the size of the universe. It is a quest to understand the origin and behavior of all forces: forces that account for the observed stability and in some cases instability of the atomic nucleus; forces that account for the stability of the atom; and forces that account for the stability of matter and the large-scale structures of the universe.

In this sense, it is the most fundamental of all physical sciences, and the successful physics student will be adept at solving problems using techniques that probe the fundamental building blocks of nature. Being trained to analyze phenomena at the most fundamental level makes the physics major versatile. Therefore, the student who successfully completes the degree in physics will not only be well prepared for graduate studies in physics, but also for employment in research-oriented industries or study in professional fields.

**Type:** Bachelor of Science

## MAJOR (B.S.) (88 credits)

The BS in Physics is for the student who wants to be a professional physicist or go on to graduate school in physics.

## Required Courses:

Item #	Title	Credits
PHY 2410	University Phy:Mechanics	3
PHY 2411	Lab: Mechanics	1
PHY 2412	Univ Physics:Elec & Mag	3
PHY 2413	Lab:Elec & Magnetism	1
PHY 2601	Computational Phy Lab I	1
PHY 2603	Computational Phy Lab II	1
MAT 1500	Calculus I	4
MAT 1505	Calculus II	4
PHY 2414	Univ Physics: Thermo	3
PHY 2415	Lab: Thermodynamics	1
PHY 2416	Modern Physics	3
PHY 2417	Lab:Modern Physics	1
PHY 3310	Electronics	3
PHY 3311	Electronics Lab	1
PHY 4200	Mathematical Physics I	3
MAT 2500	Calculus III	4
MAT 2705	Diff Equation with Linear Alg	4
CHM 1151	General Chemistry I	4
CHM 1103	General Chemistry Lab I	1
CHM 1152	General Chemistry II	4
PHY 4100	Mechanics I	3
PHY 4102	Mechanics II	3
PHY 4301	Experimental Methods I	2
PHY 4000	Elec & Magnetism I	3
PHY 4001	Elec & Magnetism I Lab	1
PHY 4002	Elec & Magnetism II	3
PHY 4003	Elec & Magnetism II Lab	1
PHY 4202	Mathematical Physics II	3
PHY 5100	Quantum Mechanics	3
PHY 5200	Thermo/Statistical Mech	3
PHY 5300	Subatomic Physics	3
	PHY Electives for B.S.	6
	Science Electives for Physics B.S.	4

## Category Descriptions

### PHY Electives for B.S.

Credits: 6

Select 2 Classes in PHY 3000:6700 for a total of 6 credits.

### Science Electives for Physics B.S.

Credits: 4

Select 4 Credits in AST 2000:5999, BIO 1205:5999, CHM 2211:5999, CSC 1051:5999, MAT 2300:5999, MET 1221:5999, PHY 3000:5999

## Physics Minor

Chair: Michael Hones, Ph.D.

Office Location: 347 Mendel Science Center

Telephone: 610-519-4885

[Website](#)

### About

Physics is an experimental science in which its practitioners investigate nature at the most fundamental level on scales ranging from subatomic distances to the size of the universe. It is a quest to understand the origin and behavior of all forces: forces that account for the observed stability and in some cases instability of the atomic nucleus; forces that account for the stability of the atom; and forces that account for the stability of matter and the large-scale structures of the universe.

In this sense, it is the most fundamental of all physical sciences, and the successful physics student will be adept at solving problems using techniques that probe the fundamental building blocks of nature. Being trained to analyze phenomena at the most fundamental level makes the physics major versatile. Therefore, the student who successfully completes the degree in physics will not only be well prepared for graduate studies in physics, but also for employment in research-oriented industries or study in professional fields.

**Type:** Minor

## MINOR (31 credits)

The Physics Department offers a minor in physics to qualified students whose major area of study lies outside of physics. In general, a student in any area of study, other than physics, may obtain a minor in physics.

### *Program Notes:*

- The Minor in Applied Physics for Math Majors requires all of the Math courses required for the Math degree, plus MAT 4310, PHY 2410/2411, through PHY 2416/2417, PHY 3310/3311, and PHY 4301/4303

### Required Minor Courses:

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
PHY 2410	University Phy:Mechanics	3
PHY 2411	Lab: Mechanics	1
PHY 2412	Univ Physics:Elec & Mag	3
PHY 2413	Lab:Elec & Magnetism	1
PHY 2414	Univ Physics: Thermo	3
PHY 2415	Lab: Thermodynamics	1
PHY 2416	Modern Physics	3
PHY 2417	Lab:Modern Physics	1
	Physics Elective for Minor	15

### Category Descriptions

#### Physics Elective for Minor

Credits: 15

Select 5 Classes of 3 or more credits in PHY 2418:9999 for a total of 15 credits.

## Political Science

### Political Science, B.A.

Chair: Markus Kreuzer, Ph.D.

Office Location: 202 Saint Augustine Center

Telephone: 610-519-4710

[Website](#)

### About

Today, no less than in the past, it is essential for citizens in a democracy to be educated about the political system in which they live and to know

how that system relates to other governments and international issues. The study of political science will educate you about timely and important political issues on a national and global scale while helping you develop a set of analytical, reasoning and research skills to last a lifetime. As a political science major, you will learn about American politics, comparative politics, international relations and political theory; become familiar with the methodology of social science inquiry and learn how to conduct research; build competence in oral and written expression; develop reasoning and analytical skills; become a politically engaged citizen-leader; prepare for any number of politically-oriented careers or for [graduate or professional training](#). As a political science major, you will learn how political leaders operate; governments make decisions; politics shapes public policy; governments respond to internal and international conflicts; people develop political attitudes and preferences; groups attempt to influence government; and governments can best serve their people.

**Type:** Bachelor of Arts

## MAJOR (33 credits)

In the context of the liberal arts tradition, the Department of Political Science seeks to encourage in its students a commitment to intellectual curiosity, academic excellence, and responsible civic engagement. The Department is committed to helping students improve their skills of observation, critical reading, rigorous thought, careful evidence-based argumentation, and effective communication, and to develop values of good citizenship.

### *Program Notes:*

- Foundational courses should be taken immediately upon declaring the major. They serve as prerequisites for many of the upper division courses and the senior seminar.
- With the exception of internships (up to 3 credits), courses taken on a satisfactory/unsatisfactory basis cannot be used to satisfy requirements for the major.
- Any senior with a GPA of 3.0 or above may request to take a graduate PSC course.

### Required Major Courses:

Item #	Title	Credits
PSC 1100	American Government	3
PSC 1200	International Relations	3
PSC 1300	Comparative Politics	3
PSC 1400	Political Theory	3
PSC 1900	Research Seminar	3
PSC 6900	Political Sci Seminar	3
	Upper-Level PSC Electives for B.A.	15

### Category Descriptions

#### Upper-Level PSC Electives for B.A.

Credits: 15

Select any course of 3 or more credits numbered from PSC 2000:6999 (15 cr)

## Political Science Minor

Chair: Markus Kreuzer, Ph.D.  
Office Location: 202 Saint Augustine Center  
Telephone: 610-519-4710  
[Website](#)

### About

Today, no less than in the past, it is essential for citizens in a democracy to be educated about the political system in which they live and to know how that system relates to other governments and international issues. The study of political science will educate you about timely and important political issues on a national and global scale while helping you develop a set of analytical, reasoning and research skills to last a lifetime. As a political science major, you will learn about American politics, comparative politics, international relations and political theory; become familiar with the methodology of social science inquiry and learn how to conduct research; build competence in oral and written expression; develop reasoning and analytical skills; become a politically engaged citizen-leader; prepare for any number of politically-oriented careers or for [graduate or professional training](#). As a political science major, you will learn how political leaders operate; governments make decisions; politics shapes public policy; governments respond to internal and international conflicts; people develop political attitudes and preferences; groups attempt to influence government; and governments can best serve their people.

**Type:** Minor

## MINOR (18 credits)

A minor is open to all students and requires 6 courses and 18 credits.

### Program Notes:

- Students completing the minor are encouraged to focus on one or two subfields, although they are not required to do so.
- Internship credit will not be applied to the Political Science minor.

### Required Minor Courses:

Item #	Title	Credits
	PSC Foundational Elective	6
	Upper-Level PSC Electives for Minor	12

### Category Descriptions

#### PSC Foundational Elective

Credits: 6

Choose at least two of the following foundational courses.

Item #	Title	Credits
PSC 1100	American Government	3
PSC 1200	International Relations	3
PSC 1300	Comparative Politics	3
PSC 1400	Political Theory	3

#### Upper-Level PSC Electives for Minor

Credits: 12

Select 4 courses numbered from PSC 2000:6999 except PSC 6503 (12 cr).

## Psychological and Brain Sciences

### Psychology, B.A.

Chair: Michael Brown, Ph.D.  
Office Location: 334 Tolentine Hall  
Telephone: 610-519-4722  
[\[Website\]](#)

## About

Psychology is the basic and applied science of mind and behavior. Psychologists use the methods of both natural and social science to advance our knowledge and understanding of thought, emotion, and behavior in humans and other organisms. Psychologists also apply this knowledge to improve the conditions of individuals and society. The Department of Psychological and Brain Sciences offers two majors in psychology, a Bachelor of Science (B.S.) and a Bachelor of Arts (B.A.). To declare either major students must have completed PSY 1000 or PSY 1001, or have AP credit for PSY 1000. In addition, they must have a C+ or higher in PSY 1000 or PSY 1001, or have an overall minimum GPA of 3.00.

**Type:** Bachelor of Arts

## MAJOR (B.A.) (31 credits)

*Program Notes:*

- Courses taken on a satisfactory/unsatisfactory basis cannot be used to satisfy requirements for the major, except for PSY 2100: Seminar in Professional Development and PSY 2150, PSY 2905, PSY 2993, and PSY 2996.

## Required Major Courses for B.A.:

Item #	Title	Credits
	PSY 1000 or PSY 1001	3
PSY 2000	Intro Statistics	3
PSY 2050	Research Methods in Psy.	3
PSY 2100	Sem Professional Development	1
	PSY 5150 or PSY 5250	3
	PSY 4200 or PSY 4500	3
	Psychology Foundation Courses for B.A.	9
	Psychology Electives for B.A.	6

## Category Descriptions

### PSY 1000 or PSY 1001

Credits: 3

Item #	Title	Credits
PSY 1000	General Psychology	3
PSY 1001	Intro to Brain and Behavior	3

### PSY 5150 or PSY 5250

Credits: 3

Item #	Title	Credits
PSY 5150	Foundations of Modern Psych	3
PSY 5250	Contemp Research Issues in Psy	3

### PSY 4200 or PSY 4500

Credits: 3

Item #	Title	Credits
PSY 4200	Biopsychology	3
PSY 4500	Cognitive Psychology	3

### Psychology Foundation Courses for B.A.

Credits: 9

Select 3 Classes of three or more credits in PSY 3000:4500 (9 cr).

### Psychology Electives for B.A.

Credits: 6

Select 2 Classes of three or more credits in PSY 2000:7999, or any course with the PSY attribute.

## Cognitive and Behavioral Neuroscience, B.S.

Chair: Michael Brown, Ph.D.

Office Location: Tolentine Hall, Room 334

Telephone: (610) 519-4720

The major in Cognitive and Behavioral Neuroscience (CBN) provides an intensive course of study focused on brain-behavior relationships, ranging from genetic to whole brain contributions to behavior and mental processes. The program is excellent preparation for a variety of careers focusing on research and/or practice in neuroscience, medicine, allied health fields, and psychology, as well as for more general careers in areas such as public policy and education.

Students are accepted into Villanova University as declared CBN majors. Therefore, prospective students who are interested in the major should select the CBN program when applying to the

University. Students who have already entered Villanova may appeal directly to the Department of Psychological and Brain Sciences for special permission into the major.

**Type:** Bachelor of Science

## MAJOR (65-70 credits)

*Program Notes:*

- PSY 2900 is a topics course and the topic must be approved for it to count as a CBN elective. The following topics have been approved: “Drugs & Behavior”, “Emotion”, “Neuroethics”. Other topics do not count without approval.
- BIO 4950 is a topics course and the topic must be approved for it to count as a CBN elective. The following topic has been approved: “Sex, Brains & Behavior. Other topics do not count without approval.
- PSY 5900 is an independent research course and can count as a CBN elective only with pre-approval

Item #	Title	Credits
CHM 1151	General Chemistry I	4
CHM 1103	General Chemistry Lab I	1
CHM 1152	General Chemistry II	4
CHM 1104	General Chemistry Lab II	1
BIO 2105	General Biology I	4
BIO 2106	General Biology II	4
BIO 3351	Genetics	4
	MAT 1312 or MAT 1500	4
	MAT 1314 or MAT 1505	3-4
	PSY 1000 or PSY 1001 for CBN	3
PSY 2000	Intro Statistics	3
PSY 2050	Research Methods in Psy.	3
PSY 4200	Biopsychology	3
PSY 4500	Cognitive Psychology	3
CBN 4000	Cell & Behavioral Neuroscience	3
CBN 4100	Cognitive Neuroscience	3
	CBN 5000 or CBN 6002	3
	CBN Approved Elective	12

### Category Descriptions

MAT 1312 or MAT 1500

Credits: 4

- MAT 1312 and MAT 1314 must be taken as a sequence.
- MAT 1500 and MAT 1505 must be taken as a sequence.

Item #	Title	Credits
MAT 1312	Biocalculus	4
MAT 1500	Calculus I	4

MAT 1314 or MAT 1505

Credits: 3-4

- MAT 1312 and MAT 1314 must be taken as a sequence.
- MAT 1500 and MAT 1505 must be taken as a sequence.

Item #	Title	Credits
MAT 1314	Modeling for the Life Sciences	3
MAT 1505	Calculus II	4

PSY 1000 or PSY 1001 for CBN

Credits: 3

- PSY 1001 is recommended by the department.

Item #	Title	Credits
PSY 1000	General Psychology	3
PSY 1001	Intro to Brain and Behavior	3

CBN 5000 or CBN 6002

Credits: 3

Item #	Title	Credits
CBN 5000	Seminar in Neuroscience	3
CBN 6002	Thesis Research II	3

CBN Approved Elective

Credits: 12

CBN students are required to take four elective courses. Although the electives are organized into four categories, there is no requirement to use this organization when selecting electives. Students can choose to concentrate in a particular area by taking electives from one category or they can sample broadly across any or all categories.

#### Notes:

- Students should consult individual courses via the courses tool to determine pre-requisites.
- The 1-credit lab is optional when taking BIO 4251 and CHM 4611.
- BIO 4950 courses offered are available in the Master Schedule accessible through MyNova but must be approved by the CBN program.
  - Already pre-approved as CBN elective: "Sex, Brains & Behavior"
- CHM 4621 is recommended for Chemistry and Biochemistry majors)
- PSY 2900 courses offered are available in the Master Schedule accessible through MyNova but must be approved by the CBN program.
- There is restriction such that no more than 2 courses (6 credits) of the CBN elective requirement may come from: PSY 5900, CBN 5900, CBN 6001, CBN 6002

### Category 1 - Behavioral/ Psychological Science

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
PSY 3200	Human Development	3
PSY 3300	Perception	3
PSY 3500	Psych of Personality	3
PSY 3600	Social Psychology	3
PSY 3700	Abnormal Psychology	3
PSY 4600	Animal Learning & Cognition	3

### Category 2 - Biological/Life Science

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
BIO 3015	Animal Behavior	4
BIO 3055	Animal Physiology	4
BIO 4205	Cell Biology	4
BIO 4251	Endocrine Physiolo/ Pharmacology	3
BIO 4285	Developmental Biology	4
BIO 4305	Evolution	4
BIO 4505	Molecular Biology	4
BIO 4605	Neurobiology	4
BIO 4950	Advanced Topics in Biology	3
CHM 4611	Survey of Biochemistry	3
CHM 4621	Biochemistry I: Structure	3

### Category 3 - Cognitive Science

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
PHI 4610	Philosophy of Mind	3
CGS 5900	Cognitive Science Seminar	3
CGS 5910	Psychology of Language	3

### Category 4 - Special Topics & Research

- CBN 6002 generally counts as the required capstone course and NOT as an elective. It may count as an elective only if CBN 5000 is taken as the required capstone option.

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
CBN 2900	Topics in Cog & Behav Neuro	3
CBN 5900	Undergraduate Research in CBN	3
PSY 5900	Independent Research Project	3
CBN 6001	Thesis Research I	3
CBN 6002	Thesis Research II	3

### Psychology, B.S.

Chair: Michael Brown, Ph.D.

Office Location: 334 Tolentine Hall

Telephone: 610-519-4722

[[Website](#)]

## About

Psychology is the basic and applied science of mind and behavior. Psychologists use the methods of both natural and social science to advance our knowledge and understanding of thought, emotion, and behavior in humans and other organisms. Psychologists also apply this knowledge to improve the conditions of individuals and society. The Department of Psychological and Brain Sciences offers two majors in psychology, a Bachelor of Science (B.S.) and a Bachelor of Arts (B.A.). To declare either major students must have completed PSY 1000 or PSY 1001, or have AP credit for PSY 1000. In addition, they must have a C+ or higher in PSY 1000 or PSY 1001, or have an overall minimum GPA of 3.00.

**Type:** Bachelor of Science

## MAJOR (B.S.) (53 credits)

### Program Notes:

- Courses taken on a satisfactory/unsatisfactory basis cannot be used to satisfy requirements for the major, except for PSY 2100: Seminar in Professional Development.

## Required Major Courses for B.S.:

Item #	Title	Credits
	PSY 1000 or PSY 1001	3
PSY 2000	Intro Statistics	3
PSY 2050	Research Methods in Psy.	3
PSY 2100	Sem Professional Development	1
	PSY 5150 or PSY 5250	3
PSY 4200	Biopsychology	3
PSY 4500	Cognitive Psychology	3
	Psychology Foundation Courses for B.S.	9
	Psychology Electives for B.S.	6
BIO 2105	General Biology I	4
BIO 2106	General Biology II	4
CSC 1051	Algorithms & Data Struc I	4
	Mathematics for Psychology B.S.	7-8

## Category Descriptions

### PSY 1000 or PSY 1001

Credits: 3

Item #	Title	Credits
PSY 1000	General Psychology	3
PSY 1001	Intro to Brain and Behavior	3

### PSY 5150 or PSY 5250

Credits: 3

Item #	Title	Credits
PSY 5150	Foundations of Modern Psych	3
PSY 5250	Contemp Research Issues in Psy	3

### Psychology Foundation Courses for B.S.

Credits: 9

Select 3 Classes of three or more credits in PSY 3000:3999 (9 cr).

### Psychology Electives for B.S.

Credits: 6

Select 2 Classes of three or more credits in PSY 2000:9999, or any course with the PSY attribute.

### Mathematics for Psychology B.S.

Credits: 7-8

Select 1 option.

### Option 1

Item #	Title	Credits
MAT 1312	Biocalculus	4
MAT 1314	Modeling for the Life Sciences	3

### Option 2

Item #	Title	Credits
MAT 1500	Calculus I	4
MAT 1314	Modeling for the Life Sciences	3

### Option 3

Item #	Title	Credits
MAT 1500	Calculus I	4
MAT 1505	Calculus II	4

## Psychology Minor

Chair: Michael Brown, Ph.D.  
Office Location: 334 Tolentine Hall  
Telephone: 610-519-4722  
[\[Website\]](#)

### About

Psychology is the basic and applied science of mind and behavior. Psychologists use the methods of both natural and social science to advance our knowledge and understanding of thought, emotion, and behavior in humans and other organisms. Psychologists also apply this knowledge to improve the conditions of individuals and society. The Department of Psychological and Brain Sciences offer two majors in psychology, a Bachelor of Science (B.S.) and a Bachelor of Arts (B.A.).

**Type:** Minor

### MINOR (15 credits)

A minor is open to all students and requires 5 courses and 15 credits.

#### *Program Notes:*

- Courses taken on a satisfactory/unsatisfactory basis cannot be used to satisfy requirements for the minor.
- No more than two prior approved psychology courses may be taken at another institution (AP courses, transfer courses, courses taken abroad, etc.) and be counted toward the minor.
- Before declaring the psychology minor, students must have completed PSY 1000 or 1001 or have AP credit for PSY 1000.

### Required Minor Courses:

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
	PSY 1000 or PSY 1001	3
	Psychology Electives for Minor	12

### Category Descriptions

[PSY 1000 or PSY 1001](#)

Credits: 3

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
PSY 1000	General Psychology	3
PSY 1001	Intro to Brain and Behavior	3

### Psychology Electives for Minor

Credits: 12

Select 4 Classes of three or more credits in PSY 2000:7999, or any course with the PSY attribute. (12 cr)

## Public Administration

### Public Administration Minor

Chair: Catherine E. Wilson, Ph.D.  
Office Location: 205 Saint Augustine Center  
Telephone: 610-519-3934  
[Website](#)

### About

The Department of Public Administration offers a Minor in Public Service and Administration for undergraduate students. The minor is an interdisciplinary course of study, open to students from all Colleges, that prepares students to be responsibly engaged citizens, government managers, and community leaders working in the “new public sector.” The “new public sector” refers to the complex relationships that exist between government at all levels, nonprofit organizations, higher education, and the private sector. Now more than ever before, these groups have been called upon to cooperate in order to address society’s most pressing and challenging problems.

**Type:** Minor

## MINOR (18 credits)

In the Public Service and Administration Minor, you will be introduced to ethical, philosophical, theological, historical, social, and political perspectives that influence the leadership and management of government and nonprofit organizations. The specific goals of this minor are to help prepare you to understand and pursue the common good; assist in the creation, implementation, and analysis of public programs; strengthen communities through innovative leadership and engaged citizenship; reflect on how the citizen as public servant discovers meaning and purpose in one's life by forging and developing the bonds of community.

### Program Notes:

- At least four of the courses (12 credits) must be within the Department of Public Administration and up to two pre-approved elective courses (6 credits) may be taken outside of the Department's course offerings.
- Additional approved electives outside the Department of Public Administration may be found on the Public Administration [website](#).
- All service learning courses can be approved as electives towards the Minor.
- Listed CPS courses may also count toward fulfillment of requirements - special permission from CPS is required.

### Required Minor Courses:

Item #	Title	Credits
PA 1050	Public Administration	3
	PA 2000 or PA 6000	3
	Public Administration Electives	6
	Additional Public Administration Electives	6

### Category Descriptions

#### PA 2000 or PA 6000

Credits: 3

Item #	Title	Credits
PA 2000	Public Policy	3
PA 6000	Vocation of Public Service	3

### Public Administration Electives

Credits: 6

Select 2 classes from the the list (6 cr).

Item #	Title	Credits
PA 2000	Public Policy	3
PA 2100	City and Suburb	3
PA 3000	Overview of Non-Profit Sector	3
PA 5000	Special Topics	3
PA 5100	Independent Study	3
PA 6000	Vocation of Public Service	3
PA 6100	PSA Internship	3
VIA 3020	Creating Social Impact	3

### Additional Public Administration Electives

Credits: 6

Select 2 classes from the the list (6 cr), or any course with the Service Learning attribute.

- COM 3440 may also count towards fulfilling this requirement.

Item #	Title	Credits
COM 2440	Theories of Organizational Com	3
COM 3203	Communication Law & Policy	3
CRM 3001	Justice and Society	3
ECO 3112	Public Sector Economics	3
ECO 3127	Econ Underdeveloped Area	3
ECO 3140	Urban Economics	3
EDU 3253	Educational Policy Analysis	3
ENG 2060	Desktop Publishing	3
GEV 3001	Intro to Sustainability Study	3
GEV 3308	Environmental Health	3
GEV 3570	Land Use Planning & Mgmt	3
GEV 4310	Environmental Issues Seminar	3
GEV 4330	Spec Topics in Environm Policy	3
GEV 4340	Spec Topics in Environm Issues	3
GEV 4350	Spec Topics in Environm Sci	3
GEV 4510	Special Topics in Geography	3
GEV 7112	Environmental Health	3
HS 3700	Human Service Systems	3
HUM 2900	Topics	3
MGT 2155	Organizational Behavior	3
MGT 2250	Global Corp Responsibility	3
MGT 2360	Global Leadership	3
MKT 2230	Marketing of Services	3
NS 4100	Leadership and Management	3
NS 4200	Leadership and Ethics	3
NUR 3122	Imper for Global & Pub Health	3
NUR 4114	Nursing and Health Policy	2
PA 2000	Public Policy	3
PA 2100	City and Suburb	3
PA 3000	Overview of Non-Profit Sector	3
PA 5000	Special Topics	3
PA 5100	Independent Study	3
PA 6000	Vocation of Public Service	3
PA 6100	PSA Internship	3
PJ 2500	Education & Social Justice	3
PJ 2700	Peacemakers & Peacemaking	3
PJ 2800	Race, Class, & Gender	3
PJ 2900	Ethical Issues in P & J	3
PJ 5100	Discrimination, Justice & Law	3

PSC 2110	U.S. State & Local Government	3
PSC 2125	U.S. Presidency	3
PSC 2180	U.S. National Security Policy	3
PSC 2210	Globalization	3
PSC 2230	International Organization	3
PSC 2240	Internat'l Political Economy	3
PSC 3140	Race, Ethnicity & Pol. in U.S.	3
PSC 3210	American Foreign Policy	3
PSC 3230	Development and Aid	3
PSC 3240	East Asia Political Economy	3
PSC 3250	Genocide and Mass Killing	3
SOC 2900	Politics, Economy and Society	3
SOC 2950	Perspectives on US Poverty	3
THL 5000	Themes in Religion	3
VIA 3020	Creating Social Impact	3

## Russian Studies

### Russian Area Studies Concentration (RASCON)

Director: Joseph Loya, O.S.A.

Office Location: 233 Saint Augustine Center

Telephone: 610-519-7243

[\[Website\]](#)

### About

The Concentration in Russian Area Studies promotes the study of the Russian language, culture and society. With a rigorous and intellectually challenging program, students in the Russian Area Studies Concentration will become proficient in the language by taking at least two semesters of Russian language at the intermediate level and will gain well-rounded knowledge of the culture by taking four electives chosen from designated courses in History, Literature, Political Science, Economics, Theology and Religious Studies, and Art and Art History.

**Type:** Concentration

## CONCENTRATION (18 credits)

The Russian Area Studies Concentration is open to all students enrolled in the University. The purpose of the concentration is to provide students with a multi-disciplinary comprehension of Russia through the study of this complex country's language, culture, literature, history, politics, religions and art.

### Program Notes:

- Other appropriate special topics courses may count towards electives as approved by the director.

### Required Concentration Courses:

Item #	Title	Credits
RUS 1123	Intermediate Russian I	3
RUS 1124	Intermediate Russian II	3
	Russian Studies Electives	12

## Category Descriptions

### Russian Studies Electives

Credits: 12

Russian Area Studies Electives – Select 4 Classes in HIS 3241, 3242, PSC 3320, RUS 1131, 1132, 3412, 4110, 4120, 4130, SAR 4007, THL 5200, Or any three-credit course with the RAS attribute (12 cr)

## Sociology

### Sociology, B.A.

Chair: Tom Arvanites, Ph.D.  
Office Location: 204 Saint Augustine Center  
Telephone: 610-519-4742  
[Website](#)

### About

Sociology is the systematic study of social life. Sociologists believe that people's actions are strongly influenced by the conditions and situations in which they live, work, and play. Everybody makes decisions, but we recognize and study how social structures and institutions

affect and constrain those decisions. Our goal as researchers is to expose and analyze the impacts of those circumstances on human decisions, societies, and opportunities. Methodologically, we incorporate multiple perspectives and analytical approaches to help create a more holistic understanding of our society. Our mission as teachers is to empower students to think critically and rigorously about individuals and societies. Through our diverse offerings on local, regional, national and global social processes, we strive to create more complete human beings with a keen sense of humanity, social justice, and appropriate social policy.

**Type:** Bachelor of Arts

## MAJOR (33 credits)

To declare the Major, a student must have completed Introduction to Sociology (SOC 1000) with a "C" or higher. The Major consists of 33 credits. A student must allow three full semesters after the declaration of the Major to complete all requirements. One of the Sociology electives for the Major can be satisfied by an internship for credit with approval from the department Chair, provided that the student has at least 15 credits toward the Major.

### Program Notes:

- A student taking an internship in a field setting in the second semester of their junior year or during their senior year should consult with the department Chair.
- Students must have at least three full semesters remaining at Villanova University to declare a Sociology major.

### Required Major Courses:

Item #	Title	Credits
SOC 1000	Intro to Sociology	3
SOC 5300	Data Analysis-Social Scientist	3
SOC 5400	Applied Research in Soc	3
SOC 6500	Seminar	3
	SOC Theory Elective	3
	SOC Electives for B.A.	15
	CRM Elective for SOC B.A.	3

## Category Descriptions

### SOC Theory Elective

Credits: 3

Choose 1 of the following Theory courses  
(prerequisite: SOC 1000):

Item #	Title	Credits
SOC 5000	Nature & His of Soc Thry	3
SOC 5050	Soc Theory & Public Policy	3
SOC 5100	Contemp Thry & Research	3

### SOC Electives for B.A.

Credits: 15

5 Classes in courses of 3 credits or more in SOC 1000:9999, or any subject and course number with SOC attribute (15 cr)

### CRM Elective for SOC B.A.

Credits: 3

1 Class in a course of 3 credits or more in CRM 1000:9999 (3 cr)

## Sociology Minor

Chair: Tom Arvanites, Ph.D.  
Office Location: 204 Saint Augustine Center  
Telephone: 610-519-4742  
[Website](#)

### About

Sociology is the systematic study of social life. Sociologists believe that people's actions are strongly influenced by the conditions and situations in which they live, work, and play. Everybody makes decisions, but we recognize and study how social structures and institutions affect and constrain those decisions. Our goal as researchers is to expose and analyze the impacts of those circumstances on human decisions, societies, and opportunities. Methodologically, we incorporate multiple perspectives and analytical approaches to help create a more holistic understanding of our society. Our mission as teachers is to empower students to think critically and rigorously about individuals and societies. Through our diverse offerings on local,

regional, national and global social processes, we strive to create more complete human beings with a keen sense of humanity, social justice, and appropriate social policy.

**Type:** Minor

## MINOR (15 credits)

A Minor is open to all students and requires 5 courses and 15 credits. Courses taken on a satisfactory/unsatisfactory basis cannot be used to satisfy requirements for the Minor. Minors cannot receive Sociology credit for an internship.

### *Program Notes:*

- Only one course may be transferred from another university.
- No course for the minor may be taken S/U, and no more than one course transferred from another university will be accepted.
- Minors cannot receive Sociology credit for an internship.

## Required Minor Courses:

Item #	Title	Credits
SOC 1000	Intro to Sociology	3
	SOC Minor Elective	12

## Category Descriptions

### SOC Minor Elective

Credits: 12

4 Classes in courses of 3 credits or more in HON 4900:4951, SOC 2000:6500 (excluding SOC 1500, 2993, 2996, 5300:5400) (12 cr).

## Spanish Studies

### Spanish Studies, B.A.

Chairperson: Mercedes Juliá, Ph.D.  
Office Location: 303 Saint Augustine Center  
Telephone: (610) 519-7794  
[Website](#)

## About

Spanish is the language that the majority of students in the United States (and in Villanova) chooses to study at the present time for very good reasons: It is the second major language spoken in the world (after Mandarin) and it is the second language spoken in the United States. Therefore it will be very useful and advantageous to know Spanish in any career path that students may choose. Approximately 800 students take Spanish undergraduate courses every semester at Villanova. Students are encouraged to spend summers and semesters abroad in Spain and Central and South America, to obtain a greater proficiency in the language.

**Type:** Bachelor of Arts

## MAJOR (30 credits)

The influence of Spanish crosses centuries as well as geographic boundaries. It is a dynamic and exciting language used in diverse parts of the world, such as: Central, South, North America, the Caribbean and Spain. Spanish and its different cultures are taught at Villanova in interdisciplinary courses, in the Liberal Arts Program, Cultural Studies program, and in courses that were designed in response to these developments. The classes provide students with a thorough grounding in the history, politics, cultural production (literatures, film, theater), linguistics, post-colonial experiences, and development of the Hispanic world.

### *Program Notes:*

- One RLL course taught in English with SPA attribute may be accepted for the major.
- Students may obtain up to 6 credits through the Villanova summer program in Cádiz (Spain) or Valparaiso (Chile), and up to 9 credits through an authorized semester program. Contact the ISO for details.

### Required Major Courses:

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
SPA 1131	Conversation & Composition I	3
SPA 1132	Conversation & Composition II	3
	SPA 1138 or SPA 1140	3
	SPA 2220 or SPA 2221	3
SPA 3970	Research Seminar	3
	Spanish Electives for B.A.	15

### Category Descriptions

#### SPA 1138 or SPA 1140

Credits: 3

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
SPA 1138	Advanced Grammar	3
SPA 1140	Writing & Stylistics in Span.	3

#### SPA 2220 or SPA 2221

Credits: 3

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
SPA 2220	Literature & Culture of Spain	3
SPA 2221	Lit. & Cult. of Latin America	3

### Spanish Electives for B.A.

Credits: 15

Select 5 Classes of 3 or more credits from SPA 1123:9999 (15 cr)

- (Maximum of one class with subject RLL and Attribute SPA).

## Spanish Studies Minor

Chairperson: Mercedes Juliá, Ph.D.

Office Location: 303 Saint Augustine Center

Telephone: (610) 519-7794

[Website](#)

### About

Spanish is the language that the majority of students in the United States (and in Villanova) chooses to study at the present time for very good reasons: It is the second major language spoken in the world (after Mandarin) and it is the second language spoken in the United States. Therefore it will be very useful and advantageous to know Spanish in any career path that students may choose. Approximately 800 students take Spanish undergraduate courses every semester at Villanova. Students are encouraged to spend summers and semesters abroad in Spain and Central and South America, to obtain a greater proficiency in the language.

**Type:** Minor

## MINOR (12 credits)

The department encourages students to obtain a minor in Spanish if their schedule does not permit them to complete a major. To do so, students may fill-out a form, which can be obtained on MyNova under 'OUS Forms'. At the time of graduation and upon completion of the minor requirements, students will be issued a Minor certificate and the minor will appear on their transcript

### *Program Notes:*

- Of the four required courses, one must be at the 3000 level and taken at Villanova, or at a Villanova study abroad program (Cádiz or Valparaiso).
- Courses in English do not count for the minor.

### Required Minor Courses:

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
SPA 1131	Conversation & Composition I	3
SPA 1132	Conversation & Composition II	3
	Upper-Level Spanish course for Minor	3
	Elective for Spanish Minor	3

### Category Descriptions

#### Upper-Level Spanish course for Minor

Credits: 3

Select 1 Upper-Level Course from SPA 1133:9999 (3 cr).

#### Elective for Spanish Minor

Credits: 3

1 course from SPA 3000:3999 taken at Villanova, or at the Villanova/Cádiz Program (3 cr)

# Theatre

## Music Minor

Villanova has a vibrant musical culture, and students interested in Music can declare a minor in Music or take courses in Music taught by faculty from across the University. Develop your skills and learn how to get the most out of your experience as a performer and listener with a broad range of courses as a Music Minor.

**Type:** Minor

### Minor (16 credits)

Music Minors must complete five Music courses.

Item #	Title	Credits
SAR 2100	Music Theory I	4
	SAR 2110 or SAR 2111	3
	Music Minor Elective	3
	Music Minor Elective	3
	Music Minor Elective	3

### Category Descriptions

#### SAR 2110 or SAR 2111

Credits: 3

Item #	Title	Credits
SAR 2110	Western Music to 1750	3
SAR 2111	Western Music:1750-Present	3

#### Music Minor Elective

Credits: 3

Item #	Title	Credits
SAR 2114	Words & Music: The Art of Song	3
SAR 2119	Jazz:America's Music	3
THE 2034	Musical Theatre	3
CSC 1043	Laptop Instrument	3
PHI 4140	Phil of Contemporary Music	3
COM 3354	Media Criticism	3

## Studio Art Minor

Chairperson: Valerie M. Joyce, Ph.D.  
Office Location: 205 Saint Augustine Center  
Telephone: 610-519-4760  
[\[Website\]](#)

Students interested in Art can declare a minor in Studio Art, or take courses taught by our inspiring faculty to develop a deeper appreciation and build skills in the arts.

**Type:** Minor

Item #	Title	Credits
	Studio Art Core	12
	Studio Art Elective	3

### Category Descriptions

#### Studio Art Core

Credits: 12

Students must choose four courses from the below list.

Item #	Title	Credits
SAR 2010	Intro to Calligraphy	3
SAR 2020	Basic Watercolor Techniques	3
SAR 2021	Basic Drawing Techniques	3
SAR 2022	Basic Oil Painting	3
SAR 3031	Special Topics in Studio Art	3
SAR 4007	Painting of Icons	3
SAR 5004	Basic Printmaking	3

#### Studio Art Elective

Credits: 3

One elective from the list in Studio Art Core or from the following:

Item #	Title	Credits
AAH 1101	His West Art: Ancient-Med	3
AAH 1102	His West Art: Renaiss - Cont	3
AAH 1103	Visual Arts in US 1607-1876	3
AAH 1104	Visual Arts in US 1877-Present	3
AAH 2000	Ancient Art	3
AAH 2001	Medieval Art	3
AAH 2002	Early Renaissance Art in Italy	3
AAH 2003	Age of Rembrandt & Bernini	3
AAH 2004	Modern Art	3
AAH 2009	Contemporary Art	3
AAH 2012	High Renaissance Art in Italy	3
AAH 3001	Women in Art	3
AAH 3002	Art of Philadelphia	3
AAH 3003	Romantic to Post-Impress	3
AAH 3005	Gender Sexuality Visl Culture	3
AAH 3007	The Art of Ireland	3
AAH 4010	Interpreting Art	3
FFS 3412	Special Topics	3
CHI 3413	Chinese Calligraphy	3
ITA 3075	Visual History of Italy	3
RLL 3413	Topics on Italy and Beauty	3
SPA 3025	Faces of Modernity	3
JPN 2143	Japanese Animation	3

## Theatre Minor

Chairperson: Valerie M. Joyce, Ph.D.  
Office Location: 205 Saint Augustine Center  
Telephone: 610-519-4760  
[\[Website\]](#)

## About

The Villanova University Theatre Department aims to inform and inspire theatre artists, administrators, and scholars who will impact the future of this dynamic art form. Our culture of creativity engages in rigorous study and the practical application of theatrical theories and techniques. We believe art has the power to transform hearts and minds by challenging both individuals and communities.

**Type:** Minor

## MINOR (15 credits and practicum)

Undergraduate students may fulfill a Theatre minor by completing five theatre courses (two required/three elective) and a theatre practicum.

*Program Notes:*

- To fulfill the theatre practicum, contact program coordinator [Kevin Esmond](#).

## Required Minor Courses:

Item #	Title	Credits
THE 2029	Fund Princ of Acting	3
THE 3030	Spec Topics in Theatre	3
	THE Electives	9
THE 2040	Theatre Practicum	0

## Category Descriptions

### THE Electives

Credits: 9

Choose 3 courses from the following list (9 cr)

Item #	Title	Credits
THE 2019	The Theatrical Expernce	3
THE 2030	Advan Princ of Acting	3
THE 2032	Elements of Dance	3
THE 2033	Advanced Elements of Dance	3
THE 2034	Musical Theatre	3
THE 2051	Creativity	3
THE 3006	Shakespeare on Stage	3
THE 3007	Playwriting	3
THE 4011	Directing the Play	3

## Theology and Religious Studies

### Theology and Religious Studies, B.A.

Chairperson: Peter Spitaler, Ph.D.  
Program Director: Mark Graham, Ph.D.  
Office Location: 203 Saint Augustine Center  
Telephone: 610-519-4730  
[Website](#)

## About

Theological and religious studies as conceived, studied, and advanced at Villanova are interdisciplinary and integrative. Students pursue their objectives from diverse theological and religious perspectives, places them in dialogue with each other, and integrate religious and theological knowledge with experience and other forms of knowing.

Our programs explore the intersections of Catholic theology, religion, and cultures(s) and prepare students for graduate studies and for careers in humanitarian, philanthropic or other non-profit, charitable organizations; and in religious organizations as campus, youth or parish minister, educator, catechist, retreat worker, administrator, counselor, spiritual director or in one of the many other positions such organizations offer.

**Type:** Bachelor of Arts

## PRIMARY MAJOR (30 credits)

The primary major emphasizes a broad understanding of Christian and non-Christian theological and religious traditions. It is a stand-alone program, and students may take it in conjunction with another major (i.e., the traditional “double” major).

### *Program Notes:*

- Total number of elective courses from outside the TRS Department (including courses taken overseas) must not exceed nine credit hours.
- Theology majors are required to select a concentration that will give shape and focus to the major.
- Students must also take 1 Portfolio Course: THL 6600 (0 cr).

### Required Courses:

Item #	Title	Credits
THL 1000	Faith, Reason, and Culture	3
	Theology Major Seminars	6
THL 6300	Research Seminar	3
THL 6500	Advanced Seminar	3
	Theology Tracks for Primary Major	12
	THL Elective	3

## SECONDARY MAJOR (24 credits)

The secondary major highlights the interdisciplinary and multidisciplinary nature of theological inquiry and of the study of religion. It must be taken in conjunction with another major and completed concurrently with it.

### *Program Notes:*

- Total number of elective courses from outside the TRS Department (including courses taken overseas) must not exceed six credit hours.
- Theology majors are required to select a concentration that will give shape and focus to the major.
- Students must also take 1 Portfolio Course: THL 6600 (0 cr).

### Required Courses:

Item #	Title	Credits
THL 1000	Faith, Reason, and Culture	3
	Theology Major Seminar	3
THL 6300	Research Seminar	3
THL 6500	Advanced Seminar	3
	Theology Tracks for Secondary Major	9
	THL Elective	3

## Category Descriptions

### Theology Major Seminars

Credits: 6

Take THL 5001 and THL 5002 (6cr)

### Theology Tracks for Primary Major

Credits: 12

Select 1 focus track of four courses from the options below (12 cr)

## Theology and Culture

Theology and Culture - take four courses with the number THL 5004 (12 cr).

This track allows Theology and Religious Studies students to explore faith, reason, and culture in their many textured relationships. The paradigm of theology engaging culture encourages Theology and Religious Studies students to breach the walls and barriers that often separate academic pursuits from everyday life and also to open new windows for understanding the way in which religious commitments shape and are influenced by larger cultural forces.

## Catholic Studies

Catholic Studies - take four courses with the number THL 5003 (12 cr).

This track provides an academic context for exploring Catholic and Augustinian values at the heart of the university, as well as a platform for exploring the enormous intellectual, social, and cultural diversity within global Catholicism.

## Global Religious Experience

Global Religious Experience - take four courses with the number THL 5005 (12 cr).

This track provides a broad-based religious literacy to Theology and Religious Studies students, which is one of the hallmarks of an Augustinian education, in addition to placing them in a prime position to understand and to appreciate various religious traditions as they exist and interact in our globalized context.

## Self-Designed Studies

Self-Designed Studies - take any four THL courses with the CTHL attribute (12 cr).

This track allows a Theology and Religious Studies student whose academic interests lie outside the other three tracks an opportunity to sculpt an individualized course of studies in consultation with the Director of the Undergraduate Program.

### THL Elective

Credits: 3

Select THL 6001 or any one course with the CTHL attribute (3 cr).

### Theology Major Seminar

Credits: 3

Take THL 5001 (3 cr)

### Theology Tracks for Secondary Major

Credits: 9

Select 1 focus track of three courses from the options below (9 cr)

## Theology and Culture

Theology and Culture - take three courses with the number THL 5004 (9 cr).

This track allows Theology and Religious Studies students to explore faith, reason, and culture in their many textured relationships. The paradigm of theology engaging culture encourages Theology and Religious Studies students to breach the walls and barriers that often separate academic pursuits from everyday life and also to open new windows for understanding the way in which religious commitments shape and are influenced by larger cultural forces.

## Catholic Studies

Catholic Studies - take three courses with the number THL 5003 (9 cr).

This track provides an academic context for exploring Catholic and Augustinian values at the heart of the university, as well as a platform for exploring the enormous intellectual, social, and cultural diversity within global Catholicism.

## Global Religious Experience

Global Religious Experience - take three courses with the number THL 5005 (9 cr).

This track provides a broad-based religious literacy to Theology and Religious Studies students, which is one of the hallmarks of an Augustinian education, in addition to placing them in a prime position to understand and to appreciate various religious traditions as they exist and interact in our globalized context.

## Self-Designed Studies

Self-Designed Studies - take any three THL courses with the CTHL attribute (9 cr). This track allows a Theology and Religious Studies student whose academic interests lie outside the other three tracks an opportunity to sculpt an individualized course of studies in consultation with the Director of the Undergraduate Program.

## Theology and Religious Studies Minor

Chairperson: Peter Spitaler, Ph.D.  
Program Director: Mark Graham, Ph.D.  
Office Location: 203 Saint Augustine Center  
Telephone: 610-519-4730  
[Website](#)

### About

Theological and religious studies as conceived, studied, and advanced at Villanova are interdisciplinary and integrative. Students pursue their objectives from diverse theological and religious perspectives, places them in dialogue with each other, and integrate religious and theological knowledge with experience and other forms of knowing.

Our programs explore the intersections of Catholic theology, religion, and cultures(s) and prepare students for graduate studies and for careers in humanitarian, philanthropic or other non-profit, charitable organizations; and in religious organizations as campus, youth or parish minister, educator, catechist, retreat worker, administrator, counselor, spiritual director or in one of the many other positions such organizations offer.

**Type:** Minor

## MINOR (15 credits)

The minor is open to all students. Students can take the minor in conjunction with any other program in any Villanova College. Once the required coursework is completed, Villanova recognizes the minor at the time of graduation on the official transcript.

### Program Notes:

- For the THL Elective: 3 credits may be taken from among the approved extra-departmental courses listed below the Required Minor Courses list. The TRS Director of Undergraduate Programs may approve additional courses (for example, a course taken overseas or particular themes or topic courses not listed explicitly in the University Catalog). Because such courses do not carry the Core Theology (CTHL) attribute, they will count toward the Major degree only with prior approval from the Director.
- Total number of elective courses from outside the TRS Department (including courses taken overseas) must not exceed three credit hours.

### Required Minor Courses:

Item #	Title	Credits
THL 1000	Faith, Reason, and Culture	3
	THL Elective for Minor	12

## Category Descriptions

### THL Elective for Minor

Credits: 12

Take any four THL courses with the CTHL attribute

- one of these elective courses may come from among THL 6001, courses with the CTHL attribute, or GIS 4275, HIS 1060, HIS 2280, HIS 3018, HIS 4031, HIS 4076, HUM 4000, PHI 2450, PHI 2900, PHI 2910, PHI 3100, PHI 3120, PHI 3410, PJ 2600, PJ 2900, PJ 3400, PJ 4600, PJ 5400, PSC 3440, SOC 2600, THE 3010.

# Writing and Rhetoric

## Writing and Rhetoric Minor

Program Director: Ellen Bonds, Ph.D.  
Office Location: 453 Saint Augustine Center  
Telephone: 610-519-4657  
[\[Website\]](#)

### About

As an interdisciplinary program with courses from the Departments of English and Communication, the Program in Writing and Rhetoric offers students opportunities to gain significant knowledge of the rhetorical framework constituting professional, aesthetic and everyday writing. The program will allow students who want to pursue study in writing and communication to do so in a focused and comprehensive way with examination of the theoretical, historical, and philosophical aspects of these disciplines.

**Type:** Minor

### MINOR (18 credits)

Students must complete 18 credit hours, comprising 6 advanced courses numbered 2000 and above.

#### *Program Notes:*

- Also required: A Grammar, Style and Punctuation Exam by the end of their first semester of work towards the minor, students will have studied for and passed a self-administered WebCT exam covering principles of Standard Edited English, a style sheet as that of the Associated Press, and other rules of grammar, punctuation, and mechanics.

### Required Minor Courses:

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
	Writing Practice Elective	9
	Composition/Rhetorical/ Critical Theory Elective	6
	Upper-Level English Lit	3

## Category Descriptions

### Writing Practice Elective

Credits: 9

Choose 3 courses primarily in writing practice at the intermediate or advanced level:

- ENG 2045 Special Topics, when these courses are focused on critical theory.

Item #	Title	Credits
ENG 1842	Perspectives in Literature	3
ENG 2000	Adv Expository Writing	3
ENG 2003	Intro to Creative Writing	3
ENG 2005	Writing of Short Story	3
ENG 2006	The Writing of Poetry	3
ENG 2007	The Writing of Screenplays	3
ENG 2009	Writing the Traditional Novel	3
ENG 2011	Writing the Experimental Novel	3
ENG 2012	Advanced Creative Writing	3
ENG 2013	Writing of Memoir	3
ENG 2017	Writing Detective Fiction	3
ENG 2018	Nature Writing Workshop	3
ENG 2020	Journalism	3
ENG 2041	Travel Writing	3
ENG 2045	Sp Top in Writing & Rhetoric	3
ENG 2050	Writing for Magazines	3
ENG 2060	Desktop Publishing	3
COM 3303	Screenwriting	3
COM 3341	Gender and Film	3
COM 3341	Gender and Film	3
COM 3352	Media & Technology	3
COM 3353	Media & Politics	3
COM 3354	Media Criticism	3
COM 3360	Introduction to Journalism	3
COM 3361	Journalism Practices	3
COM 3363	Broadcast Journalism	3
COM 3365	Sports Journalism	3
COM 3366	Multimedia Journalism	3
COM 3367	Journalism Topics	3
COM 3390	Spec Top in Media & Film	3
COM 3403	Intercultural Communication	3
COM 3406	Gender & Communication	3
COM 3462	Public Relations Writing	3
COM 4001	Qualitative Research in COM	3

#### Composition/Rhetorical/Critical Theory Elective

Credits: 6

Choose two courses in composition theory, rhetorical theory, critical theory or history of language/cultural texts:

- ENG 2045 Special Topics, when these courses are focused on critical theory.

Item #	Title	Credits
ENG 2043	Writing About US Pop Culture	3
ENG 2045	Sp Top in Writing & Rhetoric	3
ENG 2250	Ways of Reading:Lit Analysis	3
ENG 2800	Teaching Practicum	3
COM 2200	Theories of Rhetoric	3
COM 2280	Theories of Persuasion	3
COM 2300	Theories of Mass Communication	3
COM 2340	Theories of Visual Com & Cultu	3
COM 2440	Theories of Organizational Com	3
COM 3201	Rhetoric & Social Justice	3
COM 3202	Rhetoric, Identity & Conflict	3
COM 3203	Communication Law & Policy	3
COM 3204	Rhetoric and Democracy	3
COM 3207	African American Rhetoric	3
COM 3208	Rhetoric and Myth	3
COM 3290	Spec Top in Rhetoric & Perf	3
CST 2100	Intro. to Cultural Studies	3
PHI 2010	Logic & Critical Thinking	3
PHI 2170	Mass Media Ethics	3
PHI 2180	Computer Ethics	3
PHI 2710	Information Knowledge Inquiry	3
PHI 2760	Philosophy & Literature	3
PHI 3020	History of Ancient Philosophy	3
PHI 4140	Phil of Contemporary Music	3
PHI 4150	Philosophy & Film	3
PHI 4200	Philosophy of Language	3

#### Upper-Level English Lit

Credits: 3

Choose an upper level English literature course.

## Writing and Rhetoric Concentration

Program Director: Ellen Bonds, Ph.D.

Office Location: 453 Saint Augustine Center

Telephone: 610-519-4657

[\[Website\]](#)

## About

As an interdisciplinary program with courses from the Departments of English and Communication, the Program in Writing and Rhetoric offers students opportunities to gain significant knowledge of the rhetorical framework constituting professional, aesthetic and everyday writing. The program will allow students who want to pursue study in writing and communication to do so in a focused and comprehensive way with examination of the theoretical, historical, and philosophical aspects of these disciplines.

**Type:** Concentration

## CONCENTRATION (24 credits)

In keeping with the English Department's focus on literary texts, the notion of rhetoric informing the Concentration includes textual analysis as well as the more traditional uses of the term, thus bringing the wisdom and imagination of literary discourse into the Concentration. Such a focus on literary texts also underscores the well-known correlation between reading well and writing well. Furthering the Communication Department's focus on orality and persuasion, the Concentration will allow students to develop rhetorically complex understandings of audiences and master of the skills necessary to adapt the written and oral messages for identified audiences.

### *Program Notes:*

- Non-Credit bearing internships may also possibly fulfil the One Practicum Course requirement if they involve a substantial amount of writing. The internship must be approved by the Director of the Writing and Rhetoric Program.
- Students must have a 3.0 average or better to enroll in the Concentration. To successfully complete the Concentration, students must achieve a 3.0 average in their Concentration courses.

### Required Concentration Courses:

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
	Writing Practice Elective	9
	Composition/Rhetorical/ Critical Theory Elective	6
	Writing Practicum Elective	3
	Upper-Level English Lit	3
	Upper-Level English Lit	3

### Category Descriptions

#### Writing Practice Elective

Credits: 9

Choose 3 courses primarily in writing practice at the intermediate or advanced level:

- ENG 2045 Special Topics, when these courses are focused on critical theory.

Item #	Title	Credits
ENG 1842	Perspectives in Literature	3
ENG 2000	Adv Expository Writing	3
ENG 2003	Intro to Creative Writing	3
ENG 2005	Writing of Short Story	3
ENG 2006	The Writing of Poetry	3
ENG 2007	The Writing of Screenplays	3
ENG 2009	Writing the Traditional Novel	3
ENG 2011	Writing the Experimental Novel	3
ENG 2012	Advanced Creative Writing	3
ENG 2013	Writing of Memoir	3
ENG 2017	Writing Detective Fiction	3
ENG 2018	Nature Writing Workshop	3
ENG 2020	Journalism	3
ENG 2041	Travel Writing	3
ENG 2045	Sp Top in Writing & Rhetoric	3
ENG 2050	Writing for Magazines	3
ENG 2060	Desktop Publishing	3
COM 3303	Screenwriting	3
COM 3341	Gender and Film	3
COM 3341	Gender and Film	3
COM 3352	Media & Technology	3
COM 3353	Media & Politics	3
COM 3354	Media Criticism	3
COM 3360	Introduction to Journalism	3
COM 3361	Journalism Practices	3
COM 3363	Broadcast Journalism	3
COM 3365	Sports Journalism	3
COM 3366	Multimedia Journalism	3
COM 3367	Journalism Topics	3
COM 3390	Spec Top in Media & Film	3
COM 3403	Intercultural Communication	3
COM 3406	Gender & Communication	3
COM 3462	Public Relations Writing	3
COM 4001	Qualitative Research in COM	3

Composition/Rhetorical/Critical Theory Elective

Credits: 6

Choose two courses in composition theory, rhetorical theory, critical theory or history of language/cultural texts:

- ENG 2045 Special Topics, when these courses are focused on critical theory.

Item #	Title	Credits
ENG 2043	Writing About US Pop Culture	3
ENG 2045	Sp Top in Writing & Rhetoric	3
ENG 2250	Ways of Reading:Lit Analysis	3
ENG 2800	Teaching Practicum	3
COM 2200	Theories of Rhetoric	3
COM 2280	Theories of Persuasion	3
COM 2300	Theories of Mass Communication	3
COM 2340	Theories of Visual Com & Cultu	3
COM 2440	Theories of Organizational Com	3
COM 3201	Rhetoric & Social Justice	3
COM 3202	Rhetoric, Identity & Conflict	3
COM 3203	Communication Law & Policy	3
COM 3204	Rhetoric and Democracy	3
COM 3207	African American Rhetoric	3
COM 3208	Rhetoric and Myth	3
COM 3290	Spec Top in Rhetoric & Perf	3
CST 2100	Intro. to Cultural Studies	3
PHI 2010	Logic & Critical Thinking	3
PHI 2170	Mass Media Ethics	3
PHI 2180	Computer Ethics	3
PHI 2710	Information Knowledge Inquiry	3
PHI 2760	Philosophy & Literature	3
PHI 3020	History of Ancient Philosophy	3
PHI 4140	Phil of Contemporary Music	3
PHI 4150	Philosophy & Film	3
PHI 4200	Philosophy of Language	3

Writing Practicum Elective

Credits: 3

- PJ 4650: Service Learning Practicum, when the practicum involves a good deal of writing.

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
ENG 2030	Tutoring Writers	3
ENG 2060	Desktop Publishing	3
ENG 2993	Internship	3
ENG 2996	Internship	6
COM 2993	Communication Internship	3
COM 2996	Communication Internship	6
PJ 4650	Service Learning Practicum	1

Upper-Level English Lit

Credits: 3

Choose an upper level English literature course.

# Course Descriptions Accounting

## **ACC 1101: Prin of Financial Accounting**

Understanding business by being able to understand the financial statements. Accounting concepts, transaction analysis, analytical procedures, valuation and allocation, revenue recognition and expense matching, and cash flow analysis - operating, investing, and financing. Includes appropriate use of technology.

**Credits:** 3

## **ACC 2020: Special Topics**

Special accounting topics offered in lecture/seminar format. Permission of Department Chair.

**Credits:** 1

### **Prerequisites:**

VSU 2004

## **ACC 2310: Intermediate Accounting I**

Intensive study and application of GAAP for asset valuation, income measurement, and financial statement presentation for business organizations, and the processes through which these principles evolve. Each topic under GAAP compared to IFRS counterpart. Coverage of topics essential to preparing, reading, understanding, interpreting and using financial statements. Extensive reliance on case method.

**Credits:** 3

### **Prerequisites:**

VSU 2020 :Y and (VSU 2009 :Y or VSU 2010 or VSU 2030 and VSU 2040)

## **ACC 2320: Intermediate Accounting II**

Continues the intensive study and application of GAAP for asset valuation, income measurement, and financial statement presentation begun in ACC 2310. Selected accounting and consulting issues. Correction of financial statements, income taxes, pensions, segment reporting, cash-flow disclosures, debt issuance and amortization, leases, and investments. As with ACC 2310, each topic under GAAP compared to IFRS counterpart.

**Credits:** 3

### **Prerequisites:**

ACC 2310

## **ACC 2340: Accounting Information Systems**

This course offers both a conceptual overview and hands-on experience with a variety of AIS related material. Topics covered include: Semantic modeling and event driven accounting information systems (AIS); development, documentation, control and audit of AIS, with particular reference to the COBIT framework; an overview of XBRL and its role in financial reporting; the use of database management software and accounting software in developing modern AIS.

**Credits:** 3

### **Prerequisites:**

ACC 2310

## **ACC 2360: Federal Income Tax**

An introduction to federal income taxation with primary emphasis on the tax implications of business transactions. Objectives of the course are to explore tax-policy issues and to develop a basic understanding of federal income tax laws, income tax planning, and the impact of taxes on business decisions. Restricted to Accounting majors and minors with Junior and Senior standing.

**Credits:** 3

### **Prerequisites:**

ACC 2310 :Y and (VSU 2009 or VSU 2010 or VSU 2030 and VSU 2040)

## **ACC 2410: Accounting for Real Estate**

Accounting for both private and public real estate entities, acquisitions, development, operations, dispositions, impairments and fair value implications of real estate transactions and ownership.

**Credits:** 3

### **Prerequisites:**

ACC 2310

**ACC 2420: International Accounting**

Examines a variety of international accounting issues, including international financial accounting standards; consolidation of international operations; auditing standards and procedures; managerial accounting systems for planning, control, and performance measurement; political, legal, and cultural influences on accounting and transfer pricing. This course can be applied toward the international course requirement and in VSB's Master of Accountancy Program.

**Credits:** 3

**Prerequisites:**

ACC 2310

**ACC 2430: Auditing**

Auditing standards employed in verification of and reporting on financial statements, evaluation of controls, statistical sampling, substantive testing, legal liability and professional responsibilities, and professional standards of ethics. Includes written and oral group case assignments and application of computer technology. Restricted to Accounting majors and minors.

**Credits:** 3

**Prerequisites:**

ACC 2310 and ACC 2320 :Y

**ACC 2435: Advanced Auditing**

Increased regulatory requirements, globalization, and advances in data analytics are driving substantial changes in the complexity and challenges facing today's auditors. Auditors must understand and respond to such changes in order to fulfill their responsibilities as stewards of public trust. This course is designed to immerse students in emerging practice issues, with a focus on the exploration of data analytics tools, current regulatory themes, relevant audit research, and practitioner insights in the public company audit context.

**Credits:** 3

**Prerequisites:**

ACC 2430

**ACC 2450: Advanced Accounting**

Theories and techniques used for specialized accounting problems, with emphasis on business combinations, consolidations, multinational corporations, not-for-profit entities partnerships, and issues related to solvency and liquidation and financial fraud. Restricted to Accounting majors and minors.

**Credits:** 3

**Prerequisites:**

ACC 2310 and ACC 2320 :Y

**ACC 2470: Cost Accounting**

Introduction to modern cost accounting systems and the accounting information needs of managers, including: costing approaches (job-order process, standard, and absorption); cost behavior analysis; differential costs for decision-making; activity-based costing (ABC) and activity-based management (ABM); performance evaluation; and, issues related to quality. Group work and case analysis (both oral and written) required. Restricted to Accounting majors and minors with Senior standing.

**Credits:** 3

**Prerequisites:**

ACC 2310 and VSB 3006

**ACC 2480: Advanced Taxes**

Advanced federal income tax topics and issues pertaining to individuals, partnerships, corporations, and estates and trusts. Emphasis on tax planning and tax research.

**Credits:** 3

**Prerequisites:**

ACC 2310 and ACC 2360

**ACC 3350: Fraud Examination**

The focus of the course is on the pervasiveness and causes of fraud, methods for investigating fraud within organizations, and what organizations can do to prevent and detect fraud. The successful completion of the course provides a basic understanding of various types of fraud, the fraud triangle, fraud prevention and internal control, fraud detection and investigation techniques, financial statement fraud, fraud against organizations, bankruptcy and divorce fraud, fraud in e-commerce, and the legal elements and resolution of fraud.

**Credits:** 3**Prerequisites:**

ACC 2430 :Y

**ACC 3430: Accounting Internship**

Employment with approved accounting firms and business organizations; varied work experience with appropriate training, instruction, and supervision. Paper required. Restricted to Accounting majors and minors with junior or senior standing, a minimum GPA of 2.5, and approval of the Accounting Internship Director. Satisfactory/Unsatisfactory only.

**Credits:** 3**ACC 3460: Accounting Internship-Spring**

Full-time employment with approved accounting firm or other business organizations; varied work experience with appropriate training, instruction, and supervision. Does not fulfill major requirement; satisfies one free elective only. Permission of Accounting Department.

**Credits:** 6**ACC 3470: Accounting Co-Op**

Full-time employment with an approved firm in the area of Accounting where experience is gained through appropriate training, instruction, and supervision. Course does not fulfill the requirements of the major. Prerequisite: Accounting major with junior status; minimum GPA requirements will vary. Approval of Accounting Department Chair required.

**Credits:** 6**Prerequisites:**

Accounting major with junior status; minimum GPA requirements will vary. Approval of Accounting Department Chair required.

**ACC 3500: Ind Study:Accounting**

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**Credits:** 3

## Arts & Sciences Professional Development

**ASPD 1001: Transitioning to College**

Transition to College is a one-credit class for first-year students. Goals of this course include addressing social skills, residence hall life, classroom etiquette, executive functioning skills, and self-advocacy. This course will be especially beneficial for, and geared toward, students with Asperger's Syndrome and/or on the Autism Spectrum.

**Credits:** 1**ASPD 2000: Prof Dev for Arts & Sciences**

Discovering your professional passion, path, and purpose. Designed for students to acquire and demonstrate professional and career readiness skills, which greatly enhance student employability in the workplace.

**Credits:** 1**ASPD 2001: Intro. to Professional Writing**

Learn the hallmarks of effective professional writing: How to target an audience while writing clearly, concisely, and persuasively. Gain valuable professional writing experience directly transferable to writing in internships and professional positions.

**Credits:** 1**ASPD 2002: The Legal Profession**

Investigate areas of law and potential legal paths as you learn what it means to "think like a lawyer." Learn how to maneuver successfully through the application process and how to transition well to the challenges of law school.

**Credits:** 1**ASPD 2003: Professional Communication**

This course provides a foundation for leadership studies and professional speaking. You will enhance your professional communication by learning various perspectives that will deepen your understanding of leadership and enable you to succeed in a diverse, ever-changing workplace.

**Credits:** 1

**ASPD 2004: Social Networking**

Making connections and staying connected has never been easier with sites like Facebook, Twitter, and LinkedIn. Learn how to harness the power of social media for professional gain and become a savvy social networker.

**Credits:** 1

**ASPD 2005: Networking for Success**

Learn the importance and relevance of networking for your professional success. This course is designed for students who want to identify, understand, and develop personal strengths and relationships to explore and expand professional opportunities.

**Credits:** 1

**ASPD 2006: The Political Ecosystem**

This course introduces students to the political ecosystem from four vantage points: the media, campaigns and advocacy, Congress, and the Executive Branch. Students will study the functions of and interaction between these sectors and job prospects in each.

**Credits:** 1

**ASPD 2007: Global Leadership**

Using a case study approach, introduce global leadership by demonstrating how a corporation applies leadership theories and practices while achieving a global mindset.

**Credits:** 1

**ASPD 2008: Organizational Leadership**

Using a case study approach, introduces students to organizational leadership, demonstrating how a firm applies leadership theories and practices through its organizational units to achieve success.

**Credits:** 1

**ASPD 2009: Creativity and Innovation**

Collaborate on team-based projects designed to foster an understanding of real-world business problems that require creative and innovative solutions. Open to All Undergraduate Students  
Weekend commitment is a requirement Class will meet for three prep sessions prior to weekend event.

**Credits:** 1

**ASPD 2011: Personal Finance**

Personal finance is an important life skill, and after graduation, you will be responsible for your own money. Explore topics such as budgeting; living on your own; saving for that dream car, house, and vacation; responsible use of credit cards; and investing for retirement. You'll identify your values and differentiate needs from wants, and learn how to set short, medium and long-term financial goals.

**Credits:** 1

**ASPD 2012: Professional Skills-Strengths**

Professional Skills and Strengths teaches students how to understand, communicate, and leverage their skills and strengths when applying for internships and jobs.

**Credits:** 1

**ASPD 2013: Introduction to Data Analysis**

Introduction to Data Analysis teaches students how to interpret, create, and analyze data utilizing spreadsheets and other technological tools.

**Credits:** 1

**ASPD 2014: Public Policy Paths**

Public Policy Paths teaches students about careers and professional opportunities available in national and state government, and in non-profit organizations.

**Credits:** 1

**ASPD 2015: Management Consulting**

Students will learn about the management consultancy field and how to best pursue opportunities while engaging with alumni professionals who've built careers in the industry.

**Credits:** 1

**ASPD 2016: The Professorial Life**

Students will learn what the professional life of a professor is like, from teaching, research and scholarship, to administration, mentorship, service and more.

**Credits:** 1

**ASPD 2017: Mathematical Communities**

This course is an introduction to the study of mathematics. Creative thinking, problem solving, and collaboration are explored. Mathematics research and careers in the mathematical sciences are emphasized. Students also build community with fellow math majors. This course is restricted to First-year Mathematics majors

**Credits:** 1

**ASPD 2018: A Life Well Lived**

Discuss and practice the core concepts of a life well lived, as studied by the Greater Good Science Center at UC Berkeley, around the core concepts of generosity, gratitude, awe, positive neuroscience, and future mindedness.

**Credits:** 1

**ASPD 2019: Science of Happiness**

Follow along with the Greater Good Science Center at UC Berkeley's podcasts, "The Science of Happiness," and integrate the concepts and practices for a daily routine defined by gratitude, resilience, forgiveness, and attention to the present moment.

**Credits:** 1

**ASPD 2020: Building a Failure Resume**

Failure is normal and healthy - and it can be transformative. Learn from the failure resumes of others, and walk away with your own failure resume and ability to articulate how you have demonstrated growth, change and resilience.

**Credits:** 1

**ASPD 2021: Adulting 101**

From saving for retirement and renting that first apartment to negotiating your starting salary and sorting out employer provided health benefit, Adulting 101 prepares students for life after graduation and beyond.

**Credits:** 1

**ASPD 2022: Prep for Careers in Fin Serv**

Learn how to successfully identify, apply for, and interview for internships and entry-level positions in the financial services industry, and build relationships with alumni who are industry experts.

**Credits:** 1

**ASPD 2023: Navigating Roadblocks**

In Navigating Roadblocks, students will have the opportunity to discuss and consider effective approaches to managing stress, setting realistic goals, and persisting after failure or setbacks.

**Credits:** 1

**ASPD 2024: Understanding Financial Rpts**

This course will emphasize the creation and analysis of the basic financial accounting statements - the income statement, balance sheet, and cash flow statement - as well as their interpretation and how they are used in making financial and investing decisions.

**Credits:** 1

**ASPD 2025: Careers in Sustainability**

Careers in Sustainability examines professional paths related to "green jobs" and the field of environmental sustainability, and how to best prepare to pursue relevant opportunities with confidence.

**Credits:** 1

**ASPD 2026: Intergrating Study Abroad Exp**

Students returning from studying abroad will develop a framework in which they can reflect upon and discuss their international experiences, and foster their intercultural competencies, while integrating their experiences into their academic and career goals.

**Credits:** 1

**ASPD 2027: Understanding Fincl Rpt II**

This course is a continuation of Understanding Financial Reporting and will emphasize the creation and analysis of the basic financial accounting statements: the income statement, balance sheet, and cash flow statement, as well as their interpretation and how they are used in making financial and investing decisions.

**Credits:** 1

**Prerequisites:**

ASPD 2024

**ASPD 2028: Diversity & Incl the Workplace**

Learn why respectful language and vocabulary are essential to approaching uncomfortable yet important conversations about diversity, equity, and inclusion in the workplace. Develop strategies for breaking down barriers, fostering greater understanding, and creating and sustaining equitable, open, and progressive workplaces.

**Credits:** 1

**ASPD 2029: Applying to Law School**

Understand the process of applying to law school, including selecting target schools, writing a personal statement, requesting letters of recommendation, obtaining official transcripts, navigating the Law School Admission Council's Website, and more.

**Credits:** 1

**ASPD 2030: Introduction to Law School**

Review topics, cases, and statutes typically studied during the first year (1L) of law school. Develop strong law school study strategies by reading and briefing cases.

**Credits:** 1

**ASPD 2031: LSAT Prep**

Develop greater understanding and confidence related to preparing for and taking the LSAT, which is the standardized Law School Admission Test. Examine and prepare for all parts of the LSAT, including Logical Reasoning, Analytical Reasoning, Reading Comprehension, and Writing.

**Credits:** 1

**ASPD 2032: The Intersection of Work & Pol**

This course aims to prepare students for a job market and professional environment in which political concerns and controversies are appearing in new and sometimes problematic ways. The course is based around specific questions and problems, and addresses them through specific cases.

**Credits:** 1

**ASPD 2033: Rewrite Your Story**

This course is designed for the student that is transitioning back from time off from academics and/or interested in developing academic and professional skills to improve performance. We will start with reframing past experiences as growth moments and opportunities for learning.

**Credits:** 1

**ASPD 2100: Preparing for Health Careers**

Five interpersonal and four intrapersonal competencies sought by health professions schools. What they mean, why they are important in health care, and how to develop them in oneself.

**Credits:** 1

**ASPD 2101: The Road Less Traveled**

This course is designed to expand students' awareness of the array of health professions. Guest speakers from fields students choose less frequently will come to class and introduce their professions. Students will have the opportunity to expand their perspective in search of their "fit", while simultaneously learning more about health care and health professionals.

**Credits:** 1

**ASPD 2103: Charting Your Course - Science**

Exploration of professional options offered by a degree in the sciences, such as careers in pharmaceutical and vaccine development, data analytics, and more.

**Credits:** 1

**Prerequisites:**

ASPD 1000

**ASPD 2200: Applied Professional Devlp**

Students will enhance their professional development and career knowledge through this overview of important and relevant topics related to investigating career paths and applying to internships and jobs. The one-credit Independent Study offering is designed to give students greater flexibility in course scheduling. Restricted to CLAS students with permission of Director of Professional Development.

**Credits:** 1

**Prerequisites:**

ASPD 1000

**ASPD 3000: Topics in Prof. Development**

Strategies and techniques to enhance students' professional development. Students will reflect on and write about their internship and work experiences to challenge their thinking about the workplace, leadership, and efficiency on the job.

**Credits:** 3

## Aerospace Studies (Air Force ROTC)

**AER 1011: Foundation of US Air Force I**

The military as a profession, including: civilian control of U.S. Armed Forces, functions and organization of the U.S. Air Force, organization and operations of U.S. strategic offensive forces.

**Credits:** 1

**AER 1012: Leadership Lab**

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**Credits:** 0

**AER 1021: Foundation of US Air Force II**

The U.S. general purpose and defensive forces including: Mission and organization of the major U.S. Air Force Commands and separate operating agencies, major functions and conduct of joint service military operations. Air defense, detection systems, close air support, and air superiority.

**Credits:** 1**AER 1022: Leadership Lab**

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**Credits:** 0**AER 1031: Evol of USAF Air Space Power I**

Aerospace power from balloons and dirigibles through the employment of U.S. air power in World War II. The military theory of aerospace power employment.

**Credits:** 1**AER 1041: Evol of USAF Air Space Power II**

Employment of U.S. air power in the Korean Conflict, relief missions and civic action programs in the later 1960s, and the war in Southeast Asia. The military theory of aerospace force employment.

**Credits:** 1**AER 2011: Air Force Leadership Studies I**

Managerial theory, concepts and techniques of decision-making, and the basic functions of management with particular emphasis on applications for Air Force officers.

**Credits:** 3**AER 2021: Air Force Leadership Studies II**

An interdisciplinary approach to leadership which includes study of human behavior and relationships, and motivation.

**Credits:** 3**AER 2031: National Security Affairs I**

The Armed forces as an integral and inseparable element of society. Emphasis on the overall national security process and the factors which comprise it. The impact of a nation's military, economic psychological, and technical components on national security policy. Major geopolitical hotspots and the origin of arms races.

**Credits:** 3**AER 2041: National Security Affairs II**

Civilian control of the military, conflict control, military professionalism, and military justice. Emphasis on the reciprocal responsibilities of civilians and the military in a democratic society.

**Credits:** 3

## Africana Studies

**AFR 3000: Constructs of Blackness**

Interdisciplinary examination of ideas of black identity, culture, and politics. Course covers African and African Diaspora experience in society, history, literature, health, and others in global and national contexts. Team taught

**Credits:** 3**AFR 3100/3101/3102: Special Topics**

Specific topics vary each semester.

**Credits:** 3**AFR 3101: Special Topics**

Specific topics vary each semester.

**Credits:** 3**AFR 3102: Special Topics**

Specific topics vary each semester.

**Credits:** 3**AFR 4000: Capstone Seminar**

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**Credits:** 3**AFR 5000: Ind. Study Africana Studies**

Permission of Program Director. Individual students with specific interest work on a tutorial basis with an appropriate professor.

**Credits:** 3**Prerequisites:**

Permission of Program Director.

## American Sign Language

**ASL 1111: Intro to Amer Sign Language I**

Functional use of American Sign Language for students with no prior knowledge of ASL and Deaf Culture.

**Credits:** 3**ASL 1112: Intro to American Sign Lang II**

Continuation of ASL I with increase understanding and knowledge of the ASL through description, classified and facial. Each unit has student/instructor interaction and information on grammar, comprehension and Deaf Culture.

**Credits:** 3**Prerequisites:**

ASL 1111

# Arab and Islamic Studies

## **AIS 1111: Basic Arabic**

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**Credits:** 3

## **AIS 1112: Basic Arabic II**

Continuation of AIS 1111. Functional use of modern standard arabic. Recitations, readings and oral drills.

**Credits:** 3

### **Prerequisites:**

AIS 1111 :D-

## **AIS 3000: Special Topics**

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**Credits:** 3

## **AIS 4100: AIS Seminar**

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**Credits:** 3

# Arabic Language

## **ARB 1111: Basic Arabic I**

Functional use of Modern Standard Arabic for students with no prior knowledge of Arabic. Recitations, readings and oral drills.

**Credits:** 6

## **ARB 1112: Basic Arabic II**

Functional use of Modern Standard Arabic for students with no prior knowledge of Arabic. Recitations, readings and oral drills, supplementary language laboratory work. Prerequisites: ARB 1111 or equivalent or permission of instructor.

**Credits:** 6

### **Prerequisites:**

ARB 1111 or equivalent or permission of instructor.

## **ARB 1121: Intermediate Arabic I**

Review of grammar and vocabulary. Recitations, readings and oral drills. Supplementary language laboratory work. Prerequisites: ARB 1111 and 1112 or equivalent or permission of instructor.

**Credits:** 5

### **Prerequisites:**

ARB 1111 and 1112 or equivalent or permission of instructor.

## **ARB 1122: Intermediate Arabic II**

Review of grammar and vocabulary. Recitations, readings and oral drills. Supplementary language laboratory work. Prerequisites: ARB 1111 and 1112 and 1121 or equivalent or permission of instructor.

**Credits:** 5

### **Prerequisites:**

ARB 1111 and 1112 and 1121 or equivalent or permission of instructor.

## **ARB 1123: Intermediate Arabic I**

Review of grammar and vocabulary. Recitations, readings and oral drills. Supplementary language laboratory work.

**Credits:** 3

### **Prerequisites:**

ARB 1112 :D-

## **ARB 1124: Intermediate Arabic II**

Review of grammar and vocabulary. Recitations, readings and oral drills. Supplementary language laboratory work.

**Credits:** 3

### **Prerequisites:**

ARB 1112 :D-

## **ARB 1125: Intermediate Arabic III**

Review of grammar and vocabulary. Recitations, readings and oral drills. Supplementary language laboratory work.

**Credits:** 3

### **Prerequisites:**

ARB 1112 :D-

## **ARB 1131: Intensive Adv Arabic I**

Advanced communication skills including reading and discussing topics on current events. Supplementary language laboratory work. ARB 1125 or equivalent or permission of instructor.

**Credits:** 3

## **ARB 1132: Intensive Adv Arabic II**

Advanced communication skills including reading and discussing topics on current events. Supplementary language laboratory work. ARB 1131 or equivalent or permission of instructor.

**Credits:** 3

## **ARB 1133: Conversational Arabic I**

Intensive practice in conversation with emphasis on developing advance language skills in Arabic. ARB 1132 or equivalent or permission of instructor.

**Credits:** 3

## **ARB 1134: Conversational Arabic II**

Intensive practice in conversation with emphasis on developing advance language skills in Arabic. ARB 1133 or equivalent or permission of instructor.

**Credits:** 3

**ARB 1141: Intro to Colloquial Arabic**

Training in the use of colloquial Egyptian Arabic, focusing on listening and speaking skills. Supplementary laboratory work and drills.

**Credits:** 3

**ARB 2100: Arabic Lit in English Trans**

The major works of Arabic literature in translation. Conducted in English.

**Credits:** 3

**ARB 2142: Arab Culture Thru Film & Text**

Arab culture and civilization with emphasis on the Arab people's contribution to the arts and sciences.

**Credits:** 3

**ARB 2143: Arab Culinary Culture**

Examines the development and fundamental characteristics of Arab culinary culture. Presenting Arab cuisine elements absorbed from the cultures with which the early Arabs mixed when they migrated from the Arabian Peninsula and settled into the surrounding countries.

**Credits:** 3

**ARB 3412: Special Topics**

Advanced study of topics of special interest in Arabic literary and/or cultural studies. May be repeated for credit if topic changes. Fulfills core requirements for Arabic minor.

**Credits:** 3

**ARB 5900: ARB: Independent Study**

Supervised study, activity or research. May be taken more than once. Prior approval of chair and instructor.

**Credits:** 3

## Art History

**AAH 1101: His West Art: Ancient-Med**

Art & architecture in Europe, the Mediterranean (esp. Greece & Rome, ) & the Middle East in prehistoric, ancient, & medieval periods, with introduction to issues & themes of art history.

**Credits:** 3

**AAH 1102: His West Art: Renaiss - Cont**

The history of the visual arts in the West from the Early Renaissance to the present.

**Credits:** 3

**AAH 1103: Visual Arts in US 1607-1876**

A survey of painting, sculpture, and architecture created in the present-day United States, from the founding of Jamestown to the great Philadelphia Centennial Exhibition.

**Credits:** 3

**AAH 1104: Visual Arts in US 1877-Present**

A study of painting, sculpture, and architecture done in the United States since the Philadelphia Centennial exhibition from Thomas Eakins and Gross to great contemporary artists such as Andrew Wyeth, Frank Gehry, and Jeff Koons.

**Credits:** 3

**AAH 1903: Internship Elective**

An internship in an elective area of concentration.

**Credits:** 3

**AAH 2000: Ancient Art**

The artistic contributions of the ancient societies of Egypt, the Aegean, Greece and Rome, placed within appropriate cultural contexts.

**Credits:** 3

**AAH 2001: Medieval Art**

European & Mediterranean art & architecture from the late Roman Empire to the 14th c. with emphasis on the social, religious & political contexts of visual production.

**Credits:** 3

**AAH 2002: Early Renaissance Art in Italy**

Italian art & architecture from 1300-1480, investigation of the political, religious & social contexts of the visual productions of artists such as Giotto, Donatello, Masaccio, Mantegna & Botticelli.

**Credits:** 3

**AAH 2003: Age of Rembrandt & Bernini**

Major works of European painting, sculpture, and architecture from the seventeenth through mid-eighteenth centuries. Special emphasis on how historical events affected the production of artistic monuments.

**Credits:** 3

**AAH 2004: Modern Art**

An examination of the visual arts since 1900 that emphasizes their historical roots and present social significance.

**Credits:** 3

**AAH 2005: Modern Architecture**

Notable buildings and architects in the last hundred years: Frank Lloyd Wright, Louis Sullivan, Antoni Gaudi, LeCorbusier, Mies van der Rohe, Robert Venturi, I.M. Pei, Walter Gropius, Philip Johnson, Frank Gehry. Emphasis on the influence of modern technology on the practice of architecture.

**Credits:** 3

**AAH 2007: Hist. of Western Architecture**

Development of architectural styles from the Gothic to the contemporary, with emphasis on the modern period.

**Credits:** 3

**AAH 2009: Contemporary Art**

Artistic movements and artists around the world from the 1960s to the present; Pop Art, Minimalism, Neo-expressionism, Arte Povera, Graffiti Art, and Performance Art, from Warhol to Wyeth to Haring and Koons.

**Credits:** 3

**AAH 2012: High Renaissance Art in Italy**

Italian art & architecture from 1480 to 1550. Investigation of stylistic, political & social contexts of art. The idea of Mannerism & artists such as Leonardo, Michelangelo, Raphael & Titian.

**Credits:** 3

**AAH 2993: Internship**

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**Credits:** 3

**AAH 3001: Women in Art**

Themes and images of women in the visual arts as an expression of the needs, desires and attitudes of society; and a study of women artists from ancient times to the present, with regard to how being female may, or may not, have affected their work.

**Credits:** 3

**AAH 3002: Art of Philadelphia**

Philadelphia's unique contribution to American painting, sculpture, and architecture, from the early Swedish and Welsh settlers of the Delaware Valley, to Andrew Wyeth and Robert Venturi.

**Credits:** 3

**AAH 3003: Romantic to Post-Impress**

Nineteenth century painting and sculpture in Europe and America, focusing on Cezanne, Courbet, Delacroix, Goya, Eakins, Homer, Manet, Monet, Rodin and West.

**Credits:** 3

**AAH 3005: Gender Sexuality Visl Culture**

Construction of gender and sexuality as visualized through art and various forms of visual culture. Topics include the gaze, feminist art, gendered construction of fashion, queer identities and art, and bodies and censorship.

**Credits:** 3

**AAH 3006: History of Photography**

History of photographic styles and techniques from 1826-Present. Emphasis on the relation of photography to capitalism, colonialism, racism, feminism, and gender identities in contemporary culture.

**Credits:** 3

**AAH 3007: The Art of Ireland**

The visual arts in Ireland concentrating on the Golden Age from the 5th to the 9th Century: architecture of the early monastic settlements, manuscript illumination and its influence, and the cultural impact of the Irish forms of monasticism.

**Credits:** 3

**AAH 3009: Topics in Art History**

Selected themes or periods in the history of art examined in depth.

**Credits:** 3

**AAH 3020: Topics in Archeology**

Topics in Archeology of interest to faculty and students. Does not fulfill Fine Arts requirement.

**Credits:** 3

**AAH 4004: Spec Top: Renais-Baroque**

Seminar on architecture, painting, sculpture and art theories of the Renaissance or Baroque as announced. Topics will vary depending on the instructor.

**Credits:** 3

**AAH 4005: Picasso and Friends**

Seminar on the 20th century's most famous artist, with discussion of friends such as Braque, Apollinaire, Gertrude Stein, and Erik Satie.

**Credits:** 3

**Prerequisites:**

AAH 2004 :D-

**AAH 4007: Special Topics**

The course will consist of two 50 min lectures (MF) and a Wednesday evening movie screening. There are no prerequisites, and the course will count for Fine Arts credit. Students will take both a midterm and final and write short movie review/responses.

**Credits:** 3

**AAH 4010: Interpreting Art**

An introduction to the theories and criticism relevant for the study and interpretation of art and art history such as feminism, psychoanalysis, structuralism, deconstruction, post-colonialism, and postmodernism. Prerequisite: At least one prior Art History course.

**Credits:** 3

**Prerequisites:**

At least one prior Art History course.

**AAH 5010: Senior Research Seminar**

Art History capstone writing and research seminar, which builds on AAH-4010 Interpreting Art. Students practice advanced art historical research and write culminating research project.

**Credits:** 3

**Prerequisites:**

AAH 4010

**AAH 5515: Independent Research**

An intensive research project under individual direction. Permission of chairperson required.

**Credits:** 3

**Prerequisites:**

Permission of chairperson required.

## Astrophysics and Planetary Science

**AST 1072: Birth & Death of Stars**

The life cycles of the stars from birth in dark, dense interstellar clouds to death in nature's most violent cataclysms. Topics include: formation of the chemical elements; effects of nearby supernovae; future of the Sun; ultimate fate of the Earth.

**Credits:** 3

**AST 1074: Planetary Skies and Landscapes**

A study of the surfaces and atmospheres of other worlds and how they compare to Earth. Physical processes which shape planetary interiors and surfaces; atmosphere and climate evolution; formation of the Solar System; properties of "solar systems" around other stars.

**Credits:** 3

**AST 1076: How Old is the Universe?**

Explores one of the most basic questions in modern astronomy. Evidence from the Earth, Moon, and meteorites will be examined, along with that from stars, white dwarfs, and the Universe itself. Includes an overview of the formation and evolution of the Universe.

**Credits:** 3

**AST 1078: Life in the Universe**

Discusses Earthly "life as we know it," then considers the possibilities of biological life elsewhere in the Solar System - and beyond. Describes the general conditions favoring planetary habitability, planetary detection techniques, and the likelihood of finding intelligent extraterrestrial life.

**Credits:** 3

**AST 2120: Sun and Stars**

A technical study of the Sun and other stars; their internal constitutions and atmospheres, life cycles and evolutionary processes, memberships in groups, the radiations they produce, and the manner in which astronomers quantify their characteristics.

**Credits:** 3

**Prerequisites:**

MAT 1310 or MAT 1320 or MAT 1330 or MAT 1400 or MAT 1500

**AST 2121: Solar System Astronomy**

The science of the solar system. Early ideas of the nature of the solar system; the dynamics and compositions of the planets; atmospheric evolution and maintenance. How comets and meteorites reveal the structures of the primitive solar system.

**Credits:** 3

**Prerequisites:**

MAT 1310 or MAT 1320 or MAT 1330 or MAT 1400 or MAT 1500

**AST 2122: Understanding Our Universe**

A study of the formation and evolution of the Universe. Emphasis on the observational evidence leading to the Big Bang Theory, inflation, dark matter, and dark energy. Current model of the universe described and evidence for the "multiverse" discussed.

**Credits:** 3

**AST 2123:****Astrodynamics: Kepler & Beyond**

Intermediate Newtonian dynamics: description of motion under forces as functions of position, time, velocity. Motion in one and three dimensions, the Kepler problem, gravitation, and the restricted three-body problem.

**Credits:** 3

**Prerequisites:**

MAT 1310 or MAT 1320 or MAT 1330 or MAT 1400 or MAT 1500

**AST 2133: Observational Lab I**

Astronomical instruments, methods of observing, reduction of observations, and discussion of astronomical data. Observations include CCD imaging, spectroscopy, and photoelectric photometry using the observatory reflector and Schmidt telescopes. Two hours per week in the laboratory in addition to the observing time necessary to complete the assigned projects. Corequisite or prerequisite: AST 2120.

**Credits:** 2**Co-Requisites:**

AST 2120.

**AST 2134: Observational Lab II**

Continuation of AST 2122.

**Credits:** 2**Prerequisites:**

AST 2133 :D-

**AST 3141: Galactic Astronomy**

The nature, distribution, and motions of the constituents of the Galaxy; the major star system in which our Sun is located the stars, the gas and dust, star clusters, etc.; stellar distance determination, distribution of stars and gas, stellar kinematics, galactic dynamics, galactic radio emission, cosmic rays, and evolution of galaxies.

Prerequisite: one year of mathematics or physics and either AST 2120 or AST 2122.

**Credits:** 3**Prerequisites:**

one year of mathematics or physics and either AST 2120 or AST 2122.

**AST 3142: Intro to Astrophysics**

Theories of stellar atmospheres, line-broadening and formation, radiative transfer, theoretical spectra, and the theory of stellar interiors are covered. Fundamental stellar timescales, thermonuclear reactions, evolutionary models, stellar pulsations, novae and supernovae.

**Credits:** 3**Prerequisites:**

AST 2120 :D- or AST 2122 :D- and PHY 2410 :D-

**AST 3143: Astrobiology, Planets, & Life**

Are we alone? Does life exist elsewhere in the Universe? Focus on the origin of life on Earth and the possibility of life in the Solar System and beyond. Topics include: Planetary-Habitability, Exoplanets, Astro/Exobiology, Extremophiles, Techniques, and searches for Extraterrestrial-Intelligence.

**Credits:** 3**AST 3148: The Princpl of Scientific Model**

Discusses the principle aspects of computational modeling in science, with stress on interdisciplinarity and synergy with big data science. Students gain hands-on experience in solving prototypical scientific problems using modern computational techniques.

**Credits:** 3**AST 4121: Undergrad Research I**

Student participation in departmental or independent research under faculty supervision; frequent conferences on literature search, research techniques, experimental procedures and results.

**Credits:** 3**AST 4122: Undergrad Research II**

Continuation of AST 4121.

**Credits:** 3**AST 5900: Independent Study**

Supervised study, activity or research in a selected area of astronomy & astrophysics. May be repeated for credit if the topics are different. Prior approval of chair and instructor.

**Credits:** 3**AST 5930: Topics in Astron & Astrophysics**

Lecture presentation of selected topics in astronomy & astrophysics. May be repeated for credit if topics are different. Prerequisites may be imposed depending on the topics.

**Credits:** 3**Prerequisites:**

Prerequisites may be imposed depending on the topics.

## Biology

**BIO 1057: Intro to Occupational Therapy**

Provide an understanding of the practice of Occupational Therapy through observation & readings in an independent study format.

**Credits:** 2

**BIO 1101: Biology**

General principles, cells and energy, hereditary mechanisms, survey of organisms, evolution and ecological principles. For non-biologists who do not plan a more extensive study of biology. Open to VSB majors.

**Credits:** 3

**BIO 1181: Microbiology and Genetics**

The structure of prokaryotic and eukaryotic cells; microbial classification; control of microbial growth, principles of disease; pathogenic mechanisms; host defenses. Eukaryotic and prokaryotic gene organization and function; analysis of patterns of inheritance; recombinant DNA technology; linkage and genetic maps, genetic variation in human populations; inheritance, diagnosis and treatment of metabolic disease; cytogenetics; immunogenetics; cancer; developmental genetics. Open to Nursing majors.

**Credits:** 3

**BIO 1205: Human Anatomy & Physiology I**

Basic concepts and laboratory studies of anatomy and physiology with presentation of overall morphology and function of the integumentary, skeletal, muscular, nervous, and endocrine systems. Designed primarily for Nursing majors and students interested in allied health professions.

**Credits:** 4

**BIO 1206: Human Anatomy & Physiology II**

Continuation of Biology 1205. The structure and function of the cardiovascular, lymphatic, respiratory, digestive, urinary, reproductive, and immune systems. Designed primarily for Nursing majors and students interested in allied health professions.

**Credits:** 4

**BIO 1903: Internship Elective**

Open to BIO and BSC majors.

**Credits:** 3

**Prerequisites:**

(BIO 2105 :Y :D- or HON 1075 :Y :D-) and (BIO 2106 :Y :D- or HON 1076 :Y :D-)

**BIO 1906: Internship Elective**

Open to BIO and BSC majors.

**Credits:** 6

**Prerequisites:**

(BIO 2105 :Y :D- or HON 1075 :Y :D-) and (BIO 2106 :Y :D- or HON 1076 :Y :D-)

**BIO 1950: TOPIC: Elective in Biology**

Selected topics in biological and interdisciplinary studies. Will not count for credit for the biology major.

**Credits:** 3

**BIO 1955: Lec&Lab Free Elective in Bio**

Selected topics in biological and interdisciplinary studies with lectures and accompanying lab. Will not count for biology credit for the major or minor.

**Credits:** 4

**BIO 2101: General Biology I Lecture**

The lecture portion of Bio 2105. An introduction to biological organization stressing the molecular and cellular aspects of living organisms. The chemistry of life, the cell, the gene, and mechanisms of evolution.

**Credits:** 3

**BIO 2102: General Biology I Lab**

The laboratory portion of BIO 2105; taken with BIO 2101. An introduction to biological organization stressing the molecular and cellular aspects of living organisms. The chemistry of life, the cell, the gene, and mechanisms of evolution.

**Credits:** 1

**BIO 2103: General Biology II Lecture**

The lecture portion of BIO 2106. The origin of life and diversity of organisms seen in five biological kingdoms. Topics include nutrient acquisition, digestion, circulation, response to stimuli, movement, reproduction, behavior, and ecology.

**Credits:** 3

**BIO 2104: General Biology II Lab**

The laboratory portion of BIO 2106; taken with BIO 2103. The origin of life and diversity of organisms seen in five biological kingdoms. Topics include nutrient acquisition digestion, circulation, response to stimuli, movement, reproduction, behavior and ecology.

**Credits:** 1

**BIO 2105: General Biology I**

An introduction to biological organization stressing the molecular and cellular aspects of living organisms. The chemistry of life, the cell, the gene, and mechanisms of evolution.

**Credits:** 4

**BIO 2106: General Biology II**

The origin of life and diversity of organisms seen in five biological kingdoms. Topics include nutrient acquisition, digestion, circulation, response to stimuli, movement, reproduction, behavior, and ecology.

**Credits:** 4

**Prerequisites:**

BIO 2105 :D- or HON 1075 :D-

**BIO 2993: Internship**

Open to BIO and BSC majors.

**Credits:** 3

**Prerequisites:**

(BIO 2105 :Y :D- or HON 1705 :Y :D-) and (BIO 2106 :Y :D- or HON 1076 :Y :D-)

**BIO 2996: Internship**

Open to BIO and BSC majors.

**Credits:** 6

**Prerequisites:**

(BIO 2105 :Y :D- or HON 1705 :Y :D-) and (BIO 2106 :Y :D- or HON 1076 :Y :D-)

**BIO 3015: Animal Behavior**

Lecture topics cover communication, foraging, territoriality, mating systems, parental behavior, and social organization. Laboratories include collection, statistical analysis, and interpretation of behavioral data, culminating in a small-group independent research project.

**Credits:** 4

**Prerequisites:**

(BIO 2105 or HON 1075) and (BIO 2106 or HON 1076)

**BIO 3055: Animal Physiology**

The basic principles underlying how animals function and the mechanisms used to solve physiological problems.

**Credits:** 4

**Prerequisites:**

(BIO 2105 :D- or HON 1075 :D-) and (BIO 2106 :D- or HON 1076 :D-)

**BIO 3105: Biostatistics & Exp Design**

The conceptualization of experimental design, hypothesis testing, execution of statistical analyses, written and oral expression of statistical results, and effective graphical presentation of quantitative data.

**Credits:** 4

**Prerequisites:**

(BIO 2105 or HON 1075) and (BIO 2106 or HON 1076)

**BIO 3155: Comparative Anatomy**

Evolution of homologous structures of vertebrates including functional considerations. Laboratory includes systematic and topical dissection of representative chordates and demonstrations of living organisms' functions.

**Credits:** 4

**Prerequisites:**

(BIO 2105 :D- or HON 1075 :D-) and (BIO 2106 :D- or HON 1076 :D-)

**BIO 3225: Imaging Technology**

Introduction to imaging technologies, including light and fluorescent microscopy and scanning and transmission electron microscopy. Course covers both theoretical and applied microscopy.

**Credits:** 4

**Prerequisites:**

(BIO 2105 :D- or HON 1075 :D-) and (BIO 2106 :D- or HON 1076 :D-)

**BIO 3255: Evolutionary Ecology**

Factors affecting the distribution, abundance, and interactions of organisms. Climate patterns, biomes, physiological adaptation, behavioral ecology, population dynamics, species interactions, biodiversity, and conservation ecology. Emphasis on community level of organization and below; complements BIO 3385 Global Change Ecology. Hypothesis testing using statistical analysis of data.

**Credits:** 4

**Prerequisites:**

(BIO 2105 :D- or HON 1075 :D-) and (BIO 2106 :D- or HON 1076 :D-)

**BIO 3351: Genetics**

Transmission, molecular, evolutionary and population genetics, gene regulation and genomics. Heredity; how genetic information is stored, regulated and transferred; how genes interact and relate to phenotype. Tutorials develop problem-solving and bioinformatics skills, and provide a forum for discussion. Chemistry pre-requisites may be taken concurrently.

**Credits:** 4

**Prerequisites:**

(BIO 2105 or HON 1075) and (CHM 1151 and CHM 1103) or (CHM 1311 and CHM 1301)

**BIO 3385: Global Change Ecology**

Roles of ecology in documenting, responding, feeding back to, and mitigating human-caused changes to Earth's chemistry, geography and climate. Laboratories include ecological techniques, such as carbon flux measurements, and independent research projects. Emphasis on ecosystem-level processes with global consequences; complements BIO 3255 Evolutionary Ecology.

**Credits:** 4

**Prerequisites:**

BIO 2105 and BIO 2106

**BIO 3405: Higher Vertebrates**

Evolutionary history, diversification and basic biology of birds and mammals: ecological and physiological adaptations, reproductive biology, social behavior, population ecology, life history strategies, taxonomy and identification. Field trips.

**Credits:** 4

**Prerequisites:**

(BIO 2105 :D- or HON 1075 :D-) and (BIO 2106 :D- or HON 1076 :D-)

**BIO 3455: Histology**

The microscopic study and demonstration of cells, tissues and organ systems of the mammalian body.

**Credits:** 4

**Prerequisites:**

(BIO 2105 :D- or HON 1075 :D-) and (BIO 2106 :D- or HON 1076 :D-)

**BIO 3485: Marine Biology**

An introduction to chemical, physical and geological oceanography; the biology and ecology of marine organisms (Plankton, seaweeds, invertebrates, fishes, sea birds, marine mammals); and the comparative ecology of marine communities and ecosystems (estuaries, rocky intertidal, kelp forests, coral reefs, the deep sea and hydrothermal vents).

**Credits:** 4

**Prerequisites:**

(BIO 2105 or HON 1075) and (BIO 2106 or HON 1076)

**BIO 3505: Invertebrate Zoology**

The anatomy, taxonomy, evolution, physiology, development, ecology and behavior of invertebrates. The comparative approach in both field and laboratory.

**Credits:** 4

**Prerequisites:**

(BIO 2105 :D- or HON 1075 :D-) and (BIO 2106 :D- or HON 1076 :D-)

**BIO 3525: Entomology**

Lecture includes anatomy, sensory systems, physiological adaptations, reproductive biology, social behavior and interactions with humans. Laboratory includes functional morphology, ecology and taxonomy of preserved and collected specimens.

Complements Invertebrate Zoology, which covers freshwater and marine invertebrates.

**Credits:** 4

**Prerequisites:**

BIO 2105 and BIO 2106

**BIO 3555: Lower Vertebrates**

The biology of fishes, amphibians and reptiles: systematic and morphological diversity, physiological, reproductive and behavioral adaptations, ecology, and evolution. Required field trips to representative local habitats.

**Credits:** 4

**Prerequisites:**

(BIO 2105 :D- or HON 1075 :D-) and (BIO 2106 :D- or HON 1076 :D-)

**BIO 3595: General Microbiology**

Bacteria, viruses, eukaryotic microbes, immune function. Microbes in air, water, soil: interactions with plants and animals. Agricultural, commercial, industrial, and medical applications. Laboratory studies in growth and analysis of selected organisms/viruses.

**Credits:** 4

**Prerequisites:**

(BIO 2105 :D- or HON 1075 :D-)

**BIO 3661: Environment and Human Health**

Presentation and discussion of scientific aspects of topics relating to the environment and human health. Specific topics covered vary, but could include biodiversity and health, ecosystem services, infectious diseases, climate change, endocrine disruption, food production (including GMOs), and urban ecology.

**Credits:** 3

**Prerequisites:**

(BIO 2105 and BIO 2106) or (GEV 1050 and GEV 1051)

**BIO 3755: Parasitology**

Biology of host-parasite relationships with emphasis on parasites of man and domestic animals. Methods of transmission, host response to parasites, prevention and treatment.

**Credits:** 4

**Prerequisites:**

BIO 2105 :D- and BIO 2106 :D-

**BIO 3801: Plant Physiology**

Physiology and metabolism of plants: photosynthesis, respiration, hormones, photoperiodism, radioisotopes in biological research, DNA biosynthesis and metabolism during plant development.

**Credits:** 2

**Prerequisites:**

BIO 2105 :D- and BIO 2106 :D-

**BIO 3802: Plant Physiology Lab**

Photosynthesis, respiration, hormones, extraction and characterization of DNA, DNA biosynthesis, autoradiographic techniques and liquid scintillation spectrometry.

**Credits:** 2

**Prerequisites:**

BIO 2105 :D- and BIO 2106 :D-

**Co-Requisites:**

BIO 3801

**BIO 3905: Vascular Plants**

Organization of the vascular plant body, plant reproduction and development, systematic and environmental considerations, tissue culture and hormonal regulation.

**Credits:** 4

**Prerequisites:**

(BIO 2105 :D- or HON 1075 :D-) and (BIO 2106 :D- or HON 1076 :D-)

**BIO 3950: Special Topics in Biology**

Coverage of current topics in biology. Topics will be announced on a semester-by-semester basis. Specific information available in the departmental office.

**Credits:** 3

**Prerequisites:**

BIO 2105 and BIO 2106

**BIO 3952: Special Topics in Biology LAB**

One credit lab in Biology. Topic to be determined by term.

**Credits:** 1

**Prerequisites:**

BIO 2105 and BIO 2106

**BIO 3955: Lec+Lab in Topics in Biology**

Coverage of current topics in biology with lectures and accompanying lab. Topics will be announced on a semester-by-semester basis. Specific information available in the departmental office.

**Credits:** 4

**Prerequisites:**

BIO 2105 and BIO 2106

**BIO 4105: Medical Microbiology**

In-depth study of medical microbes including bacteria, viruses, fungi, parasites. Discussion of pathogenesis, disease diagnosis, vaccine design, microbe hunting. Case studies presented. Lab provides hands-on microbiology including diagnostics, horizontal gene transfer, and tissue culture assays.

**Credits:** 4

**Prerequisites:**

BIO 3595 :D- or BIO 3351 or BIO 3755

**BIO 4205: Cell Biology**

The mechanisms of cell signaling, regulation of growth and division, adhesion, movement, macromolecular biosynthesis, processing and trafficking. Important experimental techniques and strategies for study of the eukaryotic cell.

**Credits:** 4

**Prerequisites:**

BIO 3351 :D- and CHM 2212 :Y :D-

**BIO 4251: Endocrine Physiol/ Pharmacology**

Mechanisms of endocrine control of growth, metabolism, reproduction, adaptation, and behavior. The endocrine glands.

**Credits:** 3

**Prerequisites:**

BIO 3055 :D-

**BIO 4252: Endocrine Physiol/ Pharmacology**

Laboratory experience in endocrinology, demonstrative and analytical.

**Credits:** 1

**Prerequisites:**

BIO 3055 :D-

**Co-Requisites:**

BIO 4251

**BIO 4285: Developmental Biology**

Mechanisms and patterns of vertebrate embryo development from primordial germ cells to formation of organ systems. Lectures on, and laboratory work with living embryos; microscopic study of prepared embryos; and individual research projects.

**Credits:** 4

**Prerequisites:**

BIO 3351 :D-

**BIO 4305: Evolution**

Process and pattern from micro- and macro-evolutionary perspectives. Evolutionary genetics, natural selection, speciation, macroevolutionary trends, and extinctions. Field, laboratory, and computer approaches.

**Credits:** 4

**Prerequisites:**

BIO 3351 :D-

**BIO 4331: Biology of Cancer**

Coverage of causes, genetics, clinical aspects, and cell biology of cancer from preneoplastic state to invasive metastasis. Includes diagnosis, therapeutics, treatment, and prevention. Coursework in cell and/or molecular biology preferred.

**Credits:** 3

**Prerequisites:**

BIO 3351

**BIO 4355: Experimental Genetics**

Laboratory exploration and discussion of topics in bacterial, developmental, molecular, population and transmission genetics. Readings in the primary literature are stressed.

**Credits:** 4

**Prerequisites:**

BIO 3351 :D-

**BIO 4451: Field Ecol and Evol**

Advanced study of organisms and ecosystems of a particular region (location varies; has included Florida, Puerto Rico, Nova Scotia). General principles explored using examples from focal area: historical and ecological biogeography, habitat patterns, biotic and abiotic interaction, evolutionary processes, and conservation problems.

**Credits:** 2

**Prerequisites:**

BIO 3012 :D- or BIO 3255 :D- or BIO 4305 :D- or BIO 3505 :D- or BIO 3555 :D- or BIO 3905 :D- or BIO 4485 :D- or BIO 3505 :D-

**BIO 4452: Field Ecol and Evol Lab**

Field study of organisms and ecosystems of a focal region. Trip lasting 15-20 days usually in late May to geographical area covered in BIO 4451, with focus on local habitats and conservations projects, field identification, group exercises, and independent research projects. Costs to students and timing vary with site chosen. (2 cr) Sem 2, even year.

**Credits:** 2

**Prerequisites:**

BIO 3012 :D- or BIO 3255 :D- or BIO 4305 :D- and BIO 4451 :Y :D-

**BIO 4505: Molecular Biology**

DNA structure, replication, recombination, mutagenesis and repair, transcription, RNA processing, translation and the genetic code, control of gene expression, eukaryotic genome structure. Molecular aspects of immunity, cancer, and AIDS. Laboratory exercises in gene cloning and analysis.

**Credits:** 4

**Prerequisites:**

BIO 3351  
BIO 3351 :D- and CHM 2212 :Y

**BIO 4605: Neurobiology**

The physiology of the nervous system using vertebrates and invertebrates. The function of nerve cells, synapses, sensory, motor, behavior and learning.

**Credits:** 4

**Prerequisites:**

BIO 3055 :D-

**BIO 4801: Conservation Biology**

Scope of global biodiversity crisis and causes of endangerment. Ecology of rare and declining species. Biological aspects of species, community, and ecosystem management. Scientific foundation of conservation policy development and implementation.

**Credits:** 3

**Prerequisites:**

BIO 3255

**BIO 4940: Topics in Biology**

Current topics in biology. Topics will be announced on a semester-by-semester basis. Typically has a course at the 3000-level as a prerequisite. Specific information will be available in the department office.

**Credits:** 2

**Prerequisites:**

BIO 2105 and BIO 2106

**BIO 4950: Advanced Topics in Biology**

Coverage of current topics in biology. Topics will be announced on a semester-by-semester basis. Typically has a course at the 3000-level as a prerequisite. Specific information available in the departmental office.

**Credits:** 3

**Prerequisites:**

BIO 2105 and BIO 2106

**BIO 4955: Lec+Lab in Adv Topics in Bio.**

Advanced topics course with integrated lab. Topics will be announced on a semester-by-semester basis. Typically has a course at the 3000-level as a prerequisite. Specific information available in the departmental office.

**Credits:** 4

**Prerequisites:**

BIO 2105 and BIO 2106

**BIO 5100: Senior Seminar**

Special topics in modern biology, presented by student lectures and informal discussions. Topics to be announced each semester.

**Credits:** 1

**BIO 5200: Biology Capstone**

Special topics in biology, covered through readings from primary and secondary literature, student presentations and/or projects and discussions. Topics to be announced each semester.

**Credits:** 2

**BIO 5300: Biology Capstone**

Special topics in biology, covered through readings from primary and secondary literature, student presentations and/or projects, and discussions. Topics to be announced each semester.

**Credits:** 3

**Prerequisites:**

BIO 2105 :D- and BIO 2106 :D-

**BIO 6100: Affiliation Study**

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**Credits:** 0

**BIO 6401: BS/MS Independent Study 1**

Supervised laboratory/field research

**Credits:** 1

**BIO 6402: BS/MS Independent Study 2**

Supervised laboratory/field research.

**Credits:** 1

**BIO 6403: BS/MS Independent Study 3**

Supervised laboratory/field research.

**Credits:** 1

**BIO 6404: BS/MS Independent Study 4**

Supervised laboratory/field research.

**Credits:** 1

**BIO 6509: Directed Research**

Library &/or laboratory research under student-selected Biology faculty member (can lead to thesis research.) Sem 1&2. Prerequisite: permission of faculty mentor & instructor; 3.0 QPA. Restricted to junior or senior biology & BSC majors. Does not count for biology laboratory credit alone.

**Credits:** 2

**Prerequisites:**

(BIO 2105 :D- or HON 1075 :D-) and (BIO 2106 :D- or HON 1076 :D-)

**BIO 6609: Thesis Research I**

Laboratory research with Biology faculty member selected by student (part 1 of two-semester sequence). Fall semester. Requires permission of faculty mentor & instructor and 3.0 QPA. Part 1 of two-semester sequence; continues as Thesis Research II, which culminates in a written thesis.

**Credits:** 3

**Prerequisites:**

(BIO 2105 or HON 1075) and (BIO 2106 or HON 1076)

**Co-Requisites:**

BIO 6610

**BIO 6610: Thesis Proseminar**

Scheduled group meetings with other research students in the department, focusing on general and specific aspects of thesis research. Fall semester. Requires permission of instructor and 3.0 QPA. Continues as Thesis Research II, which culminates in a written thesis. (Corequisites: BIO 6609 or HON 6000 or HON 6001)

**Credits:** 1

**Prerequisites:**

(BIO 2105 or HON 1075) and (BIO 2106 or HON 1076)

**Co-Requisites:**

BIO 6609 or HON 6000 or HON 6001

**BIO 6709: Thesis Research II**

Continuation of Thesis Research I or Directed Research. Laboratory research with Biology faculty member selected by student. Spring semester. Requires permission of faculty mentor & instructor and 3.0 QPA. Culminates in a written thesis. Counts typically for Laboratory credit toward the major.

**Credits:** 2

**Prerequisites:**

BIO 6509 or BIO 6609

**Co-Requisites:**

BIO 5100

**BIO 6965: International Studies Biology**

Lecture/Laboratory course taken through International Studies Program.

**Credits:** 4

**BIO 7105: Vertebrate Ecology**

Ecology of vertebrates at individual and population levels, with emphasis on birds and mammals. Natural selection and adaptation; demography; life history ecology and evolution; behavioral ecology; speciation and species interactions; biodiversity and extinction; population viability; and endangered species management. Laboratory exercises, field trips, and student projects complement lecture material, with emphasis on collection and analysis of field data, and on familiarity with regional organisms, habitats, and conservation problems. Prerequisites: BIO 3012 or BIO 3255 or BIO 3405 or BIO 4305, or one equivalent course, or consent of instructor.

**Credits:** 4

**BIO 7151: Biogeochemistry Lec**

For each of several elements of the periodic table, this course will focus on patterns of geological abundance, biotic and abiotic factors affecting solubility and therefore availability, and the role of each element in biological systems (deficiency, essentiality, toxicity). While the course will emphasize the essential elements, some attention will be paid to nonessential, but potentially toxic metals.

**Credits:** 2

**BIO 7152: Biogeochemistry Lab**

The course will provide an in-depth coverage of methods for the collection, preservation, and storage of water and soil samples, as well as methods for the biological, chemical, and physical characterization of water and soil samples.

**Credits:** 2

**Co-Requisites:**

BIO 7151

**BIO 7201: Ecosystem Ecology**

Examination of how living organisms interact and role of non-living entities such as climate, soil and atmosphere in large-scale processes. Includes coverage of topics such as biodiversity and ecosystem function, climate change, and link between ecosystem processes, community ecology and genetics. Prerequisite: Course in ecology or permission of instructor.

**Credits:** 3

**BIO 7205: Comparative Physiology**

Physiological mechanisms used by vertebrates and invertebrates to survive in different environments. Laboratory to provide an in-depth study in a selected area of animal physiology. Prereq: A course in animal physiology or invertebrate zoology.

**Credits:** 4

**Prerequisites:**

BIO 3055 :D- or BIO 3505 :D-

**BIO 7321: Immunology**

Fundamental principles underlying innate and adaptive immunity. Cellular and molecular mechanism of development and function of immune cells including lymphocytes and mechanisms related to self-tolerance, antigen processing and presentation, lymphocyte activation, lymphocyte death and generation of cellular and humoral immune response. Consequences of malfunctioning of the immune response and clinical implications discussed.

**Credits:** 2

**BIO 7322: Immunology Laboratory**

Experimental methods used to analyze humoral and cell mediated immune responses. Qualitative and quantitative analyses of immune response, with the focus on the understanding of the rationale behind the methods used and its applicability. Develop skills in researching the literature related to cellular and molecular immunology.

**Credits:** 2

**BIO 7331: Cancer Biology**

Study of characteristics, causes, genetic influences, and treatment strategies, with readings from primary literature. Emphasis on experimental approaches and analyses. Prerequisite: coursework in cell and/or molecular biology.

**Credits:** 3

**Prerequisites:**

BIO 4331

**BIO 7385: Global Change Ecology**

Explores roles of ecology in documenting, responding, feeding back to, and mitigating human-caused changes to Earth's chemistry, geography and climate. Accompanying lab includes ecological techniques, such as carbon flux measurements, and develop independent research projects in the laboratory. Prerequisite: Course in ecology or permission of instructor.

**Credits:** 4

**BIO 7451: Behavioral Ecology**

Advanced course in topics relating to animal behavior, including foraging, communication, sexual selection, parental care, and sociality. Emphasis on critical analysis of research papers from the primary literature. Prerequisite: Undergraduate course in ecology or animal behavior or permission of instructor.

**Credits:** 3

**BIO 7555: Molecular Ecol and Evol**

The application of molecular techniques to ecological and evolutionary questions. The lecture will emphasize the impact of molecular biology on advances in ecology and evolutionary biology. The laboratory will focus on applications of some molecular techniques in the examination of genetic variation present in field populations of field organisms. Prereqs: Undergraduates: genetics, molecular biology; Graduates: two of the following: genetics, evolution, ecology, or molecular biology.

**Credits:** 4

**Prerequisites:**

BIO 4505 :D-

**BIO 7705: Plant Ecology**

Ecological principles are considered at the plant species, population, community, and ecosystem levels of organization. Topics discussed in detail include ecological plant physiology, succession, productivity of ecosystems, soils, nutrient cycling, the effects of disturbances on ecosystem structure and function, and the major vegetation types in North America. Field and laboratory studies complement the lecture material.

**Credits:** 4

**BIO 7755: Plant Ecophysiology**

Plant interactions with the biotic and abiotic environment. Lecture emphasizes plant Anatomical, Morphological, Physiological, and Biochemical adaptations and acclimations determining plant and population survival, performance and distribution in dynamic ecosystems.

Laboratory focuses on field methods and techniques culminating in student- driven, independent research projects.

**Credits:** 4

**BIO 7805: Biostatistics & Exper. Design**

Conceptualization of experimental design, hypothesis testing, execution of statistical analyses, expression of statistical results, and effective graphical presentation of quantitative data. Includes a written exercise emulating peer-reviewed journal publication.

**Credits:** 4

**BIO 7905: Eukaryotic Microbiology**

The structure, function, and taxonomy of representative free living and parasite protozoa; methods of culturing protozoa and preparation of permanent slides in laboratory. Prereq: Invertebrate Zoology or consent of instructor.

**Credits:** 4

**BIO 7940: Special Topics in Biology**

Current topics in biology. Topics will be announced on a semester by semester basis. Specific information will be available in the department office.

**Credits:** 2

**BIO 7950: Special Topics C/ M/D Biology**

Current topics in cellular, molecular, and development biology. Topics will be announced on a semester by semester basis. Specific information available in the departmental office.

**Credits:** 2

**BIO 7955: Biodiversity & Systematics**

Philosophical, methodological and practical aspect of systematics, from species description to phylogeny reconstruction. The role of systematics in comparative biology and its applications in biogeography, molecular biology, and other fields are investigated. Methods of biodiversity assessment and the implications of biodiversity data for conservation. Emphasis on the practical aspects of data collection, computer-assisted phylogeny reconstruction, and taxon identification.

**Credits:** 4

**BIO 7960: Adv Topics: C/M/D Biology**

More intensive coverage of current topics in cellular, molecular, and developmental biology. Topics will be announced on a semester by semester basis. Specific information available in the departmental office.

**Credits:** 3

**BIO 7962: Cell, Molecular & Develop Lab**

Lab to accompany Advanced Topics or other 3-credit graduate course in Cell, Molecular, and Developmental Biology. Topic to be determined by term. Three hours laboratory per week.

**Credits:** 1

**Co-Requisites:**

BIO 7960

BIO 7960

**BIO 7970: Spec Topics: E/E/O Biology**

Current topics in ecological, evolutionary and organismal biology. Topics will be announced on a semester by semester basis. Specific information available in the departmental office.

**Credits:** 2

**BIO 7980: Adv Topics: E/E/O Biology**

More intensive coverage of current topics in ecological, evolutionary and organismal biology. Topics will be announced on a semester by semester basis. Specific information available in the departmental office.

**Credits:** 3

**BIO 7982: Eco, Evol, & Organismal Lab**

Lab to accompany Advanced Topics or other 3-credit graduate course in Ecology, Evolution, and Organismal Biology. Topic to be determined by term. Three hours laboratory per week.

**Credits:** 1

**Co-Requisites:**

BIO 7980

BIO 7980

**BIO 8051: Advanced Bacteriology**

Advanced bacterial genetics, including applications to medicine, biotechnology, and public health. Uses current literature and lab techniques to study molecular mechanisms driving lateral gene transfer in bacteria, the spread of antibiotic resistance and virulence factors, and methods for manipulating these mechanisms to analyze and engineer bacteria. Two lectures per week. Prereq. a previous course in microbiology, molecular biology, or genetics is helpful, but not required.

**Credits:** 2

**BIO 8052: Adv Bacteriology Lab**

Experimental studies in advanced bacterial genetics involving conjugative plasmid transfer, bacterial transformation, growth of bacterial viruses, construction of targeted mutations, and gene expression assays. Two lab periods per week.

**Credits:** 2

**Co-Requisites:**

BIO 8051

**BIO 8101: Molecular Genetics**

Gene replication, transcription and translation; the regulation of gene expression; molecular aspects of gene recombination and gene interaction; critical analysis of research papers from the primary literature. Prereq: Undergraduate biochemistry or molecular biology.

**Credits:** 3

**BIO 8151: Molecular Cell Biology**

Fundamental cellular processes; information storage and transfer; energy transformation and utilization, metabolic control mechanisms; control of the intracellular environment

**Credits:** 3

**BIO 8171: Molecular Developmental BIO**

Current cellular and molecular approaches to cell and tissue differentiation as regulating organogenesis will be assessed by analyzing experiments from primary literature with the final goal of presenting the analysis in the form of a grant application. Prerequisites: Genetics, and undergraduate course in cell, development, or molecular biology; the instructor may waive any of these prerequisites based on relevant work experience of the student.

**Credits:** 2

**BIO 8172: Molecular Development Lab**

Cell and tissue differentiation applied to organogenesis; review of primary literature with submission of a grant proposal. Labs: cell and molecular techniques; organ culture. Prerequisites: genetics; plus a cell, development, or molecular biology course; or permission of instructor.

**Credits:** 2

**Prerequisites:**

BIO 8295

**Co-Requisites:**

BIO 8171

**BIO 8205: Imaging Technology**

Introduction to imaging technologies, including light and fluorescent microscopy and scanning and transmission electron microscopy. Course covers both theoretical and applied microscopy.

**Credits:** 4

**BIO 8251: Endocrine Physiol/ Pharmacology**

A study of the molecular and physiological mechanisms by which hormones regulate homeostasis in animals. Prereq: A course in animal physiology with laboratory.

**Credits:** 3

**BIO 8252: Endocrine Physiol/ Pharmacology**

Selected experiments designed to illustrate fundamental principles in endocrinology. Biochemical and whole-animal experimentation will be included in the laboratories.

**Credits:** 1

**Co-Requisites:**

BIO 8251

**BIO 8295: Exptl Cell/Molec Methods**

Experimental and analytical skills to address questions in the field of cellular and molecular biology. Instruction in experimental methods to analyze DNA, RNA and proteins central to the functioning of a cell. Analyses at both the cellular and the sub-cellular level. Development of skills in experimental design and literature research related to cellular and molecular biology and presentation skills. Students will propose their own hypotheses and design experiments.

**Credits:** 4

**BIO 8451: Molec Evolutionary Genetics**

Explores use of molecular data to infer histories of populations and species. Using DNA sequence data, fragment analyses, and whole genome analysis, examines theoretical foundations of molecular evolution such as the neutral theory of molecular evolution and Bayesian statistical methods as it applies to both population genetics and phylogenetics. Practical aspects of downloading, aligning and analyzing DNA sequence data from public databases. Includes student presentations and discussion of primary literature.

**Credits:** 3

**BIO 8455: Population Genetics**

The biology of natural and experimental populations; theoretical and experimental considerations of selection, the balancing selection/neutrality controversy; the mating system; temporal and spatial variation in fitness; coadaptation; population growth; interspecies interactions; the niche; population cycles.

**Credits:** 3

**BIO 8555: Neurophysiology**

Fundamental principles of neurophysiology including synaptic integration, sensory physiology and selected functional aspects of neurophysiology. The laboratory experiments will illustrate sensory, motor and integrative neurophysiology. Prereq: A course in physiology or consent of the instructor.

**Credits:** 4

**BIO 8610: BS/MS Thesis Proseminar**

Scheduled group meetings with other research students in the department, focusing on general and specific aspects of thesis research. Fall semester. Continues as BS/MS Res Prospectus & Thesis, which culminates in a thesis proposal in Spring.

**Credits:** 1

**BIO 8655: Recombinant Gene Technology**

Fundamental methods of analysis most commonly used in modern molecular biology: bacterial and phage vectors, gene cloning, DNA and RNA preparation and analysis, screening of recombinant libraries, polymerase chain reaction, protein expression and in situ hybridization.

Theoretical underpinning and application to contemporary research problems.

Prerequisites: Organic chemistry and undergraduate genetics.

**Credits:** 4

**BIO 8705: Virology**

The structures and activities of animal, plant, and bacteria viruses; experimentation in handling, growing and assaying, with special emphasis on the tissue culture method.

**Credits:** 4

**BIO 8900: Seminar**

Attendance at departmental seminars and student presentations in small seminar groups.

**Credits:** 1

**BIO 8910: BS/MS Res Prospectus & Thesis**

Development of thesis through proposal. Work primarily with thesis mentor on developing project, completing background reading, establishing experimental design, writing proposal, and presenting the thesis proposal to the department. Spring semester. Counts for the undergraduate capstone requirement.

**Credits:** 1

**BIO 8920: Research Prospectus**

Topics covered include library reference use, computer searching of scientific literature, presenting an effective seminar, preparing visual aids, word processing, publishing a scientific paper, and radiation safety and radioisotope use.

**Credits:** 0

**BIO 8940: Adv Topics in Biology**

Advanced topics in biology. Topics will be announced on a semester by semester basis. Specific information will be available in the Department office.

**Credits:** 2

**BIO 8941: Adv Topics in Bio Lab**

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**Credits:** 2

**BIO 9007: Directed Research I**

Laboratory work and conferences dealing with a selected research problem. Prereq: Consent of chairperson.

**Credits:** 2

**BIO 9008: Directed Research II**

Laboratory work and conferences dealing with a selected research problem. Prereq: Consent of chairperson.

**Credits:** 2

**BIO 9080: Thesis Continuation**

This course is offered for 0 credits and is classified as a Thesis/Dissertation Continuation. This course is offered by the Biology Department, in the College of Sciences.

**Credits:** 0

**BIO 9102: Graduate Biology Topics I**

Basic studies in biological fields relevant to the research of graduate thesis students. Requires approval of thesis committee and relevant course instructor.

**Credits:** 2

**BIO 9103: Graduate Biology Topics II**

Basic studies in biological fields relevant to the research of graduate thesis students. Requires approval of thesis committee and relevant course instructor.

**Credits:** 3

**BIO 9104: Graduate Biology Topics III**

Basic studies in biological fields relevant to the research of graduate thesis students. Requires approval of thesis committee and relevant course instructor.

**Credits:** 4

**BIO 9303: Thesis Dir for BS/MS students**

Laboratory and library work dealing with a specific research problem.

**Credits:** 2

**BIO 9304: Thesis Dir for BS/MS students**

Laboratory and library work dealing with a specific research problem.

**Credits:** 2

**BIO 9305: Thesis Dir for BS/MS students**

Laboratory and library work dealing with a specific research problem.

**Credits:** 3

**BIO 9306: Thesis Dir for BS/MS students**

Laboratory and library work dealing with a specific research problem.

**Credits:** 3

**BIO 9307: Thesis Research I**

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**Credits:** 2**BIO 9308: Thesis Research II**

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**Credits:** 3**BIO 9309: Thesis Research III**

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**Credits:** 5

## Business Administration

**BA 1001: C.E.O. Program I**

VSB freshman fall seminar; meets once with additional out-of-classroom requirements. Eases transition to college and aids in professional development.

**Credits:** 0**BA 1002: C.E.O. Program II**

VSB freshman spring seminar; meets once with additional out-of-classroom requirements. Eases transition to college and aids in professional development.

**Credits:** 0**BA 2002: Bus Admin Internship-Global**

Employment with an approved firm with the internship taking place outside of the United States where experience is gained with appropriate training, instruction, and supervision. Prerequisites: minimum GPA; approval of chair.

**Credits:** 3**Prerequisites:**

minimum GPA; approval of chair.

**BA 2500: Communication Portfolio I**

Record/videotape 3-5 minute oral presentation for evaluation by Communication Department.

**Credits:** 0**BA 4500: Communication Portfolio II**

Record/videotape 3-5 minute oral presentation for evaluation by Communication department.

**Credits:** 0

## Business Law

**BL 2135: Bus. Entity Law, Gov, Ethics**

The law of agency, partnerships and corporations; personal property; the Uniform Commercial Code sections dealing with secured transactions and negotiable instruments; moral and ethical dimensions; comparison with other legal systems.

**Credits:** 3**Prerequisites:**

VSB 2007

**BL 2149: Cont. Topics in Business Law**

Contemporary issues and topics which affect the legal environment of business.

**Credits:** 3**Prerequisites:**

VSB 2007

**BL 2160: International Business Law**

The nature, sources, functions and practical applications of International Law, approached from a perspective of the individual, governments, and business entities. Emphasis on the "rules" that govern doing business globally and resolving disputes.

**Credits:** 3**Prerequisites:**

VSB 2007

**BL 2185: Law of Contracts & Sales**

Elements for legal agreements; Uniform Commercial Code Article 2; moral and ethical dimensions; comparison with other legal systems.

**Credits:** 3**Prerequisites:**

VSB 2007

**BL 3190: Indep Study & Research**

Study with faculty member's guidance in an area of special interest to students.

**Credits:** 3**Prerequisites:**

VSB 2007

**BL 3350: Independent Study - BL**

Independent Study under faculty guidance in an area of student's special interest. Permission of Faculty and Department Chair.

**Credits:** 3**Prerequisites:**

VSB 2007

# Center for Irish Studies

## **IS 1111: Introductory Irish Language I**

Groundwork in Irish (Gaelic), including oral proficiency, aural comprehension, and reading knowledge; for students with no prior knowledge of Irish. Supplementary language laboratory work and oral drills.  
**Credits:** 4

## **IS 1112: Introductory Irish Language II**

Groundwork in Irish (Gaelic), including oral proficiency, aural comprehension and reading knowledge; for students with one semester of Irish study completed. Supplementary language laboratory work and oral drills. Students should have completed IS 1111 or equivalent.  
**Credits:** 4

## **IS 1121: Intermediate Irish Language I**

Review of grammar and vocabulary in Irish (Gaelic). Recitations, readings and oral drills. Supplementary cultural study, language laboratory, and conversation comprehension. Prerequisites: IS 1111 and 1112, equivalent or permission of instructor. Taught by a Fulbright language instructor from Ireland. Counts toward the Irish Studies Concentration.  
**Credits:** 3

### **Prerequisites:**

IS 1112

IS 1111 and 1112, equivalent or permission of instructor. Taught by a Fulbright language instructor from Ireland. Counts toward the Irish Studies Concentration.

## **IS 2222: Topics: Irish Language**

Specific topics concerning the Irish language (Gaelic); topics vary by semester.

**Credits:** 3

## **IS 3100: Topics: Irish Studies**

Study of topics of special interest in Irish Studies, both on campus and abroad. May be repeated two times if topics change.

**Credits:** 3

## **IS 4101: Studying in Ireland**

Intercultural education preparing for study in Ireland through critical readings, reflective writing, and foundational concepts in Irish Studies.

**Credits:** 1

# Chemistry

The Department of Chemistry at Villanova University offers masters and bachelors degrees, including an American Chemical Society accredited degree program for undergraduates. Our faculty actively conduct research in diverse areas such as environmental chemistry, protein biochemistry, fuel cell research, and computational chemistry. We recognize that undergraduate research provides a unique opportunity to work closely alongside a faculty mentor, gaining an experience that extends far beyond typical classroom learning, and we encourage all undergraduates to participate in undergraduate research.

## **CHM 1000: Professional Development Seminar**

These courses taken by all chemistry majors each semester with presentations on the chemical profession by students, faculty and visiting chemical professionals. A broad range of activities will include presentations on undergraduate research, career planning, the chemical industry, chemical safety and such topics as medicinal chemistry, polymer chemistry, pharmacology, etc.

**Credits:** 1

## **CHM 1001: Experimental Chemistry I**

Simple syntheses and quantitative measurements; analysis of materials and separations. Some experience with modern instrumentation will be provided to demonstrate the limitations accompanying the experimental method.

**Credits:** 1

### **Co-Requisites:**

CHM 1050

## **CHM 1004: Water Chemistry Lab**

Environmental water sampling and common water quality measurements including pH, alkalinity, dissolved oxygen, water hardness, bacterial content, and common water pollutants.

**Credits:** 1

### **Co-Requisites:**

CHM 1056

CHM 1056

**CHM 1007: Criminalistics Laboratory**

Forensic laboratory analyses: evidence collection, DNA sampling, microscopic evaluations of hair, fibers, etc., fingerprint analysis, etc.

**Credits:** 1

**Co-Requisites:**

CHM 1057

**CHM 1008: Chemistry & Art Laboratory**

Laboratory, instrumental, and microscopic methods to analyze authenticity, age, and composition of art of all forms.

**Credits:** 1

**Co-Requisites:**

CHM 1058

CHM 1058

**CHM 1050: Chem Themes Foundation**

For non-science majors. Basic concepts of measurement, the S. I. system of units, structure of atoms and molecules, inorganic nomenclature, qualitative and quantitative aspects of chemical reaction, properties of gases, properties of solutions, principles of chemical equilibrium, acids and bases. The first semester in a two-semester sequence.

**Credits:** 3

**CHM 1052: Organic and Biochemistry**

For non-science majors. Introduction to alkanes, alkenes, arenes, amines, carboxylic acids, amino acids, carbohydrates, proteins and major metabolic pathways. Also includes topics in nutrition and exercise.

**Credits:** 3

**Prerequisites:**

CHM 1000 and CHM 1050

**Co-Requisites:**

CHM 1002

**CHM 1054: Environmental Chemistry**

For non-science majors. Application of scientific laws, principles, and concepts to a basic understanding of the chemistry of the environment its use and abuse, as it is affected by the quality of the air, water and soil; and the impact of the increasing demands for the earth's limited fossil, biological and mineral resources by an exponentially growing global population.

**Credits:** 3

**Prerequisites:**

CHM 1050 :D-

**Co-Requisites:**

CHM 1004

**CHM 1055: Molecular Architecture**

For non-science majors. An historical development of the idea of three dimensional species at the molecular level; experimental verification, chiral species, electronically delocalized species, aromatic and anti-aromatic species, fluxional species, rigid, highly strained, unstable and metastable species. Current and future directions (e.g. "Buckyballs") as time allows.

**Credits:** 3

**Co-Requisites:**

CHM 1002

**CHM 1056: Water**

The chemistry of water as well as its significance in biochemistry, geology, and the atmosphere are introduced and discussed.

**Credits:** 3

**Co-Requisites:**

CHM 1004

**CHM 1057: Chem Theme: Criminalistics**

For nonscience students. Introduction to the chemical aspects of forensic chemistry examining physical evidence found at a crime scene (hair, fibers, chemical residues, DNA, etc.), proper collection, preservation of evidence, and chemical principles involved in the analyses.

**Credits:** 3

**Co-Requisites:**

CHM 1007

CHM 1007

**CHM 1058: Chemistry & Art**

The application of chemical methods to study the origin, preservation, and authenticity of works of art. Topics include light and color, pigments and dyes, photography, ceramics, and textiles.

**Credits:** 3

**Co-Requisites:**

CHM 1008

**CHM 1103: General Chemistry Lab I**

Qualitative and quantitative laboratory experiments which include: the reactions of metals with water; the collection and plotting of data; acid-base titrations; oxidation-reduction titrations; the use of the pH meter and the determination of acid-base titration curves; the use of the spectrophotometer. Coreqs. CHM 1131 or CHM 1151

**Credits:** 1

**Co-Requisites:**

CHM 1131 or CHM 1151

**CHM 1104: General Chemistry Lab II**

Students will be required to identify all metal ions present in an unknown solution. Quantitative titrations of sodium carbonate and the total hardness of water. Synthesis of inorganic compounds and determination of the formula of a transition metal complex ion using spectroscopic methods. Corequisites: CHM 1152 or CHM 1156 (Note: Engineering students are waived from this lab.)

**Credits:** 1

**Prerequisites:**

CHM 1103

**Co-Requisites:**

CHM 1152 or CHM 1156 (Note: Engineering students are waived from this lab.)

**CHM 1107: General Chemistry Lab: Nursing**

Qualitative and quantitative laboratory experiments which include: chemical identification testing, molecular modeling, coordination compound synthesis, reaction kinetics and equilibrium, acid-base titrations, and gas laws Coreq. CHM 1131.

**Credits:** 1

**Co-Requisites:**

CHM 1131

CHM 1131.

**CHM 1108: General Chemistry Lab II**

Chemistry of organic and biochemical compounds with an emphasis on the identification and chemical reactivities of functional groups. Students will be required to separate and identify various organic and biochemical compounds. Open to health affiliation students.

**Credits:** 1

**Prerequisites:**

CHM 1131 and (CHM 1103 or CHM 1107)

**Co-Requisites:**

CHM 1134

**CHM 1131: General Chemistry I**

Fundamental laws and theories of chemistry: atomic theory, chemical bonding, chemical kinetics and chemical equilibrium, gases, liquids, solids, solutions, stoichiometry, acid-base theories, electrochemical concepts, and an introduction to nuclear chemistry will be included. Open to health affiliation students.

**Credits:** 3

**Co-Requisites:**

CHM 1107

**CHM 1134: General Chemistry II**

Introduction to organic and biochemistry stressing the application of principles developed in CHM 1131. Open to health affiliation students.

**Credits:** 3

**Prerequisites:**

CHM 1131 and (CHM 1103 or CHM 1107)

**Co-Requisites:**

CHM 1108

**CHM 1151: General Chemistry I**

Basic concepts of chemistry covering the following topics: stoichiometry, redox reactions; properties of gases; thermochemistry; descriptive presentation of atomic orbitals; molecular structure and bonding; chemical trends in the periodic table; properties of bulk matter; colligative properties of solutions.

**Credits:** 4

**Co-Requisites:**

CHM 1103

**CHM 1152: General Chemistry II**

Continuation of CHM 1151. Introduction to chemical kinetics and equilibrium; the chemistry of acids and bases; buffers and titrations; complex ions and solubility; factors that drive chemical reactions; electrochemistry; nuclear chemistry.

**Credits:** 4

**Prerequisites:**

CHM 1151 :D-

**Co-Requisites:**

CHM 1104

**CHM 1156: General Chemistry II for Egr**

Continuation of CHM 1151. Introduction to chemical kinetics and equilibrium; the chemistry of acids and bases; buffers and titrations; complex ions and solubility; factors that drive chemical reactions; electrochemistry; introduction to organic chemistry.

**Credits:** 4

**Prerequisites:**

CHM 1151 :D- and CHM 1103 :D-

**CHM 1301: Inorganic Chemistry Lab I**

Selected experiments to illustrate fundamental laboratory techniques and skills. Qualitative and quantitative measurements, synthesis and characterization of inorganic complexes, literature searching and computer usage. Emphasis on modern research applications of metals and main group elements.

**Credits:** 2

**Co-Requisites:**

CHM 1311

**CHM 1311: Inorganic Chemistry I**

Fundamental principles in inorganic chemistry stressing relationships among structure, bonding, and reactivity. Properties of matter, periodic trends, acid/base reactions, redox reactions, and bonding in transition metal complexes.

**Credits:** 3

**Co-Requisites:**

CHM 1301

**CHM 1502: Quant Anal Lab**

Laboratory experiments to complement CHM 1512 covering the following: gravimetric analysis, acid-base titrations (weak acid; mixed acid), compleximetric titration and redox reactions.

**Credits:** 2

**Prerequisites:**

CHM 1301 :D-

**Co-Requisites:**

CHM 1512

**CHM 1512: Quantitative Analysis**

Chemical analysis, with emphasis upon statistical methods, acid-base properties, pH, equilibrium expressions, complexation equilibria, solubility properties, redox potentials, electrolysis, and electrochemical cells.

**Credits:** 3

**Prerequisites:**

CHM 1311 :D-

**Co-Requisites:**

CHM 1502

**CHM 1611: Gen'l Chem I for BIOC Majors**

Basic concepts of chemistry covering the following topics: stoichiometry, redox reactions; properties of gases; thermochemistry; descriptive presentation of atomic orbitals; molecular structure and bonding; chemical trends in the periodic table; properties of bulk matter; colligative properties of solutions.

**Credits:** 4

**Co-Requisites:**

CHM 1103

**CHM 1903: Internship Elective**

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**Credits:** 3

**CHM 1906: Internship Elective**

-

**Credits:** 6

**CHM 1909: Internship Elective**

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**Credits:** 9

**CHM 2201: Organic Chemistry Lab I**

Practical experience in techniques used for separation, purification, and isolation of synthetic as well as naturally occurring organic compounds. Semi-micro and micro scale experiments. Crystallization, distillation, extraction, and chromatography are introduced.

**Credits:** 1

**Co-Requisites:**

CHM 2211

**CHM 2202: Organic Chemistry Lab II**

Further training in laboratory techniques used in organic chemistry, including those introduced in CHM 2201, and utilization of such techniques in representative types of organic reactions. Semi-micro and micro scale experiments.

**Credits:** 1

**Prerequisites:**

CHM 2211

**Co-Requisites:**

CHM 2212

**CHM 2211: Organic Chemistry I**

Fundamental principles of organic chemistry stressing the relation of structure and reactivity. Structure and bonding; stereochemistry; acids, and bases; electrophilic addition, elimination and nucleophilic substitution.

**Credits:** 3

**Prerequisites:**

(CHM 1151 and CHM 1152) or

(CHM 1151 and CHM 1156)

**Co-Requisites:**

CHM 2201

**CHM 2212: Organic Chemistry II**

Continuation of CHM 2211. Carbonyl group reactions, aromatic chemistry, spectroscopy and special topics such as heterocycles, carbohydrates and nucleosides, amino acids and proteins, lipids, radicals, rearrangements, polymers and photochemistry.

**Credits:** 3

**Prerequisites:**

CHM 2211 :D- and CHM 2201 :D-

**Co-Requisites:**

CHM 2202

**CHM 2993: Internship**

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**Credits:** 3

**CHM 2996: Internship**

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**Credits:** 6

**CHM 3201: Organic Chemistry Lab I**

Provides practical experience in the principal techniques utilized for the purification, separation, identification, and synthesis of organic compounds on the micro scale. Open to Chemistry majors.

**Credits:** 2

**Prerequisites:**

CHM 1502 :D-

**Co-Requisites:**

CHM 3211

**CHM 3202: Organic Chemistry Lab II**

The semi-micro techniques include distillation, recrystallization, extraction, sublimation, and chromatography. Synthesis of representative organic compounds. An introduction to research in organic chemistry, introduction to qualitative organic analysis and practical use of infrared and nuclear magnetic resonance spectroscopies.

**Credits:** 2

**Prerequisites:**

(CHM 3211 and CHM 3201)

**Co-Requisites:**

CHM 3212

**CHM 3211: Organic Chemistry I**

Fundamental principles of organic chemistry stressing the relation of structure and reactivity from a physical-chemical viewpoint. Structure and bonding; stereochemistry; acids and bases; electrophilic addition reactions of alkenes, alkynes, and dienes; nucleophilic substitution reactions at saturated carbon atoms and elimination reactions leading to alkenes or alkynes. Open to chemistry majors.

**Credits:** 3

**Prerequisites:**

CHM 1512 :D- and CHM 1502 :D-

**Co-Requisites:**

CHM 3201

**CHM 3212: Organic Chemistry II**

Addition and substitution reactions of carbonyl compounds, electrophilic and nucleophilic aromatic substitutions, radical and concerted reactions, heterocyclic compounds and polymer chemistry.

Spectroscopic methods of analysis including nuclear magnetic resonance, infrared spectroscopies and mass spectrometry. Introduction to multi-step organic synthesis.

Open to chemistry majors.

**Credits:** 3

**Prerequisites:**

CHM 3211 :D- and CHM 3201 :D-

**Co-Requisites:**

CHM 3202

**CHM 3301: Inorganic Chem Lab II**

This laboratory course emphasizes preparative techniques of inorganic compounds. Instrumental methods of structure elucidation are included.

**Credits:** 2

**Prerequisites:**

(CHM 2212 :D- or CHM 3212 :D-) and (CHM 2202 :D- or CHM 3202 :D-)

**Co-Requisites:**

CHM 3311

**CHM 3311: Inorganic Chem II**

The second course in the sequence on principles of inorganic chemistry with emphasis on bonding, structure and reactivity. Application of these principles to problems in acid-base, coordination, organometallic, bioinorganic and materials chemistry.

**Credits:** 3

**Prerequisites:**

(CHM 2212 :D- or CHM 3212 :D-) and (CHM 2202 :D- or CHM 3202 :D-)

**Co-Requisites:**

CHM 3301

**CHM 3312: Descript Inorganic Chem**

Emphasis on practical aspects of chemical and industrial processes including recovery and refining of elements and their compounds. The periodic relationship of elements will be studied along with structure, bonding and stereochemistry of inorganic chemicals. Acid-base theory and coordination chemistry will also be covered.

**Credits:** 3

**Prerequisites:**

(CHM 2212 :D- and CHM 2202 :D-) or (CHM 3212 :D- and CHM 3202 :D-)

**Co-Requisites:**

CHM 3301

**CHM 3401: Physical Chem Lab I**

Use of the computer to design statistical package software for treatment of experimental data will be stressed in the two semester laboratory course. Phase and chemical equilibrium to supplement CHM. 3411 will be included. Gas chromatographic techniques will be used.

**Credits:** 1

**Prerequisites:**

(CHM 2211 and CHM 2201 and CHM 2212 and CHM 2202)

**Co-Requisites:**

CHM 3411

**CHM 3402: Physical Chem Lab II**

Experimental methods of chemical kinetics will be covered. Spectroscopic, polarimetric, and conductimetric methods will be used.

**Credits:** 1

**Prerequisites:**

MAT 1505 :D-

**CHM 3404: Physical Chem Lab I**

Experiments on chemical kinetics and optical spectroscopic methods including fluorescence, un-visible, infrared and Raman spectroscopy as well as conductance, viscosity, and numerical analysis of data.

**Credits:** 2

**Prerequisites:**

(CHM 2212 :D- or CHM 3212 :D-) and (CHM 2202 :D- or CHM 3202 :D-)

**Co-Requisites:**

CHM 3412

**CHM 3405: Physical Chem Lab II**

Experiments centered on chemical thermodynamics including calorimetry and phase equilibria, emphasizing data treatment, including error analysis curve fitting, and related topics.

**Credits:** 2

**Prerequisites:**

CHM 3412 :D- and CHM 3404

**Co-Requisites:**

CHM 3413

**CHM 3412: Quantum Chemistry**

This course will present an introduction to quantum mechanics and its implications including molecular orbital theory, electronic structure, and molecular spectroscopy.

**Credits:** 3

**Prerequisites:**

MAT 1505 :D-

**Co-Requisites:**

CHM 3404

**CHM 3413: Molecular Thermodynamics**

First, second, and third laws of thermodynamics; phase equilibria and chemical equilibria; gases; and electrochemistry will be covered in this course.

**Credits:** 3

**Prerequisites:**

MAT 1505 :D-

**Co-Requisites:**

CHM 3405

CHM 3401 or CHM 3405.

**CHM 3415: Physical Chem for Engineers**

The laws of thermodynamics applied to phase equilibria and chemical thermodynamics and the properties of substances.

**Credits:** 3

**Prerequisites:**

CHM 1152 :Y :D-

**Co-Requisites:**

CHM 3401

**CHM 3416: Physical Chem for Engineers**

Chemical kinetics, electrochemistry, and the structure and properties of materials, including atomic structure, solid and liquid state chemistry, surface and colloid chemistry, and transport properties.

**Credits:** 3

**CHM 3417: Biophysical Chemistry**

A study of thermodynamics, kinetics, chemical equilibria, and spectroscopy as they apply to biological molecules, macromolecules, and cells.

**Credits:** 3

**Prerequisites:**

(CHM 2212 or CHM 3212) and (CHM 4611 or CHM 4621)

**CHM 3501: Instrumental Analysis Lab**

Laboratory techniques to obtain quantitative information about the composition of unknown samples, including potentiometric titration, spectrophotometry, chromatography, kinetic analysis, anodic stripping voltammetry, spectrofluorometry and atomic absorption spectrometry. Designed to complement CHM 3511 lecture.

**Credits:** 2

**Prerequisites:**

CHM 1152 :D- or CHM 1512 :D-

**Co-Requisites:**

CHM 3511

**CHM 3503: Bioanalytical Chem Lab**

Laboratory course to complement CHM. 3514; emphasis on the analysis of biological systems utilizing modern analytical techniques. Designed for the biochemistry concentration.

**Credits:** 1

**Prerequisites:**

(CHM 1152 and CHM 1104)

**Co-Requisites:**

CHM 3514

**CHM 3505: Analytical Chem Lab I**

Designed to complement CHM. 3515. Laboratory experiments involving gravimetric, titrimetric and spectrophotometric methods are used to obtain quantitative data about the composition of various samples.

**Credits:** 2

**Co-Requisites:**

CHM 3401, CHM 3411, CHM 3515

**CHM 3506: Analytical Chem Lab II**

A complementary course for CHM. 3516. Emphasis on instrumental techniques to obtain quantitative data. Techniques such as spectroscopy, spectrochemical titrations, electroanalytical techniques (electrode position, polarography, coulometry, etc.) and separation techniques (gas chromatography and liquid chromatography).

**Credits:** 2

**Prerequisites:**

CHM 3505 :D- and CHM 3515 :D-

**Co-Requisites:**

CHM 3402

CHM 3412

CHM 3516

**CHM 3511: Instrumental Analysis**

The utilization of instruments covering the following topics: analog and digital signals, absorption and emission of light by molecules and atoms, chromatography (HPLC, GC) and detection, use of enzymes and antibodies, radioactivity, and chemometrics.

**Credits:** 3

**Prerequisites:**

CHM 1152 :D- or CHM 1512 :D-

**Co-Requisites:**

CHM 3501

**CHM 3514: Bioanalytical Chemistry**

Designed for the biochemistry concentration with emphasis on theory, instrumentation and practical applications of analytical chemistry to biological materials.

**Credits:** 3

**Prerequisites:**

CHM 1152 :D- or CHM 1512 :D-

**Co-Requisites:**

CHM 3503

**CHM 3515: Analytical Chemistry I**

Fundamentals of modern analytical chemistry with emphasis on data collection and analysis, evaluation of error, extensive treatment of equilibria in simple and complex systems. Examination of gravimetric and titrimetric methods. Introduction to spectroscopy.

**Credits:** 3

**Co-Requisites:**

CHM 3401, CHM 3411, CHM 3505

**CHM 3516: Analytical Chemistry II**

Quantitative instrumental analysis theory and its application to the analysis of common laboratory samples, environmental samples, and forensic samples. The application of reaction rates to analytical chemistry. Topics such as optical methods, electroanalytical techniques, and chromatographic techniques are stressed.

**Credits:** 3

**Prerequisites:**

CHM 3515 :D- and CHM 3505 :D-

**Co-Requisites:**

CHM 3506

**CHM 4202: Org Struct Analysis Lab**

Laboratory experiments involving separations by modern chromatographic techniques including thin layer, radial, flash, and high performance liquid chromatography. Multistep syntheses of organic compounds with experiments chosen from the chemical literature. Characterization of organic compounds by advanced spectroscopic methods.

**Credits:** 2

**Prerequisites:**

CHM 3202 :D-

**Co-Requisites:**

CHM 4222

**CHM 4222: Organic Struct Analysis**

The currently most useful spectroscopic methods for the structural determination of molecular systems, including: NMR (2D and 2D), mass spectrometry, infrared and ultraviolet-visible spectroscopies.

**Credits:** 3

**Prerequisites:**

CHM 3212 or CHM 2212

**CHM 4224: Spec Top:Medicinal Chemistry**

History and fundamentals of modern Medicinal Chemistry and drug discovery. Drug targets, drug-target relationships: (agonists/antagonists, inhibitors/activators, modulators), structure activity relationships, on-versus off-target relationships, physicochemical properties, pharmacokinetics, bioisosteres, structure- and property-based design. A previous Biochemistry class is suggested but not required.

**Credits:** 3

**Prerequisites:**

CHM 2212 or CHM 3212

**CHM 4229: Organic Reactions & Synthesis**

Survey of organic reactions with emphasis on modern synthetic methods and their applications to the synthesis of complex organic compounds. Enolates, carbonyl condensation reactions, functional group interconversions, electrophilic addition reactions, reductions, organometallic reagents, concerted reactions, oxidations. Synthetic strategies including retrosynthetic analysis in the context of specific examples of multi-step synthesis from recent literature.

**Credits:** 3

**Prerequisites:**

CHM 3212 or CHM 2212

**CHM 4292: Advanced Organic Chemistry**

An expanded presentation of fundamental topics in organic chemistry: structure, bonding, stereochemistry, molecular orbital theory, reactive intermediates and reaction mechanisms.

**Credits:** 3

**Prerequisites:**

(CHM 3212 :D- or CHM 2212 :D-)

**CHM 4313: Solid State & Materials Chemis**

Emphasis on novel inorganic materials used for solid state catalysis, semi- and superconductors, ceramics, batteries and energy sources.

**Credits:** 3

**Prerequisites:**

CHM 3301 :D- and CHM 3311 :D-

**CHM 4314: Physical Meth in Inorganic Chm**

Physical characterization of inorganic complexes via nuclear magnetic resonance, vibrational and electronic spectroscopies, electron microscopies, electrochemistry and other advanced techniques.

**Credits:** 3

**Prerequisites:**

CHM 3301 :D- and CHM 3311 :D-

**CHM 4315: Organometallics**

Examination of the bonding, spectroscopic properties and reactivity of a range of ligands and complexes. Reaction mechanisms and catalytic cycles will be emphasized.

**Credits:** 3

**Prerequisites:**

CHM 3301 :D- and CHM 3311 :D-

**CHM 4325: Introductory Polymer Chemistry**

Topics include: step- and chain-polymerizations, copolymerizations, molecular weight determination, polymer morphology, polymer testing and characterization, and current advances in polymer chemistry.

**Credits:** 3

**Prerequisites:**

CHM 2212 or CHM 3212

**CHM 4331: Bioinorganic Chemistry**

The roles metal ions play in biological systems are explored using relevant examples from natural systems and areas of current research including (but not limited to): catalysis, photosynthesis, respiration, biomimetic modeling, and solar energy conversion.

**Credits:** 3

**Prerequisites:**

CHM 3301 and CHM 3311

**CHM 4413: Spectroscopy & Structure**

Use of the fundamental principles of atomic and molecular structure to study ultraviolet, infrared, microwave and magnetic resonance spectroscopies. Continuous-wave and Fourier transform methods will be included along with fluorescence, phosphorescence and laser spectroscopic techniques.

**Credits:** 3

**Prerequisites:**

(CHM 3412 :D- or CHM 3416 :D-) and (CHM 2212 :D- or CHM 3212 :D-)

**CHM 4441: Colloidal&Interfacial Science**

Basic physicochemical principles of colloids and interfaces such as adhesion, capillarity, interfacial and solution thermodynamics as well as theories of colloidal stability (electrical double layer, zeta potential, DLVO theory), and Light scattering methods.

**Credits:** 3

**CHM 4447: Computational Chemistry**

Focus on basic theories behind popular computational models (e.g., molecular mechanics, density functional theory) and their application to chemical problems.

**Credits:** 3

**Prerequisites:**

CHM 3412 and CHM 3416 and CHM 3417 or PHY 5100

**CHM 4512: Chemical Instrumentation**

Topics underlying analytical instrumentation: sources, detectors, and electronics, as well as specific instrumentation applications will be discussed.

**Credits:** 3

**Prerequisites:**

CHM 3511 :D-

**CHM 4517: Environmental Chemistry**

Apply key concepts in chemistry to global scales by examining chemical systems within Earth's lithosphere hydrosphere and atmosphere. Examine and discuss natural processes as well as anthropogenic impacts like climate change and environmental contamination using central scientific literature.

**Credits:** 3

**Prerequisites:**

CHM 2211 or CHM 3211

**CHM 4601: Survey Biochemistry Lab**

An introduction to laboratory techniques in biochemistry; enzyme kinetics, column chromatography, electrophoresis, standard biochemical assays and interpretation of data.

**Credits:** 1

**Prerequisites:**

CHM 2202 :D- or CHM 3202 :D- and CHM 4611 :Y :D- or CHM 4610 :Y :D- or CHM 3202 :D-

**Co-Requisites:**

CHM 4611

**CHM 4603: Biochem Tech. and Pract.**

A laboratory course to complement CHM 4621 with emphasis on enzyme purification, enzyme characterization, and nucleic acid analysis.

**Credits:** 1

**Prerequisites:**

(CHM 2212 :D- or CHM 3212 :D-) and CHM 4621 :Y :D-

**CHM 4604: Biochem Tech. and Pract II**

A continuation of the introduction of fundamental biochemistry laboratory techniques, along with the application of skills acquired in CHM 4603.

**Credits:** 1

**Prerequisites:**

CHM 4603 :D-

**CHM 4610: Principles of Biochemistry**

A terminal, one semester biochemistry course for the physical sciences and engineers; the kinetics and thermodynamics of biochemical systems and associated molecules, including proteins, nucleic acids, and carbohydrates.

**Credits:** 3

**Prerequisites:**

CHM 2212 or CHM 3212

**CHM 4611: Survey of Biochemistry**

A terminal, one semester survey of biochemistry; carbohydrates, lipids, proteins, nucleic acids, enzymes, vitamins & hormones; consideration of their utilization & metabolism in living systems.

**Credits:** 3

**Prerequisites:**

CHM 2212 :D- or CHM 3212 :D- and BIO 2105 :D-

**CHM 4621: Biochemistry I: Structure**

An in depth study of the structure and function of the structure and function of proteins, enzymes, carbohydrates, nucleic acids and lipids.

**Credits:** 3

**Prerequisites:**

CHM 2212 or CHM 3212

**CHM 4622: Biochemistry II: Metabolism**

A study of the metabolism of biomolecules, including carbohydrates, lipids, amino acids and nucleotides, including the integration, regulation and control of intermediary metabolism. Emphasized are the hormonal regulation of pathways and metabolic disease.

**Credits:** 3

**Prerequisites:**

CHM 4621

**CHM 4623: Biochemistry III**

Integration of metabolism in organisms, membrane receptors expression of genes, gene manipulation, translation, transcription.

**Credits:** 3

**Prerequisites:**

CHM 4622 :D-

**CHM 4633: Biochemical Parasitology**

Brief overview of parasitology, the unique biochemistry associated with parasites, discussions of relevant therapeutic applications. The parasites responsible for malaria, toxoplasmosis, trichomoniasis, giardiasis, and African Sleeping Sickness will be studied. The biochemistry of host parasite interaction will also be explored.

**Credits:** 3

**Prerequisites:**

CHM 4611 or CHM 4622

**CHM 4641: Chemical & Biochemical Imaging**

The course provides a survey of recent microscopy advances that push the boundaries of image resolution. Instruments and techniques that probe the inner workings of the cell at the level of individual molecules will be discussed, including confocal, TIRF, quantum dots, AFM, and PALM.

**Credits:** 3

**CHM 4652: Biochemical Basis of Disease**

A study of the relationship between protein structure and disease, enzymes as therapeutic targets, peptide hormones and obesity, and glucose metabolism and cancer.

**Credits:** 3

**Prerequisites:**

CHM 4611 or CHM 4622

**CHM 4661: Proteomics**

Principles, techniques and applications for the large-scale study of proteins, particularly in humans. Mass spectrometry will be covered in detail, and alternative methods and approaches will also be covered.

**Credits:** 3

**Prerequisites:**

CHM 4621 or CHM 4611

**CHM 4663: Bioinformatics**

This course focuses on bioinformatic approaches to studying protein function, structure, and evolution. Other topics will be discussed; for example, genomics and gene expression.

**Credits:** 3

**Prerequisites:**

CHM 2212 or CHM 3212

**CHM 4664: Signal Transduction**

Overview of signal transduction and the biochemistry of receptors and other cell sensors, with an emphasis on oxygen, reactive oxygen species, inflammation, and disease. Current literature will be used, in addition to the textbook.

**Credits:** 3

**Prerequisites:**

CHM 4611 or CHM 4622

**CHM 4665: Enzymes**

Structural and mechanistic aspects of enzymes. Topics include chemical catalysis, steady state and pre-steady state kinetics, mechanisms, and biological relevance of specific enzyme systems.

**Credits:** 3

**Prerequisites:**

CHM 4621 or CHM 4611

**CHM 4710: Safety Culture in the Sci Com**

Introduction to the principles and practices of laboratory safety; understanding, recognizing, and communicating laboratory chemical, physical and biological hazards; risk assessment and management of hazards; laboratory accident prevention and safe use of emergency equipment.

**Credits:** 3

**CHM 4800: Research**

Student participation in independent research under faculty supervision, frequent conferences with advisor on literature search, theoretical and experimental research.

**Credits:** 0

**CHM 4801: Research I**

Student participation in independent research under faculty supervision, frequent conferences with advisor on literature search, theoretical and experimental research.

**Credits:** 3

**CHM 4802: Research II**

Continuation of CHM 4801.

**Credits:** 3

**Prerequisites:**

CHM 4801

**CHM 4803: Research III**

Continuation of CHM 4802.

**Credits:** 3

**Prerequisites:**

CHM 4802

**CHM 4851: Thesis Research I**

Directed research with a Chemistry or Biochemistry faculty mentor that culminates in a written thesis and seminar presentation. Part I of a two-semester sequence with CHM4852. Permission of participating faculty member required. A written interim report is required at the end of the semester.

**Credits:** 3

**Prerequisites:**

Permission of participating faculty member required.

**CHM 4852: Thesis Research II**

Continuation of CHM4851 - Thesis Research I. Directed research with a Chemistry or Biochemistry faculty mentor that culminates in a written thesis and seminar presentation. Permission of participating faculty member required.

**Credits:** 3

**Prerequisites:**

Permission of participating faculty member required.

**CHM 7100: Quantum Mechanics**

Operators, Schrodinger Equation, one dimensional problems, harmonic oscillator, angular momentum, hydrogen atom, scattering theory. One year (two semesters)

Undergraduate Physical Chemistry or equivalent.

**Credits:** 3

**CHM 7200: Thermo/Statistical Mechanics**

Statistical methods, statistical thermodynamics, Ensembles, Partition functions. Quantum statistics. Kinetic theory of transport processes. One year (two semesters) of Undergraduate level Physical Chemistry or equivalent.

**Credits:** 3

**CHM 7222: Organic Structure Analysis**

Spectroscopic methods for the structural determination of molecular systems, including: NMR (1D and 2D), mass spectrometry, infrared and ultraviolet-visible spectroscopies.

**Credits:** 3

**CHM 7292: Core Organic Chemistry**

An expanded presentation of fundamental topics in organic chemistry: structure, bonding, stereochemistry, molecular orbital theory, reactive intermediates and reaction mechanisms.

**Credits:** 3

**CHM 7391: Core Inorganic Chemistry**

An intensive survey of the basic principles of inorganic chemistry from the viewpoints of bonding, structure, and energetics. Topics include periodicity, symmetry, kinetics and mechanisms, spectroscopy, and acid- base theory. student who expects to do research in inorganic chemistry.

**Credits:** 3

**CHM 7494: Core Physical Chemistry**

A discussion of the fundamentals of quantum mechanics, statistical mechanics, and classical thermodynamics with applications to small molecules, solid state and polymers.

**Credits:** 3

**CHM 7517: Environmental Chemistry**

Apply key concepts in chemistry to global scales by examining chemical systems within Earth's lithosphere, hydrosphere and atmosphere. Examine and discuss natural processes as well as anthropogenic impacts like climate change and environmental contamination using central scientific literature.

**Credits:** 3

**CHM 7595: Core Analytical Chemistry**

An intensive survey of selected principles and techniques in modern analytical chemistry. Topics may include basic statistics, sampling, complexation and extraction, equilibria, molecular and atomic spectroscopy, microscopy, electroanalysis, and chromatography.

**Credits:** 3

**CHM 7693: Core Biochemistry**

Protein structure; protein function and structure-function relationships in proteins; regulatory mechanisms in proteins, including ligand effectors, covalent modification, and proteolysis; structural and functional genomics and proteomics.

**Credits:** 3

**CHM 7807: MS Research I**

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**Credits:** 3

**CHM 7808: MS Research II**

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**Credits:** 3

**CHM 7809: MS Research III**

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**Credits:** 3

**CHM 7810: MS Thesis**

M.S. thesis research to be conducted in partial fulfillment of the M.S. degree in chemistry by those students who choose the thesis option. The research will be directed by a faculty member. Prerequisites: M.S. research I, II, and III.

**Credits:** 3

**CHM 7892: Graduate Seminar**

Presentation of M.S. thesis research, literature presentations by students, and faculty research seminars.

**Credits:** 1

**CHM 8229: Organic Reactions & Synthesis**

Survey of organic reactions with emphasis on modern synthetic methods and their applications to the synthesis of complex organic compounds. Enolates, carbonyl condensation reactions, functional group interconversions, electrophilic addition reactions, reductions, organometallic reagents, concerted reactions, oxidations. Synthetic strategies including retrosynthetic analysis in the context of specific examples of multi-step synthesis from recent literature.

**Credits:** 3

**CHM 8313: Solid State & Materials Chm**

Emphasis on novel inorganic materials. Topics may include: solid state catalysis, semi- and superconductors, ceramics, batteries and energy sources.

**Credits:** 3

**CHM 8314: Physical Meth in Inorganic CHM**

A survey of principles and applications of methods such as nuclear magnetic resonance, vibrational and electronic spectroscopies, electron microscopies, scanning probe microscopies, and electrochemistry.

**Credits:** 3

**CHM 8315: Organometallics**

Examination of the bonding, spectroscopic properties and reactivity of a range of ligands and complexes. Reaction mechanisms and catalytic cycles will be emphasized.

**Credits:** 3

**CHM 8325: Intro Polymer Chemistry**

Topics include: step- and chain-polymerizations, copolymerizations, molecular weight determination, polymer morphology, polymer testing and characterization, and current advances in polymer chemistry.

**Credits:** 3

**CHM 8331: Bioinorganic Chemistry**

The roles metal ions play in biological systems are explored using relevant examples from natural systems and areas of current research including (but not limited to): catalysis, photosynthesis, respiration, biomimetic modeling, and solar energy conversion.

**Credits:** 3

**Prerequisites:**

CHM 7391

**CHM 8410: X-Ray Crystallography**

Provides basis for theory and applications of X-ray crystallography. Topics include properties of crystals and x-rays, lattice symmetry, geometry of diffraction, calculations of diffracted intensities and amplitudes, Fourier series method, rotation method and Laue method.

**Credits:** 3

**CHM 8622: Biochemical Basis of Disease**

A study of the relationship between protein structure and disease, enzymes as therapeutic targets, peptide hormones and obesity, and glucose metabolism and cancer.

**Credits:** 3

**CHM 8641: Chemical & Biochemical Imaging**

The course provides a survey of recent microscopy advances that push the boundaries of image resolution. Instruments and techniques that probe the inner workings of the cell at the level of individual molecules will be discussed, including confocal, TIRF, quantum dots, AFM, and PALM.

**Credits: 3**

**CHM 8645: NMR Spectroscopy**

Physical principles and applications of NMR to compounds of interest to chemists and biochemists. Solution and solid state NMR, 2D-NMR, advance techniques and real laboratory problems will be covered.

**Credits: 3**

**CHM 8663: Biochemical Parasitology**

Brief overview of parasitology, the unique biochemistry associated with parasites, discussions of relevant therapeutic applications. The parasites responsible for malaria, toxoplasmosis, trichomoniasis, giardiasis, and African Sleeping Sickness will be studied. The biochemistry of host parasite interaction will also be explored.

**Credits: 3**

**CHM 8665: Enzymes**

Structural and mechanistic aspects of enzymes. Topics include chemical catalysis, steady state and pre-steady state kinetics, mechanisms, and biological relevance of specific enzyme systems.

**Credits: 3**

**CHM 8990: Graduate Chemistry Practicum**

Elective course for students seeking work experience in chemical industry.

Departmental approval required for a specific work opportunity. Prerequisite: Completion of 30 graduate credits.

**Credits: 1**

**CHM 9080: Thesis Continuation**

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**Credits: 0**

**CHM 9221: Spec Top:Organic Chem I**

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**Credits: 3**

**CHM 9222: Spec Top Organic Chem II**

-

**Credits: 3**

**CHM 9223: Spec Top Organic Chm III**

-

**Credits: 3**

**CHM 9224: Spec. Top in Org. Chem. IV**

Approaches to drug discovery: modification of natural products, synthesis, screening, and rational design. Recent and historical examples of therapeutically significant pharmaceuticals will be emphasized.

**Credits: 3**

**CHM 9226: Green Chemistry & Sustainability**

An introduction to the principles of using and evaluating safer, environmentally benign, and sustainable options in the design, manufacture, and use of chemical products. Emphasis will be given to current literature and case studies of successful commercial practices.

**Credits: 3**

**CHM 9331: Spec Top: Inorganic Chem I**

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**Credits: 3**

**CHM 9441: Spec. Topics Phys Chem I**

The physical chemistry of solutions, surfaces, monolayers, surfactants, emulsions, colloids, and interfaces.

**Credits: 3**

**CHM 9442: Spec Top in Phys Chemistry II**

Provides basis for theory and applications of X-ray crystallography. Topics include properties of crystals and X-rays, lattice symmetry, geometry of diffraction, calculations of diffracted intensities and amplitudes, Fourier series method, rotation method, and Laue method.

**Credits: 3**

**CHM 9447: Computational Chemistry**

Focus on basic theories behind popular computational models (e.g., molecular mechanics, density functional theory) and their application to chemical problems.

**Credits: 3**

**CHM 9551: Spec Top Analytical Chem I**

Topic to be arranged.

**Credits: 3**

**CHM 9552: Spec Top In Analytic Chm II**

Through this course, students will achieve an advanced understanding of electrochemical concepts and techniques. This course will delve into topics related to electrochemical cell processes, electrode properties, kinetics and thermodynamics of electrochemical reactions, and electroanalytical techniques used in chemical analysis.

**Credits:** 3

**CHM 9553: Spec. Top. Analyt. Chem. III**

Topic to be arranged.

**Credits:** 3

**CHM 9554: Spec. Top. in Analyt. Chem. IV**

Topic to be arranged.

**Credits:** 3

**CHM 9661: Spec Top in Bio Chem I**

This course will focus on the physical tools that exist to obtain information about biological macromolecules, with an emphasis on spectroscopic and imaging techniques (e.g., circular dichroism, fluorescence spectroscopy, FRET, electron microscopy, atomic force microscopy, dynamic light scattering, analytical ultracentrifugation, x-ray crystallography, and surface plasmon resonance). Undergraduate students approved to take CHM-9661 require the prerequisite of CHM 4621 or CHM 4610 or CHM 4611. Undergraduates must have permissions to enroll in the graduate course from the Department.

**Credits:** 3

**CHM 9662: Spec Top in Bio Chm II**

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**Credits:** 3

**CHM 9663: Proteomics**

Principles, techniques and applications for the large-scale study of proteins, particularly in human. Mass spectrometry will be covered in detail, and alternative methods and approaches will also be covered.

**Credits:** 3

**CHM 9664: Spec Top in Bio Chem IV**

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**Credits:** 3

**CHM 9710: Safety Culture in the Sci Comm**

Introduction to the principles and practices of laboratory safety; understanding, recognizing, and communicating laboratory chemical, physical and biological hazards; risk assessment and management of hazards; laboratory accident prevention and safe use of emergency equipment.

**Credits:** 3

## Chinese Language

**CHI 1111: Basic Chinese I**

Functional use of Chinese for students with no prior knowledge of Chinese. New pronunciation system, PINYIN, readings and oral drills. Supplementary language laboratory work.

**Credits:** 6

**CHI 1112: Basic Chinese II**

Continuation of CHI 1111-Basic Chinese I New pronunciation system, PINYIN, readings and oral drills. Supplementary language laboratory work. CHI 1111 or equivalent or permission of instructor.

**Credits:** 6

**Prerequisites:**

CHI 1111 :D

**CHI 1113: Business Chinese**

No Chinese language skill prerequisite; cultural and linguistic combination; conduct in english; Mandarin Chinese and Pinyin system taught in class.

**Credits:** 3

**CHI 1121: Intermediate Chinese I**

Review of Grammar and vocabulary. New pronunciation system, PINYIN, reading and oral drills. Supplementary language laboratory work. CHI 1112 or equivalent or permission of instructor.

**Credits:** 5

**CHI 1122: Intermediate Chinese II**

Review of grammar and vocabulary. New pronunciation system, PINYIN, readings and oral drills. Supplementary language laboratory work. CHI 1121 or equivalent or permission of instructor.

**Credits:** 5

**CHI 1131: Advanced Chinese I**

Advanced communication skills including reading and discussing topics on current events. Supplementary language laboratory work. CHI 1122 or equivalent or permission of instructor.

**Credits:** 3

**CHI 1132: Advanced Chinese II**

Advanced communication skills including reading and discussing topics on current events. Supplementary language laboratory work. CHI 1131 or equivalent or permission of instructor.

**Credits:** 3

**CHI 1133: Advanced Chinese III**

Advanced communication skills including reading & discussing topics on current events. Supplementary language laboratory work. CHI 1132 or equivalent or permission of instructor.

**Credits:** 3

**Prerequisites:**

CHI 1132

**CHI 1134: Advanced Chinese IV**

Advanced communication skills including reading & discussing topics on current events. Supplementary language laboratory work. CHI 1133 or equivalent or permission of instructor.

**Credits:** 3

**Prerequisites:**

CHI 1133

**CHI 1137: Advanced Chinese V**

Further refinement of advanced communication skills in writing and the reading and analysis of Chinese text. Refinement of conversational skills through reading and discussion of current events. Prerequisites: CHI 1134 or approval of instructor.

**Credits:** 3

**Prerequisites:**

CHI 1134

CHI 1134 or approval of instructor.

**CHI 1138: Advanced Chinese VI**

Further refinement of advanced communication skills in writing and the reading and analysis of Chinese text. Refinement of conversational skills through reading and discussion of current events. Prerequisites: CHI 1137 or approval of instructor.

**Credits:** 3

**Prerequisites:**

CHI 1137

CHI 1137 or approval of instructor.

**CHI 1151: Spec. Top. in Chinese Language**

Intensive instruction in conversation, reading and writing with emphasis on the refinement of Chinese language skills.

**Credits:** 3

**Prerequisites:**

CHI 1122

**CHI 2143: Chinese Culture**

Chinese culture and civilization from the beginning to the present. Conducted in English.

**Credits:** 3

**CHI 2144: Chinese Film & Novel**

The history and development of Chinese fiction from its beginning to the present. Taught in English,

**Credits:** 3

**CHI 3412: Chinese Special Topics**

Advanced study of topics of special interest in Chinese literary and/or cultural studies. May be repeated for credit if topic changes. Taught in English.

**Credits:** 3

**CHI 3413: Chinese Calligraphy**

Two part course: Textual study: History of Chinese calligraphy emphasizing how the Chinese culture blossomed and developed; Calligraphy practice: an on-hand developing of Chinese characters including the study of character's original meaning, transformation, and cultural context.

**Credits:** 3

**CHI 3414: Chinese Classical Thought**

Students will come to understand the basic thought, ideology, and great intellects, Sun Tzu and Confucius of life philosophy, then further examine the relationship between those classics and the ideology and philosophy of modern China.

**Credits:** 3

**CHI 5900: CHI:Independent Study**

Supervised study, activity or research. May be taken more than once. Prior approval of chair and instructor.

**Credits:** 3

## Classical Studies

**CLA 1250: Enemies of Rome**

Examination of the growth of the Roman Empire throughout the Mediterranean world, with an emphasis on issues of imperialism and cultural identity.

**Credits:** 3

**CLA 1975: Literature and Classics**

Survey of ancient and modern classical literature, varying in topic and theme, guiding students in written and oral analysis of themes in texts of the varying genres of epic, tragedy, comedy, novel, short story, film, et al., fulfilling core literature requirement.

**Credits:** 3

**CLA 2021: Language of Science & Medicine**

Language of Science and Medicine Greek and Latin prefixes, roots, and suffixes in modern vocabulary; vocabulary building, with emphasis on technical terminology in scientific and medical usage. Knowledge of the languages is not required.

**Credits:** 3

**CLA 2032: Classical Mythology**

The myths, legends and folklore of the Greeks and Romans as they developed in their life, thought and literature; their influence on the Renaissance and modern times.

**Credits:** 3

**CLA 2051: Cities of Ancient Greece**

Classical archaeology and architecture of Greece. Selected sites in the Greek world with emphasis on their architectural, artistic and history significance.

**Credits:** 3

**CLA 2052: Rome: The Ancient City**

Classical archaeology and architecture of Italy. Selected sites in the Roman world with emphasis on their architectural, artistic and historical significance.

**Credits:** 3

**CLA 3001: Independent Study**

Reading of selected material in Latin or Greek or in classical literature in translation under the direction of a member of the staff.

**Credits:** 3

**CLA 3040: Studies in the Classics**

Selected themes of special interest. Topics vary according to interests of students and instructor: e.g. Women in the Classical World, Slavery in the Ancient World, Classical Rhetoric, etc.

**Credits:** 3

**CLA 3052: Roman Law**

The origins, nature, and history of Roman Law during the Republic and Empire; evolution of the court system; civil and criminal codes; judicial procedure; social, business and economic institutions and the law; government and administration of the empire.

**Credits:** 3

**CLA 5900: CLA: Independent Study**

Supervised study, activity, or research. May be taken more than once. Prior approval of chair and instructor.

**Credits:** 3

**CLA 7301: Topics in Classical Studies**

A course in English on classical culture. Themes vary and may focus on: Greek and Roman art, architecture and archaeology, Greek and Roman social history, the classical tradition, etc.

**Credits:** 3

**CLA 8000: Topics in Classical Literature**

A course in English on classical literature. Topics vary and may focus on themes, such as Greek Tragedy, Roman Elegy, etc., or specific authors and works, such as Homer's Iliad, Selections from Ovid, etc.

**Credits:** 3

**CLA 9000: Independent Study**

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**Credits:** 3

## Cognitive Science

**CGS 2000: Linguistics as a Cognitive Sci.**

Introduction to key areas of linguistic research and their contributions to cognitive science. Emphasis on morphosyntax, phonetics/phonology, multilingualism, and psycholinguistics.

**Credits:** 3

**CGS 4000: Bilingualism**

Examination of cognitive correlates of bilingualism and multilingualism through review of primary psycholinguistic research and hands-on linguistic experimentation.

Focus on cross-language transfer, language coactivation, language mixing and immersion effects in language processing.

**Credits:** 3

**CGS 5900: Cognitive Science Seminar**

Interdisciplinary seminar focusing on theories, methods, and applications related to the study of intelligent systems.

**Credits:** 3

**CGS 5910: Psychology of Language**

Processes underlying use of language, including speech perception and production, comprehension of meaning and grammar, and conversational interaction. Draws upon research from psychology, linguistics, computer science, neuroscience, and speech pathology.

**Credits:** 3

**CGS 5950: Ind. Res. in Cognitive Science**

Supervised research project and report in a selected area of cognitive science. May be repeated for credit; however, only three hours of research can be applied toward the requirements of the concentration or minor in cognitive science. Prerequisite: Permission of the Director of the Cognitive Science Program.

**Credits:** 3

**CGS 5990: Special Topics**

Selected topics in Cognitive Science: attention, computational modeling, linguistics, deep learning, embodiment etc.

**Credits:** 3

## Cognitive and Behavioral Neuroscience

Chair: Michael Brown, PhD.  
Office Location: Tolentine Hall Rm. 334  
Telephone: (610) 519-4722  
[\[Website\]](#)

## About

The major in Cognitive and Behavioral Neuroscience (CBN) provides an intensive course of study focused on brain-

behavior relationships, ranging from genetic to whole brain contributions to behavior and mental processes. The program is excellent preparation for a variety of careers focusing on research and/or practice in neuroscience, medicine, allied health fields, and psychology, as well as for more general careers in areas such as public policy and education.

**CBN 2900: Topics in Cog & Behav Neuro**

Topics in Cog & Behav Neuro: Neuroscience and ethics, Neuroeconomics, Drugs and behavior, etc.

**Credits:** 3

**CBN 4000: Cell & Behavioral Neuroscience**

Neuronal mechanisms of behavior: Molecular and cellular processes, neural plasticity, sensory encoding, optogenetics, psychopharmacology.

**Credits:** 3

**Prerequisites:**

PSY 4200

**CBN 4100: Cognitive Neuroscience**

Theory and research on the neural and cognitive processes that support higher-level cognition, such as memory, attention, judgment & decision making, perception, language, emotion.

**Credits:** 3

**Prerequisites:**

PSY 4500

**CBN 5000: Seminar in Neuroscience**

Seminar exploring selected contemporary issues in neuroscience with a focus on cognitive and behavioral processes. Capstone experience for advanced (senior) CBN majors.

**Credits:** 3

**Prerequisites:**

CBN 4000 and CBN 4100 :Y

**CBN 5900: Undergraduate Research in CBN**

Supervised research project and report. Student may register for CBN 5900 more than once; however, only 3 hours of research can be applied toward the degree requirements in cognitive and behavioral neuroscience.

**Credits:** 3

**CBN 6001: Thesis Research I**

Library and/or Laboratory Research under CBN-affiliated faculty mentor. Requires successful application as CBN junior, permission of faculty mentor, department chairperson, and major GPA >3.0. Culminates in a literature review and research proposal. CBN 6001 credit toward major requires completion of CBN 6002.

**Credits:** 3

**CBN 6002: Thesis Research II**

Continuation of Thesis Research I. Laboratory Research under CBN-affiliated faculty member mentoring student in Thesis Research I. Culminates in a written thesis.

**Credits:** 3

**Prerequisites:**

CBN 6001

# Communication

## **COM 1000: Surv of Communication Studies**

Process of communication; range of perspectives from which communication can be studied (from classical rhetoric to contemporary theory); the functions communication serves; and the forms of communication such as interpersonal, small group, organizational, public address, and mass media.

**Credits: 3**

## **COM 1100: Public Speaking**

Principles of communication related to speech composition and delivery; finding, analyzing, organizing and presenting material in ways appropriate to and effective with diverse audiences.

**Credits: 3**

## **COM 1101: Business & Prof Communication**

Communication strategies and skills for a variety of business professional settings. Combines public speaking and small group organizational communication, featuring individual and group presentations. Not intended for Communication Department majors.

**Credits: 3**

## **COM 1102: COM Foundations for Engrs**

Technical & professional communication: Oral & visual presentations, including technical reports; formulation/evaluation of data-driven arguments; group communication & listening skills. This course is only for students enrolled in Mechanical Engineering.

**Credits: 3**

## **COM 1300: Film Analysis**

Methods and perspectives used to analyze visual media drawing on contemporary and historically important films. Historical, theoretical, and aesthetic approaches to film analysis, as well as the social, political and economic forces that influence film content. This course does not fulfill a COM major requirement.

**Credits: 3**

## **COM 1903: Communication Internship**

Supervised work/study program in radio, television, advertising, publicity or public relations.

**Credits: 3**

## **COM 1906: Communication Internship**

Supervised work/study program in radio, television, advertising, publicity or public relations.

**Credits: 6**

## **COM 1909: Communication Internship**

Supervised work/study program in radio, television, advertising, publicity or public relations.

**Credits: 9**

## **COM 2200: Theories of Rhetoric**

Rhetoric as the process of symbolic creation and recreation of community identity. Theory and history of rhetoric applications to the study of politics, popular culture, speeches, media images, artistic works, advertising, and legal issues.

**Credits: 3**

## **COM 2240: Theories of Perform Studies**

Exploration of theory surrounding the embodied and aesthetic elements of solo and group performance. Evaluates key approaches to performing literature, performance art, performance for social change, oral traditions, performance ethnography, and performance in everyday life.

**Credits: 3**

## **COM 2280: Theories of Persuasion**

Presents the theoretical processes by which communication influences the attitudes, beliefs, and behaviors of message recipients. Both rhetorical and social scientific approaches to persuasion are examined. Application is made to the areas of advertising, public relations, politics and health communication.

**Credits: 3**

## **COM 2300: Theories of Mass Communication**

Traces the evolution and structure of core theoretical approaches to understanding mass communication phenomena. Both behavioral and critical approaches and their related research traditions are explored.

**Credits: 3**

**COM 2340: Theories of Visual Com & Cultu**

Introduction to the major theoretical and methodological approaches to the study of images as communicative phenomena. Explores the philosophical and strategic implications of these approaches and applies them both to the analysis and production of visual messages in a variety of media and contexts.

**Credits:** 3

**COM 2400: Theories of Interpersonal Com**

Survey of concepts and theories in interpersonal communication. Focuses on dyadic interaction and relationships as created, maintained, and modified through verbal and nonverbal behavior.

**Credits:** 3

**COM 2440: Theories of Organizational Com**

Exploration of the relationship between organizational and communication theories. Addresses issues of leadership, structure, culture, decision-making, communication channels, conflict, change, motivation, performance, diversity management, and external communication as they relate to organizations.

**Credits:** 3

**COM 2993: Communication Internship**

Supervised work/study program in radio, television, advertising, publicity or public relations.

**Credits:** 3

**COM 2996: Communication Internship**

More intensive, in depth work/study/program in radio, television, advertising, publicity or public relations.

**Credits:** 6

**COM 3201: Rhetoric & Social Justice**

Examination of public discourse surrounding issues in social justice and human rights. Through traditional and contemporary rhetorical theory, rhetorical strategies are traced through contemporary movements.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3202: Rhetoric, Identity & Conflict**

Focused reading of contemporary rhetorical theorists. Examines the cultural use of symbols for the generation of community and/or the promotion of social conflict; rhetoric as performed through ritual acts; and correct and incorrect enactment resulting in social acceptance and alienation. Instructor's permission required.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3203: Communication Law & Policy**

Constitutional, statutory, and case law as well as other public policies affecting communication professions. Surveys a wide-range of issues related to the First Amendment, access, broadcasting, commercial speech, copyright, defamation, obscenity, political speech and privacy.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3204: Rhetoric and Democracy**

An upper-level course in which students study important rhetorical artifacts and theoretical perspectives to come to understand important ways that rhetoric has served and sometimes disserved democracy. The specific focus of the course will change according to the instructor and the semester taught. (Pre-requisites will be waived when the course is offered for the Study Abroad in Greece program). Instructor's permission needed to waive pre-requisites.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3207: African American Rhetoric**

The symbolic construction of African American identity in the United States through an analysis of speeches, films, television and other media. (Pre-requisites will be waived for Africana Studies concentrators or minors).

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3208: Rhetoric and Myth**

The relationship among rhetoric, myth, and culture with attention paid to the forces that shape mythic consciousness in culture(s). The focus of the course will vary according to instructor and semester the course is taught. (Pre-requisites will be waived when offered for the study abroad in Greece program or instructor's permission).

**Credits:** 3

**Prerequisites:**

COM 2240 or COM 2280 or COM 2340 or COM 2200 or COM 2300 or COM 2400 or COM 2440

**COM 3209: Rhetorics of Race**

Explores the rhetorical constructions, through language, visual, and material artifacts, of racialized identities and publics. Focus on rhetorical theories that explore and challenge these constructions.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3210: Gender, Sexuality and Rhetoric**

Explores the rhetorical construction, through language, visual, and material artifacts, of gender and sexuality. Focus on rhetorical theories that explore and challenge these constructions.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440 or COM 2400

**COM 3240: Performance for Social Change**

Performance as a powerful medium of art and art as a powerful tool for social change. Studying established performance artists and creating original performance pieces, students address social issues through various modes of performance.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2340 or COM 2280 or COM 2300 or COM 2400 or COM 2440

**COM 3241: Performance of Literature**

Solo and group performance of poetry, prose, and drama. Focus on rhetorical power of performed literature. Combines elements of theatre, literature and communication.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2400 or COM 2280 or COM 2300 or COM 2340 or COM 2440

**COM 3243: Performance Art**

Introduction to performance art, a highly diverse theatrical art form that has gained popularity in American and European performance since the 1960s. Analysis of well-known performance artists as well as creation and performance of original student pieces. Emphasis on relationships among language, visual arts, music and dance; the construction and expression of self and identity through performance; and the relationship of performance to rhetoric and social change. Previous performance experience a bonus but not required.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2340 or COM 2280 or COM 2300 or COM 2400 or COM 2440

**COM 3245: Voice & Diction**

Improvement of vocal quality and articulation through study of vocal anatomy, phonetics, projection, and expressiveness. Emphasis on live and taped performance of readings.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3246: Performance of Greek Lit**

Students analyze and perform both ancient and contemporary Greek literary texts; the performances, both solo and group are at Greek archaeological sites based on Greek oral traditions, poetry and drama, such as from Homer, Sappho, Antigone and Medea. THIS COURSE IS ONLY OFFERED IN THE SUMMER STUDY ABROAD IN GREECE PROGRAM.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3247: Storytelling**

Focus on story craft, form and practice. May include sound stories, image stories, performance, personal narrative, oral history, nonfiction. Attention on how to use stories for personal and social change.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2340 or COM 2280 or COM 2300 or COM 2400 or COM 2440

**COM 3248: Performance Ethnography**

Explores ethnographic and autoethnographic performance as an artistic tool to make discoveries about our world. Uses methods such as interviewing, participant observation fieldwork, and self-reflection to create original performance that challenge ideas of "self" and "other".

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3290: Spec Top in Rhetoric & Perf**

Topic or problem in the Rhetoric & Performance area of communication selected by the instructor.

**Credits:** 3

**COM 3301: Intro to Film & Video Prod**

In-studio workshop that deals with basic television production techniques, including producing and directing short interview programs, news, demonstrations and short dramatic pieces. Discussion of current problems in the management and operation of a television broadcasting station.

**Credits:** 3

**Prerequisites:**

COM 2280 or COM 2300 or COM 2340 or COM 2200 or COM 2240 or COM 2400 or COM 2440

**COM 3302: Advanced Film & Video Prod**

Visual aspects of location single camera video productions, audio acquisition, lighting, post production support, video editing and digital effects and finished distribution. Each student will work as producer, director, cameraman, editor and writer. Helps students understand the world of film and video funding, production and distribution.

**Credits:** 3

**Prerequisites:**

COM 3301

**COM 3303: Screenwriting**

Development of narrative strategies through improvisation and techniques of mediated visualization using video.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440 and COM 1300

**COM 3304: Documentary Theory & Practice**

A study of the documentary as art, propaganda, social document, and instrument for social change. After a review of theory and work in documentary, students develop their own short works. For COM majors who have taken COM 3600, this course counts as a Free Elective. For COM majors who have not taken COM 3600, this course counts as a COM 3000-level course.

**Credits:** 3

**COM 3305: Radio Broadcasting**

The history and principles of commercial radio broadcasting: programming, research, sales, promotions, broadcast engineering and federal regulations. Hands-on-audio production experience with broadcast equipment focusing on the art of audio production and development of public affairs radio program to air on WXVU.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3306: Audio Production**

Hands-on studio course serves as introduction to the history, fundamentals and methods of audio production used in radio, television and recording studios. Students learn, identify and operate different aspects of audio production hardware such as microphones, mixing boards, and digital multi-rack recorders. Students will complete in-studio or remote recording projects for evaluation.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3308: Digital Image Production**

This hands-on workshop introduces to the fundamentals of using digital images to communicate specific information. Students produce still and moving images for use in public relations, advertising, photojournalism, and electronic or web-based publication.

**Credits:** 3

**Prerequisites:**

(COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440)

**COM 3321: Interactive Media Design**

Study of the principles of creating effective communication for the World Wide Web. Explores basic web design techniques with emphasis on designing and integrating diverse media elements. Focus on the creation and manipulation of text, graphics, audio and video for the Web.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3340: Film History**

Evolution of film as an art form; includes the impact of technology.

**Credits:** 3

**Prerequisites:**

COM 1300 and COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3341: Gender and Film**

This course attends to the role of cinematic images in the cultural production of gender in contemporary societies. Students analyze images of gender in a variety of films, as well as the work of film makers who have been marginalized because of gender. This analysis of specific films is grounded in course readings taken from primary sources in feminist film theory and criticism, gender theory and media studies. Students will have the opportunity to propose and explore analytic, creative, and/or theoretical projects within the purview of the course theme. Outside viewing required. (Prerequisites will be waived for Women's Studies concentrators or minors).

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3342: International Cinema**

Study of the film of or about a particular country with emphasis on political, social, cultural and artistic issues.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2400 or COM 2440 or COM 2340

**COM 3343: Contemporary Cinema**

Seminar course in which various strategies are applied to the analysis of contemporary films.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3351: Media & Society**

Structure and content of the major media industries in America (radio, television, film, newspapers, magazines, recordings, and books), and how each interacts with individuals, groups, and institutions. Students analyze and critique media systems and content in terms of social, legal, political, and economics forces that influence them.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3352: Media & Technology**

Surveys the development of communication technologies from the printing press through the internet and beyond. Technological development will be used as a way to explore critical issues about economic development, the nature of meaning, technological determinism and globalization.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3353: Media & Politics**

Examination of political communication research, theory and history. A particular focus on the role of media, such as advertising and news reporting on political campaigns and policymaking.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3354: Media Criticism**

Analysis of contemporary film, television, music, print media and electronic media from a cultural studies perspective.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3355: Media Effects**

A service learning course that trains students on how to critically evaluate media content given its role in society and degree of compliance with prevailing media policies. The course culminates with a compilation of analysis results and the production of a research report to be disseminated to academics, advocacy groups, industry executives, and parents.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3356: Media Audiences**

Introduction to the study, measurement and analysis of media audiences, merging theoretical approaches with applied methods for understanding user behavior.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3360: Introduction to Journalism**

News is an integral part of our lives. This course aims to provide a critical understanding of the role of journalism in modern society, combining theoretical perspectives on the making of news with insights from the journalists, broadcasters and editors who produce it. Students will analyze research material on journalism in the press, as well as examining newsmaking on television and on the internet.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3361: Journalism Practices**

Principles of gathering, researching and writing the news for students interested in journalism and those who expect to interact with journalists professionally. Press releases, news leads and features and techniques for successful interviewing. Surveys critical and ethical challenges facing today's journalist; explores business news, media reviews and comment writing, editing and page design, and how computer technology is changing investigative reporting. Classes will be held in a computer lab to simulate newsroom conditions.

**Credits:** 3

**Prerequisites:**  
COM 3360

**COM 3363: Broadcast Journalism**

Styles and techniques of broadcast journalism performance, including studio and location reporting and interviewing. Historical and contemporary trends in broadcast journalism explored.

**Credits:** 3

**Prerequisites:**  
COM 3360

**COM 3365: Sports Journalism**

Evolution and current trends in sports journalism, emerging platforms and technologies, reporting with social media, developing source relationships, competing with your sources, working with media relations, developing written and oral reporting skills, anchor-analyst and sports-talk formats.

**Credits:** 3

**Prerequisites:**  
COM 3360

**COM 3366: Multimedia Journalism**

Students learn to write across media platforms, create integrated news packages, and maintain strong journalistic principles, techniques and ethics.

**Credits:** 3

**Prerequisites:**  
COM 3360

**COM 3367: Journalism Topics**

Rotating topics in journalism. Each offering will give students in-depth exposure to a particular area of journalism, taught by a foremost expert in that area.

**Credits:** 3

**Prerequisites:**  
COM 3360

**COM 3390: Spec Top in Media & Film**

Topic or problem in the Media & Film area of communication selected by the instructor.

**Credits:** 3

**COM 3401: Relational COM Studies**

Explores everyday communication between people across many contexts. Critical examination of the personal, social, and cultural dimensions of human relationships. Experiential activities augment lectures/discussions.

**Credits:** 3

**Prerequisites:**  
COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3402: Family Communication**

Explores the relationships that have the most consequences for us. Examines ways to rework relational dilemmas, collisions through dialogue, and generate effective communicative strategies.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3403: Intercultural Communication**

The impact on culture of communication styles, and practices. The role of communication in personal and professional intercultural relationships.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3404: Communication & Conflict**

Communicative elements of conflict that arise out of personal and cultural differences in a variety of interpersonal interactions and relationships.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3406: Gender & Communication**

Communication of women and men against the backdrop of society and feminism in such communicative contexts as families, schools, friendships and relationships, organizations, media, and technology. (Pre-requisites will be waived for Gender & Women's Studies concentrators or minors).

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3408: Facilitation & Dialogue**

Understanding and managing group dynamics occurring within diverse groups; interpersonal skills and techniques necessary for effective facilitation; conflict resolution and empathy in facilitative leadership; moving groups from discussion to dialogue; links among facilitation, group effectiveness and learning.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3441: Negotiation & Dialogue**

Examination of the practical, theoretical, and critical analysis of a variety of approaches to negotiation and resolving conflicts. Verbal forms of negotiation, mediation, and dialogue are developed as key components in the maintenance of any healthy organization.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3442: Team Based Communication**

Theory and practice of communication for idea generation and problem-solving in groups, teams, and in other multiple contexts.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3443: Work Life Negotiation**

Explores the increasingly blurred intersections of "public" work and "private" lives, focusing on how we navigate organizational, family, community and individual roles and responsibilities. Considers organizational policies, family practices, and larger social discourses such as gender, class, consumption, and entrepreneurialism.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2340 or COM 2280 or COM 2300 or COM 2400 or COM 2440

**COM 3444: Interviewing**

Theory and practice of methods in selected interview settings: informational, employment, and persuasive. Emphasis on communication between two persons, questioning techniques, and the logical and cultural bases of organizational persuasion.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3445: COM Consulting in Organization**

Course explores theory and practice of communication consulting through a variety of case studies in the field of organizational/corporate communication. Students will be expected to work as part of a consulting team for part of the semester.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3446: Space, Time & Tech in Organiz.**

Considers individuals' experiences of organizational spaces, time, and technologies across diverse social, cultural, and historical contexts. Examines how workplace designs (Facebook's new Menlo Park building), pace of life (shrinking vacation time), and technologies (audio-video conferencing tools) influence organizational communication processes.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2340 or COM 2280 or COM 2300 or COM 2400 or COM 2440

**COM 3448: Multicultural Leadership & Dialog**

Introduces scholarship addressing injustice and misunderstanding in America. Students will develop a dialogic perspective and a set of skills as one means of transforming themselves and their community. Must also participate in a one-credit COM 5300 topically focused dialogue group. Requires permission of chairperson.

**Credits:** 3

**COM 3449: Applied Topics in Organization**

Examines current events, social issues, and relevant topics through an organizational communication lens. Exploring a particular topic or theme, students employ organizational communication theories and approaches to consider how a chosen issue is organized, complicated, and even resolved through communication.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2340 or COM 2280 or COM 2300 or COM 2400 or COM 2440

**COM 3460: Public Relations**

Provides a foundation for students interested in the field of public relations. It chronicles the development of the profession from its earliest beginnings to its role in modern management. Also attempts to bridge the gap that exists between theory and practice. It achieves this by emphasizing the fundamental management perspective of the profession and the persuasive intent of message construction while highlighting the four essential skills required for success in the industry - research, writing, planning and problem solving.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3461: Advertising**

Strategies and techniques used in contemporary American advertising: consumer behavior, market research and analysis, message development for print and broadcast, and media selection.

**Credits:** 3

**Prerequisites:**

COM 2200 or COM 2240 or COM 2280 or COM 2300 or COM 2340 or COM 2400 or COM 2440

**COM 3462: Public Relations Writing**

Offers students the foundation for producing a variety of written public relations materials. Structure includes an overview of the journalistic style of writing along with extensive practice in writing fundamentals. Following the work on enhancing writing skills, students will develop a variety of pieces for their portfolios. Final class products include print news releases, position papers, feature stories, media advisories, media kit, and other related assignments. Course is strongly recommended for students interested in public relations, advertising, marketing, and organizational communication.

**Credits:** 3

**Prerequisites:**

COM 3460

**COM 3475: Com Challenge in Organizations**

The purpose of the course is to make students aware of the psychology of communication and to assist them in becoming more discerning, discriminating recipients of the torrent of 24/7 bytes and bits of data. The course examines the dynamics of communication within organizations and the elements of effective leadership communication; that is, the written and spoken word; the behaviors exhibited by people who influence the way people think and act; internal and external communication planning; multigenerational communication; crisis communication; the impact of technology, and techniques used to assess the efficacy of planned communication.

**Credits:** 3

**COM 3476: Managing Multi Gen. Workforce**

The focus of this course is on understanding the impact and implications of an aging workforce and examining best practices for managing multiple generations.

**Credits:** 3

**COM 3477: Creativity, Innov., & Entrep.**

The course focuses on the similarities and dissimilarities among three related skills and competencies: creativity, innovation and entrepreneurship and the ways in which each can be applied to produce new or improved products and services. Topics are examined within in the context of the real-life situations and work place scenarios with special emphasis on creating a culture that encourages and rewards risk taking and unconventional problem solving.

**Credits:** 3

**COM 3490: Spec Top in Interpersonal Org**

Topic or problem in the interpersonal/Organizational area of communication selected by the instructor.

**Credits:** 3

**COM 3600: Social Justice Documentary**

Students will work together to create a documentary film that examines a social justice issue. This class requires substantial time commitments from all the students. Permission of instructor and at least three credits of prior courses in film or social justice. This six-credit course can be repeated once. For COM majors, six credits count toward the major. If taken twice, six credits count toward Free Electives. For the COM minor, only three credits of this six-credit course goes toward the minor.

**Credits:** 6

**COM 4001: Qualitative Research in COM**

Review of basis principles of critical inquiry in the interpretive paradigm. Reading and designing qualitative research in communication through gathering and critically analyzing literature in the field and proposing an original study. Methods include ethnography and textual analysis.

**Credits:** 3

**COM 4002: Quantitative Research in COM**

Review of basic principles of scientific inquiry in the empirical paradigm. Reading and designing quantitative research in communication through gathering and critically analyzing literature in the field and proposing an original study. Methods include experiments and surveys.

**Credits:** 3

**COM 5050: Senior Project**

Design, implementation, and presentation of a group research project in which students apply the knowledge and skills learned through the Communication program of study to the investigation of rhetorical or communication phenomena.

**Credits:** 3

**Prerequisites:**

COM 4001 or COM 4002

**COM 5100: Directed Study**

Supervised project culminating in term paper.

**Credits:** 3

**COM 5150: Spec Top in Communication**

A topic or problem in Communication selected by the instructor.

**Credits:** 3

**COM 5200: Topics**

Intensive workshops in selected areas of professional development or communication research.

**Credits:** 1

**COM 5300: Topics in Intergroup Dialogue**

Using self-reflection, identity exploration, and dialogue, learn how everyday communicative interactions can lead to cross-cultural mistrust and misunderstanding. Students also learn how social structures and institutions, e.g., schools, neighborhoods, media, and health organizations, function to allocate privilege and sustain societal inequities. Permission of chair.

**Credits:** 1

**COM 5464: Public Relations Campaigns**

Course explores a variety of case studies in the field of public relations including examples in media relations, crisis communication and planning. Following the review of cases, student groups will be created and will spend the remainder of the semester developing a professional campaign for a client. The final project is a presentation of this overall public relations plan.

**Credits:** 3

**Prerequisites:**

COM 3462

**COM 5600: Special Topics in Production**

One-Credit Workshops in areas of media and multimedia production. Course may be repeated six times

**Credits:** 1

**COM 8001: Qualitative Research Methods**

Qualitative approaches to communication research including phenomenology, ethnography, rhetorical criticism, and semiotic analysis. Emphasis on the performative turn in ethnography and alternative forms of ethnographic writing. Primary work consists of semester-long original study. With Departmental permission, this course can substitute for Senior Project.

**Credits:** 3

**Prerequisites:**

COM 8008 :Y

**COM 8002: Quantitative Research Methods**

Fundamentals of quantitative communication research. After reviewing the philosophy and practice of social scientific inquiry, students engage in research design and execution, thematic and statistical inference, and presentation of research results.

**Credits:** 3

**Prerequisites:**

COM 8008 :Y

**COM 8003: Internship in Communication**

Internships at area businesses and organizations supervised by a faculty member. Graduate students may only take this course once.

**Credits:** 3

**Prerequisites:**

(COM 8008 and COM 8100) and (COM 8001 or COM 8002)

**COM 8004: Communication Directed Study**

Individual research project in an advanced area of communication, conducted under the guidance of a faculty member. Requires permission of Program Director.

**Credits:** 3

**Prerequisites:**

(COM 8008 and COM 8100) and (COM 8001 or COM 8002)

**COM 8005: 1**

Contemporary topics in communication. Taught on an occasional basis to reflect critical and changing debates and inquiries in the discipline. NOTE: Graduate Director Approval for all student registrations will be required.

**Credits:** 3

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8006: Thesis Direction I**

Independent capstone research experience under the direction of a graduate faculty advisor. Satisfactory completion requires a successful defense of a prospectus. Requires permission of Program Director.

**Credits:** 3

**Prerequisites:**

COM 8001 and COM 8002 and COM 8008 and COM 8100

**COM 8007: Thesis Direction II**

Independent capstone research experience under the direction of a graduate faculty advisor. Satisfactory completion requires a successful defense of a completed research project. Requires permission of Program Director.

**Credits:** 3

**Prerequisites:**

COM 8001 and COM 8002 and COM 8008 and COM 8100

**COM 8008: Orientation to Graduate Study**

Orients new students to graduate study in communication.

**Credits:** 1

**COM 8009: Personal Brand Promotion**

Discover and develop your personal brand. Engages comprehensive strategies and competitive advantages in many areas of self-promotion in Communication.

**Credits:** 1

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8010: Becoming an Academic**

Prepares Master's students interested in academic professions. Introduces students to the life of an academic, the PhD experience, the job search process, preparing and presenting research through conferences and publications, building an academic reputation, and developing a Curriculum Vitae (CV).

**Credits:** 1

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8011: Health Promotion Messages**

Guides students through process of planning and strategy development; developing and pretesting concepts, messages, and materials; implementing program, assessing effectiveness and making refinements.

**Credits:** 1

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8012: Storytelling:Com, Cultr, Craft**

Learn to create, shape, adapt and embody narratives for various contexts, audiences, and purposes - both personal and professional.

**Credits:** 1

**COM 8013: IGR Dialogue**

Sustained, co-facilitated, social justice-oriented pedagogical approach helps participants broaden perspectives, identify shared meaning, and build relationships across different social and cultural identities. Learn tools of intergroup dialogue while experiencing and theorizing about the dialogic process. Learn more at [www.villanova.edu/igr](http://www.villanova.edu/igr).

**Credits:** 1

**Prerequisites:**

COM 8008 :Y and COM 8100 :Y and (COM 8001 :Y or COM 8002 :Y)

**COM 8100: The Communication Perspective**

Grounds students in communication theory by introducing them to theoretical and ethical issues involved in strategic discourse. Tracing historical and contemporary issues in the development of communication study, the course examines meaning-making and its consequences in various contexts.

**Credits:** 3

**Prerequisites:**

COM 8008 :Y

**COM 8101: Performance Studies**

Examines performance across contexts: public to interpersonal, verbal to nonverbal, stage to everyday life. Uses performance, rhetorical, and cultural studies theory to experience the strategic nature of performance in aesthetic, political, interpersonal, organizational, and cultural contexts. Emphasizes both analyzing and creating performance.

**Credits:** 3

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8102: Persuasion and Advocacy**

Using the principles of persuasion from classical and contemporary rhetorical theory and criticism, students engage message analysis and construction; audience/situational analysis; and strategic oratory.

**Credits:** 3

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8200: Teambuilding & Small Group**

Theories of small group communication; methods for conducting small group research; models of group development; group processes (e.g., decision-making, conflict, coordination); effective group functioning and processes in varied organizational contexts; practice-oriented team-building strategies; effective and shared group leadership; individual, team, and organizational outcomes.

**Credits:** 3

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8201: Health Communication**

Examines interpersonal, organizational and mediated communication in various health domains. It includes a review of relevant health communication theory and methods to inform such areas as developing and evaluating public health campaigns, doctor/patient communications, and communication about health in organizations.

**Credits:** 3

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8203: Org. Research & Consulting**

Course is designed to prepare students to understand and analyze organizations as researchers and to prepare them to conduct consulting interventions in organizations as communication consultants.

**Credits:** 3

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8204: Conflict & Negotiation**

The role of communication in the development and management of conflict and negotiation; types of conflict, resolution strategies, and power relationships. Applications may include intercultural/international conflict; conflict in organizations; and conflicts between and among stakeholders.

**Credits:** 3

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8205: Intercultural Communication**

The origin of culture, different paradigms and research methods, intercultural communication in various contexts, and migration experience. Topics include cultural dimensions; individual differences; interpersonal and intergroup interactions; cultural shock and adaptations; communication competence; and conflict management.

**Credits:** 3

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8206: Diversity & Organizing**

Explores the relational, axiological and cultural implications of communication practices in the negotiation of difference and social identity as central to the organizing process.

**Credits:** 3

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8207: Organizational Communication**

Centrality of communication to organizing and practices of organizational life. Theoretical and historical perspective on organizational structure and culture, communication networks, decision making, socialization, training, consulting, and workplace democracy.

**Credits:** 3

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8208: Public Communication Campaigns**

This course explores a variety of public communication campaigns and case studies in the field of public relations including examples in media relations, crisis communication and planning. Following the review of cases, student teams are created and spend the remainder of the semester developing a professional communication campaign for a client. The final project is a presentation of this overall public relations plan.

**Credits:** 3

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8209: International Public Relations**

This class explores public relations theory, research, and practice in an international context. Through various readings, writing assignments, and discussions, students will develop a body of knowledge that should help them in future work as a communication scholar or professional.

**Credits:** 3

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8210: Leadership Communication**

Study of effective leadership. Examines communication environment and organizational politics. Participant model of leadership; group/team observation and participation.

**Credits:** 3

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8211: Communication and Identity**

Examines the communication negotiation of and struggle over identity in different contexts. Draws on specific theoretical works/traditions to explore areas such as gender, race, sexuality and class.

**Credits:** 3

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8212: Communication and Advocacy**

Acquaints students with ways of critically assessing the use of communication for social, economic, and/or cultural transformation. Course will incorporate perspectives from at least one of the following areas: rhetoric, critical/cultural studies, communication campaigns, organizational communication or media studies.

**Credits:** 3

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8300: Public Relations Writing**

Areas covered include journalistic style of writing; targeting audiences, practice in fundamentals and media relations techniques. Students will create portfolio writing samples, e.g. industry standard news releases, pitch letters and features, Q&A documents, crisis statements and position papers.

**Credits:** 3

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8301: Strategic Public Relations**

The course explores the foundation of public relations, including history/evolution, media relations, client relationships, working with management, ethical counsel and crisis communication, as well as core concepts in PR writing. Students also engage PR planning skills, such as creating appropriate, goal-driven strategies and tactics, while taking on a client and presenting a PR plan for review and critique.

**Credits:** 3

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8302: Advertising**

Advertising campaign planning, including research, audience segmentation, strategy, creative development, execution, media planning, and evaluation; advertising & IMC; brand development; new and non-traditional advertising; digital advertising, client management; advertising & society.

**Credits:** 3

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8303: Mass Media Industries**

Surveys media industries - newspaper, film/home video, broadcast television, cable television and the Internet - focusing on how consumer demand, technology and government policies interact to affect industry behavior. Examines audiences as products of mass media industries.

**Credits:** 3

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8304: Journalism**

Covers principles of journalism through theoretical, methodological, critical, and practical lenses. Areas of study include history, ethics, production, consumption, impact on individuals and society, content, and industry structure, all with an emphasis on the current and future state of journalism in the new media environment.

**Credits:** 3

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8305: Media Literacy**

This course examines the reciprocal relationship between culture and technology in the emergence of communication media. Students explore socio-cultural, economic, historical, and philosophical perspectives relevant for understanding the conjunctures in which media as technologies are problematized in culture and society.

**Credits:** 3

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8306: Media Production**

Provides an overview of the video production experience for those who want to include media production in business, advocacy, research and education.

**Credits:** 3

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8307: Visual Communication & Culture**

Theoretical and methodological introduction to the study of images as communicative and cultural phenomena. Theories of the image; implications for visual communication and culture; analysis and production of images in a variety of media and contexts.

**Credits:** 3

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8308: Theories & Effects of Mass Com**

Social scientific investigation of media effects and history of mass communication research. Globalization of mass media, direction and impact of new forms of communication, emerging media technologies and media convergence.

**Credits:** 3

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8309: Public Opinion**

Influences of strategic communication on attitudes, beliefs, and behaviors of message recipients. definitional, ethical and methodological issues; rhetorical and social scientific approaches to opinion and attitude change; application to advertising, public relations, politics, and health communication.

**Credits:** 3

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8310: New Media**

Covers new media from multiple perspectives including communication theory, the history of technology, cultural studies, and software studies. Topics include electronic media, digital media, markets, platforms, and algorithmic culture.

**Credits:** 3

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8313: Communication Directed Study**

Individual research project in an advanced area of communication, conducted under the guidance of a faculty member. Requires permission of Program Director.

**Credits:** 1

**Prerequisites:**

(COM 8008 and COM 8100) and (COM 8001 or COM 8002)

**COM 8314: Photoshop**

Introduce students to Adobe Photoshop software. Learn how to use Photoshop to alter existing images, to create new material, such as banners or logos.

**Credits:** 1

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8315: Video Shooting Lab**

Designed to give students who already have a basic understanding of video shooting a chance to explore issues of lighting, framing, lens choice, white balance, and shutter speed.

**Credits:** 1

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8316: Audio Production**

Introduce students to the technology and related issues in the production of audio-only work. Combined theory and production lab devoted to developing critical and theoretical skills around sound and focusing on technology and software.

**Credits:** 1

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8317: Basic Web Design**

Covers the basic concepts of web design and the technologies used to create interactive media.

**Credits:** 1

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8318: Crisis Communication**

Essential strategies and tools needed by professional communicators. Proven techniques for crisis statements, talking points for media interviews, briefs for management and legal counsel and message vehicles for the post-crisis environment. Agency teams formed to manage crisis through developed materials.

**Credits:** 1

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8319: Cultural Studies**

Introduces students to interdisciplinary area of Cultural Studies. Explores Cultural Studies' intellectual influences, emergence in the post-war era, and proliferation thereafter, with particular attention to its relevance for the study of communication.

**Credits:** 3

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8320: Digital Media Design**

Designed to provide a broad-based overview of the Media Arts & Design industry, focusing on the research, strategies and methods that go into designing and preparing media for consumption via a variety of delivery methods (including traditional mass media, online, and mobile devices). Students will gain a theoretical understanding of and practical experience with: digital photography and videography, web design and development, and multimedia production.

**Credits:** 3

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8321: Critical Studies in Advert.**

Students examine the reciprocal relationship between culture and commerce in understanding advertising. Students examine the socio-cultural, ontological, economic, historical, and philosophical perspectives relevant for understanding advertising as cultural expression. Through historical and contemporary examples, students explore the social significance of advertising practices and products.

**Credits:** 3

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8322: Audience Analysis**

Introduction to audience analysis including review of services provided by media research organizations and procedures of applied survey research for the media.

**Credits:** 3

**Prerequisites:**

COM 8008 :Y and COM 8100 :Y and COM 8002 :Y

**COM 8401: Spec Top: Qualitative Research**

Concentrated workshop in Qualitative Research area.

**Credits:** 1

**Prerequisites:**

COM 8008 :Y and (COM 8001 :Y or COM 8100 :Y)

**COM 8402: Spec Top: Quantitative Res**

Concentrated workshop in Quantitative Research area.

**Credits:** 1

**Prerequisites:**

COM 8002 :Y and COM 8008 :Y

**COM 8403: Spec Top in Applied Organ Com**

Concentrated workshop in a specific area of applied organizational communication. Possible topics include: facilitating participation in organizations, leading diversity and social change, multicultural leadership for training teams and conflict mediation processes.

**Credits:** 1

**Prerequisites:**

(COM 8008 :Y and COM 8100 :Y) and (COM 8001 :Y or COM 8002 :Y)

**COM 8404: Special Topics in Media Prod**

Concentrated workshop in specific area of media production.

**Credits:** 1

**Prerequisites:**

COM 8008 :Y and COM 8100 :Y and COM 8001 :Y or COM 8002 :Y

**COM 8405: Internship in Communication**

Internships at area businesses and organizations supervised by a faculty member. Graduate students may only take this course once.

**Credits:** 1

**Prerequisites:**

(COM 8008 and COM 8100) and (COM 8001 or COM 8002)

**COM 9080: Thesis Continuation**

Continuation of supervised research for students writing master's theses. Permission of Chair or Graduate Director required.

**Credits:** 0

**Prerequisites:**

COM 8001 and COM 8002 and COM 8008 and COM 8100

## Computing Sciences

Chair: Daniel Joyce, Ph.D.  
Office Location: Mendel Science Center Rm. 161  
Telephone: (610) 519-7307  
[Website](#)

## About

The Department of Computing Sciences seeks to provide outstanding education, to advance scholarship, and to engage in activities that benefit society as a whole, in accordance to the University mission. The Department aims

to equip students with a solid foundation in computing theory, and to prepare them for lifelong independent learning and innovative thinking in a constantly changing discipline. Its faculty members strive to maintain professional currency, and to involve students and colleagues in their research investigations. These endeavors support the University mission to transmit, pursue, and discover knowledge in an atmosphere of collegiality in the university community. Supported by a liberal arts education, the Department seeks to develop the total person, sensitive to social and ethical concerns affected by the computing discipline, and committed to addressing the needs of a diverse and interconnected modern society.

**CSC 1010: Programming for All**

Programming fundamentals using the Python programming language: data, variables, selection, loops, arrays, input/output, basic graphics and functions. Object-oriented design: encapsulation, objects, classes and methods.

**Credits:** 3

**CSC 1020: Computing and the Web**

Information representation and manipulation; file systems and directories; compatibility and data exchange; security and privacy; elements of computer architectures and operating systems; computer networks, the Internet, and the World Wide Web; web site design principles and creation; PC-based examples and illustrations.

**Credits:** 3

**CSC 1024: Computing for Scientists**

Active learning of computing skills necessary for science students: data graphing, regression analysis, animation, symbolic computing, information search techniques, scientific report writing, Web page construction, fundamentals of programming.

**Credits:** 1

**CSC 1030: Prob Solv with Computers**

Using the microcomputer as a problem solving tool; system use; general purpose language programming; spreadsheet analysis and modeling; retrieving information from the Internet; strengths and weaknesses of computer based problem solutions.

**Credits:** 3

**CSC 1035: Databases for Many Majors**

No background in computing necessary. Design and implementation of your own database as a group project. Cooperative learning techniques to demystify key concepts: the relational model, normalization, the Entity-Relationship model and SQL.

**Credits:** 3

**CSC 1040: Computing with Images**

Computing systems as tools for designing and publishing graphically rich material in many forms; image processing techniques and systems; image style and related tools; digital image processing theory; computational complexity; multimedia presentations.

**Credits:** 3

**CSC 1043: Laptop Instrument**

Music structure and theory; programming structures, algorithms and language to create music on your laptop; component of Living in the KnowlEdge Society project (NSF) connecting computing with other disciplines.

**Credits:** 3

**CSC 1045: 3D Modeling and Animation**

Computer-assisted animation & its programming dialects; cartoon creation from storyboarding to product delivery; algorithms - efficiency, correctness, understanding via animation.

**Credits:** 3

**CSC 1051: Algorithms & Data Struc I**

Object-oriented design: objects, classes, methods, encapsulation; programming fundamentals: data, variables, selection, loops, arrays, input/output; exceptions.

**Credits:** 4

**CSC 1052: Algorithms & Data Struc II**

Object-oriented design: inheritance, interfaces, polymorphism; problem analysis; recursion; abstract data types; dynamically linked structures; data structures: stacks, queues, lists, collections, trees, maps, priority queues, library collections framework.

**Credits:** 4

**Prerequisites:**

CSC 1051 :C or CSC 2014 :C

**CSC 1300: Discrete Structures**

Mathematical structures that support computer science: sets, matrices, trees, graphs, logic and proof, mathematical induction, relations, functions, sequences, summations, and elementary combinatorics.

**Credits:** 3

**CSC 1600: Operating Systems**

System software design and implementation; process and resource management; concurrency, scheduling, and deadlock; memory management; file systems and security.

**Credits:** 3

**Prerequisites:**

CSC 2400 :D- or ECE 2042 :D-

**CSC 1700: Analysis of Algorithms**

Efficiency classifications and mathematical analysis of recursive and nonrecursive algorithms; design techniques: brute force, greedy, divide-and-conquer, dynamic programming, backtracking, branch-and-bound, space and time tradeoffs; NP-completeness; approximation algorithms; computational problems: sorting, searching, string processing, graphs, arithmetic, linear algebra.

**Credits:** 3

**Prerequisites:**

(CSC 1300 or MAT 2600) and (CSC 1052 or ECE 2620)

**CSC 1800: Organ of Prog Languages**

High level language features: data types, control structures; formal lexical and syntactical analysis; operational semantics; language translation.

**Credits:** 3

**Prerequisites:**

CSC 1052 :D- and (CSC 1300 :D- or MAT 2600 :D-)

**CSC 1930: Explorations in Computing**

Emerging technologies & their applications; computing in support of investigations & applications in the humanities & social sciences.

**Credits:** 3

**CSC 1990: Enrichment Sem in Computing**

Skills for success in computing: research questions and methodologies, oral and written presentation techniques, argumentation and critical thinking, time and project management strategies, study skills.

**Credits:** 1

**CSC 2000: Digital Divide, Theory & Praxis**

Students will research the effects of the digital divide and implement a program that addresses the needs of underserved high school students preparing for their transition to college.

**Credits:** 1

**Prerequisites:**

CSC 1990

**CSC 2014: Java Bootcamp**

Fast-paced coverage of object-oriented programming using Java and the Java API, including packages for creating graphics and applets; Java syntax and control structures; arrays; designing objects, classes, and methods; graphical user interfaces; input streams, exception handling and threads.

**Credits:** 1

**Prerequisites:**

CSC 1010 or ECE 1620 or MIS 2020

**CSC 2020: Web Devel & Tech I**

Design of web content, utilization of web tools, configuration of supporting technologies. Emphasis on client-side services: HTML, style sheets, Javascript, DHTML.

**Credits:** 3

**Prerequisites:**

CSC 1020

**CSC 2025: Web Devel & Tech II**

Design of web content, configuration of supporting web technologies. Emphasis on server-side services: databases and forms, XML, AJAX, cookies, security CGI.

**Credits:** 3

**Prerequisites:**

CSC 2020

**CSC 2053: Platform Based Computing**

Python APIs, internet programming and security, mobile app programming, a team project.

**Credits:** 3

**Prerequisites:**

CSC 1052

**CSC 2300: Statistics for Computing**

Probability, counting, discrete and continuous distributions, descriptive and inferential statistics, experimentation, reading of scientific papers -- all taught from the point of view of computer science. Some programming may be required.

**Credits:** 3

**Prerequisites:**

CSC 1051 and CSC 1300

**CSC 2400: Computer Systems I**

Architecture of computer systems: representation of data; processor, memory and I/O organization. Assembly language programming. C programming language constructs and their relationship to the underlying architecture. Basics of operating systems: interrupts, concurrency, process scheduling, security, networking.

**Credits:** 3

**Prerequisites:**

CSC 1052 and (CSC 1300 or MAT 2600)

**CSC 2405: Computer Systems II**

Processes, threads and concurrent programming. Scheduling and dispatching. Linking and relocation. Memory management. Virtual memory. System-level I/O Device management. File systems. Security and protection in depth. Real-time and embedded systems. System performance evaluation. Scripting.

**Credits:** 3

**Prerequisites:**

CSC 2400

**CSC 2500: Survey of Information Science**

Brief introductions to several areas in which problems in information use are important. Examples are business, law, biology, medicine, electronic commerce, and libraries.

**Credits:** 3

**CSC 2993: Internship in Computing**

Internship in computer science involving computer system development, maintenance, or evaluation in an environment which supports sound software engineering techniques. Restricted to second semester sophomore with junior standing and above.

**Credits:** 3

**CSC 2996: Internship in Computing**

Internship in computer science open to second semester sophomores and above. Most likely, intern will participate in computer system development, maintenance, or evaluation in an environment which supports sound software engineering techniques.

**Credits:** 6

**CSC 3010: Overview of Cybersecurity**

Exploration of the basic concepts and terminology in cybersecurity for students from a variety of technical or non-technical backgrounds; major sub-disciplines of cybersecurity; impact of cybersecurity on business, ethical, and technical levels; data protection concepts, privacy, and intellectual property; data protection techniques, encryption, and authentication; security in wired and wireless networks, operating systems, applications, databases, and the cloud; ethical hacking and vulnerability management; lab exercises and case studies to introduce technical concepts; prepares students to study cybersecurity in-depth in future coursework; course is the introductory required course for a minor in cybersecurity.

**Credits:** 3

**CSC 3070: Emerging Technology Trends**

Investigate new technologies and current applications. Explore when and how to apply new technologies with sensitivity to feasibility, financial viability, and overall effectiveness. Culminates in team-driven exploitation of a new technology.

**Credits:** 3

**CSC 3080: Info Security & Protection**

Explores the criticality of protecting information's availability, accuracy, authenticity, confidentiality, and integrity. Analysis of topics to include redundancy, backup and recovery, business continuity, security technologies, and controls such as audit, change management and testing.

**Credits:** 3

**Prerequisites:**

CSC 2400 or ECE 2042

**CSC 3150: Game Development**

Theory of game development, game programming, artificial intelligence, state machines, 2D/3D assets, visual communication, game mechanics, navigation meshes, path planning.

**Credits:** 3

**Prerequisites:**

CSC 1052 or ECE 2620

**CSC 3300: Linear Algebra for Computing**

Fields, vectors and vector spaces, linear transformations, matrices and matrix algebra, eigenvalues and eigenvectors; Structures and computations in Python for these mathematical objects; Computational applications selected from data science, machine learning, computer vision, graphics, image processing, graph algorithms, quantum computing, information retrieval and web search.

**Credits:** 4

**Prerequisites:**

CSC 1300

**CSC 3400: Information Retrieval**

Theory and practice of location, organization, and rendering of meaningful content from largely unorganized sources.

**Credits:** 3

**Prerequisites:**

CSC 1052 :D- and CSC 1300 :D-

**CSC 3990: Computing Research Topics**

Team taught. Centered around the development of a research project in one of several selected computing topics. Methods for conducting research: experimentation, data collection, literature review. Standards for written presentation of information. Reports of progress required of all students.

**Credits:** 3

**Prerequisites:**

CSC 2053

**CSC 4140: Theory of Information**

Information and coding theory, data compression, cryptology.

**Credits:** 3

**Prerequisites:**

(CSC 1300 :D- or MAT 2600 :D-) and CSC 2500 :D-

**CSC 4170: Theory of Computation**

Finite automata and regular expressions; push down automata and context-free grammars; Turing machines; Church's thesis; computability; NP-completeness.

**Credits:** 3

**Prerequisites:**

CSC 1700 :D-

**CSC 4181: Compiler Construction**

Lexical and syntactical analysis; code generation; error recovery; recursive descent compilation; handling of run-time environment.

**Credits:** 3

**Prerequisites:**

CSC 1600 :D- or CSC 2400 :D-

**CSC 4280: Parallel Algs & Architecture**

Design and analysis of parallel algorithms for arithmetic, matrix operations, sorting, simulation, combinatorial and graph problems, and Fast Fourier Transform. Taxonomies of parallel architectures; interconnection networks, meshes, trees, and hypercubes; scalability and speed-up.

**Credits:** 3

**Prerequisites:**

(CSC 1600 :D- and CSC 1700 :D-)

**CSC 4300: Computer Graphics**

Hardware and software in computer graphics; graphics programming language; input/output device handling; modeling in 3D space; development of interactive software.

**Credits:** 3

**Prerequisites:**

CSC 2053 :D-

**CSC 4380: Info Visualization**

The presentation of information; visual cognition, scientific visualization, illustration presentation, color theory, motion dynamics, image processing.

**Credits:** 3

**Prerequisites:**

CSC 2053 :D-

**CSC 4450: Digital Forensics**

In-depth study of digital evidence presentation, digital forensic techniques, and data analysis. Password cracking, encryption/decryption, volatile data extraction and network forensics of advanced forensic tools, legal and ethical issues related to forensics and security management techniques required for resiliency in today's digital workplace.

**Credits:** 3

**Prerequisites:**

CSC 2400

**CSC 4480: Principles of Database Systems**

Concepts and technology of database management systems and data modeling with an emphasis on the relational model; database querying and normalization; physical data organization. A group project to design and implement a database is a key aspect of this course.

**Credits:** 3

**Prerequisites:**

(CSC 1051 or ECE 1620) and (CSC 1300 or MAT 2600)

**CSC 4490: Data Warehousing & Mining**

Tools and techniques, theory and practice for storage and effective use of massive data sets.

**Credits:** 3

**Prerequisites:**

CSC 4480 and (CSC 2300 or MAT 4310 or STAT 4310)

**CSC 4500: Artificial Intelligence**

History of AI, what it is and isn't; the nature of intelligence and the question of its computer implementation; search algorithms; knowledge representation; automated deduction; machine perception techniques; machine learning; planning; problem solving.

**Credits:** 3

**Prerequisites:**

CSC 1051 or ECE 1620

**CSC 4505: Applied Machine Learning**

Introduction to machine learning through Python based projects; machine learning tools; supervised and unsupervised learning algorithms and modeling accuracy, bias, and overfitting issues.

**Credits:** 3

**Prerequisites:**

CSC 1052 and CSC 1300 and CSC 2300

**CSC 4510: Machine Learn&Theory&Evolution**

The mathematical theory behind the design of software systems that adapt to new circumstances and detect and extrapolate patterns; computational complexity; neural networks; decision tree induction; genetic algorithms and genetic programming; research foundations.

**Credits:** 3

**Prerequisites:**

CSC 1051  
CSC 1700 and CSC 2300

**CSC 4550: Computing for Data Science**

The computing parts of the interdisciplinary subject, Data Science. Topics include: data cleaning, data wrangling, visualization, time series, machine learning fundamentals. Python or similar libraries that support managing datasets. Students will complete a major project that demonstrates an understanding of the entire data science process.

**Credits:** 3

**Prerequisites:**

(CSC 1300 or MAT 2600) and (CSC 1052 or ECE 2620)

**CSC 4598: Machine Translation**

Exploration of the broad field of machine translation; automated computer systems that translate human language using statistical approaches; digital representation transformations, such as readability and sentiment analysis, spam filtering, plagiarism detection, and other natural language processing techniques; building machine translation systems using real-world data; formulating and investigating research questions in machine translation; typically includes collaboration with a non-Computer Science course on interdisciplinary, team-based student projects.

**Credits:** 3

**Prerequisites:**

CSC 1052

**CSC 4600: Distributed Processing**

Data concurrency; distributed file systems and database; distributed operating systems; security; interprocess communication; directory services; process migration; process vulnerability to partial failure.

**Credits:** 3

**Prerequisites:**

CSC 1600 :D- and CSC 2053 :D-

**CSC 4630: Software Dev and Systems**

Operating system structures; system calls; system libraries; interprocess communication; user-interface programming environments; software utilities; software portability.

**Credits:** 3

**Prerequisites:**

CSC 1600 :D- or CSC 2405 :D- and CSC 2053 :D-

**CSC 4700: Software Engineering**

Management and production of software systems; the software life cycle; software design techniques and methodologies; participation in a team software development project.

**Credits:** 3

**Prerequisites:**

CSC 1052 or ECE 2620

**CSC 4710: Info Syst Project Management**

Principles and techniques of information systems project management; qualitative and quantitative essentials to include project integration, scope, schedule, cost, quality, human resources, communications, and risk. Practical experience managing a project with complex technology issues.

**Credits:** 3

**CSC 4730: Human Computer Interaction**

Design of the user/system interface; measurement of human-computer interaction; models of the user and user communities; design criteria for the interface; user interface management systems (UIMS); test and evaluation strategies and tools.

**Credits:** 3

**Prerequisites:**

CSC 1052 :D-

**CSC 4790: Senior Projects**

Capstone course centered around a semester long software development or research project; project planning; requirements elicitation and specification; teamwork; oral presentations required of all students.

**Credits:** 3

**Prerequisites:**

CSC 4700 :D-

**CSC 4797: Information Systems Capstone**

A cumulative experience to complete a student's portfolio of expertise in information systems and technology. Student driven project emphasizing system integration, design and communication skills. Prerequisites: Information Systems majors or FIT certificate candidates only.

**Credits:** 3

**Prerequisites:**

CSC 4710 :D- and CSC 4700 :D- or DIT 2165 :D- and CSC 2500 :D- and DIT 2175 :D-

**CSC 4800: Web Application Development**

Theory and design of web-based applications: stylesheets, applets, HTML, CGI programming, web server design, website design, security, multimedia representations, encryption, compression.

**Credits:** 3

**Prerequisites:**

CSC 2053 :D-

**CSC 4810: Mobile App Development**

Theory and practice of designing apps for mobile devices; interface design, platform-specific and platform-independent programming, sensor-based computing, cloud data management, security, and privacy; entrepreneurial practices for app development: ideation, business planning, and commercialization.

**Credits:** 3

**CSC 4900: Networks and Security**

Organization of computer networks (eg., the internet); TCP/IP protocols; switching and routing methods; IP addressing and forwarding; TCP flow and congestion control; client-server communication; cryptography: secret-key, public-key, digital signatures; security attacks and defenses: authentication and authorization, denial of service, firewalls, VPNs.

**Credits:** 3

**Prerequisites:**

CSC 2405 :D- or CSC 1600 :D-

**CSC 5900: Seminar in Computing**

Study and discussion of selected topics in computer science with presentations by individual students. May be repeated for credit if topics are different. Prerequisites may be imposed depending on the topics.

**Credits:** 3

**CSC 5920: Logic**

Boolean connectives and propositional logic; quantifiers and first-order logic; natural deduction, resolution and other methods of human or computer reasoning; set theory; induction; formal arithmetic.

**Credits:** 3

**CSC 5930: Topics Computer Science**

Lecture presentation of selected topics in computer science. May be repeated for credit if topics are different. Prerequisites may be imposed depending on the topics.

**Credits:** 3

**Prerequisites:**

Prerequisites may be imposed depending on the topics.

**CSC 5940: Topics in Information Science**

Lecture presentation of selected topics in information science. May be repeated for credit if topics are different. Junior standing.

**Credits:** 3

**CSC 5993: Independent Study**

Reading, research and/or projects in a selected area of computer science under the direction of a member of the staff. May be repeated for credit.

**Credits:** 3

**CSC 7000: Algorithms & Programming**

Algorithm design and refinement; extensive programming; loop and selection control; recursion; arrays, pointers, records and strings; abstract data types: linked lists, stacks, queues, binary trees; elementary search and sorting.

**Credits:** 3

**CSC 7100: Computer Systems**

Fundamental concepts in computer architecture and operating systems. Information representation, gates and digital logic, ALU and central processing organization, instruction sets, basics of pipelining, processes, memory management and file systems.

**Credits:** 3

**CSC 8000: Found of Algor & Data Struc**

Programming in Java or another object-oriented language. Program design with an emphasis on the object paradigm. Classic algorithms and data structures. Significant programming assignments are required.

**Credits:** 3

**CSC 8100: Technol for Human Orgs**

"Leading Edge" technologies and their applications in a variety of organizational settings. Presumes literacy in basic computer applications: word processing, desktop publishing; spreadsheets, and communications.

**Credits:** 3

**CSC 8200: Hlth Informatics & EHealth Sys**

Evolution, current status, and emerging trends of US and global computerized health information systems, architectures, technical standards, regulations, including administrative and clinical applications, clinical decision support and data-analytics systems, electronic medical and personal health record systems/tools, personal health/fitness and medical device integration solutions, rapidly emerging mobility/tablet/smartphone/ app, product/system interoperability concepts, issues, and implications (aka mHealth, pHealth, and uHealth), and overarching population health patient safety, and health quality/outcome goals, gaps and challenges.

**Credits:** 3

**CSC 8210: Hlthcare Safety Secur Law&Eth**

US and relevant international health and data security and privacy laws/regulations, HIPAA and HITECH compliance for EHR software and medical devices, federal and state patient privacy and health data access rights, electronic transmission of health data, health insurance, FDA rules and regulations, unauthorized access, vulnerabilities, unsecured wireless access, inadequate encryption, authentication failures, and other access control vulnerabilities, security risk assessment, privacy and security gaps in health information exchanges, federal and state privacy breach notification laws and related civil and criminal penalties, and successful security compliance audit and management strategies.

**Credits:** 3

**CSC 8220: Software Engr&Hlth Informatic**

An introduction to software engineering covering development life-cycle models, requirements analysis and specification, design concepts and methods, UML, testing, maintenance, CASE tools and management concerns, middleware and data/function integration, medical device/system interoperability.

**Credits:** 3

**CSC 8230: Database System&Hlth Infomatic**

Architecture of a database system; conceptual and implementation models; query languages; integrity, security, and concurrency; hands-on experieince with selected US government EMR/PHR/MRS/HIS systems; SQL and NoSql DBs; Big Data in eHealth; database access via web services; data representation standards such as XML, JSON, HL7.

**Credits:** 3

**CSC 8301: Design and Ana of Algs**

Fundamental strategies for algorithm design; mathematical and empirical techniques for analysis of nonrecursive and recursive algorithms, with applications such as sorting, searching, string processing and graphs; NP-complete problems and approximation algorithms.

**Credits:** 3

**CSC 8310: Programming Languages**

Organization, characteristics, constructs, and design principles of programming languages; syntax, semantics, and pragmatics; language implementation issues; different programming paradigms such as imperative, functional, object-oriented, and logic programming.

**Credits:** 3

**CSC 8400: Computer Systems**

A continuation of the study of properties of computing systems. Topics include computer performance; pipelining; storage technologies; systems aspects of interconnection networks; parallel and distributed architectures. Prerequisite is CSC 7100 or the equivalent.

**Credits:** 3

**CSC 8411: Advanced Computer Systems**

Advanced topics in computer systems related to systems programming and management and underlying the study of computer networks and distributed computation.

**Credits:** 3

**Prerequisites:**

CSC 8400

**CSC 8450: Digital Forensics**

Digital forensics plays a vital role in cybersecurity, criminal/civil investigations and internal corporate investigations. This course provides an in-depth study of digital evidence preservation, digital forensic techniques and data analysis. Password cracking, encryption/decryption, volatile data extraction and network forensics are just some of the forensic techniques that will be covered. The course will also cover the use of advanced forensic tools, legal and ethical issues related to forensics, and security management techniques required for resiliency in today's digital workplace.

**Credits:** 3

**CSC 8470: Computer Graphics**

Interactive program development in 2D/3D graphics: event handling, real-time data sampling, and strategies in programming computer games; 2D/3D modeling; perspective viewing; object transformation; graphical user interface design.

**Credits:** 3

**CSC 8490: Database Systems**

Modern database systems, including relational and NoSQL systems. Emphasize practical knowledge while covering the essential theory design; query languages; security; transactions. Focus on both theory and practice.

**Credits:** 3

**CSC 8491: Data Mining & DB Programming**

Theory and practice of information management including PL/SQL; object and object-relational databases; data warehousing; data mining.

**Credits:** 3

**Prerequisites:**

CSC 8490

**CSC 8495: Information Retrieval**

Study of storage and retrieval of information on a large collection of resources. Topics include: algorithms for efficient storage and retrieval, information discovery, extraction, NLTK, web crawling, precision and recall, document classification, Python programming, discussion and review of current literature.

**Credits:** 3

**CSC 8505: Compiler Construction**

Finite state methods for lexical and syntactical analysis; symbol table construction, run-time-code organization for block structured language, intermediate code generation, and pseudo-object machines. LR(k) and LL(k) parsers. Programming assignments and exercises are given.

**Credits:** 3

**Prerequisites:**

CSC 8301 :C and CSC 8310 :C

**CSC 8510: Theory of Computability**

Automata theory: deterministic and non-deterministic finite automata, pushdown automata, regular languages, context-free grammars, pumping lemma. Computability and recursion theory: Turing machines and their variations, decidability and recursive enumerability, mapping reducibility and Turing reducibility, undecidability of the halting problem, logical theories and Godel's incompleteness theorem. Complexity theory: time complexity, space complexity, major open problems on computational complexity. Corequisite: CSC 8301 or degree program in mathematics.

**Credits:** 3

**CSC 8515: Machine Learning**

Study of algorithms and systems that can learn without being explicitly programmed. Topics include: clustering, classification, prediction, supervised learning, unsupervised learning, decision trees, support vector machines, random forests, regression, dimensionality reduction, neural networks, deep learning, and probabilistic graphical models.

**Credits:** 3

**CSC 8520: Artificial Intelligence**

Problem-solving methods; knowledge representation; search; predicate calculus; automated theorem proving; natural language processing.

**Credits:** 3

**Prerequisites:**

CSC 8301 :C

**CSC 8525: Computer Vision**

Graduate research seminar exploring the algorithms and state-of-the-art techniques in the field of computer vision and image processing. Topics include image processing, pattern recognition, feature detection, image and object segmentation, computational photography, object detection, and face recognition. A familiarity with linear algebra and statistical methods is recommended but not required.

**Credits:** 3

**CSC 8530: Distributed Systems**

An introduction to distributed systems; distributed system architecture and design goals; networks and distributed protocols; distributed/network operating systems, including distributed resource control and management, concurrency and interprocess communication; remote procedure calling; client/server techniques and issues; reliability of distributed systems; security and authentication.

**Credits:** 3

**Prerequisites:**

(CSC 8301 :C and CSC 8410 :C)

**CSC 8540: Software Engineering**

An introduction to software engineering covering development life cycle models, requirements analysis and specification design concepts and methods, testing, maintenance, CASE tools and management concerns. Additional topics may include reuse metrics, experimentation, reengineering, development environments, and standards. The student may be required to write a research paper and/or give an in-class presentation.

**Credits:** 3

**CSC 8541: Requirements Engineering**

Requirements elicitation and analysis; requirement specification; test driven development; system modeling; requirements validation; requirements management.

**Credits:** 3

**CSC 8542: Software Design and Evolution**

Evolutionary design using agile methods including refactoring; design issues for mobile computing/embedded systems; designing for testability; analysis patterns and design patterns; configuration management; software evolution through release management.

**Credits:** 3

**CSC 8543: Software Testing&Quality Assur**

Role of Software Quality in SDLC, Test Planning Theory, Model Driven Test Development, Problem Solving, SQA. Student's projects and presentations integral to the course.

**Credits:** 3

**CSC 8544: Software Project Management**

Provides an in-depth study of project management theory, with a focus on the unique characteristics of software projects, using practical examples and team exercises to reinforce concepts. Topics include: managing project goals and constraints, emphasizing fundamental scope, schedule, budget and quality objectives, processes, tools, techniques, risks and outcomes, team building, conflict management and communications.

**Credits:** 3

**CSC 8545: Software Studio**

The art and science of creating reliable and maintainable code. Topics include: test-driven development, code quality metrics, code coverage, defensive programming, risk conscious maintenance, debugging, refactoring, professional tools, distributed version control, cultivating an expressive coding style, code review, pair programming, software craftsmanship, software experimentation and myth-busting.

**Credits:** 3

**CSC 8550: Computing for Data Science**

The computing parts of the interdisciplinary subject, Data Science. Topics include: data cleaning, data wrangling, visualization, time series, machine learning fundamentals. Python or similar libraries that support managing datasets. Review of current data science research papers. Students will complete a major project that demonstrates an understanding of the entire data science process.

**Credits:** 3

**CSC 8560: Computer Networks**

Computer networks as an application development platform; services required by and provided to distributed application electronic mail systems enhancement; access to remote file systems; integration of remote resources such as components of the World Wide Web into applications; abstract syntax notation; data compression and encryption; session control and synchronization; transport protocols; network addressing and routing; LAN and MAN medium access control; bridging. Treatment of Open Systems Interconnection and Internet protocols and services.

**Credits:** 3

**Prerequisites:**

(CSC 8301 :C and CSC 8410 :C)

**CSC 8565: Cybersecurity**

High level overview of issues, challenges and solutions surrounding cyber security and the protection of people, assets and information. Topics include the evolution, present state and future of cyber risk: security fundamentals; cyber security drives including regulations, privacy and brand protection; the techniques and technologies used to address cyber risks; challenges to implementing cyber controls, organization, management and operating models.

**Credits:** 3

**CSC 8566: Internet of Things**

The advancement of embedded processes and sensor networks that have made the IOT feasible. Topics include: Introduction, Domains of application, IOT VS M2M, IOT Management, Protocols, Design Methodologies, Hands on Design using Raspberry Pi and Python, Reviewing services and clouds, and data analytics.

**Credits:** 3

**CSC 8570: User/System Interface**

The design and measurement of human-computer interfaces, with the objectives of developing models of user communities, summarizing current research in user-oriented design, defining design criteria for the user/system interface, and constructing test strategies for interactive software systems.

**Credits:** 3

**CSC 8580: Network Mgmt & Perf**

Monitoring and management of computer networks and network devices; SNMP, CMIS CMIP network management protocols and services; Management Information Base (MIB) development; performance analysis including queuing models; comparison of channel access protocols; other related topics as selected by the class. This is frequently run as a seminar requiring a significant paper or project, consistent class preparation and participation. Prerequisites: statistics, probability.

**Credits:** 3

**Prerequisites:**

(CSC 8530 :C or CSC 8560 :C)

**CSC 8590: Advanced Software Engineering**

In-depth coverage of software engineering topics such as: reuse, metrics, CASE tools, design methodologies, reengineering, experimentation, automatic programming, software safety, development environments, reliability theory, risk management, and standards. The student may be required to write a research paper and/or give an in-class presentation.

**Credits:** 3**Prerequisites:**

CSC 8540 :C

**CSC 8600: Object Oriented Design & Prog**

Introduces the theoretical and practical issues underlying the object-oriented paradigm, including classes, encapsulation, inheritance, and polymorphism. Primary topics also include object-oriented analysis and design, databases, and technology transfers. The use of an object-oriented programming language, such as Java or C++, is an integral part of the course. Problems involving program design and implementation will be assigned. The student may be required to write a research paper and/or give an in-class presentation.

**Credits:** 3**Prerequisites:**

(CSC 8301 :Y :C or CSC 8410 :Y :C)

**CSC 8610: Multimedia Technology**

Theory and practice of multimedia content, representation, compression, storage, and delivery. Content types include text, audio, images, graphics, animations, and video. Student projects and presentations as integral part of the course.

**Credits:** 3**Prerequisites:**

CSC 8301 :C

**CSC 8620: Logic**

Boolean connectives and propositional logic; quantifiers and first-order logic; natural deduction, resolution and other methods of human or computer reasoning; set theory; induction; formal arithmetic.

**Credits:** 3**CSC 8700: Sys Prog - UNIX & C.**

The UNIX operating system: command interpreters, shell programming, process structure, file system, utilities like grep, sed, awk, and perl. C programming: file processing, libraries, program environment, system calls.

**Credits:** 3**CSC 8710: Adv Sys Prog**

The UNIX kernel: architecture, inodes, process control, memory management, I/O subsystem. System calls in C: execution environment, memory management, terminal control, locking, file management, process management, interprocess communication. C libraries. Program development and debugging tools.

**Credits:** 3**Prerequisites:**

CSC 8700 :C

**CSC 8750: Expert Systems**

Knowledge representation and reasoning techniques; forward and backward chaining; semantic net and frame systems; uncertainty, automated knowledge acquisition; practical guidelines for implementing expert systems.

**Credits:** 3**Prerequisites:**

CSC 8520 :C

**CSC 8800: Appl Computer Science I**

Mathematical analysis, probability, statistics, optimization queuing theory, digital signal processing; software engineering; UNIX, C, C++. Prerequisites: Permission of the supervisor of the Advanced Course Program, Martin Marietta Corporation

**Credits:** 3**CSC 8810: Appl Computer Science II**

Software engineering: object oriented analysis & design, database management, graphical user interface, system engineering.

**Credits:** 3**Prerequisites:**

CSC 8800 :C

**CSC 8820: Appl Computer Scien III**

Client-user services; computer networking; communications link dynamics, astrodynamics.

**Credits:** 3**Prerequisites:**

CSC 8810 :C

**CSC 8990: Graduate Computing Practicum**

Work experience in computing, CSC graduate program approval required for a specific work opportunity. Prerequisite: Completion of graduate CSC core: CSC 8301, 8310, 8400, 8410, and 8510.

**Credits:** 1

**CSC 8991: Grad Practicum Continuation**

Continuation of existing practicum experience for second consecutive semester. Open to graduate students in computer science or software engineering.

**Credits:** 0

**Prerequisites:**

CSC 8990

**CSC 9000: Guided Study**

Faculty-directed study by small number of students on topic of mutual interest. Topics vary with faculty & student goals. May replicate rarely offered course or research topics not covered in existing courses. Requires permission of instructor & program director. Open to graduate students in computer science or software engineering.

**Credits:** 3

**CSC 9010: Special Topics**

Advanced elective study of topics of current interest and importance in the computer field. This may be retaken for a different topic.

**Credits:** 3

**CSC 9020: Independent Study**

Individual research project in an advanced area of computer science, conducted under the guidance of a faculty member.

**Credits:** 3

**CSC 9021: Independent Study Continuation**

Continuation beyond the first semester for students who have registered for the independent study (CSC 9020).

**Credits:** 0

**Prerequisites:**

CSC 9020 or CSC 9025

**CSC 9025: Grand Challenges of Computing**

Project-based course; research track; research topics, tools for investigation, modes of discovery and presentation, sources of information, inspiration, foundations of computing application; development track: significant software development, approaches, tools, techniques, trends, domains of applications. Restricted to MSCS and MSSE.

**Credits:** 3

**CSC 9026: Grand Challenges of Comp Cont**

Individual or group research/development project involving an advanced area of computing science, conducted under the guidance of a faculty member.

**Credits:** 0

**Prerequisites:**

CSC 9025

**CSC 9030: Thesis Direction**

Expanded independent study in which the student makes an original contribution to the computer science field.

**Credits:** 3

**CSC 9080: Thesis Continuation**

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**Credits:** 0

**Prerequisites:**

CSC 9030

**SCSC 1000: The Practice of Computing**

Anatomy of a computing system including tiny systems such as cell phones; resource management - memory, processes, file structure; network analysis - network topology, performance, privacy, security; application scripting - concepts & practices of programming.

**Credits:** 3

## Counseling

**COU 2000: Introduction to Counseling**

Designed to introduce students to the Counseling profession and to acquaint them with the history, structure, practices, standards, values and ethics of the counselor.

**Credits:** 3

**COU 2500: Counseling for Women**

Special needs and considerations for counseling with Women addressed, including: violence against women, women living in poverty, health concerns, infertility, motherhood, development and aging, racial-ethnic differences, inhibited anger, envy, success or inhibition, gender stereotypes, and more. Feminist psychoanalysis emphasized.

**Credits:** 3

**COU 3000: Counseling Theory & Skills**

Course will cover theories and research regarding effective helping skills. Students will practice helping skills with each other and will conduct research projects evaluating their helping skills. The course is divided into a didactic and experimental component.

**Credits:** 3

**COU 3100: Group Counseling**

An examination of group development theories, leadership, ethical and professional issues in groups. Students will apply learned group leadership skills within the classroom setting.

**Credits:** 3

**COU 3400: Culturally Competent Counseling**

Course explores historical and contemporary issues related to providing culturally congruent/competent human services with myriad populations. The impact of socio-identities (e.g., race, ethnicity, gender, religion, socioeconomic status, sexual orientation, and disability) will be examined, considering individual, group, and macro-system functioning.

**Credits:** 3

**COU 3500: Devlp Perspective to Diagnosis**

Not your average abnormal psychology class. Application of diagnostic systems of mental illness to counseling practice. Experiential and didactic learning methods elucidate the etiology and treatment of mental illness. Great course if planning to pursue psychology, social work, counseling, or other helping professions.

**Credits:** 3

**COU 3600: Motivational Counseling Skills**

Provides a comprehensive overview of the theory and techniques associated with Motivational Interviewing. Motivational Interviewing is a person-centered style of counseling for eliciting and strengthening a person's own motivation for and commitment to change.

**Credits:** 3

**Prerequisites:**

COU 2000

**COU 3700: Family & Couples Counseling**

Examines the principles of general systems theory as it applies to working with multi-person client systems in therapy.

**Credits:** 3

## Criminology

**CRM 1001: Introduction to Criminology**

The nature and extent of crime; the factors related to criminal behavior; theories of the treatment and control of offenders; crime prevention programs.

**Credits:** 3

**CRM 3001: Justice and Society**

This course presents an overview of the criminal justice system. It focuses on the nature, operation and critical issues of law enforcement, the courts and corrections.

**Credits:** 3

**CRM 3100: Juvenile Delinquency**

Meaning and scope of delinquency; delinquency theories; role of social institutions and social agencies; prevention, control, and treatment programs.

**Credits:** 3

**CRM 3200: Police & Society**

Police are the gatekeepers of the criminal justice system - their decisions and actions can have enormous consequences for people's lives. But these decisions are not made mechanically by a simple application of criminal statutes. Rather police are empowered with discretion. The course will examine the police role in contemporary society, the nature of police discretion, and how discretion is exercised in the handling of individual cases.

**Credits:** 3

**CRM 3300: Criminal Courts**

This is a comprehensive introduction to the U.S. criminal court system. It provides an overview of the stages of the criminal process. It examines critical issues surrounding each stage and the roles of the prosecutor, defense attorney and judge.

**Credits:** 3

**CRM 3330: Sociology of Law**

The meaning, origin and impact of law viewed from several sociological perspectives; the law in action and the social context of legal professions.

**Credits:** 3

**CRM 3350: The Supreme Court**

This course examines the factors which influence the decision to charge a person with a crime, public policy considerations relating to restraints on law enforcement and the property and wisdom of some established rules of law. Supreme Court decisions affecting the criminal process will be discussed.

**Credits:** 3

**CRM 3400: Punishment and Society**

Survey of the historical and contemporary treatment of convicted offenders; analysis of the prison social system; analysis of the theory, practice and function of correctional programs.

**Credits:** 3

**CRM 3500: Capital Punishment**

This course will examine the historical, ethical and moral implications of the death penalty. This course will discuss the imposition and effectiveness of the penalty. The international perspective will also be addressed.

**Credits:** 3

**CRM 3700: White Collar Crime**

White collar crimes are committed by professionals for the benefit of individuals or organizations. This course examines the nature and magnitude (cost in dollars and lives) of white collar crime. Sociological theories explaining the commission of "crime in the suites" and society's response will be discussed.

**Credits:** 3

**CRM 3800: Intro to Victimology**

This is a study of the victims of crime. Topics include the victim-offender relationship, victim vulnerability and victim culpability. A typological study of the characteristics of crime, its victims and offenders will be presented. Victim rights and compensation will be discussed.

**Credits:** 3

**CRM 3850: Drugs and Society**

History of drug use and drug laws; relationship between drug use and crime; drug offenses and the criminal justice system; treatment and prevention issues.

**Credits:** 3

**CRM 3900: Race, Crime, and Justice**

Racial and ethnic disparities in crime and justice both reflect and contribute to social injustice. Theories and research provide insight about individual biases and structural racism that are evident in criminal justice practices, policies, and institutions.

**Credits:** 3

**CRM 4000: Special Top In Criminology**

This course investigates special topics or emerging issues within criminology. Topics are selected for their importance or the expertise of the instructor.

**Credits:** 3

**CRM 5000: Criminology Independent Study**

Supervised research project which results in a major research paper.

**Credits:** 3

**CRM 5100: Criminological Theory**

The nature of criminological theory and the major theoretical developments that have shaped criminology.

**Credits:** 3

**Prerequisites:**

CRM 1001 or CRJ 3000

**CRM 5200: Criminology Res & Statistics**

Basic methods of sociological research including the collection and organization of data, statistical analysis, testing hypotheses and the interpretation of data.

**Credits:** 3

**CRM 6003: Internship**

Supervised work experience in a criminal justice agency.

**Credits:** 3

**CRM 6006: Internship**

Supervised work experience in a criminal justice agency.

**Credits:** 6

**CRM 6009: Internship**

Supervised work experience in a criminal justice agency.

**Credits:** 9

**CRM 6500: Senior Seminar**

This course focuses on a particular substantive area and integrates criminological theory and research methodology.

**Credits:** 3

**Prerequisites:**

CRM 5100

SOC 5300

SOC 5400

(CRM 5100 and SOC 5300 and SOC 5400)

## Cultural Studies

**CST 2100: Intro. to Cultural Studies**

Theoretical basis of cultural studies is covered; students are introduced to the most common methods of research in these areas. Mandatory for CST majors, open to others.

**Credits:** 3

**CST 3000: Topics Course**

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**Credits:** 3

**CST 4100: Capstone Sem of Cultural Stud**

Application of different theoretical approaches to the study of cultural phenomena and praxis in a major research project, a senior thesis.

Mandatory for CST majors, open to others.

**Credits:** 3

**CST 5900: Independent Study**

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**Credits:** 3

# Economics

Chair: Erasmus Kersting, Ph.D.  
Associate Chair: Mary Kelly, Ph.D.  
Office Location: 2014 Bartley Hall  
Telephone: 610-519-4370  
[Website](#)

## About

Economics is the science that studies the behavior of social systems – such as markets, legislatures, corporations, and families – in allocating scarce resources. It is a discipline which brings together the diverse worlds of business, social science, and public policy. The study of economics is an excellent preparation leading to many career options. Economics majors are well positioned to be the future managers and leaders in both the private and public sectors. The study of economics at the undergraduate level provides a solid basis for graduate study in the social sciences and for professional study in business administration, law, public administration, and in the health sciences.

### **ECO 1000: Introductory Topics-Economics**

An examination of basic Micro- and Macroeconomic topics. CANNOT COUNT FOR ECONOMICS MAJORS.  
**Credits: 3**

### **ECO 1001: Intro to Micro**

The price system; demand and supply analysis; the production process; analysis of market structures.  
**Credits: 3**

### **ECO 1002: Intro to Macro**

The economic system and its fundamental principles. The economic functions of government, monetary and fiscal policy, and international trade.  
**Credits: 3**

### **ECO 1565: Topics: Study Abroad**

Specific topics vary. Only for study abroad. Cannot count for Economics major. May be taken more than once.  
**Credits: 3**

### **ECO 1903: Internship Elective**

Fulfills 3.0 free elective credits.  
**Credits: 3**

### **ECO 1906: Internship Elective**

Fulfills 6.0 free elective credits.  
**Credits: 6**

### **ECO 1909: Internship Elective**

Fulfills 9.0 free elective credits.  
**Credits: 9**

### **ECO 2101: Macro-Econ Theory**

The components of aggregate economic growth. Theories underlying public policies which attempt to achieve the objectives of price stability, full employment and economic growth in the United States.  
**Credits: 3**

#### **Prerequisites:**

(ECO 1001 or SBI 2005) and (ECO 1002) and (MAT 1310 or MAT 1312 or MAT 1320 or MAT 1330 or MAT 1400 or MAT 1500)

### **ECO 2102: Micro-Econ Theory**

Economic and mathematical analysis of the equilibrium conditions of the household, the firm, and industry, in various market structures, together with a brief examination of the general equilibrium of the economy; emphasis upon developing a working knowledge of elementary mathematical analysis as it applies to present economic theory.  
**Credits: 3**

#### **Credits: 3**

#### **Prerequisites:**

(ECO 1001 or SBI 2005) and ECO 1002 and (MAT 1310 or MAT 1312 or MAT 1320 or MAT 1330 or MAT 1400 or MAT 1500)

### **ECO 2130: Intro to R Prog for Econ & Fin**

Fast paced coverage of R. Topics include libraries, tidyverse, IO, data types and storage, data analysis and display, function writing, higher order functions vs loops, and performance.  
**Credits: 1**

#### **Credits: 1**

#### **Prerequisites:**

MAT 1400 or MAT 1500 and (MAT 1235 or MAT 1430 or STAT 1235 or STAT 1430) and MIS 2020 or CSC 1010

### **ECO 2137: Economic Statistics**

Development of research skills in economics through the application of economic methodology and statistics. Topics: descriptive statistics, estimation, hypothesis testing, regression analysis and time-series analysis.  
**Credits: 3**

#### **Credits: 3**

#### **Prerequisites:**

(ECO 1001 or SBI 2005) and ECO 1002

### **ECO 2993: Internship**

Fulfills 3.0 economic elective credits.  
**Credits: 3**

**ECO 2996: Internship**

Fulfills 6.0 economic elective credits.

**Credits:** 6

**ECO 3106: Econ of Money & Banking**

Principles of money, banking and financial markets; the relationship of the monetary and banking system to the functioning of the economy; the theory and practice of monetary policy; the function of money in international payments.

**Credits:** 3

**Prerequisites:**

(ECO 1001 or SBI 2005) and ECO 1002

**ECO 3107: FED Challenge**

Competition style course structured to combine concepts of Federal Reserve monetary policy and advanced macroeconomic analysis with enhanced presentation skills. Students will be selected from the class to represent Villanova in an intercollegiate Fed Challenge Competition.

**Credits:** 3

**Prerequisites:**

(ECO 1001 or SBI 2005) and ECO 1002 and (ECO 2101 or ECO 3106)

**ECO 3108: Global Political Econ**

Socio-economic conditions, political history, and government policy and the global impact on international trade and monetary relations; regional integration; stability of international economic systems; economic development and transition strategies; role of multinational corporations in the global world.

**Credits:** 3

**Prerequisites:**

(ECO 1001 or SBI 2005) and ECO 1002

**ECO 3109: International Economics**

Comparative advantage; gains from foreign trade; Heckscher-Ohlin doctrine; technology and product cycles; tariff theory and policy; Other protection measures; economic integration; foreign exchange rates; fixed and flexible rates; balance of payments; multinational corporations.

**Credits:** 3

**Prerequisites:**

(ECO 1001 or SBI 2005) and ECO 1002

**ECO 3111: Hist of Economic Thought**

The evolution of economic analysis within the context of contemporary economic institutions and associated social, ethical, and political thought.

**Credits:** 3

**Prerequisites:**

(ECO 1001 or SBI 2005) and ECO 1002

**ECO 3112: Public Sector Economics**

The economic roles of various levels of government and the theory and practice of public expenditure and taxation. Government's impact on the allocation of resources and the distribution of income in a mixed economy.

**Credits:** 3

**Prerequisites:**

ECO 1001 or SBI 2005

**ECO 3118: Women and the Economy**

The role of women in the economy and its implications. Economics of the household, marriage, fertility, divorce unemployment, earnings of women and occupational choice. International comparisons and current public policy issues.

**Credits:** 3

**Prerequisites:**

ECO 1001 or SBI 2005

**ECO 3120: Financial Economics**

This course introduces students to the subject matter of corporate finance and financial economics. Topics covered include The Time Value of Money, Interest Rates, Stocks and Bonds, Firm Valuation, Investment Risk and Return, Corporate Financing, Capital Structure, Financial Modeling and Forecasting, Options, and Mergers and Acquisitions. Restricted to: Non-VSB majors and minors.

**Credits:** 3

**Prerequisites:**

(ECO 1001 or SBI 2005) and ECO 1002

**ECO 3123: Labor Economics**

Economic theories concerning the employer's labor demand, the individual's labor supply, educational/occupational choices, labor unions, on-the-job training, discrimination, labor market mechanisms and wage determination. Public policies which affect the market.

**Credits:** 3

**Prerequisites:**

ECO 1001 or SBI 2005

**ECO 3124: Economics of Sports**

Key economic concepts and theories of Industrial Organization and Public Policy, Public Finance, and Labor Economics, discussed in the context of the sports industry. An in-depth look at related econometric research of sports economists.

**Credits:** 3

**Prerequisites:**

(ECO 1001 or SBI 2005) and ECO 1002

**ECO 3125: Industr Org & Public Pol**

Economics of American industrial organization; market structure, conduct, and performance; the workability of competition in selected industries; the application of public policy and anti-trust law.

**Credits:** 3

**Prerequisites:**

ECO 1001 or SBI 2005

**ECO 3126: Amer Econ Development**

Growth of the American economy in terms of its various sectors and their interrelations; the evolution of important economic institutions and ideas and of the role of the entrepreneurs.

**Credits:** 3

**Prerequisites:**

(ECO 1001 or SBI 2005) and ECO 1002

**ECO 3127: Econ Underdeveloped Area**

Structural change in the process of development; growth patterns and income distribution; determinants and role of saving, investment, technological change; strategy and methods of development planning; the role of government; social institutions.

**Credits:** 3

**Prerequisites:**

ECO 1002

**ECO 3128: Intro Mathematical Econ**

Variables and functions, matrices and determinants, difference equations, and calculus. Applications to economic and business problems, including market equilibrium, revenue and cost functions, marginal theory, maximization problems, input-output analysis, and selected deterministic models.

**Credits:** 3

**Prerequisites:**

(ECO 1001 or SBI 2005) and (ECO 1002) and (MAT 1310 or MAT 1320 or MAT 1330 or MAT 1400 or MAT 1500)

**ECO 3130: Programming for Econ & Fin**

Programming in R for economics and finance applications. Topics include libraries, tidyverse, IO, data types and storage, indexing/slicing, data wrangling, regression, display, function writing, control structures, loops, higher order functions, performance, functional and objected oriented design.

**Credits:** 3

**Prerequisites:**

MAT 1400 or MAT 1500 and (MAT 1235 or MAT 1430 or STAT 1235 or STAT 1430)

**ECO 3132: Research Methods in Economics**

The scientific methodology of studying economics. Emphasis on practical aspects of developing and undertaking an economics research project that includes the formation of a research question, literature review, and empirical testing.

**Credits:** 3

**Prerequisites:**

(ECO 1001 or SBI 2005) and (ECO 1002) and (MAT 1235 or MAT 1430 or MAT 2310 or MAT 4310 or STAT 1235 or STAT 1430 or STAT 2310 or STAT 4310 or VSB 2005)

**ECO 3133: Economics of Healthcare**

Examination of health as a durable good and specific markets for services to enhance health, including physician, nursing, hospital, and private insurance. The role of government and comparison to health care systems and outcomes in other countries are all studied.

**Credits:** 3

**Prerequisites:**

(ECO 1001 or SBI 2005) and ECO 1002

**ECO 3135: Case Studies Amer Indust**

Structure and conduct of selected industries in the U.S. Economy chosen from the manufacturing, finance, energy, public utility, and transportation sectors. Effects of government policies such as regulation, deregulation, antitrust, subsidization, and protection from foreign competition.

**Credits:** 3

**Prerequisites:**

ECO 1001 or SBI 2005

**ECO 3137: Intro to Econometrics**

Intermediate course in stochastic methods with emphasis on applications; estimation, hypotheses testing, regression analysis, economic forecasting, time series analysis and probabilistic formulation of economic relationships such as consumption and production functions.

**Credits:** 3

**Prerequisites:**

(ECO 1001 or SBI 2005) and (ECO 1002) and (MAT 1430 or MAT 1235 or MAT 2310 or MAT 4310 or STAT 1235 or STAT 1430 or STAT 2310 or STAT 4310 or VSB 2005)

**ECO 3138: Game Theory**

Basic game theoretic framework, concepts and applications; mathematical models to understand the behavior of humans in strategic situations.

**Credits:** 3

**Prerequisites:**

ECO 1001 or SBI 2005

**ECO 3139: Behavioral Economics**

Examine cutting edge theories of how cognitive, psychological, social, and emotional factors affect economic decisions. Evidence from lab and field experiments is presented to support these behavioral models.

**Credits:** 3

**Prerequisites:**

(ECO 1001 or SBI 2005) and ECO 1002 and (MAT 1310 or MAT 1320 or MAT 1400 or MAT 1500)

**ECO 3140: Urban Economics**

Utilizes economic theory to examine the major contemporary issues confronting urban areas; explores economic solutions to the problems of housing, transportation, education, poverty, crime, growth, employment, taxes and redevelopment.

**Credits:** 3

**Prerequisites:**

(ECO 1001 or SBI 2005) and ECO 1002

**ECO 3200: Topics in Economic**

Selected topics in economics currently of interest to faculty and students.

**Credits:** 3

**Prerequisites:**

(ECO 1001 or SBI 2005) and ECO 1002

**ECO 4132: Seminar in Economics**

Capstone course requiring students to utilize the tools of analysis and expression, including not only economic theory and applications, but also writing, speaking and mathematics. Computer skills expanded.

**Credits:** 3

**Prerequisites:**

ECO 2101 and ECO 2102 and (ECO 3132 or ECO 3137)

**ECO 4200: Advanced Topics in Economics**

Selected topics in economics currently of interest to faculty and students.

**Credits:** 3

**Prerequisites:**

ECO 2101 and ECO 2102 and ECO 3137

**ECO 4201: Dynamic Macroeconomic Theory**

Modern methods used in macroeconomic research based on microeconomic principles; dynamic processes of economic growth and business cycles; impact of rational expectations on fiscal and monetary policies; mathematical tools for dynamic economic models.

**Credits:** 3

**Prerequisites:**

ECO 2101 and ECO 2102

**ECO 4203: Pol Eco of Development Aid**

This course examines foreign aid using a variety of economic approaches and tools including growth models, a public choice approach, principal-agent theory, and econometric analysis. Building on the history and institutions of foreign aid, we will delve into current policy and academic debates including aid effectiveness, agency problems, conditionality, and selectivity. A recurring theme is how the economic and political objectives of aid donors and recipients influence the development effectiveness of aid.

**Credits:** 3

**Prerequisites:**

(ECO 2102 and ECO 3137)

**ECO 4205: Time Series Analysis**

Introduction to methods of time series analysis including univariate models, trends, seasonality, structural breaks, forecasting, policy analysis, vector autoregression and panel techniques.

**Credits:** 3

**Prerequisites:**

(ECO 2101 or ECO 2102) and ECO 3137

**ECO 4207: Economics of Risk&Uncertainty**

Capstone course. Analyze microeconomic and macroeconomic situations involving risk, uncertainty, and ambiguity. Applications of expected utility theory and mean-variance theory in insurance, behavioral economics, and finance. Applications of empirically measuring and quantitatively modeling time-varying volatility in macroeconomics.

**Credits:** 3**Prerequisites:**

ECO 2102 and ECO 2101 and ECO 3137

**ECO 4208: Public Choice**

The application of economic methodology to the subject of political science.

**Credits:** 3**Prerequisites:**

(ECO 1001 or SBI 2005) and ECO 1002

**ECO 4209: International Macroeconomics**

Capstone course. Open economy macroeconomic theory, monetary and asset-based exchange rate models; flexible vs. fixed exchange rate regimes; gains from financial globalization; financial and currency crisis; currency unions.

**Credits:** 3**Prerequisites:**

ECO 2102 and ECO 2101 and ECO 3137

**ECO 4210: Experimental Economics**

Capstone course. Read seminal papers that use experiments to test economic theories. Learn how to properly design and conduct experiments.

**Credits:** 3**Prerequisites:**

ECO 2102 and ECO 2101 and ECO 3137

**ECO 4500: Independent Study in Eco**

Students with specific interests work on a tutorial basis with faculty. A departmental independent Research Proposal form must be approved by the directing faculty member and the department chairman prior to registration.

**Credits:** 3**Prerequisites:**

ECO 2101 and ECO 2102

**ECO 4650: Service Learning Practicum**

Service experiences as an integral part of certain ECO courses. Integrates the participation requirements for the field experience with the academic requirements (readings, research paper, project, etc.) set by the instructor. Permission of the instructor required.

**Credits:** 1

## Education

**EDU 1900: Literacy Instrn for Tutors**

Workshop using a strength-based approach to provide an overview for tutoring school-aged children (K-12) in an afterschool setting. Intended for students who have some experience tutoring. 1 credit

**Credits:** 1**EDU 2201: Social Foundation Educ I**

Major movements in the history of education to 1600 with emphasis on their social and philosophical context; historical development of educational aims, curriculum and types of education; religious and political influences on education.

**Credits:** 3**EDU 2202: Social Foundation Edu II**

Development of public and private education in America in its social and philosophical context; types of education, governmental activity in education, educational finance, religious and political influences, impact of European developments.

**Credits:** 3**EDU 2253: History of American Education**

Focus on the people, ideas, issues and controversies that have created the current American school system. Will chronicle attempts to include (and sometimes exclude) an expanding school population as racial, gender, religious and health issues became confrontational battlegrounds.

**Credits:** 3**EDU 2300: Research Seminar in Education**

An opportunity for students to become acquainted with the various approaches to inquiry in educational research and to design a small scale research project. Students will learn how to locate, analyze and use both qualitative and quantitative research reports.

**Credits:** 3**EDU 3000: Prof. Development in Education**

Required course upon entry in the Teacher Certification Program. Introduction to competencies required for state certification, Standards Aligned Systems, national and state teaching standards and code of conduct and evaluation methods leading to state licensure in teaching grades 7-12.

**Credits:** 1

**EDU 3220: Young Adult Literature**

Students will identify and critically evaluate effective practices in YA literacy instruction; analyze YA literature through the lens of diversity, equity and inclusion, and approach the instruction of YA literature through an equity, strengths-based, culturally sustaining lens.

**Credits: 3**

**EDU 3251: Psych of Teaching & Learning**

The application of learning theory to classroom teaching.

**Credits: 3**

**EDU 3253: Educational Policy Analysis**

Examines the challenges facing public schools, the policies that are designed in response to these challenges, the effects of these policies on students, and efforts undertaken by some youth to improve education policy. Core course for Educational Policy & Leadership minor.

**Credits: 3**

**EDU 3254: Prin & Tech of Instruct**

The school curriculum; principles for selecting and using instructional materials; principles of educational measurement and evaluation; practical exercises in the use of media and materials, and in educational measurement.

**Credits: 4**

**EDU 3258: Education & Society in 1960s**

The relationship between educational developments and social change in the decade of the 1960s. The emergence of a distinctive youth culture and the educational impact of the civil rights and women's rights movements of the era.

**Credits: 3**

**EDU 3260: World War II Experience in EDU**

The impact of World War II on education and culture in the United States and foreign societies. Including educational experiences for women and ethnic and racial minorities.

**Credits: 3**

**EDU 3261: Latinos in Education**

Examination of methodological and analytical approaches to learning about the Education of US Latinos (Chicanos/ Mexican Americans, Puerto Ricans, Cubans, and other groups of Latin American origin.

**Credits: 3**

**EDU 3262: Edu Pearl Harbor to Sputnik**

The impact of World War II and the Cold War on American schools and society. The expansion of educational opportunities for women, ethnic and social minorities.

The influence of advances in communications and technology on educational issues of the 1940s and 1950s.

**Credits: 3**

**EDU 3263: Diversity and Inclusion**

Introduction to the physical and social characteristics of diverse and exceptional students between 3 and 21. Issues of race, culture, gender, sexual orientation, and special education with respect to schools and in light of recent legislation and court decisions. Problem cases with an emphasis on the underprivileged, antisocial, and disadvantaged.

**Credits: 3**

**EDU 3264: Intro to Disability Studies**

Social, political, cultural and academic implications of disability; legacy of disability in the US and abroad; strategies for working with individuals with special needs. Service learning is required.

**Credits: 3**

**EDU 3265: Global Racism in Schools**

Examination of theories of prejudice, assimilation, culturalism, ethnocentrism, and gender inequity to explore historical, theoretical, and legal concepts of racism within transnational educational contexts. Structures and practices that address racism in educational systems across the globe.

**Credits: 3**

**EDU 3266: Civil War Exp in Education**

Investigation of the impact of the Civil War on education and culture. Curricular and instructional issues in teaching the Civil War in selective education environments.

**Credits: 3**

**EDU 3277: Urban Education**

Examines the challenges of urban schooling, the historical roots of these challenges, and the pedagogical techniques and policy tools that are being used to respond to them. A weekly community-based learning lab in an urban school is required.

**Credits:** 3

**EDU 4220: Spec Meth Secondary Sch**

Approaches to teaching and their degrees of effectiveness; classroom management; methods applicable to the teaching of all subjects; student preparation and presentation of material for his/her own subject-matter field.

**Credits:** 3

**Prerequisites:**

EDU 2201 :D- and EDU 2202 :D- and EDU 3251 :D- and EDU 3254 :D-

**EDU 4242: Special Topics: Education**

Work in critical analysis of selected topics in education, reflecting various historical, philosophical, and societal perspectives and methodologies.

**Credits:** 3

**EDU 4245: Literacy & Eng Lang Learning**

Techniques for literacy evaluation; methods of teaching literacy and English as a second language; strategies for basic skill development and student observation in the schools.

**Credits:** 3

**EDU 4281: Meth English Sec School**

The curriculum, planning units and lessons in the teaching area; general methods of teaching, special methods and instructional materials in the subject, including textbooks, courses of study and reference works; application of the principles and techniques studied in Education 3254 to teaching the subject; lesson plans, units and tests in using methods, techniques, and materials in the subject; planned experiences and weekly assignments in neighboring secondary schools to observe, assist teachers, and teach pupils in the subject.

**Credits:** 3

**Prerequisites:**

EDU 3251 :D-

**EDU 4282: Meth Fgn Lang Sec School**

The curriculum, planning units and lessons in the teaching area; general methods of teaching, special methods, and instructional materials in the subject, including textbooks, courses of study and reference works; application of the principles and techniques studied in Education 3254 to teaching the subject; lesson plans, units and tests and in using methods, techniques, and materials in the subject; planned experiences and weekly assignments in neighboring secondary schools to observe, assist teachers and teach pupils in the subject.

**Credits:** 3

**Prerequisites:**

EDU 3251 :D-

**EDU 4283: Meth Math Sec School**

The curriculum, planning units, and lessons in the teaching area; general methods of teaching special methods, and instructional materials in the subject; including textbooks, courses of study and reference works; application of the principles and techniques studied in Education 3254 to teaching the subject; lesson plans, units and tests and in using methods, techniques, and materials in the subject; planned experiences and weekly assignments in neighboring secondary schools to observe, assist teachers and teach pupils in the subject.

**Credits:** 3

**Prerequisites:**

EDU 3251 :D-

**EDU 4284: Meth Science Sec School**

The curriculum, planning units, and lessons in the teaching area; general methods of teaching special methods and instructional materials in the subject; including textbooks, courses of study and reference works; application to the principles and techniques studied in Education 3254 to teaching the subject; lesson plans, units and tests and in using methods, techniques, and materials in the subject, planned experiences and weekly assignments in neighboring secondary schools to observe, assist teachers and teach pupils in the subject.

**Credits:** 3

**Prerequisites:**

EDU 3251 :D-

**EDU 4285: Meth Soc Stud Sec School**

The curriculum, planning units, and lessons in the teaching area; general/ methods of teaching, special methods, and instructional materials, in the subject, including textbooks, courses of study and reference works, application of the principles and techniques studied in Education 3254 to teaching the subject, practice in preparing lesson plans, units and tests and in using methods, techniques, and materials in the subject; planned experiences and weekly assignments in neighboring secondary schools to observe, assist teachers and teach pupils in the subject.

**Credits:** 3

**Prerequisites:**

EDU 3251 :D-

**EDU 4289: Education Independent Study**

Supervised independent study, specific requirements will be determined by the faculty member. Students may only register for this class once with special permission of chairperson.

**Credits:** 3

**EDU 4290: Philosophy of Education**

The development of a sound personal philosophy of education and practice in applying that philosophy to current educational issues.

**Credits:** 3

**EDU 4291: Student Teaching**

Observation and teaching under actual classroom conditions in the student's field of teaching specialization; open only to students of the Senior year who have completed all the subject matter courses in the field of specialization.

**Credits:** 9

**Prerequisites:**

(EDU 2201 :D- or EDU 2202 :D- ) and EDU 3251 :D-

**Co-Requisites:**

EDU 4292

**EDU 4292: Senior Seminar**

The student teaching experience; elements of school law; current educational issues; use of computers in the classroom; relationship of practice to theory; sharing of experiences, common problems and alternative teaching practices; open to student teachers.

**Credits:** 3

**Prerequisites:**

(EDU 2201 :D- or EDU 2202 :D- ) and EDU 3251 :D-

**Co-Requisites:**

EDU 4291

**EDU 4298: Student Teaching**

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**Credits:** 6

**EDU 4301: Humanistic Education**

Principles of humanistic psychology as they apply to education: Active listening, kinesics, values clarification, motivation, classroom groups, and the teacher as a group facilitator.

**Credits:** 3

**EDU 7031: Independent Study**

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**Credits:** 1

**EDU 7111: Legal Ethical Counseling**

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**Credits:** 1

**EDU 7112: School Law Workshop**

Will review the laws that apply to public and private schools, to teachers and to students. Topics will include State and Federal Constitutional provisions applicable to school districts, including First Amendment free speech and separation-of-church-and-state rights and limitations, civil rights laws, their derivation and application, liability and contract issues.

**Credits:** 1

**EDU 7124: Digital Literacies**

This one-credit course examines how digital technology is changing literacy and learning for K-12 students. Participants will study the ways in which digital tools shape and are shaped by sociocultural processes of learning and development.

**Credits:** 1

**EDU 7125: Flipping the Classroom**

This one-credit course prepares educators to create active learning experiences for students by flipping their classrooms. Educators will learn to utilize various technological tools, to interpret the data these tools yield, and to make the most of classroom time.

**Credits:** 1

**EDU 7126: Teaching for Engagement**

This one-credit course will examine theory and research on student engagement, including its constituents, antecedents, and effects. Participants will learn to use this literature and design-thinking to create learning environments and experiences that promote active student engagement in learning.

**Credits:** 1

**EDU 7127: YPAR in the Classroom**

This one-credit course examines the basic principles and processes of conducting youth-led participatory action research (YPAR). The course helps teachers learn to use YPAR in their classrooms to strengthen students' research skills, accelerate their sociopolitical development, and enhance local knowledge.

**Credits:** 1

**EDU 7128: Science Curriculum Study**

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**Credits:** 1

**EDU 7129: Peer Counsel Training**

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**Credits:** 1

**EDU 7133: Classroom Management**

Investigation of successful strategies for positive approaches to classroom management as well as examination of school & school district policies.

**Credits:** 1

**EDU 7141: Integr Teaching Sci, Mat, Tech**

Students will learn a method of integrating the teaching of Science, Mathematics and Technology. The method is based on a laboratory experience and is modeled using physics experiments leading to determining the earth's field. Participants will take measurements and analyze results with the aid of the computer. There are no course prerequisites in the technical fields. Those seeking credit will be required to submit a formal laboratory report on the material learned with appropriate additional requirements.

**Credits:** 1

**EDU 7142: Parents & Community Partnershp**

This one-credit course prepares teachers to build effective relationships with families and surrounding school communities. Participants will examine research and best practices on school-family partnerships, conferencing, communication, and the community schools model.

**Credits:** 1

**EDU 7143: Critical Thinking Skills**

Theories about the teaching of critical thinking, and their applications to lesson and unit planning and to the assessment of students' thinking. To conclude the workshop, participants will design a unit which emphasizes critical thinking skills.

**Credits:** 1

**EDU 7149: Mindfulness in Schools**

Participants will examine the concepts and engage in the practice of the fundamental elements of mindfulness. The workshop will review the research on the integration of mindfulness into schools and prepare to incorporate these practices with their students.

**Credits:** 1

**EDU 7150: Multiple Intelligences in Schl**

Foundational to both theoretical and practical instructional strategies for teachers, addressing Gardner's Theory of Multiple Intelligences.

**Credits:** 1

**EDU 7152: Edu of Students w/ Disabilities**

Workshop will cover the Individuals with Disabilities Education Act (IDEA), Section 504 of the Rehabilitation Act of 1973, The Family Rights and Privacy ACT (FERPA), and Constitutional Due Process and their affect on the education of students. This material will benefit educators, counselors, school leaders and anyone interested in the legal aspects of special and regular education.

**Credits:** 1

**EDU 7153: Urban Education**

For inservice teachers, this workshop will provide confirmation of the challenges they face as well as a new set of instructional and affective strategies for meeting the needs of many urban students.

**Credits:** 1

**EDU 7168: Teaching Gifted Child**

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**Credits:** 1

**EDU 7197: Green Schoolyard Wkshop**

Students will investigate designs, development, implementation and multi-curricular applications of outdoor classrooms (green schoolyards). Workshop provides protocol for planning, designing, funding, installing and using green schoolyards as place-based instructional tools for the whole curriculum.

**Credits:** 1

**EDU 7201: Admin Cross Cult Environ**

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**Credits:** 1

**EDU 7222: Instructional Design**

Workshop addresses latest trends in instructional designed-based research and teaching. Combining learning theory with evidenced-based best practices, participants will learn to develop lessons and learning environments to optimize student engagement, skill development, understanding and retention.

**Credits:** 1

**EDU 7223: School Finance & Budgeting**

Workshop focuses on budgeting & finance fundamentals for PA school districts. Participants will learn about policies, laws, and accounting standards. School district funding trends along with the Governor's budget recommendations will also be analyzed. Budget development concludes workshop.

**Credits:** 1

**EDU 7240: Soliciting Student Voices**

The workshop will address the definition of student voices; the pedagogical and philosophical warrants for it; the benefits and drawbacks of student voice efforts; and best practices for soliciting and using student voice to improve instruction and strengthen schools.

**Credits:** 1

**EDU 7250: Leadership Seminar I**

Taken during the fall semester when matriculating, this seminar introduces students to school leadership practice. Emphasizes adult learning theory, reflection-on-practice, content-based decision-making, the formation of learning communities, and leadership ethics. Students begin organizing their professional portfolios.

**Credits:** 1

**EDU 7271: Delivering Career Services**

Explore how higher education career services functions deliver positive career outcomes to students and alumni in an environment fueled by rising costs, dynamically changing economic conditions, and an ever-increasing diverse community of scholars.

**Credits:** 1

**EDU 7272: Systemic Approaches to Equity**

Examines systemic approaches to address equity in education with a focus on institutional change models. Reviews common elements across models, as well as challenges and effectiveness of these approaches, through the use of case studies and current research.

**Credits:** 1

**EDU 7273: Legal Update for School Leader**

Current legal issues and strategies to resolve them.

**Credits:** 1

**EDU 7275: Conducting Action Research**

Provide practicing teachers and administrators in Graduate Teacher Education, including Master's + Certification, and Educational Leadership programs with the tools and guidance to carry out an action research project from statement of the problem to dissemination of the results.

**Credits:** 1

**Prerequisites:**

EDU 8603

**EDU 7281: Risk Management in Education**

Identify and discuss a list of common school-based risk situations and develop strategies to prevent them. Evaluate a sample risk management plan and develop recommendations to strengthen the sample.

**Credits:** 1

**EDU 7282: Harassment in Schools**

Will help teachers recognize signs and identify types of harassment in schools. Discuss and understand long term effects of harassment and review strategies for preventing harassment and develop lesson plan or parent workshop dealing with bullying or sexual harassment.

**Credits:** 1

**EDU 7283: New Literacy in Classrooms**

Highlights importance of achieving a student's own personal sense of literacy within each classroom and provide teachers with background in the changing shape of literacy in 21st century. Offers strategies in how to improve student's literacy levels.

**Credits:** 1

**EDU 7284: Differentiated Instruction**

Overview of research that supports differentiated instruction and explores needs of struggling and advanced learners. Develop lesson plans that recognize academic standards and provide strategies and activities that honor individual learning styles.

**Credits:** 1

**EDU 7285: Inclusive Classrooms**

To equip teachers with the skills needed in accommodating students with disabilities in an inclusive setting. Review of current regulations and ways of meeting educational needs of all students.

**Credits:** 1

**EDU 7291: Voc Catholic Edu Leader**

This seminar examines the distinctive origin of catholic educational leadership, namely, the calling to devote professional endeavors to the Church's educational ministry. Students will analyze and discuss documents exploring the nature of God's call to his people to distinguish their profession as an important ecclesiastical ministry.

**Credits:** 1

**EDU 7292: Purpose Imp of Catholic School**

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**Credits:** 1

**EDU 7293: Student Diff: Sexual Orienta**

An examination of sexual orientation issues in classrooms, schools, and society.

**Credits:** 1

**EDU 7295: Multi-Tier System of Supports**

Multi-Tier System of Supports (MTSS) is the practice of providing high quality instruction and interventions matched to students with special needs. MTSS procedures, various applications, and standard implementations will be explored in school and classroom settings.

**Credits:** 1

**EDU 7296: Catholic Higher Ed Stud Affair**

How might an institution's identity and values inform the efforts within Student Affairs? What unique pathways are available to practitioners for student growth and learning in this context? Explore theory and practice of student development at faith-based colleges and universities.

**Credits:** 1

**EDU 7298: Strategic Planning in Educ**

Strategic planning opportunities abound in educational settings. Effective planning requires specific skills and disciplined, detailed work. This one-credit course is designed to help educators understand planning constructs and develop techniques to engage in and lead strategic planning efforts.

**Credits:** 1

**EDU 7311: Diversity in Public Education**

Examines the history of diversity of public education and the impact of policies and laws on current K-12 landscape. Considers how educators can become culturally proficient to address the needs and dreams of diverse student populations through an intersectional lens.

**Credits:** 1

**EDU 7312: Asses. Stud. Ctr. Learning**

This workshop will examine the subject of assessment in light of current trends toward realistic and holistic practices. Open to GTE (GRADUATE TEACHER EDUCATION) students. Undergraduate seniors may be admitted with proper permission including that of the GTE coordinator.

**Credits:** 1

**EDU 7315: Teach Critical Thinking**

Strategies for interpreting editorial cartoons as a source for enhancing critical thinking related to current and/or historical events. Exploration of the sources and history of political cartoons and their use in the classroom.

**Credits:** 1

**EDU 7318: Multimedia Language Classrms**

To provide teachers with opportunities to use new and emerging technologies to create culturally authentic projects, lesson plans and activities to develop student's reading, listening, and speaking skills in languages other than English.

**Credits:** 1

**EDU 7320: Strat w/ At-Risk Students**

Strategies for working with the full range of at-risk students, including behaviorally-disordered, ADHD, and Special Education. The relevance of psychological testing, support teams, and resources. Strategies demonstrated through the use of videos, case studies and role play.

**Credits:** 1

**EDU 7321: Student Teaching Seminar**

Students simultaneously enrolled in Graduate Student Teaching meet bi-weekly with a faculty member to analyze and reflect upon their student teaching experience.

**Credits:** 1

**EDU 7350: Title IX and Its Evolution**

Learn about the evolution of Title IX since its enactment in 1972 to recent developments connecting Title IX to sexual violence on college campuses. Explore the implications for colleges as they seek to comply with Title IX requirements and expectations.

**Credits:** 1

**EDU 7351: Campus Physical Environments**

This applied theory workshop introduces the literature on higher education physical environments and student usage. We will explore the campus environment, focusing on promoting engagement and student learning through design planning.

**Credits:** 1

**EDU 7402: Classroom Mgt & Teaching**

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**Credits:** 3

**EDU 7416: Sports in Higher Education**

Examines how colleges and universities support and spend on intercollegiate athletics and how this trend affects both campus life and the larger society. Topics include branding; how intercollegiate athletics challenges and reproduces structural inequalities; and the impacts of Title IX.

**Credits:** 1

**EDU 7420: Program Evaluation & Edu**

Workshop examines the systematic method for collecting, analyzing, and using information to answer questions about projects, policies and programs, particularly about their effectiveness, efficiency, merit, and worth. Examples from educational program evaluations will be explored, discussed, and evaluated.

**Credits:** 1

**EDU 7503: Teacher Effectiveness**

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**Credits:** 3

**EDU 7504: Motivation**

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**Credits:** 3

**EDU 7506: Creating Multimedia Lessons**

Workshop for elementary, middle and secondary teachers on: integration multimedia technology into classroom instruction; developing the capability of constructing multimedia lessons; editing audio and video sources for use in multimedia.

**Credits:** 1

**EDU 7524: Critical Thinking**

Thinking skills in all areas of the school curriculum; furthering reason through activities and other approaches, K-12

**Credits:** 1

**EDU 7525: Children's Literature**

How can literature enhance teaching practices? This workshop explores issues of diversity and representation, student responses, multimodal & text analysis, book selection & plans, and building classroom libraries in K-12 settings.

**Credits:** 1

**EDU 7528: Making Skillful Writer**

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**Credits:** 3

**EDU 7530: Read Comp Cont Area K-12**

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**Credits:** 3

**EDU 7539: Teacher in Effective Sch**

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**Credits:** 1

**EDU 7542: Integrating iPads in Classroom**

Explores the use of online primary source collections and the affordances of iPads in the classroom to enhance instruction.

**Credits:** 1

**EDU 7543: Character Ed in Schools**

How can teachers create environments in which students can be curious, open-minded, empathetic, intellectual risk-takers, and socially responsible citizens? This workshop focuses on how to create educational spaces that nurture the development of such character strengths through a social-justice lens.

**Credits:** 1

**EDU 7544: Educating Middle School**

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**Credits:** 1

**EDU 7549: Promoting Cath Schools**

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**Credits:** 1

**EDU 7551: Lead Top in Higher Education**

Evolution of presidential leadership in America universities and the professional conduct of university/college teachers and administrators. Exploration of how the moral tone set for the academic community by the faculty and administration frames choices, policies, and actions.

**Credits:** 1

**EDU 7553: College Student Demographics**

Provides an overview of the racial, class, and gender stratification of the higher education system, the emergence of institutions that serve diverse populations, and a critical review of campus social movements.

**Credits:** 1

**EDU 7564: Classroom Mgt & Teach Wksp**

Motivating of adolescent behavior, strategies for handling unacceptable behavior and creating positive classroom environments for effective communication, and protocols for effective communication with parents and administrators.

**Credits:** 1

**EDU 7676: Educ Phil St Augustine**

Philosophical and psychological factors involved in the learning-teaching process gleaned from the life and works of St. Augustine.

**Credits:** 3

**EDU 7905: Teaching English Composition**

Practical seminar dealing with common writing problems and potential solutions, including such topics as: composition in an internet age, grammar and standard English, teaching organization, workplace writing, coping with plagiarism, and others.

**Credits:** 3

**EDU 7910: Developing Resiliency**

Styles of teaching and learning that can promote resiliency among students from all backgrounds by fostering social competence, problem-solving skills, a sense of autonomy, and hope for the future.

**Credits:** 3

**EDU 7915: Interactive Design for Teacher**

Highly-interactive course to provide experience with the design, development, and evaluation of effective multimedia- based applications in the classroom.

**Credits:** 3

**EDU 7920: Methods of Teaching Science**

Practical integration of science and mathematics for the study of major concepts and issues relevant in today's technological society, with emphasis on active learning through the use of word processors, spreadsheets, presentation programs, and web-page editing.

**Credits:** 3

**EDU 7925: Cooperative Learning**

A framework for constructing problem-based, rigorous, and challenging classroom curricula linked to broadly-defined performance assessment that reflects the concepts, skills, learner characteristics, and learning processes revealed by students during classroom project.

**Credits:** 3

**EDU 7935: Dealing with Difficult Student**

Techniques for dealing with difficult students, exploring the root causes of disrupting behavior and emphasizing a step-by-step approach for dealing with such students through communication approaches and intervention techniques.

**Credits:** 1

**EDU 8400: Critical Perspectives Spec Ed**

Strategies for working with individuals with special needs; issues of inclusion and exclusion in Special Education; national and international Special Education policies and practices. Service is a requirement of this course.

**Credits:** 3

**EDU 8500: Theory & Purpose of Higher Ed**

Examines important philosophical and historical issues in understanding higher education. This intellectual endeavor establishes a conceptual framework for discussing considerations impacting higher education, as well as issues of social, political and economic challenges facing higher education in the 21st Century.

**Credits: 3**

**EDU 8530: Teaching Methods in Lang Clsrn**

Provide teachers with opportunities to use new and emerging technologies to create culturally authentic projects, lesson plans, and activities to develop student's reading, listening, and speaking skills in languages other than English.

**Credits: 3**

**EDU 8540: Methods of Teaching Math & Sci**

Methods, lesson and unit planning standards, technology, professional codes, and field experiences for prospective teachers of secondary Mathematics and Science. Restricted to Master's and Certification Students with permission of chair.

**Credits: 3**

**EDU 8550: Meth of Teaching Eng & Soc Stu**

Methods, lesson and unit planning, technology, professional codes, and field experiences for prospective teachers of secondary English and Social Studies.

**Credits: 3**

**EDU 8560: Individual Instruction**

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**Credits: 3**

**EDU 8561: Adv Trends & Issues in Spec Ed**

Discussion of research and recent issues in special education and inclusion with implications for classroom instruction.

**Credits: 3**

**EDU 8565: Leadership in School Settings**

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**Credits: 3**

**EDU 8566: Democracy & Education**

Theoretical & practical examination of the historical, political, & social foundations of the civic mission of schools in both the U.S. & other democratic states.

**Credits: 3**

**EDU 8567: History through Discovery**

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**Credits: 3**

**EDU 8568: Kennedy to Kent State**

Investigate the educational developments, theories and practices of the 1960s in an intensive and challenging manner, from a wide spectrum of focal points. Will provide valuable insight into the development of modern education.

**Credits: 3**

**EDU 8570: Technology Elementary Classrms**

Integrating technology in elementary classrooms. Use of and discussion of basic software packages developed to help motivate students and enhance the learning process in the classroom.

**Credits: 3**

**EDU 8571: Technology in Sec. Schools**

Integrating technology in secondary classrooms. Use and discussion of basic software packages developed to help motivate students and enhance the learning process in the classroom.

**Credits: 3**

**EDU 8572: Arts Integrated Curriculum**

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**Credits: 3**

**EDU 8573: Teaching Adolescents in Schls.**

Adolescent Schooling & Development.

**Credits: 3**

**EDU 8575: On-Line Communications**

Basic introduction to networks, the Internet and E-mail and their application to classroom teaching. Discussion of and experience with terminology and academic subject information locations.

**Credits: 3**

**EDU 8600: Student Development Theory**

Provides foundational knowledge about the nature and history of student development theory, focusing on the application of theory in the design of effective practice in academic and student affairs contexts.

**Credits: 3**

**EDU 8603: Educational Research**

Analysis of diverse types of educational research; familiarization with research resources and literature survey procedures; evaluation of educational research; its implications for, and application to, educational practice; emphasis on the scientific methods of investigation; development of competency to conduct a research study and write a research paper.

**Credits: 3**

**EDU 8605: Qualitative Research**

A broad overview of the philosophical & scientific foundations of qualitative inquiry. Process of defining a research problem to designing a study, using appropriate methods of data collection, data analysis & manuscript preparation.

**Credits: 3**

**EDU 8606: Assessment & Evaluation CR**

Techniques and strategies that characterize quality assessment; relationship of learning to evaluation; development of a philosophy of assessment.

**Credits: 3**

**EDU 8610: Current Issues Amer Educ**

Critical issues for the administrator, counselor, and teacher are discussed. Students are grouped according to their areas of concentration so that the issues chosen reflect their concerns.

**Credits: 3**

**EDU 8611: Early Childhood Educ I**

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**Credits: 3**

**EDU 8612: Early Childhood Educ II**

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**Credits: 3**

**EDU 8614: Curriculum & Assessment**

Recent research, trends, and issues in curriculum design and assessment. Purposes and types of curriculum and assessment in education. Analysis of curriculum documents; investigation of changing models of curriculum design and the trend towards outcomes-based curriculum planning. Connections among assessment, curriculum and instruction.

**Credits: 3**

**EDU 8616: Methods of Teaching**

Practice in pedagogical techniques requisite in the quality classroom. Examination of research findings relative to teaching students with a variety of backgrounds, intelligences and needs. Emphasis on planning, methodology and assessment.

**Credits: 3**

**EDU 8618: Adolescent Psychology**

Provides an appreciation for the varied psychological dynamics occurring within the adolescent learning setting as well as the implication of those dynamics for effective pedagogy.

**Credits: 3**

**EDU 8619: Children's Literature&Literacy**

How can teachers and reading specialists use literature to engage students and improve literacy instruction? Together we will read scholarly and literary texts to critically examine K-12 literature and the context in which it is read.

**Credits: 3**

**EDU 8620: Found of Reading Instruction**

An introduction to the nature of reading, the development of trends in reading instruction; the appraisal of reading needs and requirements for the improvement of reading instruction.

**Credits: 3**

**EDU 8622: Diag. & Remed of Read. Diff.**

Focuses on the techniques and materials utilized in the diagnosis and remediation of reading difficulties of students in grades K-12.

**Credits: 3**

**EDU 8624: Reading Secondary School**

Developing the appropriate reading instruction in various subject areas. Specific and practical methods that can be utilized by teachers to combine reading instruction with competency in the subject area.

**Credits: 3**

**EDU 8625: Org & Admin Reading Prog**

Various organizational patterns, and the procedures for organizing and administering developmental and remedial reading programs are studied. The responsibilities of the Reading Specialist are examined and discussed in detail.

**Credits: 3**

**EDU 8626: Learn Disabilities Read**

The characteristics of learning disabled students, and the instruments used for identification of learning disabilities are studied. Severe language, reading, and motor disorders are discussed, and the techniques and materials used to assist learning disabled students with the reading process are presented.

**Credits:** 3

**EDU 8627: Teaching Language Arts**

Techniques for developing the language arts skills of listening, speaking, reading, and writing are stressed. The experiences outlined in the Pennsylvania Comprehensive Reading/Communication Arts Plan are examined. Improving the Language Arts Curriculum so that all students will become literate is the major theme of the course.

**Credits:** 3

**EDU 8628: Graduate Student Teaching**

Observation and teaching under actual classroom conditions in the student's field of teaching specialization. Open only to students of the Master's + Certification Program under the supervision of a Master Teacher.

**Credits:** 6

**EDU 8630: Clinical Pract Reading**

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**Credits:** 3

**EDU 8631: Meth of Teaching Writing**

This course aims to teach K-12 teachers how to effectively teach writing both in the traditional classroom setting and with the aid of computer technology.

**Credits:** 3

**EDU 8641: Assessment and Analysis**

Assessment procedures, interpretation of statistical data and analysis of student assessment results.

**Credits:** 3

**EDU 8644: Leadership & Admin of Higher Ed**

Examines theories of leadership and administration applied to higher education; considers the forces changing the university and delineates successful change management strategies; explores the urgency of figuring out how to ensure the continued relevance and vitality of American higher education.

**Credits:** 3

**EDU 8645: Contemporary Issues Higher Ed**

Course critically examines the latest issues facing US higher education. This includes student learning, legislation, institutional policies, finances and resource allocation, technology, campus diversity, academic capitalism, and how current events impact the college environment.

**Credits:** 3

**EDU 8651: Social Issues & Schools**

Introduces aspiring school leaders to selected social issues and their impact upon school organizations. Extant social science research is examined and community service agencies are surveyed in order to develop community based networks to help educators deal with these social issues and to encourage closer school community relations.

**Credits:** 3

**EDU 8653: Pupil Personnel Service**

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**Credits:** 3

**EDU 8654: Policy Analysis**

An overview of the policy process and introduction to the art of policy analysis, through examination of the roots and repercussions of current educational policies, at federal, state, and local levels.

**Credits:** 3

**EDU 8656: Education Law**

How Federal, State and Local laws impact Elementary, Secondary and Higher Education Institutions in the development of policies and in their daily operations. Topics include: Constitutional Freedoms, Institutional Liability, Teacher Rights, Special Education, and Employment Discrimination.

**Credits:** 3

**EDU 8658: School Finance**

Provides an overview of the structure and functions of a school's business office as well as how these support the achievement of the school's primary purpose, the education of youth.

**Credits:** 3

**EDU 8660: Adm/Supv  
Elementary Sch**

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**Credits: 3**

**EDU 8661: Curric & Meths Elem  
Sch**

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**Credits: 3**

**EDU 8662: Trends Social  
Studies**

An investigation of teaching innovations as well as changes in the disciplines of History and the Social Sciences and techniques for evaluation instructional materials.

**Credits: 3**

**EDU 8663: Teach Prob Solv  
Math-Sci**

Recent curriculum developments in mathematics and science with emphasis on inquiry and discovery; methods of teaching processes and problem solving in elementary and secondary school classrooms.

**Credits: 3**

**EDU 8664: Politics of  
Education**

The local, state and national political context and philosophical and historical antecedents of the political process in the United States.

**Credits: 3**

**EDU 8666: Curric & Meths Sec  
Sch**

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**Credits: 3**

**EDU 8667: Cath Educ  
Leadership**

An examination of texts, documents and essays relating to the ministerial dimensions of Catholic Educational leadership.

**Credits: 3**

**EDU 8669: Comparative  
Education**

Educational ideals, systems, and problems of the United States and selected foreign countries. Special reference given to curriculum development and teaching materials in each country.

**Credits: 3**

**EDU 8670: History of US  
Higher Education**

We will examine European influences and the historical development of higher education in America from colonial to contemporary periods. We will review the relationship between societal context, higher education institutions, faculty, students, curriculum, governance, finance, and outcomes.

**Credits: 3**

**EDU 8671: Hist of American  
Educ**

The principal movements in American education and their leadership, including college and university development, public and parochial schools, teacher education, progressive education and role of the federal government.

**Credits: 3**

**EDU 8672: Instructional  
Leadership**

Develops a foundation for aspiring school leaders to synthesize research in social science curriculum and instruction as well as human resources and leadership with their experiential perspectives about effective learning.

**Credits: 3**

**EDU 8673: Philosophy  
Education**

The immediate and ultimate ends of education; the nature of the child and the philosophical basis for religious and moral training, intellectual and aesthetic culture, curriculum and methods; Naturalism, Pragmatism, Socialism, and Scholasticism in their educational implications and applications.

**Credits: 3**

**EDU 8674: Professional  
Negotiation**

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**Credits: 3**

**EDU 8675: Development of  
ELL Students**

Working with the English language learning student.

**Credits: 3**

**EDU 8676: Technology in  
Teaching**

Examination of a variety of technological applications appropriate to elementary and secondary teaching. Emphasis is upon the use of computers, CD-ROMs, laser discs, the Internet, World Wide Web, Hypercard and multimedia with classroom instruction.

Laboratory experiences with various technologies will be provided. Course will allow for differentiated learning experiences based upon previous technical skills.

**Credits: 3**

**EDU 8677: The Principalship**

Examines educational management and leadership from an interdisciplinary perspective. A special emphasis is placed upon organizational learning, school transformation, and the critical role assumed by school leaders as they enable others to develop self-managing schools.

**Credits:** 3

**EDU 8678: Equity & Social Justice in Edu**

Issues of race, culture, sexual orientation, and special education as they are related to the understanding and practice of education.

**Credits:** 3

**EDU 8679: Standards Aligned Sys & Curric**

Review of standards aligned systems and their implications for elementary and secondary school curricula; innovation in curriculum implementation; processes for designing and developing curriculum; culture projections.

**Credits:** 3

**EDU 8693: Leadership Practicum II**

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**Credits:** 3

**EDU 8696: Leadership Practicum**

Purpose is to provide students in higher education or teacher leadership with the opportunity to begin translating their academic understanding into actual leadership practice through on-site experiential learning, supervision, and structured critical reflection.

**Credits:** 3

**EDU 8697: Leadership Simulation**

Taken after completion of the skills component, this seminar features a reality-based learning project to develop strategic problem-solving skills through computer simulation, interactive video, and other data resources. Students develop a one- and three-year strategic plan for presentation to a board of three practicing school superintendents.

**Credits:** 3

**EDU 8699: Found US Cath Ed**

An exploration of the theological, philosophical, and historical trends impacting the development of U.S. Catholic Educational policy.

**Credits:** 3

**EDU 8710: Childhood: Play & Practice**

This hands-on class prepares students to work with children (3-11years old) in educational and counseling settings. We focus on childhood as a distinct period in human life and teach students how to interact with children in developmentally appropriate ways. RESTRICTION: Graduate student or by permission.

**Credits:** 3

**EDU 8726: Dev Research & Practice**

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**Credits:** 1

**EDU 8869: Special Topics: Education**

Work in critical analysis of selected topics in education, reflecting various historical, philosophical, and societal perspectives and methodologies, including Anthropology and Education; Gender and Education; Women's Philosophies of Education, History of School Reform, Effects of Globalization.

**Credits:** 3

**EDU 9031: Indep Study & Research I**

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**Credits:** 3

**EDU 9032: Ind Study & Research II**

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**Credits:** 3

**EDU 9033: Ind Study & Research III**

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**Credits:** 3

**EDU 9034: Thesis I**

Direction of writing of the thesis under supervision of an individual instructor. Restricted to EDU graduate students who elect the Thesis option.

**Credits:** 3

**EDU 9035: Thesis II**

Direction of writing of the thesis under supervision of an individual instructor. EDU graduate students who elect the Thesis option.

**Credits:** 3

**Prerequisites:**

EDU 9034

**EDU 9080: Thesis Continuation**

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**Credits:** 0

# English

## Upcoming Courses

- Fall 2020 Upper-Level Courses
- Fall 2020 1842 First-Year Courses

### **ENG 1050: The Literary Experience**

Introduction to literature and the methods of literary analysis. Close readings of texts. Individual sections vary in the works covered.

**Credits: 3**

### **ENG 1842: Perspectives in Literature**

Close readings of literary texts, examined from particular thematic perspectives.

Individual sections vary in the works covered. Does not fulfill Core Curriculum requirements. Preference given to freshman students.

**Credits: 3**

### **ENG 1903: Internship Elective**

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**Credits: 3**

### **ENG 1906: Internship Elective**

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**Credits: 6**

### **ENG 1909: Internship Elective**

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**Credits: 9**

### **ENG 1975: Core Lit and Writing Seminar**

Careful reading of and intensive writing about literature. Individual sections vary in themes and works covered. Restricted to Arts & Sciences students governed by the New Core Curriculum instituted in Fall 2011.

**Credits: 3**

### **ENG 2000: Adv Expository Writing**

Practice in writing reports, reviews, arguments, description; emphasis on organization and development.

**Credits: 3**

### **ENG 2003: Intro to Creative Writing**

Designed for students who wish to experiment with composing several kinds of creative writing: short fiction, creative nonfiction, and poetry.

**Credits: 3**

### **ENG 2004: Writing Creative Nonfiction**

Creative nonfiction has been described as "true stories well told." Students will write, close read, and workshop "true stories," including travel writing, food writing, and the lyric essay.

**Credits: 3**

### **ENG 2005: Writing of Short Story**

In this writing workshop course, we will explore setting, point of view, characterization, plot and other craft elements that make short stories run. We will read influential authors and give feedback to one another to foster our growth as writers.

**Credits: 3**

### **ENG 2006: The Writing of Poetry**

Instruction in poetry writing, including how to craft imagery, figurative language, sound, line, and rhythm, as well as traditional and contemporary forms. Students read widely and write lyric, narrative and experimental poems that are shared in a supportive workshop setting.

**Credits: 3**

### **ENG 2007: The Writing of Screenplays**

Instruction in writing screenplays. Limited to 15 students. Permission of instructor required.

**Credits: 3**

#### **Prerequisites:**

Permission of instructor required.

### **ENG 2009: Writing the Traditional Novel**

A creative writing workshop course designed for students eager to leap into the complex process of writing a novella or short novel. Students will close-read short novels to analyze elements of craft and workshop sections of their own novel in-progress.

**Credits: 3**

### **ENG 2011: Writing the Experimental Novel**

Reading of a variety of experimental fictional models and application of these models to the construction of a larger experimental group novel, thus expanding students' repertoire of narrative techniques.

**Credits: 3**

### **ENG 2012: Advanced Creative Writing**

Usually taught by visiting professors. For writers of poetry and short fiction. Reading of models of exemplary technique and application of these to students' own work. Critical feedback from peers and professors.

**Credits: 3**

**ENG 2013: Writing of Memoir**

Through readings of seminal essays and memoirs and writing assignments that emphasize voice, structure, research, dialogue and the reconstruction of events, students learn to shape personal experiences into compelling narratives.

**Credits:** 3

**ENG 2015: Business Communication**

The essential elements of corporate communication, with emphasis on writing.

**Credits:** 3

**ENG 2016: Writing Speculative Fiction**

This creative writing workshop explores craft elements of writing short- and long-form fiction. Reading and writing assignments focus on speculative fiction, including the genres of horror, fantasy, science fiction and historical fiction.

**Credits:** 3

**ENG 2017: Writing Detective Fiction**

Do you love detective fiction? Have you always wanted to write your own "whodunit?" In this course, you'll read and analyze classic and contemporary detective fiction while working to produce, workshop, and polish your own creative work.

**Credits:** 3

**ENG 2018: Nature Writing Workshop**

The natural world will be a source for the creative non-fiction, poetry, and fiction pieces students will write in this class. Through readings, field trips, writing exercises, and workshops students will learn to sharpen their language and see more deeply.

**Credits:** 3

**ENG 2019: Writing for Social Change**

Can stories change society? In this workshop you will braid your social justice, environmental, healthcare, and migration interests into creative pieces. We will read works by contemporary writers that address existing problems and call for justice, resistance, equality, activism.

**Credits:** 3

**ENG 2020: Journalism**

News gathering and news writing; principles, rules and techniques of news, editorials, features.

**Credits:** 3

**ENG 2021: Journalism for Co-ops**

Journalistic principles and practice for students doing individual co-ops via ENG 2999. Distance learning.

**Credits:** 3

**Co-Requisites:**  
ENG 2999

**ENG 2022: Nova Meets Literary Belfast**

You will study contemporary Irish/Northern Irish writers while writing your own creative pieces. Partnering with the Seamus Heaney Center, Belfast, you will meet the writers you have been reading to discuss their work and to workshop your own writing.

**Credits:** 3

**ENG 2030: Tutoring Writers**

Theory and practice of Writing Center Work; writing, editing and tutoring skills. Permission of instructor required.

**Credits:** 3

**Prerequisites:**

Permission of instructor required.

**ENG 2041: Travel Writing**

Writing of travel narratives with focus on descriptive and narrative techniques. Readings in contemporary travel tales as well as critical theory associated with travel writing.

**Credits:** 3

**ENG 2042: Web Writing Theory & Practice**

Design and completion of web writing projects and web sites. Theoretical and critical attention to the different rhetorical situations of print and hypertext media.

**Credits:** 3

**ENG 2043: Writing About US Pop Culture**

Analysis of popular culture: TV, advertising, the visual arts, music, the Internet, sports, and best-selling books. Extensive writing for individual student web pages.

**Credits:** 3

**ENG 2045: Sp Top in Writing & Rhetoric**

Special writing and rhetoric topics selected by the instructor.

**Credits:** 3

**ENG 2046: English as a 2nd Language**

This service-learning course provides students with the background, tools, and experience needed to teach English to non-native speakers. In addition to classes at Villanova, students practice teaching at a Hispanic culture center.

**Credits:** 3

**ENG 2050: Writing for Magazines**

The craft of magazine writing. Genres of non-fiction including profile writing, essay writing, travel writing, criticism, and long-form journalism.

**Credits:** 3

**ENG 2051: Sports Writing**

Sports are more than games; they're a crucible for examining human experience. By examining the work of some of the genre's best writers, students will learn to report and write about this arena with deeper understanding and insight.

**Credits:** 3

**ENG 2060: Desktop Publishing**

Use of software to write editorials, news articles, and press releases, and to design flyers, brochures, and newsletters for community organizations. The basics of web page design.

**Credits:** 3

**ENG 2061: Editing & Publishing**

Literary publishing in a diverse, compelling field involving both art and commerce. This hands-on class explores the economic, social, and artistic forces that shape contemporary literature. Grapple with what it means to "make culture" while honing editorial skills.

**Credits:** 3

**ENG 2070: Legal Writing and Analysis**

Fundamentals of legal writing and analysis.

**Credits:** 3

**ENG 2080: Hist of English Language**

The development of the English language from Old English to Modern English.

**Credits:** 3

**ENG 2250: Ways of Reading:Lit Analysis**

An exploration of how we engage, understand, explicate, and enjoy texts of all sorts.

**Credits:** 3

**ENG 2300: Women in Literature**

Study of the place of women in literature, with emphasis on modern fiction, drama and poetry written in English.

**Credits:** 3

**ENG 2301: Science Fiction**

Science fiction as a significant genre.

**Credits:** 3

**ENG 2302: Apocalyptic Literature**

One of the oldest forms of narrative, apocalyptic literature is more popular - and powerful - than ever. Starting with Revelation, this course traces this tradition through fascinating poems, stories, novellas, novels and films to the present day.

**Credits:** 3

**ENG 2304: Cont World Lit & Environment**

The study of global contemporary fiction, poetry, creative non-fiction, and film that focuses on the environment, climate change, social justice and the future of nature.

**Credits:** 3

**ENG 2305: Black Life Writing**

Examines major autobiographies by African American and Africans, exploring self, truth, the body politic, and construction of identity. These authors develop crucial dimensions of black intellectual self-representation, whether as individuals or as part of a larger portrait of Black lives.

**Credits:** 3

**ENG 2310: Study of Poetry**

Concepts of poetry with detailed analyses of selected poems.

**Credits:** 3

**ENG 2320: Forms of the Novel**

The nature of the novel as an art form in British, American, and European works.

**Credits:** 3

**ENG 2330: Forms of Drama**

Drama as a genre; the main types of European and American drama.

**Credits:** 3

**ENG 2340: Modern Short Story**

Contributions to the short story form made by American, Irish, British, and Continental writers.

**Credits:** 3

**ENG 2350: Narrative Television**

Plot, character, voice, point of view in visual, aural, dramatic, and verbal aspects of serial television. What works similarly or differently in television and prose fiction? In television and film?

**Credits:** 3

**ENG 2360: Adaptation: Film as Literature**

The relationship between movies and literature dates back to film's earliest days. Comparing films and texts allows for an explanation of storytelling and the fascinating choices auteurs make. Plot, tone, and symbolism are considered alongside questions of power and representation.

**Credits:** 3

**ENG 2400: Western World Literature I**

Readings in translation of some of the classics of Western literature from the ancient world to the Renaissance, by such writers as Homer, Sophocles, Virgil, Dante, and Cervantes.

**Credits:** 3

**ENG 2410: The Art of Translation**

Translation is a passport to the world. Explore texts translated from a range of languages into English. Translation theory and experiments in translation will support our reading and writing across boundaries. Fluency in a second language is not required.

**Credits:** 3

**ENG 2610: Tutorial Readings**

Program of approved readings under the supervision of a selected faculty member; examination on readings and a lengthy paper required.

Restricted to senior English majors with high cumulative averages. Permission of chair required; ordinarily may not be repeated.

**Credits:** 3

**Prerequisites:**

Permission of chair required; ordinarily may not be repeated.

**ENG 2790/2791/2792/2793: Topics in Lit. and Culture**

Specific topics vary each semester.

**Credits:** 3

**ENG 2791: Topics in Lit. and Culture**

Specific topics vary each semester.

**Credits:** 3

**ENG 2800: Teaching Practicum**

Open only to senior English majors with a GPA of at least 3.5. Permission of consulting teacher and chair required.

**Credits:** 3

**Prerequisites:**

Permission of consulting teacher and chair required.

**ENG 2991: English Majors in Workplace**

Communicating and applying skills of English Majors in the workplace.

**Credits:** 1

**ENG 2992: English Topics Abroad**

Co-requisite 1-credit course designed to provide an embedded study-abroad experience to complement a requisite English course.

**Credits:** 1

**Co-Requisites:**

ENG 2003

ENG 2041

ENG 2003

ENG 2041

**ENG 2993: Internship**

Internship

**Credits:** 3

**ENG 2996: Internship**

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**Credits:** 6

**ENG 2998: Publishing Co-op**

Full-time employment with a selected firm in the area of publishing, where experience is gained through appropriate training, instruction, and supervision. Approval of English Department Chair required.

**Credits:** 6

**Prerequisites:**

Approval of English

Department Chair required.

**ENG 2999: Publishing Co-op**

Full-time employment with a selected firm in the area of publishing, where experience is gained through appropriate training, instruction, and supervision. Approval of English Department Chair required.

**Credits:** 9

**Prerequisites:**

Approval of English

Department Chair required.

**ENG 3000: Intro to OE Lang & Lit**

Old English literary works in translation and original language.

**Credits:** 3

**ENG 3001: Foundational Lit in ENG 1**

Influential British literature from beginnings to 1750, tracing key ideas, power relations, and genres that still impact literature in English, and Anglophone culture, today. Relationships between writing and political change, media history, gender, spirituality, the environment, oppression and liberation.

**Credits:** 3

**ENG 3150: Chaucer**

The Canterbury Tales, Troilus and Criseyde, and additional works.

**Credits:** 3

**ENG 3160: Fabulous Middle Ages**

The Middle Ages mixed history (historia) and fable (fabula) freely. This course traces the intersections between the fabulous (the fictional and fantastic) and the "real" in medieval narratives about the history, global travel, and the natural world.

**Credits:** 3

**ENG 3170: Love & War in Medieval Romance**

Medieval romances - texts about chivalry and love - have shaped everything from racial identity to flirting. This course considers how romances depict sexuality and gender; construct notions of religious otherness; and shape ideas about peoples and political power.

**Credits:** 3

**ENG 3181: Irish Epics, Visions&Hauntings**

A study of Irish literature from its origins in the world of Celtic mythology, epic and saga through the development of Anglo-Irish literature.

**Credits:** 3

**ENG 3190/3191: Medieval Brit/Ir Lit. & Cult.**

Specific topics vary each semester.

**Credits:** 3

**ENG 3201: English Renaissance**

Non-dramatic literature of the English Renaissance.

**Credits:** 3

**ENG 3230: Eliz & Jacobean Drama**

Playwrights of the English Renaissance excluding Shakespeare.

**Credits:** 3

**ENG 3250: Shakespeare**

This course studies the plays and/or poems of Shakespeare. It may be focused on a particular genre of Shakespeare's work, a period in his career, or a topic. The course seeks to develop students' appreciation of Shakespeare's artistry and relevance.

**Credits:** 3

**ENG 3260: Revenge Tragedy**

This course studies a popular and influential type of Renaissance drama: the revenge tragedy, a genre preoccupied with spectacular acts of murder and revenge and with the psychological, social, familial, and political circumstances that motivate and justify violent revenge.

**Credits:** 3

**ENG 3290/3291: Renaissance Br/Ir Lit. & Cult.**

Specific topics vary each semester.

**Credits:** 3

**ENG 3300: 17th Cent Poetry & Prose**

The poetry of Donne, Jonson, Lanyer, Herrick, Herbert; essays, sermons, journals, letters, pamphlets of Bacon, Donne, Milton, and others.

**Credits:** 3

**ENG 3350: Milton**

English poems and selected prose on issues of gender, politics, religion, culture.

**Credits:** 3

**ENG 3420: 18th Century British Novel**

Writings by Defoe, Fielding, Sterne, and others; and the Gothic novel of terror.

**Credits:** 3

**ENG 3430: Restor & 18th cent Drama**

Dramatists from Dryden to Sheridan.

**Credits:** 3

**ENG 3440: Harlots, Rakes, & Libertines**

Discover the Libertine authors of the seventeenth and eighteenth century, whose witty, scandalous works promoted a freethinking philosophy of sexual pleasure and individual freedom, and provoked critics who blamed them for modern social problems such as prostitution, poverty, and crime.

**Credits:** 3

**ENG 3450: Dryden Swift & Pope**

The study of the principal works of the major Neo-Classical writers.

**Credits:** 3

**ENG 3490/3491: 18th c. Brit/Ir Lit. & Culture**

Specific topics vary each semester.

**Credits:** 3

**ENG 3500: Foundational Lit. in English 2**

Influential British and Irish literature since about 1800 (covering the period after ENG 3001), exploring key ideas, power relations, and genres that still shape literature in English today. Topics include political change, gender, artist and audience, and the environment.

**Credits:** 3

**ENG 3501: Early Romantic Writers**

Wordsworth, Coleridge and other writers of the first half of the Romantic period.

**Credits:** 3

**ENG 3502: Later Romantic Writers**

Byron, Shelley, Keats and other writers of the second half of the Romantic period.

**Credits:** 3

**ENG 3504: 19th Cent Brit Women Writers**

Writings by important nineteenth-century British women novelists and poets, including Mary Shelley, Charlotte Bronte, Christina Rossetti, Elizabeth Barrett Browning, and others.

**Credits:** 3

**ENG 3505: Poetry & Prose 1830-1865**

The poetry and prose of Carlyle, Tennyson, Browning, Newman, Arnold, and other writers of the era.

**Credits:** 3

**ENG 3506: Poetry & Prose 1865-1900**

The poetry and prose of Ruskin, Rossetti, Swinburne, Hopkins, Pater, Hardy, and others.

**Credits:** 3

**ENG 3507: Lit, Medicine, & Culture**

Explore literary responses to pivotal developments in medical science and practice from the eighteenth century to the present. Study works that engage with the new ideas about illness, treatment, and disability that arose alongside changing understandings of the human body.

**Credits:** 3

**ENG 3520: 19th Cent British Novel**

Selected novelists from Jane Austen to Thomas Hardy.

**Credits:** 3

**ENG 3525: Dickens**

Selected novels by Charles Dickens.

**Credits:** 3

**ENG 3530: Victorian Doubles**

Investigate how Victorian literature represents doubles - self and other, women and men, past and present, public and private - and study changing constructions of gender, industrialization, and imperial expansion in nineteenth-century Britain.

**Credits:** 3

**ENG 3540: Institutional Fictions**

This course examines the intriguing relationship between literature and institutions, including governments, schools and prisons. Reading nineteenth-century literature in relation to our contemporary moment, we focus especially on universities, interrogating students' experiences of universities and institutional narratives about universities.

**Credits:** 3

**ENG 3580: Topics in 19th C Irish Lit&Cul**

Special topic in 19th century Irish literature and culture. For access to the full course description, go to this course number in the Villanova Master Schedule and click on the "syllabus available" link.

**Credits:** 3

**ENG 3590/3591: 19th c. Brit/Ir Lit. & Culture**

Specific topics vary each semester.

**Credits:** 3

**ENG 3610: Modern British Poetry**

British poetry from 1900 to the present, with emphasis on Hopkins, Hardy, Yeats, Eliot, Auden, Muir, Edith Sitwell, K3 Dylan Thomas, and Philip Larkin.

**Credits:** 3

**ENG 3615: James Joyce**

A study of the novels and short stories of James Joyce, with concentration on Ulysses.

**Credits:** 3

**ENG 3616: Irish American Drama & Film**

Depictions of the American Irish in popular drama and films from colonial times to the present. Popular Irish-American actors and their appeal, the Irish-American musical stage tradition, and the cross-over from popular drama to popular films such as John Ford's *The Quiet Man* and *The Informer*.

**Credits:** 3

**ENG 3617: Irish Revivalism**

Study of Irish Revival of the late-nineteenth and early-twentieth century; focus on revivalism, gender, and colonial politics, reading multiple literary genres, beginning with Jane Wilde and William Butler Yeats.

**Credits:** 3

**ENG 3618: Intro to African Lit I**

Chronological study of forms of cultural and literary production in Africa. Begins from oral epic traditions up to late 20th century written literatures. Examines postcolonial theory and the issues of language and "authenticity" in representations of African societies.

**Credits:** 3

**ENG 3619: Intro to African Lit II**

Continuation of study of the various literary practices in Africa, from the late 20th-century writing to 21st-century artists. In addition to postcolonial representation, examines African feminism, Afropolitanism, and Africa and Diaspora intersections in age of globalization.

**Credits:** 3

**ENG 3620: Modern British Novel**

The British novel from the turn of the century to World War II.

**Credits:** 3

**ENG 3621: Contemp British Novel**

This course explores British fiction written after the second World War until today. What stories do novelists tell about the meaning of "Britishness" after the British empire? We investigate themes of nostalgia, xenophobia, feminism, and class warfare in stylistically varied novels.

**Credits:** 3

**ENG 3622: Virginia Woolf**

Virginia Woolf, novelist, essayist, and diarist, is one of the most influential 20th-Century Writers. Woolf explores the self, modernity, depression, and the joy of an ardent feminist life. We will read Woolf's novels and contemporary debates about form, gender, and sexuality.

**Credits:** 3

**ENG 3630: Modern British Drama**

British drama from the 1890s to the Theatre of the Absurd.

**Credits:** 3

**ENG 3640: Irish Drama**

Irish plays and performances including Abbey Theatre plays by William Butler Yeats, Augusta Gregory, John Millington Synge, and Teresa Deevy, followed by works by Samuel Beckett, Brian Friel, Marina Carr and new Irish theatre.

**Credits:** 3

**ENG 3650: African Drama**

Examination of the aesthetics, politics, and practices of the theatre and drama in Africa. Focused on written plays, course explores drama performances on stage, television, and movies. Introduces students to role-playing and small-scale adaptation of texts to American contexts.

**Credits:** 3

**ENG 3660: Contemp. Lit & Film of India**

India produces some of the most innovative and engrossing literature in the world, while also releasing more films than any other nation. Through both forms, we'll explore debates in contemporary India concerning border tensions, caste, gender, fantasy, and imperial histories.

**Credits:** 3

**ENG 3680: Top: 20th-21st C Irish Lit&Cul**

Special topic in 20th-21st century Irish literature and culture. For access to the full course description, go to this course number on the Villanova Master Schedule and click on "syllabus available" link.

**Credits:** 3

**ENG 3682: Contemporary Irish Literature**

Readings of Irish poets and prose writers of the last fifty years, starting with Seamus Heaney and Edna O'Brien, and including contemporary works by visiting Irish Heimbold Chairs.

**Credits:** 3

**ENG 3690/3691: Br/Ir Lit. & Cult. after 1900**

Specific topics vary each semester.

**Credits:** 3

**ENG 3691: Br/Ir Lit. & Cult. after 1900**

Specific topics vary each semester.

**Credits: 3**

**ENG 4000: American Literary Trad 1**

By studying Black, Latinx, Native, and white writers from the 1600s through 1900, this course introduces the literary history of what we now call the United States, inviting students to learn from stories and voices typically left out of more official "American" history.

**Credits: 3**

**ENG 4001: Major Amer Writers I**

The masterpieces of selected American writers from early times to the Civil War era.

**Credits: 3**

**ENG 4003: African-American Lit Trad 1**

Black people helped craft the narrative of their lived experiences from their arrival in the New World. Students read the earliest African American literary offerings through the first decade of the twentieth century, including political treatise, autobiography, poetry and novels.

**Credits: 3**

**ENG 4040: American Short Story**

Development of the short story in America from Washington Irving to the present.

**Credits: 3**

**ENG 4500: American Slave Narrative**

Slavery as a central paradox of American history and literature with emphasis on race and gender. Readings by Douglass, Brent, Stowe, Morrison, and others.

**Credits: 3**

**ENG 4501: Amer Transcendentalism**

An intensive analysis of Emerson, Thoreau, and other Transcendentalists.

**Credits: 3**

**ENG 4502: The Black Atlantic**

This interdisciplinary course looks at the history and literature of the transatlantic slave trade, which fundamentally altered Europe, Africa, and the Americas during the early modern era. It also considers the diasporic Black culture that emerged during and after slavery.

**Credits: 3**

**ENG 4505: Concord Writers**

The major works of and interactions between Concord's most celebrated writers: Ralph Waldo Emerson, Henry David Thoreau, Nathaniel Hawthorne, Bronson and Louisa May Alcott.

**Credits: 3**

**ENG 4510: 19th Cent Amer Poetry**

American poetry from its beginning to Emily Dickinson.

**Credits: 3**

**ENG 4515: American Gothic**

The nature and evolution of horror writing in America from the eighteenth-century to today.

**Credits: 3**

**ENG 4520: American Novel to 1895**

The genesis of the American novel.

**Credits: 3**

**ENG 4530: The American Renaissance**

Pre-Civil War text, primarily from 1850-1855.

**Credits: 3**

**ENG 4540: The American Revolutionary Era**

Lives and writings of the American Revolutionary Era Founders.

**Credits: 3**

**ENG 4545: Early American Novel**

This course survey's groundbreaking U.S. novels from the American Revolution to the Civil War. We'll focus on literary aesthetics as well as how novels affirm or resist prevailing politics, paying particular attention to racism, settler colonialism, capitalism, and patriarchy.

**Credits: 3**

**ENG 4590/4591/4592: Am. Lit. & Cult. before 1900**

Specific topics vary each semester.

**Credits: 3**

**ENG 4591: Am. Lit. & Cult. before 1900**

Specific topics vary each semester.

**Credits: 3**

**ENG 4600: Amer Literary Trad 2**

A survey of American literature from 1900 to the present, meant to give students familiarity with a wide range of authors and genres who have contributed significantly to American writing in the 20th century and beyond.

**Credits: 3**

**ENG 4601: Major Ameri Writers II**

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**Credits: 3**

**ENG 4602: African American Lit Trad 2**

Contemporary African American literature narrates exciting social, political and aesthetic changes in the US. Students will read a variety of literature, including essays, short stories, poetry, novels and plays, beginning with the Harlem Renaissance to today.

**Credits:** 3

**ENG 4603: African American Short Story**

African American short fiction has taken on a number of forms throughout the 20th and 21st century. Students will read works by writers diverse as Charles Chesnutt, Zora Neale Hurston, James Baldwin, Alice Walker, Toni Morrison, Octavia Butler and Edwidge Danticat.

**Credits:** 3

**ENG 4605: Amer Poetry: 1900-1950**

American poets of the first half of the twentieth Century, including Robinson, Frost, Stevens, Cummings, Williams, Millay, Pound, Eliot, and others.

**Credits:** 3

**ENG 4606: Alone Together-Social Dist Lit**

How can we feel connected even when alone? This course explores how the activities of reading and writing produce the strange and sustaining feeling of being alone together. We'll examine examples of this paradoxical condition in recent fiction and poetry.

**Credits:** 3

**ENG 4610: African American Poetry**

The exquisite poetry of 18th, 19th, 20th and 21st century African American writers, like Wheatley, Dunbar, Johnson, Hughes, Brooks, Sanchez, Giovanni, Angelou, Dove, Rankine and Mullen introduces students to a range of experience and the power of language.

**Credits:** 3

**ENG 4615: Amer Poetry since 1950**

American poets since 1950, including Lowell, Plath, Sexton, Snodgrass, Ginsberg, Rich, Snyder, Baraka, and others.

**Credits:** 3

**ENG 4618: Harlem Renaissance**

F. Scott Fitzgerald called the years between the wars the "Jazz Age." Folks uptown recognized that a Renaissance was happening in Harlem. Students will study major works by African Americans written during the 1920s and 1930s.

**Credits:** 3

**ENG 4619: The Works of Edith Wharton**

The Works of Edith Wharton in context.

**Credits:** 3

**ENG 4620: American Novel 1895-1950**

Representative novelists from Crane to Steinbeck.

**Credits:** 3

**ENG 4621: Amer Novel since 1950**

Novels of the late Modern Period and of the early Post-modern period.

**Credits:** 3

**ENG 4622: African American Women Writers**

From Phyllis Wheatley to Zora Neale Hurston, Lorraine Hansberry to Alice Walker, Toni Morrison to Chimamanda Adichie, black women writers have helped shape and complicate the contours of the American literary canon. Students read an exciting range of genres.

**Credits:** 3

**ENG 4623: African American Novel**

From American slavery to Afrofuturism, writers of the African American novel have explored the lived experience of black people in America and throughout the African Diaspora.

**Credits:** 3

**ENG 4630: American Drama to 1960**

Major plays of the period.

**Credits:** 3

**ENG 4631: Amer Drama since 1960**

Major plays of the period.

**Credits:** 3

**ENG 4632: African American Drama**

"The play's the thing" to capture the conscience of not only a king but a nation. Students will read plays written by African Americans including Lorraine Hansberry, Amiri Baraka, August Wilson, Anna Deavere Smith, and Suzan Lori Parks.

**Credits:** 3

**ENG 4635: Contemporary American Poetry**

Focused study of contemporary American poetry emphasizing gender, ethnicity, aesthetic principles or genre.

**Credits:** 3

**ENG 4636: Contemp Amer Women's Poetry**

The work of American women poets from the last forty years.  
**Credits: 3**

**ENG 4640: Contemp Amer Women's Lit**

Writings by women from WW II to the present. Works by Ann Petry, Maxine Hong Kingston, Toni Morrison, Joyce Carol Oates, Kathy Acker, Bobby Ann Mason, and others.  
**Credits: 3**

**ENG 4641: American Immigrant Narratives**

This course examines the fierce, vibrant strain of writing by immigrants who have pushed beyond boundaries of genre and nation to tell their stories. It focuses on fiction and creative nonfiction published in the U.S. after 1900.  
**Credits: 3**

**ENG 4645: Post Modern Amer Fiction**

Experimental narratives by American writers of the last four decades. Works by Vladimir Nabokov, Thomas Pynchon, Ishmael Reed, Don DeLillo, Joanna Russ, and others.  
**Credits: 3**

**ENG 4646: Race & Ethnicity: Amer Novel**

Canonical texts that treat questions of race and ethnicity. Focus on the critical role of language and literature in constructing and deconstructing racial categories.  
**Credits: 3**

**ENG 4647: Gender & Sexuality in US Lit**

This course examines a fascinating range of contemporary US literary texts to explore the ways that gender and sexuality intersect with race, class and other categories of identity to form our experiences of selfhood, community, national belonging, and power.  
**Credits: 3**

**ENG 4648: U.S. Empire & Cont. Am. Lit.**

Examines American literature in the context of U.S. empire, including histories and effects of settler colonialism, overseas expansion, and war. Focuses on authors of color from 1945 to the present.  
**Credits: 3**

**ENG 4649: Intro to Asian American Lit**

Examines literature, film art, and other cultural productions by Asian Americans and explores Asian American histories from the early 20th century to the present.  
**Credits: 3**

**ENG 4651: Lives of the Undocumented**

The lived experiences of undocumented immigrants in the U.S. told in their own words through memoir, fiction, poetry, graphic novel, testimony, creative and critical essays.  
**Credits: 3**

**ENG 4652: Letters, Texts, & Twitter**

How does writing bring together distant lovers, friends, family? We'll read letters, the digital forms (social media, instant messaging) that have replaced them, and their representation in novels, poems, and essays to explore how intimacy forms across distance.  
**Credits: 3**

**ENG 4690/ 4691/ 4692: Amer. Lit. & Cult. after 1900**

Specific topics vary each semester.  
**Credits: 3**

**ENG 4691: Amer. Lit. & Cult. after 1900**

Specific topics vary each semester.  
**Credits: 3**

**ENG 4700: Caribbean Literature**

Explores representations of the culture and history of the Caribbean in the literary and performance traditions of creative artists from the region. Examines postcolonial discourse and folklore aesthetics across genres and in cultural forms such as carnival and Caribbean music.  
**Credits: 3**

**ENG 4702: Authors On & Off the Page**

Do you love to write? Dream of visiting with authors to discuss their work and the publishing world? This course combines creative writing workshops with literary analysis and the chance to hob-nob with prestigious authors during the Villanova Literary Festival.  
**Credits: 3**

**ENG 4703: 21st C. American Apocalypse**

This course surveys major contemporary novels depicting American disasters and their aftermath. We'll consider the varieties of apocalypse that are imagined -- including economic collapse, pandemic, "zombie apocalypse," and climate disruption -- in relation to gender, race, and literary form.

**Credits:** 3

**ENG 5000: Senior Seminar**

Capstone experience combining immersion in primary and secondary materials with an intensive writing experience. Limit of 15 students.

**Credits:** 3

**ENG 7055: Top. Afro-American Literature**

An in-depth study of literary works by African-American writers; area of emphasis (e.g., the novel, the drama, poetry) determined by the instructor.

**Credits:** 3

**ENG 7200: Hist of English language**

Development of the English language from Anglo-Saxon times to the present.

**Credits:** 3

**ENG 8000: Literary Theory**

The chief schools of critical and literary theory.

**Credits:** 3

**ENG 8010: Sem: Research & Bibliog**

The main areas of literary scholarship and the methods and tools of research in English and American literature.

**Credits:** 3

**ENG 8020: Comp. & Literacy Study**

The range of concerns, methodologies, and theories in composition and literacy research, especially as influenced by anthropology; education, literacy studies, sociolinguistics, and cognitive psychology.

**Credits:** 3

**ENG 8090: Thesis Direction I**

Direction of writing of the thesis under supervision of an individual instructor.

**Credits:** 3

**ENG 8092: Field Examination**

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**Credits:** 3

**ENG 8093: Field Exam Continuation**

Field Exam Continuation.

**Credits:** 0

**ENG 8102: Old Engl Language & Lit**

Introduction to the language and literature of the Anglo-Saxon period.

**Credits:** 3

**ENG 8104: Mid English Lang & Lit**

Broad survey of writings from the 12th to the 15th century.

**Credits:** 3

**ENG 8106: Sem:Topics in Med Lit**

Selected topics on Old and Middle English literature.

**Credits:** 3

**ENG 8150: Chaucer's Canterbury Tales**

In-depth study of the Canterbury Tales.

**Credits:** 3

**ENG 8151: Chaucer's Troilus**

In-depth study of Chaucer's Troilus, Book of the Duchess, House of Fame and selected minor works.

**Credits:** 3

**ENG 8250: Shakespeare**

In-depth study of Shakespeare's works.

**Credits:** 3

**ENG 8260: Topics Renaissance Lit**

Topics chosen according to instructor's area of expertise.

**Credits:** 3

**ENG 8310: 17th Century Poetry & Prose**

Secular and religious lyrics, and selected prose works of the period 1600-1660.

**Credits:** 3

**ENG 8350: Milton**

The minor and major poems of Milton; some prose works.

**Credits:** 3

**ENG 8420: 18th Century Fiction**

The works of Richardson, Fielding, Sterne, and other major novelists.

**Credits:** 3

**ENG 8430: English Drama 1660-1780**

The development of English drama from Dryden to Sheridan; also included are readings from the works of Addison, Congreve, Etherege, Farquhar, Fielding, Steele, and Wycherley.

**Credits:** 3

**ENG 8450: Age of Neo-Classicism**

The principal writings of Dryden, Swift, Pope, Johnson, Boswell, and several minor writers of the period.

**Credits:** 3

**ENG 8460: Topics in 18c Brit Lit**

Topics chosen according to instructor's area of expertise.

**Credits:** 3

**ENG 8501: Age of Romanticism**

Chief poets and prose writers of the Romantic period.

**Credits:** 3

**ENG 8505: Victorian Prose**

Chief prose writers of the Victorian period.

**Credits:** 3

**ENG 8506: Victorian Poetry**

Tennyson, Browning, Arnold, Hopkins, and other poets of the Victorian period.

**Credits:** 3

**ENG 8520: 19th Century British Fiction**

Development of the novel in England from Jane Austen to Thomas Hardy.

**Credits:** 3

**ENG 8560: Topics in 19c Brit Lit**

Topics chosen according to instructor's area of expertise.

**Credits:** 3

**ENG 8580: Irish Lit before 1900**

Topics in Irish Literature & Culture before 1900. Specific topics vary each semester.

**Credits:** 3

**ENG 8610: Modern British Poetry**

Chief British poets of the twentieth century.

**Credits:** 3

**ENG 8620: Modern British Fiction**

Significant works by the major novelists, principally of the twentieth century.

**Credits:** 3

**ENG 8630: Modern British Drama**

Chief British dramatists and their work.

**Credits:** 3

**ENG 8640: Topics in Mod Brit Lit**

Topics chosen according to instructor's area of expertise.

**Credits:** 3

**ENG 8680: Irish Lit after 1900**

Topics in Irish Literature & Culture after 1900. Specific topics vary each semester.

**Credits:** 3

**ENG 9031: Independent Study I**

Special project pursued under the direction of an individual professor.

**Credits:** 3

**ENG 9032: Independent Study II**

Special project pursued under the direction of an individual professor.

**Credits:** 3

**ENG 9035: Professional Research Option**

Special project, related to professions in which an advanced degree in literature is of benefit, pursued under the direction of an individual professor. Pre-req. 18 credits of graduate coursework.

**Credits:** 3

**ENG 9080: Thesis Continuation**

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**Credits:** 0

**ENG 9510: American Poetry to 1900**

American poetry from Puritan times to the end of the nineteenth century.

**Credits:** 3

**ENG 9520: American Fiction to 1900**

The rise and development of the American novel in the nineteenth century.

**Credits:** 3

**ENG 9530: Topics 19th C Amer Lit**

Topics chosen according to instructor's area of expertise.

**Credits:** 3

**ENG 9540: American Fiction to 1900**

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**Credits:** 3

**ENG 9610: Amer Poetry: 1900-1950**

The chief poets and poetic movement of the twentieth century to 1950.

**Credits:** 3

**ENG 9620: Amer Fiction: 1900-1950**

Significant works by major novelists of the twentieth century to 1950.

**Credits:** 3

**ENG 9640: Topics in Mod Amer Lit**

Topics chosen according to instructor's area of expertise.

**Credits:** 3

**ENG 9710: Amer Poetry:1950 to Pres**

The chief poets and poetic movements from 1950 to the present.

**Credits:** 3

**ENG 9720: Amer Fiction:1950 - Pres**

Significant works by contemporary American fiction writers since 1950.

**Credits:** 3

**ENG 9730: Open seminar**

Special topics vary by semester.

**Credits:** 3

**ENG 9731: Topics in Literature**

Topics chosen according to instructor's area of expertise.

**Credits:** 3

**ENG 9800: Internship in Teaching English**

Option for second-year graduate students to serve as intern for graduate faculty member in upper-level undergraduate English course. Prerequisites: Eighteen credits of graduate coursework.  
**Credits: 3**

## Entrepreneurship

**ENT 2020: Intro to Entrepreneurship**

Process of starting new business including business models and plans, legal and HR issues, product design, supplier relationships, business growth.  
**Credits: 3**

**Prerequisites:**

(VSB 2020 and VSB 2009 :Y or VSB 2010 or VSB 2030 and VSB 2040) or ( ECO 1001 or SBI 2005) and ECO 1002 and ACC 1101 and FIN 1113 and MGT 1102 and MKT 1137)

**ENT 2021: Entrepreneurship Mkt**

Marketing strategies for new ventures including target markets, research, sales strategy, guerilla marketing, promotion, distribution, pricing.  
**Credits: 3**

**Prerequisites:**

(VSB 2020 and VSB 2009 :Y or VSB 2010 or VSB 2030 and VSB 2040) or ( ECO 1001 or SBI 2005) and ECO 1002 and ACC 1101 and FIN 1113 and MGT 1102 and MKT 1137)

**ENT 2022: Entrepreneurship Fin**

Funding strategies and accounting for new ventures including cash management, forecasting, account procedures, inventory models and management, pro forma financial statements, credit policies, taxation, exit options.  
**Credits: 3**

**ENT 2023: Entrepreneurship Practicum**

Develop a business plan, plan for, finance and start an actual business; end business and analyze experience; profits donated to charity of choice.  
**Credits: 3**

## Ethics

**ETH 2050: The Good Life:Eth & Cont Prob**

Major Western ethical traditions as they apply to selected contemporary ethical problems, with special consideration to Jewish and Christian perspectives.  
**Credits: 3**

**ETH 3010: Topics in Ethics**

Addresses a special topic in ethics of current interest to faculty & students.  
**Credits: 3**

**ETH 4000: Integrating Seminar**

A capstone course which integrates academic work and service pursued for concentration, topics determined by professor and research projects of students.  
**Credits: 3**

**ETH 4975: Independent Study in Ethics**

Topic in Ethics chosen by the student and approved by the professor and the Director of the Ethics Program.  
**Credits: 3**

## Finance

**FIN 1113: Principles of Finance**

The theory and techniques of financial management. Time value of money; risk and return; financial analysis and planning; working capital management, capital budgeting; cost of capital; strategic long term financing decisions.  
**Credits: 3**

**Prerequisites:**

ACC 1101 and (ECO 1001 or SBI 2005) and ECO 1002 and VSB 2006 and (MAT 1235 or MAT 1430 or STAT 1235 or STAT 1430)

**FIN 2114: Intermediate Corp Finance**

Risk and return relationships; valuation models; cost of capital; capital structure; capital budgeting; dividend policy; international financial transactions; financial statement analysis and forecasting; working capital management. Emphasis on computer applications and case studies.  
**Credits: 3**

**Prerequisites:**

(VSB 2020 :Y and VSB 2009 or VSB 2010 or VSB 2030 and VSB 2040) or FIN 1113

**FIN 2121: Special Topics in Finance**

Special finance topics offered in lecture/seminar format. Permission of Department Chair or Instructor.  
**Credits: 1**

**FIN 2227: Fixed Inc Markets & Valuation**

Overview of fixed income markets and securities traded within those markets; bond valuation; duration and convexity of fixed income securities; asset backed security markets and valuation; credit risk analysis interest rate determination and models; interest rate risk management.

**Credits:** 3

**Prerequisites:**

(VSB 2020 :Y and VSB 2009 or VSB 2010 or VSB 2030 and VSB 2040) or FIN 1113

**FIN 2230: Risk Mgmt of Fin Institutions**

The structure, operation, management, and regulation of commercial banks, savings and loan associations, mutual savings banks, credit unions, insurance companies, finance companies, pension funds, investment companies, and international financial institutions; structure and operation of the Federal Reserve system; measurement and management of the risks of financial institutions.

**Credits:** 3

**Prerequisites:**

(FIN 2227 and FIN 2323 and FIN 2114)

**FIN 2323: Equity Markets and Valuation**

Risk and return; market efficiency; structure of equity markets; equity trading strategies; financial statement analysis and ratio analysis; financial forecasting; valuation of common stocks using fundamental, relative, and technical analysis; convertible securities, warrants, equity options, and risk management applications.

**Credits:** 3

**Prerequisites:**

(VSB 2020 :Y and VSB 2009 or VSB 2010 or VSB 2030 and VSB 2040) or FIN 1113

**FIN 2324: Portfolio Management**

Advanced investment management with an emphasis on portfolio management; forecasting economic conditions; risk-return characteristics of securities; asset allocation (optimization) techniques; selecting investment goals; evaluating portfolio performance; international diversification; portfolio management with options and futures; computer applications in investment management.

**Credits:** 3

**Prerequisites:**

(FIN 2227 and FIN 2323 and FIN 2114)

**FIN 2325: Introduction to Derivatives**

Overview of financial and non-financial derivatives including options, forwards, futures and swaps; derivatives valuation; trading strategies; application of derivatives for managing financial risks. Prerequisite senior standing.

**Credits:** 3

**Prerequisites:**

(FIN 2227 and FIN 2323 and FIN 2114)

**FIN 2326: Mkt.Struct., Trading&Liquidity**

Liquidity, market structure, and trading in financial markets; alternative market structures and their economic and operational underpinnings; tactical trading decisions within different market structures using simulation software and real-time data services.

**Credits:** 3

**Prerequisites:**

(FIN 2227 and FIN 2323 and FIN 2114)

**FIN 2330: Corporate Restructuring**

Acquisition process and other methods of corporate restructuring. Advantages of internal and external expansion; types of combinations; requisite financial analysis; negotiation strategies; tax options; the role of government. Benefits and limitations of IPOs, leveraged buyouts, employee stock ownership plans and bankruptcy.

**Credits:** 3

**Prerequisites:**

FIN 2227 and FIN 2323 and FIN 2114

**FIN 2333: Financial Modeling & Valuation**

Financial modeling; valuation methods; investment banking process; discounted cash flow models; comparable firms; precedent transactions; leveraged buyout model; mergers & acquisitions; restructurings. Emphasis on computer applications.

**Credits:** 3

**Prerequisites:**

(FIN 2323 and FIN 2227 and FIN 2114)

**FIN 2335: Intl Financial Management**

Foreign exchange markets, foreign derivatives markets, external currency market and their instruments, international parity conditions, foreign exchange risk management, foreign investment analysis, political risk assessment, financing foreign trade, managing the multinational financial system.

**Credits:** 3**Prerequisites:**

(ECO 3108 and VSB 2020 :Y and VSB 2009 or VSB 2010 or VSB 2030 and VSB 2040) or (FIN 1113 and ECO 3108)

**FIN 2340: Contemporary Topics in Finance**

Contemporary issues and topics in Financial Management, Financial Markets, Investments, or International Finance.

**Credits:** 3**Prerequisites:**

(FIN 2227 and FIN 2323 and FIN 2114)

**FIN 2342: Student-Managed Funds I**

Management of real-dollar portfolios using various investment styles; business cycle analysis; industry analysis; investment objective screening; security analysis; portfolio analysis, compliance; portfolio reporting. Approval of Finance Department Chair and instructor required.

**Credits:** 3**Prerequisites:**

(FIN 2227 and FIN 2323) and (FIN 2114 :Y)

**FIN 2343: Student-Managed Funds II**

Continuation of FIN 2342.

**Credits:** 3**Prerequisites:**

FIN 2342

**FIN 2350: Real Estate Capital Markets**

Public real estate debt and equity markets. Mortgage Backed Securities, Commercial Mortgage Backed securities, Collateralized Mortgage Obligations, Prepayment Modeling, Real Estate Equity Valuation.

**Credits:** 3**Prerequisites:**

(FIN 2227 and FIN 2323 and FIN 2114)

**FIN 3350: Finance Internship**

Employment with an approved firm in the area of Finance where experience is gained with appropriate training, instruction, and supervision. Course does not fulfill the requirements for major.

Prerequisites: junior or senior standing, a minimum GPA of 2.5, approval of department chair.

**Credits:** 3**Prerequisites:**

junior or senior standing, a minimum GPA of 2.5, approval of department chair.

**FIN 3360: Independent Study - Finance**

Independent study under a faculty member's guidance in an area of special interest to the student. The area of interest must be discussed with the faculty member prior to registration. Course does not fulfill the requirements for major. Prerequisites: Finance major with senior standing, and written permission of chairperson required.

**Credits:** 3**Prerequisites:**

(FIN 2227 and FIN 2323) and (FIN 2114 :Y)

**FIN 3470: Finance Co-Op**

Full-time employment with an approved firm in the area of Finance where experience is gained through appropriate training, instruction, and supervision. Course does not fulfill the requirements of the major. Prerequisite: Finance major with junior status; minimum gpa requirements will vary; approval of department chair.

**Credits:** 6**Prerequisites:**

Finance major with junior status; minimum gpa requirements will vary; approval of department chair.

## French and Francophone Studies

**FFS 1111: Introductory French I**

Groundwork in French, including oral proficiency, aural comprehension and reading; for students with no prior knowledge of French. Supplementary language laboratory work and oral drills.

**Credits:** 4**FFS 1112: Introductory French II**

Groundwork in French, including oral proficiency, aural comprehension and reading; for students with one year of high school French. Supplementary language laboratory work and oral drills. Students should have completed FFS 1111 or equivalent.

**Credits:** 4

**FFS 1121: Intermediate French I**

Review of grammar, composition, reading and conversation. Students should have completed FFS 1112 or equivalent.

**Credits:** 3

**FFS 1122: Intermediate French II**

Review of grammar, composition, reading and conversation. Students should have completed FFS 1121 or equivalent.

**Credits:** 3

**FFS 1130: Intensive French Language**

Regular practice in conversation and composition with review of grammar and continuing work on language skills in French. Offered in Lille through the Villanova-in-Lille program and Intensive Language and Culture Summer Program in Lille and Paris.

**Credits:** 3

**FFS 1131: Conversation and Composition I**

Regular practice in conversation and composition with review of grammar and continuing work on language skills in French. Students should have completed FFS 1122 or the equivalent.

**Credits:** 3

**FFS 1132: Conversation & Composition II**

Regular practice in conversation and composition with review of grammar and continuing work on language skills in French. Students should have completed FFS 1131 or the equivalent.

**Credits:** 3

**FFS 1134: Business French**

An introduction to French business terminology and discourse related to economic, finance, and management.

**Credits:** 3

**Prerequisites:**

FFS 1122 or FRE 1122

**FFS 1138: Advanced Grammar**

Intensive practice of spoken and written French.

**Credits:** 3

**Prerequisites:**

FFS 1132 or FRE 1132

**FFS 1139: Intercultural Comm in French**

Offered in Lille through the Villanova-in-Lille program, this course aims to develop students' intercultural sensitivity and competence by helping them to reflect on their experiences as they occur.

**Credits:** 3

**FFS 1140: Writing & Stylistics in French**

Intensive practice in written expression and textual analysis. Compositions are modeled on selected French texts.

**Credits:** 3

**Prerequisites:**

FFS 1132 or FRE 1132

**FFS 1151: Intro to Translation of French**

Introduction to the principles of translation from French to English and from English to French. Prerequisite: FFS 1132 or approval from the FFS coordinator.

**Credits:** 3

**Prerequisites:**

FFS 1132 or FRE 1132

**FFS 2075: Introduction to French Cinema**

Introduction to major works of French cinema from the silent era to the 2000s. Prerequisite: FFS 1132 or authorization from instructor.

**Credits:** 3

**Prerequisites:**

FFS 1132

FFS 1132 or authorization from instructor.

**FFS 2076: Intro To Francophone Cinema**

Introduction to major films from various Francophone traditions (Maghreb, Sub-Saharan Africa, Caribbean, Quebec). Prerequisite: FFS 1132 or authorization from instructor.

**Credits:** 3

**Prerequisites:**

FFS 1132

FFS 1132 or authorization from instructor.

**FFS 2220: Lit and Culture of France**

Significant developments in the arts, society, and literature in France from the Middle Ages to the French Revolution. Prerequisite: FFS 1132 or authorization from instructor.

**Credits:** 3

**Prerequisites:**

FFS 1132

FFS 1132 or authorization from instructor.

**FFS 2221: Lit/Cult Francophone World**

Significant developments in the literatures of the French-speaking world from the 20th century to the present.

**Credits:** 3

**Prerequisites:**

FFS 1132

**FFS 2285: Intro to Comics of French Expr**

An overview of the voices, forms and innovations of the comics traditions of France and the French-speaking world. Works studied may include Tintin, Asterix et Obelix, Persepolis, Lapinot, Gaston Lagaffe.

**Credits:** 3

**Prerequisites:**

FFS 1132

**FFS 2993: Service Learning Internship**

Translation of documents as part of the CRS Partnership, working on water supply, sanitation, and environmental health issues, within the historical and cultural context of the region. Prerequisites: FFS 1132 or approval from instructor.

**Credits:** 3

**Prerequisites:**

FFS 1132

FFS 1132 or approval from instructor.

**FFS 3025: Reading 20th-C Francophone Lit**

Regions may include North Africa, the Caribbean Islands and Canada. Pre-requisite: FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285 or authorization from instructor.

**Credits:** 3

**Prerequisites:**

FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285

**FFS 3046: Readings 20th C French Lit**

Analysis of specific trends of 20th-century French literature. Topics may include Surrealism, the New Novel, or Existentialism, among others. Prerequisite: FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285 or authorization from instructor.

**Credits:** 3

**Prerequisites:**

FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285

**FFS 3075: Themes in French Cinema**

Analysis of films that deal with this topic. Prerequisites: FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285 or authorization from instructor.

**Credits:** 3

**Prerequisites:**

FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285

**FFS 3076: Selected Works French Cinema**

Analysis of major works of French cinema. The course may be organized around a single director (Renoir, Clouzot, Truffaut, Resnais, Malle etc.) It may also explore a specific movement (poetic realism, the New Wave, or the so-called "cinema du look"). Prerequisite: FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285 or authorization from instructor.

**Credits:** 3

**Prerequisites:**

FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285

**FFS 3145: The Extreme Contemporary**

Analytical readings of major texts published within the past ten years.

**Credits:** 3

**Prerequisites:**

FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285

**FFS 3225: Readings In Maghrebi Lit**

Analytical readings of major texts of the French-speaking North-African traditions. Prerequisite: FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285 or authorization from instructor.

**Credits:** 3

**Prerequisites:**

FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285

**FFS 3226: Readings in Caribbean Lit**

Analytical readings of major texts of the French-speaking Caribbean traditions. Prerequisite: FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285 or authorization from instructor.

**Credits:** 3

**Prerequisites:**

FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285

**FFS 3227: Readings Sub-Saharan Afr Lit**

Analytical Readings of major texts of the French-speaking Sub-Saharan traditions. Prerequisite: FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285 or authorization from instructor.

**Credits:** 3

**Prerequisites:**

FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285

**FFS 3255: Themes in Poetr of Frch Expres**

An overview of the voices, forms and innovations of the poetic traditions of France and the French-speaking world through the themes of love; subjectivity and objectivity; masculinities and femininities; collective identity formation and affirmation and others. Pre-requisites: FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285 or authorization from Instructor.

**Credits:** 3

**Prerequisites:**

FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285

**FFS 3285: Fr Popular Music, 1950-pres**

Survey of popular music, 1950 to the present, considering literary influences and trends in music and in the industry. Pre-requisites: FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285 or authorization from Instructor.

**Credits:** 3

**Prerequisites:**

FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285

**FFS 3287: Cult Studies: France & Maghreb**

Exploration of the rich inter-cultural connections between France and its former North-African colonies. Prerequities: FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285 or authorization from Instructor.

**Credits:** 3

**Prerequisites:**

FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285

**FFS 3412: Special Topics**

Advanced study of topics of special interest in French literary and/or cultural studies. May be repeated for credit if topic changes. Prerequisite: FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285 or authorization from Instructor.

**Credits:** 3

**Prerequisites:**

FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285

**FFS 3625: Readings in Medieval&Renai Lit**

Analytical readings from the Medieval and Renaissance periods. Works studied may include La Chanson de Roland, Tristan et Iseult, fabliaux, Montaigne, Rabelais, Ronsard, Marguerite de Navarre. Pre-requisites: FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285 or authorization from Instructor.

**Credits:** 3

**Prerequisites:**

FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285

**FFS 3725: Readings in 17th C Literature**

Analytical readings of major texts. Pre-requisites: FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285 or authorization from Instructor.

**Credits:** 3

**Prerequisites:**

FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285

**FFS 3765: French Classical Theatre**

Classical dramaturgy and modern interpretations of Corneille, Moliere and Racine. Pre-requisites: FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285 or authorization from Instructor.

**Credits:** 3

**Prerequisites:**

FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285

**FFS 3845: Utopia in 18th-C Fr Lit**

Emphasis on real and fictional travel accounts as well as works in which homesteading on islands or in isolated natural settings plays an important role. Pre-requisites: FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285 or authorization from Instructor.

**Credits:** 3

**Prerequisites:**

FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285

**FFS 3846: The Epistolary Novel**

Study of 18th-century literary works in the form of letters. Prerequisite: FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285 or authorization from Instructor.

**Credits:** 3

**Prerequisites:**

FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285

**FFS 3925: Paris, Capital of the 19th-C**

Literary, artistic, political, and social overview of France's capital city following the French revolution. Pre-requisites: FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285 or authorization from Instructor.

**Credits:** 3

**Prerequisites:**

FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285

**FFS 3945: Readings in 19th C Prose**

Analytical readings of major novels from the 19th century. Prerequisite: FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285 or authorization from Instructor.

**Credits:** 3

**Prerequisites:**

FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285

**FFS 3956: Modernism in French Poetry**

Study of the birth of modernism as seen through French poetry set in its historical and cultural context. Prerequisite: FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285 or authorization from instructor.

**Credits:** 3**Prerequisites:**

FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285

**FFS 3970: Research Seminar**

Principles and techniques of literary research. Overview of major French and Francophone authors and representative works. Students should have completed FFS 1132 or the equivalent.

**Credits:** 3**Prerequisites:**

FFS 1132 or FRE 1132

**FFS 3971: Directed Research in FFS**

Directed semester-long research project that satisfies the College research requirement, taken in conjunction with another upper-level FFS content course. Pre-requisite: FFS 2220, FFS 2221 or FFS 2075, or approval from the FFS coordinator.

**Credits:** 1**Prerequisites:**

FFS 2220 or FRE 2220 or FFS 2221 or FRE 2221 or FFS 2075 or FRE 2075

**FFS 5900: Independent Study**

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**Credits:** 3**Prerequisites:**

FFS 1132 :D- or FRE 1132 :D-

**FFS 7111: Reading Knowledge in French I**

A course that provides reading knowledge and prepares doctoral students in Philosophy and theology for independent research in French. No prior knowledge of French is required.

**Credits:** 3**FFS 7121: Reading Knowledge in French II**

A course that provides further reading knowledge and prepares doctoral students in Philosophy and theology for independent research in French. PRE-REQUISITES: FFS 7111 or equivalent knowledge of French.

**Credits:** 3**Prerequisites:**

FFS 7111

**FFS 8000: French for Research**

An intensive translation class that prepares students to read academic texts in French to support their research in the humanities, discussing major grammatical structures and relevant idioms. No prior knowledge of French is assumed, and the class culminates in a translation exam reflecting students' research orientation.

**Credits:** 0

## Gender and Women's Studies

**GWS 2050: Introduction to Gender Studies**

The history and evolution of feminist analysis as a force of history, theory, art, and culture. Critical distinctions between the biology of sex and the social construction of gender. Basic principles of feminist thought, from its origins in the Women's Movement of the late 1700s and 1800s, through modern manifestations, including today's diverse narratives. Multi-disciplinary and writing enriched.

**Credits:** 3**GWS 2993: GWS Internship**

Internship.

**Credits:** 3**Prerequisites:**

GWS 2050

**GWS 3000: Independent Study**

Approval of Gender and Women's Studies Director required.

**Credits:** 3**Prerequisites:**

Approval of Gender and Women's Studies Director required.

**GWS 5000: Integrating Seminar**

An interdisciplinary course that focuses on a topic through methodology that requires Gender and Women's Studies minors to provide input from the research areas of their majors. Approval of Director of Gender and Women's Studies required.

**Credits:** 3

**Prerequisites:**

GWS 2050

Approval of Director of Gender and Women's Studies required.

**GWS 8000: Critical Perspect. on Gender**

Interdisciplinary study of gender, women, and sexuality. Overview of contemporary developments in feminist, gender, and queer theory; application of theories to a variety of topics, such as the representation of gender, history of sexuality, and gender in the workplace.

**Credits:** 3

**GWS 9000: Independent Study**

An independent study and reports on selected topics. Permission of the instructor and approval of the academic director of Gender and Women's Studies required.

**Credits:** 3

## Geography and the Environment

**GEV 1002: Geography of a Globalizing World**

**Credits:** 3

**GEV 1003: Geo. of Earth's Environments**

World climates, water, landforms, soil, and vegetation form the basis of this global environmental approach.

**Credits:** 3

**GEV 1004: Climate Change**

Spatial patterns of global and regional climate systems. Natural and anthropogenic factors that cause climate change. Understanding human-climate system interaction.

**Credits:** 3

**GEV 1005: Geospatial Analysis & Society**

Use of geospatial technologies to analyze, solve, and understand modern social and environmental issues involving population, development, and urbanization trends around the world.

**Credits:** 3

**GEV 1050: Environmental Science I**

Multidisciplinary foundation in Environmental Science; first of two semester course. Science course linking environmental biology, chemistry, earth sciences, and climate change. Collection of data from lab experiments and field-based observations.

**Credits:** 4

**GEV 1051: Environmental Science II**

Second of two course sequence. Multidisciplinary foundation in Environmental Science: natural resources, pollution, & energy, with related field trips & laboratory sessions.

**Credits:** 4

**Prerequisites:**

ENV 1050 :D- or GEV 1050 :D-

**GEV 1052: Environmental Studies**

Free elective course to provide Advanced Placement credit for Environmental Science. Pre-requisite: Score of 4 or 5 on AP Environmental Science Test.

**Credits:** 3

**Prerequisites:**

Score of 4 or 5 on AP Environmental Science Test.

**GEV 1053: Environmental Studies II**

Overview of fundamental environmental topics, including themes in energy, pollution, and resources.

**Credits:** 3

**GEV 1750: Geo-Techniques**

Principles and applications of geographic technologies and field techniques with emphasis on: field surveys, cartography, global positioning systems, aerial photography, satellite imagery & remote sensing, computer-aided cartography, digital elevation models & geographic information systems.

**Credits:** 4

**GEV 1903: Internship Elective**

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**Credits:** 3

**GEV 1906: Internship Elective**

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**Credits:** 6

**GEV 1909: Internship Elective**

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**Credits:** 9

**GEV 2001: Professional Development in Geography and the Environment**

**Credits:** 1

**GEV 2310: Environmental Chemistry**

Interdisciplinary approach to chemical and biochemical phenomena. Sources, reactions, transport, effects, and fates of chemical species in the air, soil, and water environments, and their effect on human activity.

**Credits:** 4

**Prerequisites:**

GEV 1050 and (CHM 1151 or CHM 1131) and CHM 1103

**GEV 2500: Global Change in Local Places**

Geographic research methods to address spatial implications of current local issues.

Relationships between global environmental & societal processes & local landscapes. Collection, evaluation, analysis & presentation of qualitative & quantitative geographic data.

**Credits:** 3

**GEV 2510: Political Geography**

Spatial attributes of political process and structure, with an emphasis on current geopolitical issues in the world.

**Credits:** 3

**GEV 2525: Population Geography**

Geographic dimensions of global population trends, emphasizing global demographic divides.

Considers population processes (mortality, fertility, migration), population structures (age, gender, ethnicity), and population policy. Special topics may include population and the environment, food supply, and HIV-AIDS.

**Credits:** 3

**GEV 2893: Independent Study**

Independent study under the direction of faculty member of selected topics in geography, environmental studies, and environmental science.

Instructor Permission Required

**Credits:** 3

**GEV 2993: Internship**

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**Credits:** 3

**GEV 2996: Internship**

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**Credits:** 6

**GEV 3000: Special Topics**

Contemporary topics in Geography and Environmental Science. Topics will be announced on a semester-by-semester basis. Specific information will be available on the department's web page.

**Credits:** 3

**GEV 3001: Intro to Sustainability Study**

Development that meets the needs of the present without compromising the needs of future generations. Social, engineering, and economic dimensions, which make up the sustainability model.

**Credits:** 3

**GEV 3002: Ecosystem Services**

Four major categories of ecosystem services: provisioning services, regulating services, cultural, and supporting services.

**Credits:** 3

**GEV 3003: Environmental Geology**

Application of the principles of geology in the solving of environmental problems.

**Credits:** 3

**GEV 3004: Geographies of Environmental Justice**

Patterns of environmental inequality that affect health and quality of life. Relationship between environmental harms and benefits and different groups in society. Case studies explore fundamental aspects of environmental justice.

**Credits:** 3

**GEV 3300: Stats. in Environmental Sci.**

Statistical methods and application. An introduction to statistical concepts, techniques, and applications to data analysis and to problems in the design, analysis, and interpretation of experiments in the environmental sciences.

**Credits:** 3

**GEV 3301: Fisheries**

Current practices and the environmental, political and social implications of this global industry.

**Credits:** 3

**GEV 3302: Agricultural Science**

Environmental implications of agriculture, incl. a scientific analysis of soil, pesticides, fertilizer, and biodiversity.

**Credits:** 3

**GEV 3303: Soil Science**

Soil, soil properties, and biota in various ecosystems with a focus on human impacts to soil mesocosm.

**Credits:** 3

**GEV 3304: Air Pollution**

Analysis of natural and human-caused environmental impacts to the atmosphere.

**Credits:** 3

**GEV 3305: Energy Systems**

Assessment of current methods for supplying energy, incl. fossil fuels, nuclear energy, and renewable energy.

**Credits:** 3

**GEV 3306: Alternative Energy**

Analysis of emerging and established alternative energies, incl. wind, solar, biofuel, and hydropower.

**Credits:** 3

**GEV 3308: Environmental Health**

Health issues, scientific understanding of causes, and possible future approaches to control of the major environmental health problems in industrialized and developing countries.

**Credits:** 3

**GEV 3309: Coral Reefs**

Overview of the science, policy, and management issues for coral reef ecosystems in a changing world.

**Credits:** 3

**GEV 3310: Special Topics in Geology**

Topical approach to geology to include the terroir of wines, to the geology behind current events.

**Credits:** 3

**Prerequisites:**

GEV 3003

**GEV 3395: Int'l. Studies in Env. Sci.**

Lecture course taken through the International Studies Program.

**Credits:** 3

**GEV 3500: Geography of North America**

Physical and human geography of North America from a regional perspective. Key geographic concepts of site, situation, and the interaction between society and the environment for each region.

**Credits:** 3

**GEV 3501: Geomorphic Environments**

Landform processes and development. Geomorphic processes, dynamics, and equilibrium systems. Data collection, statistical analysis, and interpretation of landform development models.

**Credits:** 3

**GEV 3503: Earth's Weather Systems**

Sciences of the atmosphere: meteorology and climatology. Atmospheric composition and structure, clouds, precipitation atmospheric motion and winds, organized weather systems, air masses, fronts, tropical storms, and severe weather.

**Credits:** 3

**GEV 3510: Geo of Europe & the Euro Union**

Multifaceted geography of Europe: focus on physical, cultural, social, demographic, political, urban, and industrial patterns. Special dynamics of the European Union.

**Credits:** 3

**GEV 3515: Geography of Africa**

Major geographic problems facing contemporary Africa, with a special emphasis on spatial planning within a number of national contexts.

**Credits:** 3

**GEV 3521: GIS for Urban Sustainability**

Review and analyze sustainability issues faced by cities. Learn GIS applications related to urban sustainability

**Credits:** 3

**GEV 3522: Geography of the Middle East**

Survey of the region's geography including its physical geography, environmental issues, urban-economic development, cultural geography, historical evolution, and the spatial patterns of its human landscapes. Special emphasis placed on its strategic importance in a globalizing world and understanding the historical background to current geopolitical conflicts.

**Credits:** 3

**GEV 3525: Geography of Asia**

Introduction to the rich variety of peoples, cultural traditions, rapid economic development, and environment in Asia.

**Credits:** 3

**GEV 3550: Natural Hazards**

Processes determining physical risk, societal vulnerability, and response to major hazards including: blizzards, tornadoes, hurricanes, drought, flooding, earthquakes, volcanoes, landslides, avalanches, and wildfires.

**Credits:** 3

**GEV 3570: Land Use Planning & Mgmt**

Land use planning and management with focus on land-law interfaces between the physical, cultural, and legal realms. Survey of natural and political systems as the basis for land use controls at the federal and regional levels. The environmental, economic, and ethical impacts of land management.

**Credits:** 3

**GEV 3580: Natural Res and Conservation**

Assessment of natural resource and conservation issues in the U.S. and around the world. Distribution and use patterns of air, water, mineral, energy, and biologic resources. Examination of exploitation, conservation, and preservation management strategies.

**Credits:** 3

**GEV 3590: Topical Research Problems**

Individual projects or studies in geography and the environment.

**Credits:** 3

**GEV 3595: Int'l. Studies in Geography**

Lecture course taken through the International Studies Program.

**Credits:** 3

**GEV 3750: Remote Sensing**

Data collection and analysis with high-technology platforms such as conventional and color infrared photography, multi-spectral scanners, satellite imagery, thermal infrared, LIDAR, and radar. Application of remotely sensed data to solve complex, human, environmental, and engineering problems.

**Credits:** 3

**GEV 3775: Digital Image & Airphoto Inter**

Concepts and techniques in digital image processing and air photo interpretation: image classification, three-dimensional photography, identification, and measurements of features from photographic imagery.

**Credits:** 3

**GEV 3790: Global Positioning Systems**

Principles, techniques, and applications of Global Positioning Systems (GPS). Laboratory employs data collection, mapping, and analyses with state-of-the-art GPS equipment and software.

**Credits:** 4

**Prerequisites:**

GEV 1750

**GEV 4001: Advanced Sustainability Study**

Second in a two-course sequence. An in-depth exploration of the social, engineering, and economic dimensions of sustainability through field trips, guest lectures, and service learning.

**Credits:** 4

**Prerequisites:**

GEV 3001

**GEV 4300: Selected Topics**

Selected topics of interest in environmental science and geography. Offered on three or four Saturday mornings or on weekday evenings. Topics will be announced on a semester-by-semester basis.

**Credits:** 1

**GEV 4310: Environmental Issues Seminar**

Interdisciplinary coverage of current global environmental issues, emphasizing their complexity, analyses, and solutions.

**Credits:** 3

**Prerequisites:**

GEV 1050 and GEV 1051

**GEV 4320: Spec. Topics in Env Lab Sci**

Advanced laboratory science topics in the Environment presented by senior faculty. Specific subject matter will vary with the expertise of the professor.

**Credits:** 4

**GEV 4321: Microbial Processes**

Examination of Earth's dynamic systems and the environmental consequences of environmental processes.

**Credits:** 4

**Prerequisites:**

GEV 1050 and GEV 1051

**GEV 4322: Ocean Environments**

Investigation of the biological, geological, chemical, and physical characteristics of the ocean.

**Credits:** 4

**Prerequisites:**

GEV 1050 and GEV 1051

**GEV 4323: Watershed Biogeochemistry**

Biogeochemical and physical characteristics of watersheds and the threats they currently face.

**Credits:** 4

**Prerequisites:**

GEV 1050 and GEV 1051

**GEV 4324: Wetland Science and Management**

Wetland flora and fauna, hydrology, soils and ecology.

**Credits:** 4

**Prerequisites:**

GEV 1050 and GEV 1051

**GEV 4325: Environmental Ecology**

Principles of ecology and their implications for analyzing environmental problems. Understanding processes controlling the dynamics of populations, communities, and ecosystems.

**Credits:** 4

**Prerequisites:**

GEV 1050 and GEV 1051

**GEV 4326: Environmental Geology**

Geologic processes, formation of fossil fuel and ore deposits, and the environmental impact of their extraction.

**Credits:** 4

**Prerequisites:**

GEV 1050 and GEV 1051

**GEV 4327: Process Geomorphology**

Processes that shape landforms. Major components of geomorphology, including fluvial, glacial, periglacial, aeolian, slope, and weathering process.

**Credits:** 4

**Prerequisites:**

GEV 1050 and GEV 1051

**GEV 4328: Climatology**

Approaches to understand and identify recent and long-term climate behavior in different parts of the world. Basic meteorological factors that influence climate. General climate classification schemes, theories of climate cycles and climate change.

**Credits:** 4

**Prerequisites:**

GEV 1050 and GEV 1051

**GEV 4329: Global Change Research**

Advanced field and laboratory research focused on contemporary issues in environmental science.

**Credits:** 4

**Prerequisites:**

GEV 1050 and GEV 1051

**GEV 4330: Spec Topics in Environm Policy**

Advanced topics in environmental policy and management presented by senior and visiting faculty. Specific subject matter will vary with the expertise of the visiting professor or senior faculty member conducting the course. Course may be taken under multiple titles.

**Credits:** 3

**GEV 4331: Env. Policy & Management**

National and international debates of key environmental issues from policy and management perspectives.

**Credits:** 3

**GEV 4332: Water Resources Planning**

Management and planning of natural and constructed water systems.

**Credits:** 3

**GEV 4333: Politics and the Env.**

Analysis of current affairs related to the environment.

**Credits:** 3

**GEV 4334: Environmental Law**

Legal analysis of the environment, incl. seminal national and international laws.

**Credits:** 3

**GEV 4335: Energy Policy**

Policies pertaining to the extraction, supply, distribution, and use of energy.

**Credits:** 3

**GEV 4336: Environmental Economics**

Application of economic principles to study environmental issues, such as evaluating the monetary value of ecosystems, the effectiveness of environmental policies, and comparing costs and benefits of different policy options. Contemporary environmental economic topics are explored.

**Credits:** 3

**GEV 4340: Spec Topics in Environm Issues**

Advanced topics in environmental social science and humanities presented by senior and visiting faculty. Specific subject matter will vary with the expertise of the visiting professor or senior faculty member conducting the course.

**Credits:** 3

**GEV 4350: Spec Topics in Environm Sci**

Advanced topics in environmental science presented by senior and visiting faculty. Specific subject matter will vary with the expertise of the visiting professor or senior faculty member conducting the course. Course may be taken under multiple titles.

**Credits:** 3

**GEV 4351: Oceanography**

Biology, geology, chemistry, and physical environment of the ocean.

**Credits:** 3

**GEV 4352: Physical Geology**

Earth's dynamic systems and the environmental consequences of geologic processes.

**Credits:** 3

**Prerequisites:**

GEV 3003

**GEV 4353: Green Science**

Application of eco-friendly thinking to scientific disciplines. Scientific solutions to global warming, pollution and other impacts on nature and the planet.

**Credits:** 3

**GEV 4354: Biomimicry**

Design and production of materials, structures, and systems that are modeled on biological entities and processes.

**Credits:** 3

**GEV 4355: Tropical Ecology**

Environmental issues unique to tropical latitudes and ecosystems.

**Credits:** 3

**GEV 4356: Global Change Science**

Advanced exploration and discussion focused on contemporary issues in environmental science.

**Credits:** 3

**Prerequisites:**

GEV 1050 and GEV 1051

**GEV 4360: Field Methods in Env Science**

Environmental field research focusing on a specific environmental issue including an extensive field trip.

**Credits:** 4

**Prerequisites:**

GEV 1050 and GEV 1051

**GEV 4361: Field Research**

Design and conduct environmental research during a 1-2 week field trip to various locations; Lectures will incl. natural history, ecology, and geology of the location.

**Credits:** 4

**Prerequisites:**

GEV 1050 and GEV 1051

**GEV 4510: Special Topics in Geography**

Advanced topics in Geography presented by senior and visiting faculty. Specific subject matter will vary with the expertise of the visiting professor or senior faculty member conducting the course. Course may be taken under multiple titles.

**Credits:** 3

**GEV 4511: Climate Variability**

Seasonal, interannual, and decadal variations in climate variables. Atmospheric circulation patterns, teleconnections, and their impacts on the environment and society.

**Credits:** 3

**Prerequisites:**

GEV 1003

**GEV 4512: Medical Geography**

Spatial patterns and epidemiology of disease. Characteristics of epidemics and pandemics from a geographic perspective. Case studies, spatial/statistical analyses, and transmission processes.

**Credits:** 3

**GEV 4513: Geography of National Security**

Geography of the national security landscape and the nexus of geography and conflict. Modern trends in national security, historical case studies, and geospatial analysis.

**Credits:** 3

**GEV 4514: Geomorphology**

Processes that shape the natural landscape. Descriptive and quantitative techniques to examine balance between tectonic activity and subsequent modification of landforms by weathering, erosion and deposition.

**Credits:** 3

**GEV 4515: Terrestrial Ecosystems**

Spatial distribution of species, biomes, and ecosystems at local, regional, and global scales. Ecological and historical processes responsible for geographic patterns of biodiversity

**Credits:** 3

**Prerequisites:**

GEV 1003 or GEV 1050

**GEV 4516: Environmental Security**

Broad range of security issues triggered by demographic and environmental factors such as competition for resources, population growth/displacement, disease, natural disasters, environmental change, and non-sustainable practices.

**Credits:** 3

**GEV 4517: Sustainable Development**

Environmental, economic, and justice issues facing developing countries. Historical review of post-colonial experiences and the impact of modern global economic and environmental changes on the political, economic, and demographic experiences of Latin America, Africa, and southern Asia.

**Credits:** 3

**GEV 4518: COVID-19 Pandemic**

Overview of the COVID-19 pandemic including issues around global health, disease diffusion, health disparities, vulnerable populations, social determinants of disease, and economic and political implications.

**Credits:** 3

**GEV 4550: Geographical Issues Seminar**

Interdisciplinary coverage of contemporary global human and environmental issues, emphasizing their complexity, analyses, and solutions.

**Credits:** 3

**GEV 4700: Geographic Information Systems**

Principles, techniques, and applications of Geographic Information Systems (GIS). Laboratory employs analyses with state-of-the-art GIS software.

**Credits:** 4

**GEV 4710: Adv. Geographic Info Sys**

Spatial problem solving by focusing on theoretical/conceptual and practical aspects of GIS modeling and spatial analysis.

**Credits:** 4

**Prerequisites:**

GEV 1750 and GEV 4700

**GEV 6005: Senior Research Seminar**

Scheduled group meetings with other research students in the department, focusing on general and specific aspects of the senior research project/thesis. Requires permission of instructor.

**Credits:** 1

**Co-Requisites:**

GEV 6200

**GEV 6006: Research Colloquium**

Presentations by speakers including faculty, students, and guests from the academic, public, and private sectors. Lectures feature new creative and scholarly work that encompasses the disciplines and areas of interest of the department.

**Credits:** 0

**GEV 6200: Independent Study**

Individual projects or studies in geography & the environment.

**Credits:** 3

**GEV 6210: Senior Thesis Research I**

Research with faculty member selected by student. Part 1 of two-semester sequence. Continues as Thesis Research II, which culminates in a written thesis. Requires permission of the faculty mentor.

**Credits:** 3

**GEV 6220: Senior Thesis Research II**

Second phase of senior thesis sequence. Research with faculty mentor selected by student. Culminates in a written senior thesis. Requires permission of the faculty mentor.

**Credits:** 3

**GEV 7000: Research Methods in Env Sci**

Analytical and research techniques for environmental scientists.

**Credits:** 2

**GEV 7001: Research Experience**

Research experience in conjunction with a faculty member. Restricted to: Masters in Environmental Science; Permission of Instructor required.

**Credits:** 0

**GEV 7010: Environmental Colloquium**

Attendance at departmental seminars and student presentations.

**Credits:** 1

**Prerequisites:**

GEV 7000 :Y

**GEV 7020: Advanced Env Issues Seminar**

Interdisciplinary coverage of salient environmental issues, emphasizing their complexity, analyses, and solutions.

**Credits:** 3

**Prerequisites:**

GEV 7000

**GEV 7030: Proposal Development**

Development and presentation of the masters thesis research proposal.

**Credits:** 1

**Prerequisites:**

GEV 7000 :Y

**GEV 7040: Intro to GIS**

Principles, techniques, and applications of Geographic Information Systems (GIS).

**Credits:** 4

**GEV 7041: GIS for Environmental Systems**

Advanced techniques, applications and projects in GIS focused on supporting graduate level research.

**Credits:** 4

**Prerequisites:**

GEV 4700 or GEV 7040

**GEV 7100: Remote Sensing-Env Analysis**

Basics of remote sensing, sensor characteristics, and remote sensing applications in support of graduate research. Emphasis on image/data acquisition and analysis.

**Credits:** 3

**GEV 7101: Land Use & Env Assessment**

Legal and environmental management for the regulation of private and public lands. Zoning, environmental legislation, urban renewal, eminent domain, and the law of nuisance. Cannot be taken if student has already taken GEV 3570.

**Credits:** 3

**GEV 7102: Sustainable Env Systems**

Sustainable management and sustainable economics. Environmental protection and organizational management: technical, financial, managerial, and political challenges of managing a sustainable environment.

**Credits:** 3

**GEV 7103: Env. Policy and Law**

Federal environmental law, regulation, and policy in the U.S. Comparative and dynamic view of environmental protection under U.S. law.

**Credits:** 3

**GEV 7104: Coastal Environments**

Theory and principles of coastal geomorphology, covering physical, biological, geological and chemical characteristics of coastal zone environments.

**Credits:** 3

**GEV 7105: Sustainable Urban Environments**

Fundamental concepts of sustainability and resilience in urban systems, including the complex interactions among human, engineered, and natural systems.

**Credits:** 3

**GEV 7106: Ecosystems Services**

Economic and other benefits nature provides to people. Ecological Foundations of quantifying ecosystem services and practical issues involved with putting them to use.

**Credits:** 3

**GEV 7107: Adv. Env. Geology**

Interactions between geologic processes and society: natural hazards, natural resources, and their policy implications.

**Credits:** 3

**GEV 7108: Climate Variability**

Global climate, feedback mechanisms, and climate changes. Topics include: global energy balance, hydrological cycle, radiative transfer, general circulation, and natural and anthropogenic climate change.

**Credits:** 3

**GEV 7109: Paleoclimates**

History of the Earth's climate. Methods for reconstructing past climate and the mechanisms behind past climate change.

**Credits:** 3

**GEV 7110: Sustainable Development**

Sustainable development as an evolutionary process. Integration of physical sciences and engineering with social sciences for design of systems.

**Credits:** 3

**GEV 7111: Agricultural Sciences**

Science and management of biological systems for the sustainable production of food.

**Credits:** 3

**GEV 7112: Environmental Health**

Health issues, scientific understanding of causes, and possible future approaches to control of the major environmental health problems in industrialized and developing countries.

**Credits:** 3

**GEV 7113: Soil Science**

Principles of water, gas, heat, and solute movement in soils with selected examples related to soil and water management. Influence of soil physical properties on transfer processes.

**Credits:** 3

**GEV 7114: Air Pollution**

Processes that cause ambient air pollution, its sources, its effects, and mechanisms for its management.

**Credits:** 3

**GEV 7115: Energy Systems**

Systems for supply, transmission, and consumption of power.

**Credits:** 3

**GEV 7116: Coral Reefs**

Overview of the science, policy, and management issues for coral reef ecosystems.

**Credits:** 3

**GEV 7117: Water Resources**

Management and planning of natural and constructed water systems.

**Credits:** 3

**GEV 7118: Energy Policy**

Policies pertaining to the extraction, supply, distribution, and use of energy.

**Credits:** 3

**GEV 7119: Oceanography**

Biology, geology, chemistry, and physical environment of the ocean.

**Credits:** 3

**GEV 7120: Geology**

Earth's dynamic systems and the environmental consequences of geologic processes.

**Credits:** 3

**GEV 7121: Global Change Science**

Advanced exploration and discussion focused on contemporary issues in environmental science.

**Credits:** 3

**GEV 7122: Ecosystem Ecology**

Integrated study of biotic and abiotic components of ecosystems and their interactions.

**Credits:** 3

**GEV 7123: Green Science**

Application of eco-friendly thinking to scientific disciplines. Scientific solutions to global warming, pollution and other impacts on nature and the planet.

**Credits:** 3

**GEV 7124: Biomimicry**

Design and production of materials, structures, and systems that are modeled on biological entities and processes.

**Credits:** 3

**GEV 7125: Tropical Ecology**

Environmental issues unique to tropical latitudes and ecosystems.

**Credits:** 3

**GEV 7126: Process Geomorphology**

Physical processes and resultant landforms. Spatial distribution of landforms and physical environments at local, regional, and global scales.

**Credits:** 3

**GEV 7127: Environmental Systems**

Systematic introduction to the processes of the atmosphere and earth's surfaces emphasizing the interaction between climatology, hydrology and geomorphology.

**Credits:** 3

**GEV 7128: Env Systems Management**

Concepts of environmental chemistry, physics, geology, and risk. Statutory and regulatory requirements of major federal environmental laws affecting environmental management.

**Credits:** 3

**GEV 7129: Environmental Toxicology**

Major classes of pollutants, their fate in the environment, disposition in organisms, and mechanisms of toxicity. Toxicity of pollutants in biological and environmental systems.

**Credits:** 3

**GEV 7200: Advanced Quantitative Analysis**

Multivariate statistical method applications to spatial problems. Linear and non-linear correlation and regression, factor analysis, cluster analysis. Spatial statistics including: trend surfaces, sequences, point distributions.

**Credits:** 3

**GEV 7201: Spatial Analysis of Env Syst**

Spatial analysis of environmental systems using GIS.

**Credits:** 3

**GEV 7202: Geo Statistics**

Quantitative analysis of spatial and other data.

**Credits:** 3

**GEV 7203: Env Model w GIS & Remote Sense**

Analytical uses of geographic information systems and remotely sensed data to solve environmental problems.

**Credits:** 3

**GEV 7204: Geospatial Project Mgmt**

Principles of effective project management applied to the design and implementation of geospatial information systems.

**Credits:** 3

**GEV 7205: Environ Project Management**

Management and design of environmental monitoring projects.

**Credits:** 3

**GEV 8000: Spec Topics in Env Science**

Current topics in environmental science. Topics will be announced on a semester by semester basis. Specific information available in the departmental office. Permission of the professor needed.

**Credits:** 3

**GEV 8001: Environmental Topics I**

Basic studies in environmental fields relevant to the research of graduate thesis students. Requires approval of thesis committee and relevant course instructor. Permission of the professor needed.

**Credits:** 1

**Prerequisites:**

GEV 7000

**GEV 8002: Environmental Topics II**

Studies in environmental fields relevant to the research of graduate thesis students. Requires approval of thesis committee and relevant course instructor. Permission of the professor.

**Credits:** 3

**GEV 8003: Special Topics in Env Sustain**

Current topics in environmental sustainability. Topics will be announced on a semester by semester basis. Specific information available in the departmental office. Permission of the professor.

**Credits:** 3

**GEV 8030: Independent Study**

Opportunity for enhanced study in a selected topical area to explore an area related to environmental science at the direction of a faculty member. Permission of the professor.

**Credits:** 3

**GEV 8300: Environmental Lab&Field Topic**

Selected subjects of special interest in laboratory and/or field environmental science. Three or four one-credit courses may be used to substitute for a three- or four-credit elective, respectively. Offered on three or four Saturday mornings (or occasionally, on weekday evenings).

**Credits:** 1

**Prerequisites:**

GEV 7000

**GEV 8310: Adv Topics in Env Lab Sc I**

Advanced laboratory science topics in the Environment presented by senior faculty. Specific subject matter will vary with the expertise of the professor.

**Credits:** 4

**Prerequisites:**

GEV 7000 :Y

**GEV 8320: Adv Topics in Env Lab SC II**

Advanced laboratory science topics in the Environment presented by senior faculty. Specific subject matter will vary with the expertise of the professor.

**Credits:** 4

**Prerequisites:**

GEV 7000 :Y

**GEV 8321: Microbial Processes**

Examination of Earth's dynamic systems and the environmental consequences of microbial systems. Cannot be taken if student has already taken GEV 4321.

**Credits:** 4

**Prerequisites:**

GEV 7000 :Y

**GEV 8322: Ocean and Coastal Environ**

Biological, geological, chemical, and physical characteristics of the ocean. Cannot be taken if student has already taken GEV 4322.

**Credits:** 4

**Prerequisites:**

GEV 7000 :Y

**GEV 8323: Watershed Biogeochemistry**

Biogeochemical and physical characteristics of watersheds and the threats they currently face. Cannot be taken if student has already taken GEV 4323.

**Credits:** 4

**Prerequisites:**

GEV 7000 :Y

**GEV 8324: Environmental Systems**

Interrelationships between environmental systems and societies. Field study of key habitats and homes.

**Credits:** 4

**Prerequisites:**

GEV 7000 :Y

**GEV 8325: Environmental Ecology**

Principles of ecology and their implications for analyzing environmental problems. Understanding processes controlling the dynamics of populations, communities, and ecosystems.

**Credits:** 4

**Prerequisites:**

GEV 7000

**GEV 8326: Environmental Geology**

Geologic processes, formation of fossil fuel and ore deposits, and the environmental impact of their extraction.

**Credits:** 4

**Prerequisites:**

GEV 7000 :Y

**GEV 8327: Geomorphic Environments**

Processes that shape landforms: fluvial, glacial, periglacial, aeolian, slope, and weathering processes.

**Credits:** 4

**Prerequisites:**

GEV 7000 :Y

**GEV 8328: Climatology**

Aspects of climate with emphasis on energy-moisture budgets, steady-state and non steady-state climatology, and climatic variations at macro- and minor-scales.

**Credits:** 4

**Prerequisites:**

GEV 7000 :Y

**GEV 8329: Global Change Research**

Advanced field and laboratory research focused on contemporary issues in environmental science.

**Credits:** 4

**Prerequisites:**

GEV 7000 :Y

**GEV 8330: Fields Methods for Env Sci**

Applied introduction in field methods in the environmental sciences, including the following skills GPS, stream hydrology measurements, vegetation classification, meteorological measurements, soils, water quality, remote sensing, GIS, local environmental issues, and natural and cultural history.

**Credits:** 4

**Prerequisites:**

GEV 7000

**GEV 8331: Field Research**

Data collection in field environments to support MS research.

**Credits:** 4

**Prerequisites:**

GEV 7000 :Y

**GEV 8332: Sustainable Env. Systems**

Viable economies, equity and justice, and ecological integrity. Social engineering, and economic dimensions, which make up the sustainability model.

**Credits:** 3

**Prerequisites:**

GEV 7000 :Y

**GEV 8333: Water and Wastewater Mgmt**

Management and planning of wastewater systems. Federal, state, and local regulations.

**Credits:** 3

**Prerequisites:**

GEV 7000 :Y

**GEV 8334: Biogeochemistry**

Biogeochemical cycling of carbon, nutrients, and metals that take place in soil, sediments, rivers, and the oceans.

**Credits:** 3

**GEV 8335: Hydrology & Water Resources**

Management and planning of natural and constructed water systems.

**Credits:** 3

**Prerequisites:**

GEV 7000 :Y

**GEV 8336: Aquatic Ecology**

Processes controlling the dynamics of populations, communities, and aquatic ecosystems.

**Credits:** 3

**Prerequisites:**

GEV 7000 :Y

**GEV 8337: Terrestrial Env. Ecology**

Principles of ecology and implications for analyzing environmental problems.

**Credits:** 3

**Prerequisites:**

GEV 7000 :Y

**GEV 8338: Environmental Chemistry**

Sources, reactions, transport, effects, and fates of chemical species in the air, soil, and water environments. Climate change, air pollution, stratospheric ozone depletion, pollution and treatment of water sources, and the utilization of insecticides and herbicides.

**Credits:** 4

**Prerequisites:**

GEV 2310

**GEV 9000: Directed Research**

Laboratory work and conferences dealing with a selected research problem.

Pre-req: Consent of

Chairperson

**Credits:** 2

**Prerequisites:**

GEV 7000

**GEV 9001: Thesis Continuation**

This course is offered for 0 credits and is classified as a Thesis continuation course.

This course is offered by the Department of Geography and the Environment, in the College of Liberal Arts and Sciences.

Permission of the professor required. RESTRICTED TO:

Thesis Option Only

**Credits:** 0

**Prerequisites:**

GEV 7000 and GEV 7030

**GEV 9002: Portfolio**

Development and presentation of the portfolio for the MS non-thesis portfolio option.

Requires permission of the instructor.

**Credits:** 0

**Prerequisites:**

GEV 7020

**GEV 9005: Capstone Project**

Development and presentation of the non-thesis option capstone project. Permission of the professor required.

RESTRICTED TO: Non-These Option Only

**Credits:** 1

**Prerequisites:**

GEV 7000

**GEV 9006: Capstone Research I**

Research of topical material for the capstone project. By permission of the professor.

Restricted to MSES Program/ Non-Thesis Option Only.

**Credits:** 2

**Prerequisites:**

GEV 7000

**GEV 9007: Capstone Research II**

Research of topical material for the capstone project. By permission of the professor. MSES Program/Non-Thesis Option Only.

**Credits:** 3

**Prerequisites:**

GEV 7000

**GEV 9008: Advanced Envir. Topics I**

Intensive coverage of topics in environmental science. Topics announced on semester by semester basis. By permission of the professor. MSES Program/Non-Thesis Option Only.

**Credits:** 2

**Prerequisites:**

GEV 7000

**GEV 9009: Advanced Environ Topics II**

Intensive coverage of topics in environmental science. Topics announced on semester by semester basis. By permission of the professor. MSES Program/Non-Thesis Option Only.

**Credits:** 3

**Prerequisites:**

GEV 7000

**GEV 9010: Thesis Research I**

Basic research for completion of masters thesis. Requires approval of thesis committee and permission of the professor. RESTRICTED TO: Thesis Option Only

**Credits:** 1

**Prerequisites:**

GEV 7000

**GEV 9020: Thesis Research II**

Basic research for completion of masters thesis. Requires approval of thesis committee and permission of the professor. Restricted to: Thesis Option Only

**Credits:** 2

**Prerequisites:**

GEV 7030

**GEV 9030: Thesis Research III**

Basic research for completion of masters thesis. Requires approval of thesis committee and permission of the professor. Restricted to: Thesis Option Only

**Credits:** 3

**Prerequisites:**

GEV 7030

**GEV 9040: Thesis Research IV**

Basic research for completion of masters thesis. Requires approval of thesis committee and permission of the professor. Restricted to: Thesis Option Only

**Credits:** 5

**Prerequisites:**

GEV 7030

**GEV 9050: Thesis Writing**

Final writing of the MS thesis. Requires approval of the thesis committee and permission of the professor. Restricted to: Thesis Option Only

**Credits:** 1

**Prerequisites:**

GEV 7030

**GEV 9051: Thesis Preparation**

Preparation of the MS thesis. Requires approval of the thesis committee and permission by the professor. Restricted to: Thesis Option Only

**Credits:** 1

**Prerequisites:**

GEV 7030

## Global Interdisciplinary Studies

The Department of Global Interdisciplinary Studies (GIS) provides students with a tripartite of skills, knowledge, and values that foster critical thinking, problem solving, and preparation for responsible global citizenship. Students gain an understanding of global studies, acquiring the know-how in global and digital literacy, cultural diversity and intercultural competences, interdisciplinary research, and a passion for social justice, nurtured in experiential learning.

All students must choose one specialization from the sections listed below.

The Department of Global Interdisciplinary Studies also offers minors in the following programs: Arabic Language and Cultural Studies, Chinese Language and Cultural Studies, Japanese Language and Cultural Studies, Russian Language and Cultural Studies. Visit these individual pages to view requirements.

**GIS 2000: Intro to Global Interd Studies**

Gateway course to Global Interdisciplinary Studies, preparing for area studies specializations and GIS interdisciplinary programs. Focuses critical thinking skills through the comparative lens of both global and interdisciplinary analyses. Mandatory preparatory course for advanced study in GIS major.

**Credits:** 3

**GIS 2993: Global Studies Internship**

Permission of Chairperson required.

**Credits:** 3

**Prerequisites:**

Permission of Chairperson required.

**GIS 2996: Global Studies Internship**

Permission of Chairperson required.

**Credits:** 6

**Prerequisites:**

Permission of Chairperson required.

**GIS 3000: Special Topics Study Abroad**

Special topics in global and interdisciplinary studies taken while studying abroad.

**Credits:** 3

**GIS 3992: Global Topics Abroad**

Co-requisite 1-credit course designed to provide an embedded study-abroad experience to complement a requisite GIS course.

**Credits:** 1

**Co-Requisites:**

GIS 5011

**GIS 4000: Global Env Justice Movements**

Interdisciplinary seminar course will explore the epistemological, historical, environmental, and philosophical dimensions of global environmental justice movements from the 19th century to the present.

**Credits:** 3

**GIS 4100: Topics in GIS**

Specific topics in global interdisciplinary studies that vary each semester.

**Credits:** 3

**GIS 4275: Global Religions & the State**

Team-taught, interdisciplinary seminar. Study of World Religion in a 21st century socio-political context. Rituals, symbols, myths & doctrinal components of Hindu, Buddhist, Jewish, Islamic & Christian traditions. Consideration of the writings of contemporary religious international figures.

**Credits:** 3

**GIS 4277: Writing Brazilian Culture**

The course examines through film and literature several important aspects of regional Brazilian subcultures, such as the Amazonian indigenous, the coastal African, and the inner city youth cultures, the samba schools and football as cultural practices in the context of human rights.

**Credits:** 3

**GIS 4278: Pro-Seminar in Sustainability**

Interdisciplinary seminar course explores historical, philosophical, environmental, scientific, economic, and political dimensions of sustainability. Using scientific theory, GIS data, documentary films, historical documents, guest speakers, and other diverse source. Students will examine case studies of local, national and international sustainability initiatives.

**Credits:** 3

**GIS 4279: Global Masculinity**

Will explore how the lives of men and ideas about masculinity are shaped by war, sports, work, family life, politics, history and popular culture and defined in relation to other identities including race, ethnicity, and sexuality.

**Credits:** 3

**GIS 4280: Race and the Renaissance**

This interdisciplinary seminar examines concepts of Africa, Europe, and the Renaissance during the period associated with the emergence of modernity and increasing global contact through trans-cultural and global roots.

**Credits:** 3

**GIS 4281: The Tale of Shanghai and Tokyo**

Struggling with their identity while being nurtured by their traditional culture for more than a century, today's Shanghai and Tokyo eventually emerged from a feudal society as modern, sophisticated, and diversified metropolises on the global stage. Explore how the two Asian cities encountered the West, as well as how they were forced to change through revolutions and reforms in the realms of culture, sociology, literature, history, ideology, and philosophy of life.

**Credits:** 3

**GIS 4282: Race & Social Structure:Brazil**

Interdisciplinary, team taught course which will explore the race and social structure of Brazil in through a comparative perspective.

**Credits:** 3

**GIS 4283: Global Tea Culture**

Interdisciplinary, team taught course which will explore the history and influence of tea in various cultures of the world through a comparative perspective.

**Credits:** 3

**GIS 4284: Glob. Racial Images Film & Lit**

An examination of the globalization of racial images through a comparative study of film and literature, using historical inquiry and literacy criticism. Topics include institutional and intellectual racism, imperialism and segregation, racial violence, miscegenation and sexuality, and resistance to stereotypes.

**Credits:** 3

**GIS 4285: GIS Special Topics**

Interdisciplinary study of topics of special interest in Global Interdisciplinary Studies related to course(s) taken through the International Studies Program. May be repeated for credit if topic changes.

**Credits:** 3

**GIS 4286: Bridging Global Cult Conflict**

Interdisciplinary, team taught course which will explore culturally global based conflicts with social, political, economic elements through a comparative perspective. This is a team taught course and will be capped at maximum student enrollment of 17 students.

**Credits:** 3

**GIS 4290: African & Caribbean Pol & Lit**

Interdisciplinary exploration of diverse literary traditions of Africa and its large diaspora in the Caribbean through political science and development economics theories. Examines political dysfunctions that follow postcolonialism; offers theoretical and aesthetic tools to appreciate interface between politics and culture.

**Credits:** 3

**GIS 4675: East Asian Comparative Lit**

Team-taught interdisciplinary seminar. Examination of Modern East Asian Literature with Japanese and Chinese Components.

**Credits:** 3

**GIS 4751: Cultural Studies**

Advanced course in cultural studies. Mastery of theoretical vocabulary & analytical thinking. Thematic foci such as definition of culture, production of cultural meaning & identity, role of cultural forms in creating & maintaining power relationships & social boundaries from a variety of perspectives.

**Credits:** 3

**GIS 4950: Latin Amer Studies Seminar**

Examines the complexity of Latin America from the American Southwest & the tropical islands of the Caribbean to the southern tip of South America. Rich & diverse cultural roots in Native American civilizations, Spain & Portugal, & Africa. Multicultural peoples & search for alternative social structures.

**Credits:** 3

**GIS 5000: Special Topics**

Intensive seminar taught by distinguished visiting faculty on a topic of global and interdisciplinary significance.

**Credits:** 1

**Prerequisites:**

GIS 2000 :Y

**GIS 5011: GIS Select**

Interdisciplinary team-taught courses offered by GIS to fulfill requirements for the Junior Research Seminar and additional GIS Select course. May be taken by GIS majors in any of the specializations, including Gender and Women's Studies and Peace and Justice Education, to fulfill requirements in their specialization if the specific GIS Select topic carries the attribute of their specialization.

**Credits:** 3

**GIS 5012: GIS Select**

Interdisciplinary team-taught courses offered by GIS to fulfill requirements for the Junior Research Seminar and additional GIS Select course. May be taken by GIS majors in any of the specializations, including Gender and Women's Studies and Peace and Justice Education, to fulfill requirements in their specialization if the specific GIS Select topic carries the attribute of their specialization.

**Credits:** 3

**GIS 5021: GIS Select**

Interdisciplinary team-taught courses offered by GIS to fulfill requirements for the Junior Research Seminar and additional GIS Select course. May be taken by GIS majors in any of the specializations, including Gender and Women's Studies and Peace and Justice Education, to fulfill requirements in their specialization if the specific GIS Select topic carries the attribute of their specialization.

**Credits:** 3

**GIS 5022: GIS Select**

Interdisciplinary team-taught courses offered by GIS to fulfill requirements for the Junior Research Seminar and additional GIS Select course. May be taken by GIS majors in any of the specializations, including Gender and Women's Studies and Peace and Justice Education, to fulfill requirements in their specialization if the specific GIS Select topic carries the attribute of their specialization.

**Credits:** 3**GIS 5031: GIS Select**

Interdisciplinary team-taught courses offered by GIS to fulfill requirements for the Junior Research Seminar and additional GIS Select course. May be taken by GIS majors in any of the specializations, including Gender and Women's Studies and Peace and Justice Education, to fulfill requirements in their specialization if the specific GIS Select topic carries the attribute of their specialization.

**Credits:** 3**GIS 5032: GIS Select**

Interdisciplinary team-taught courses offered by GIS to fulfill requirements for the Junior Research Seminar and additional GIS Select course. May be taken by GIS majors in any of the specializations, including Gender and Women's Studies and Peace and Justice Education, to fulfill requirements in their specialization if the specific GIS Select topic carries the attribute of their specialization.

**Credits:** 3**GIS 6000: Independent Study**

Individual students with specific interests will work on a supervised project.

**Credits:** 3**GIS 6500: Capstone I: Research**

Team-taught, interdisciplinary seminar. Integration of work for GIS major, leading to the research & writing of the major thesis, topic determined by faculty of record. Senior standing.

**Credits:** 3**Prerequisites:**

GIS 2000

**GIS 6600: Capstone 2:Thesis**

Directed research seminar focusing on the writing of the major theses. Senior standing.

**Credits:** 3

## Greek

**GRK 1051: New Testament Greek I**

Essentials of the grammar, syntax and vocabulary of the Greek of the New Testament. Reading and writing of simple New Testament Greek.

**Credits:** 5**GRK 1052: New Testament Greek II**

Essentials of the grammar, syntax and vocabulary of the Greek of the New Testament. Reading and writing of simple New Testament Greek.

**Credits:** 5**GRK 1111: Introductory Ancient Greek I**

The basic forms, syntax and vocabulary of Ancient Attic Greek; selected prose in second semester.

**Credits:** 4**GRK 1112: Introductory Ancient Greek II**

The basic forms, syntax and vocabulary of Ancient Attic Greek, selected prose in second semester.

**Credits:** 4**GRK 1113: Intensive Intro. Ancient Greek**

Intensive one-semester course covering all basic skills (grammar, morphology, vocabulary) needed to translate Ancient Greek. Graduate Students (or Undergraduates with permission of Classical Studies' Department Chair).

**Credits:** 3**GRK 1121: Intermediate Ancient Greek I**

Having reviewed the primary grammar and syntax of Attic Greek, this course will examine selections from several principal prose authors of the classical period (e.g. Herodotus, Plato, Thucydides, et al).

**Credits:** 3**Prerequisites:**

GRK 1111 and GRK 1112

**GRK 1122: Intermediate Ancient Greek II**

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**Credits:** 3**Prerequisites:**

GRK 1111 and GRK 1112 and GRK 1121

**GRK 2001: Readings in Ancient Greek**

Selected readings in ancient Greek with a focus on building and strengthening translation skills.

**Credits:** 1**Prerequisites:**

GRK 1111 and GRK 1112

**GRK 3001: Readings in Authors**

Selected readings from a variety of Greek authors. Fulfills advanced literature requirements.

**Credits:** 3

**GRK 4250: Greek Historians**

Selections from the works of Herodotus, Thucydides, or Polybius. Fulfills advanced literature requirements.

**Credits:** 3

**GRK 4350: Greek Orators**

Selected Orations; the style and structure of the speeches, their relations to the historical occasions for which they were composed, and the contribution of rhetoric to the intellectual life of the fourth century.

**Credits:** 3

**GRK 4450: Greek Philosophers**

Greek philosophical thought and its vehicle, the Greek language, based on the reading of texts in the original.

**Credits:** 3

**GRK 5250: Homer**

Introduction to Homeric Greek and a study of Homeric epics.

**Credits:** 3

**GRK 5850: Greek Tragedy**

Selected plays, read and interpreted in the light of contemporary Greek institutions and thought, with attention to their poetic and dramatic structure.

**Credits:** 3

**GRK 5900: Greek: Independent Study**

Supervised study, activity or research. May be taken more than once. Prior approval of chair and instructor.

**Credits:** 3

**GRK 5950: Greek Comedy**

Selected plays, read and interpreted in the light of contemporary Greek institutions and thought, with special attention to their poetic and dramatic structure.

**Credits:** 3

**GRK 6001: Senior Greek Capston**

A reading, research, and conference course on selected topics of Greek literature and history; introduction to research in classical studies.

**Credits:** 3

**GRK 7000: Koine Greek Workshop**

Koine Greek Workshop

**Credits:** 0

**GRK 7101: Intensive Greek**

Intensive study of ancient Greek grammar, morphology and vocabulary.

**Credits:** 3

**GRK 7200: Readings in Ancient Greek**

Selected readings in ancient Greek with a focus on building and strengthening translation skills.

**Credits:** 1

**GRK 7250: Hist of Greek Literature**

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**Credits:** 3

**GRK 8001: Selected Readings**

-

**Credits:** 3

**GRK 8150: Greek Historians**

-

**Credits:** 3

**GRK 8250: Attic Orators**

-

**Credits:** 3

**GRK 8350: Plato**

-

**Credits:** 3

**GRK 8450: Homer**

-

**Credits:** 3

**GRK 8550: Greek Tragedy**

-

**Credits:** 3

**GRK 8551: Greek Comedy**

-

**Credits:** 3

**GRK 9000: Grad Greek Independent Study**

Graduate level independent study in Greek literature.

**Credits:** 3

**GRK 9050: Greek Patristics**

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**Credits:** 3

## History

**HIS 1002: The United States to 1877**

For AP and transfer credit only. Does not fulfill Arts and Sciences core history requirement.

**Credits:** 3

**HIS 1003: The United States Since 1877**

For AP and transfer credit only. Does not fulfill Arts and Sciences core history requirement.

**Credits:** 3

**HIS 1021: Hist of Western Civil II**

For AP and transfer credit only. Does not fulfill Arts and Sciences core history requirements.

**Credits:** 3

**HIS 1040: Themes Pre Mod World History**

Comparative exploration of at least three different pre-modern civilizations (pre-1750). Cultural contact and exchange; pre-modern economies, state formation; political institutions; and social structures; religion and culture; art, architecture and literature.

**Credits:** 3

**HIS 1050: Themes in Modern World History**

Investigation of history of diverse nations and regions since 1500. Political, technological, and economic revolutions; modern state formation; cross-cultural conflict and exchange; social movements; environmental transformation; rise of global economy.

**Credits: 3**

**HIS 1060: Topics in Religion & Society**

Selected core courses exploring religion in different eras with emphasis on cross cultural interaction.

**Credits: 3**

**HIS 1065: Topics Nature, Environ & Tech**

Selected core courses exploring relationship between environmental and technological change in different eras and societies.

**Credits: 3**

**HIS 1070: Topics Empire and Imperialism**

Selected core courses on empire and practice of imperialism in different eras.

**Credits: 3**

**HIS 1075: Topics in Race & Gender**

Selected core courses exploring issues of race and/or gender in different eras.

**Credits: 3**

**HIS 1150: Topics in Atlantic World**

Selected core courses on political, social, and cultural interaction in the Atlantic basin beginning in the 15th century.

**Credits: 3**

**HIS 1155: Topics in America & the World**

Selected core courses offering transnational perspectives on the development of American society.

**Credits: 3**

**HIS 1160: Topics in Asia & Pacific**

Selected core courses on political, social, and cultural interaction among different societies in Asia and Pacific basin.

**Credits: 3**

**HIS 1165: Topics Global Perspectives**

Selected core courses that take a global or comparative approach to major issues.

**Credits: 3**

**HIS 1250: Top in Ancient Civilizations**

Selected core courses on different aspects of ancient societies.

**Credits: 3**

**HIS 1903: Internship Elective**

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**Credits: 3**

**HIS 1906: Internship Elective**

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**Credits: 6**

**HIS 1909: Internship Elective**

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**Credits: 9**

**HIS 2000: Investigating U.S. History I**

In-depth study of American history from the pre-Columbian period to the Civil War and Reconstruction, with a particular emphasis on engaging historical problems as a process of inquiry and interpretation. Designed especially for history majors and future teachers, but open to all students.

**Credits: 3**

**HIS 2001: Investigating US History II**

In-depth study of American history from the end of Reconstruction to the present, with a particular emphasis on engaging historical problems as a process of inquiry and interpretation. Designed especially for history majors and future teachers, but open to all students.

**Credits: 3**

**HIS 2151: Colonial America**

The political, economic, social, and intellectual life of the American colonies and the clash of racial and ethnic groups in America to 1763.

**Credits: 3**

**HIS 2161: Revolutionary & Fed Amer**

The colonial resistance to Great Britain; the making of the Constitution; and the continuing struggle, to 1810, to define the meaning of the Revolution.

**Credits: 3**

**HIS 2171: Building a Nation 1800-50**

The development of the Republic from the presidency of Jefferson through the Mexican War; revolutions in transportation and commerce, struggles of nationalism and sectionalism; issues of race and gender and the ferment of reform.

**Credits: 3**

**HIS 2181: Civil War & Reconstruct**

A study of the causes of a war in which Americans fought Americans; the war's evolving nature and eventual outcome; the fight over the meaning and the extent of reconstruction; and the long term political, economic, and social consequences of the war and the end of slavery.

**Credits: 3**

**HIS 2191: Pursuits of Power, 1876-1920**

Causes and results of industrialization and urbanization; responses to economic and social change, including popular protest movements; nationalism following the Civil War; U.S. imperial ambitions.

**Credits: 3**

**HIS 2201: United States 1914-1945**

Major problems and domestic developments in the United States in World War I, the 1920s, the Great Depression and World War II.

**Credits: 3**

**HIS 2202: United States since 1945**

Major problems and domestic developments in the United States since 1945: reconversion, Cold War, the "Good Society" of the 1950s, turmoil of the 1960s, Vietnam War and its aftermath, contemporary challenges and problems.

**Credits: 3**

**HIS 2251: U. S. Foreign Rel 1776-1914**

The completion of independence, hemispheric diplomacy, expansion, Civil War, and imperialism.

**Credits: 3**

**HIS 2252: U.S. For Rel 1914 - Present**

Diplomatic history from World War I to the present, including involvement in European and Asian struggles, cooperation in international organizations.

**Credits: 3**

**HIS 2265: American Military History**

The wars of America from their European antecedents to 1900; relations between the military and society; role of the military in national development.

**Credits: 3**

**HIS 2272: History of American Capitalism**

American economic growth from the colonial era to the present and its impact on political, social present and cultural life, including American industrialization; rise of the corporation; military-industrial complex; capital-labor relations; globalization of American capitalism.

**Credits: 3**

**HIS 2274: History of American Medicine**

The evolution of American Medicine from the colonial period to the present day. Topics include the rise and fall of heroic medicine, the demise of scientific medicine, the growth of modern surgery, the evolution of medical practice.

**Credits: 3**

**HIS 2276: American Environmental Hist**

Social, cultural and economic forces that reshaped the American landscape from the colonial era to the present; the place of nature in American thought and society; and the evolution of environmental politics in the 20th century.

**Credits: 3**

**HIS 2278: Native American History**

Study of American Indians from pre-Columbian times to the present, including land use practices, social customs, gender relations, U.S. government removal and assimilation policies, post-colonial political economy, and contemporary issues of cultural identity and sovereignty.

**Credits: 3**

**HIS 2280: Catholic Church in America**

Development and shaping of the Roman Catholic Church by diverse cultures of Catholicism from 1500 to the present. The first contact of Europeans and Native Americans; growth through European immigration; challenges facing the modern, multicultural Church of the present day.

**Credits: 3**

**HIS 2281: Immigration in American History**

Population factors in the development of the American nation; the processes of migration, assimilation and intergroup relations and their effects in society and politics; intensive study of selected ethnic groups.

**Credits: 3**

**HIS 2286: Irish-American Saga**

Pre-famine Irish emigration to North America; the famine; post-famine movement; Irish-American labor, politics, urban and suburban developments.

**Credits: 3**

**HIS 2291: African Amer His during Slaver**

The forced migrations of Africans to the New World, the institution of slavery, and the struggle of Afro-Americans to gain equality in American society.

**Credits:** 3

**HIS 2292: African Amer His since Emancip**

Themes of resistance and creativity with the development of the African-American communities in the era following the Civil War. Reconstruction, Northern migration, Jim Crow and segregation, and protest thought and Civil Rights.

**Credits:** 3

**HIS 2294: His of Childhood in US**

The experience of childhood in America, including topics such as the invention of adolescence; child abuse and protection; child labor; compulsory schooling and immigrant assimilation; juvenile delinquency; age of consent; dating; children in the movies; children as consumers; and youth culture and rebellion.

**Credits:** 3

**HIS 2296: History of American Women**

The study of the influence of region, race, and ethnicity on gender definitions in America; and the impact of those ideas in shaping women's lives, sexuality, housework and wage labor, and access to power and politics, from the colonial period to the present.

**Credits:** 3

**HIS 2303: History of Philadelphia**

An investigation of the city's past and present through reading historical accounts and exploring today's city. Changes and continuity in politics, economy, and social composition from 1682 to today, with particular attention to social structures and the changing physical environment of the city.

**Credits:** 3

**HIS 2306: Culture of Indus Am 1820-1920**

Cultural sources of American expansion and economic development; the effects of industrialization on patterns of life and thought and the responses of different groups to these changes.

**Credits:** 3

**HIS 2309: Artifacts in History**

Cultural history as revealed through artifacts, including everyday objects, decorative arts, and architecture; issues and controversies related to museum exhibits; the role of the Internet in material culture studies.

**Credits:** 3

**HIS 2993: Hist Internship**

An internship in a local historical archive, museum, park, or library.

**Credits:** 3

**HIS 2996: Hist Internship**

A more extensive internship in a local historical archive, museum, park, or library.

**Credits:** 6

**HIS 2998: Topics in American History**

Selected topics in American history of interest to faculty and students.

**Credits:** 3

**HIS 3006: Medieval Europe 500-1500**

The evolution of the European West from its classical origins. The influence of Christianity upon the development of European institutions and culture. Relations and mutual influences of the European West with its neighbors, the new world of Islam in the Near East and North Africa, and the Christian Byzantine East of Europe and Russia.

**Credits:** 3

**HIS 3007: Early Mod Europe 1500-1750**

The rise of Protestantism; the emergence of national monarchies; the growth of science and technology; colonial expansionism and the impact of the New World on the West; the clash of cultures with Islam and other civilizations on the peripheries.

**Credits:** 3

**HIS 3011: Greek Civilization**

The rise of Greek civilization from Mycenaean times to the Macedonian conquest of Greece by the father of Alexander the Great: Homer, the emergence of the polis, the Persian and Peloponnesian wars, and the flowering of Greek culture at Athens during the 5th and 4th centuries.

**Credits:** 3

**HIS 3014: Medit Wrld Alexander to Caesar**

The interaction of cultural forces between the conquests of Alexander the Great and the consolidation of Roman rule under Caesar; Hellenistic civilization, the rise of Rome in Italy, Rome and the Greek world, and the fall of the Roman Republic.

**Credits:** 3

**HIS 3017: The Roman Empire**

The achievement of the Pax Romana from the reforms of Augustus to the break-up of the western Empire in the fifth century A.D. Topics treated include life in the provinces, the romanization of indigenous peoples, the legions and society, culture and decadence in the capital, and the rise of Christianity.

**Credits:** 3

**HIS 3018: Pagans, Jews, and Christians**

Society and religion between Alexander the Great and the coming of Islam. The classical pantheon, domestic religion, magic, the imperial cult; the variety of Judaism in Palestine and the Diaspora, Judaism and the state; the rise of Christianity, the persecutions, Constantine and the conversion of the empire.

**Credits:** 3

**HIS 3019: The Fall of Rome**

The end of the ancient world -- ancient sources and modern theories. A multi-faceted analysis of Mediterranean society from AD 200 - 750: politics, economy, religion, urban life, art, social relations, literature.

**Credits:** 3

**HIS 3095: Topics in Ancient History**

Selected topics in Ancient history of interest to faculty and students.

**Credits:** 3

**HIS 3108: The Crusades**

The medieval conflict between the rival cultures and religions of Christendom and Islam.

**Credits:** 3

**HIS 3115: The High Middle Ages**

The major western European institutions that took form during the classical period of medieval civilization and were bequeathed to modern European society.

**Credits:** 3

**HIS 3121: The Renaissance**

The decline of society in the Late Middle Ages and the emergence of commercial capitalism; the disintegration of the Holy Roman Empire and the evolution of city-states and new monarchies in the fifteenth century; the crisis of the Papacy and the emergence of humanism; the Italian universities in the Late Middle Ages and the development of new tastes in literature, art, and architecture.

**Credits:** 3

**HIS 3126: Hist of Italian Cities**

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**Credits:** 3

**HIS 3131: The Reformation**

Catholic, Protestant, and popular reform theories and religious upheaval, and the revolution of the common people in the 16th century, with emphasis on the material "structures of everyday life" and the economic, social, and political background of the "crisis of feudalism" and critique of the church and early modern state.

**Credits:** 3

**HIS 3142: The Enlightenment**

The cultural transition of traditional Western Christendom to modernity in the 18th Century, including its clash with religion; emphasis on scepticism and empiricism; rehabilitation of natural desires and emotion; efforts to re-engineer human society; new perceptions of economics, crime and punishment, and aesthetics; creation of a reading public; role in the American founding; impact upon issues of gender and race.

**Credits:** 3

**HIS 3151: Eur Nationalism 1800-present**

Constructing nations and nationalism in Europe from the Napoleonic wars to post-Yugoslavia; competing conceptions of nationality (on the basis of race, gender, politics, culture, etc.) and resulting conflicts.

**Credits:** 3

**HIS 3161: 20th Century Europe**

Social, political, and cultural history of Europe from the fin de siecle to European unification; world wars and revolution, East-West divide, consumer society and popular protest.

**Credits:** 3

**HIS 3171: Europe since 1945**

Europe from the end of World War II to the European Union; postwar reconstruction; Cold War; the growth of consumer society; the collapse of the Soviet Empire; changing conceptions of European identity.

**Credits:** 3

**HIS 3200: Medieval Britain and Ireland**

The debts England owes to the Celtic, particularly the Irish, world; changed relations, from fruitful cultural exchange to antagonism, after the Norman Conquest of England. Irish missionary and educational importance; relations between Celtic peoples; why monarchy developed in England and Scotland, but not in Wales and Ireland.

**Credits:** 3

**HIS 3202: Britain 1660-1815**

Emergence of Britain as the preeminent global capitalist economy and political power from the glittering court of Charles II to Britain's loss of its American colonies and its victory over revolutionary France. Connections between political-economic developments and social and cultural change including industrialization; war, economic growth and state formation; smuggling, gin, and criminality; empire; domesticity, women and the novel, high and low art in London.

**Credits:** 3

**HIS 3203: Great Britain since 1815**

British politics, society and culture from the triumph of Waterloo to youth culture in the post-industrial world of the Beatles. Topics include Liberalism; industrial conflict, urban poverty and radical politics; Anglo-Irish relations; degeneration and fin-de-siecle sexual anarchy; rise of Labour and Women's movements; imperialism and decolonization; race and ethnicity; film and social change.

**Credits:** 3

**HIS 3214: Eighteenth Century Ireland**

Ireland from the Reformation to the Act of Union with particular emphasis on the rise and impact of the Protestant Ascendancy.

**Credits:** 3

**HIS 3216: Ireland since 1800**

The social and political history of the Irish state in the 19th and 20th centuries.

**Credits:** 3

**HIS 3218: Topics in Irish History**

Exploration of emerging topics in field of Irish History, including but not limited to the Act of Union, the impact of the Protestant Ascendancy, and the cultural, social and political history of the modern Irish state.

**Credits:** 3

**HIS 3221: French Rev and Napoleon**

Causes, nature and course of the French Revolution, including a study of its historical interpretation, and the Napoleonic aftermath of the Revolution.

**Credits:** 3

**HIS 3222: History of Modern France**

Major developments, problems, and policies connected with the evolution of the French nation and its empire from 1815 to the present.

**Credits:** 3

**HIS 3230: Modern Germany**

The German lands from 1800 to the present, changing conceptions of Germany and dilemmas of German history.

**Credits:** 3

**HIS 3233: Hitler and Nazi Germany**

Germany from the rise of Hitler to the end of the Second World War.

**Credits:** 3

**HIS 3240: Russian History to 1861**

The development of Russia from the "rude and barbarous kingdom" of Ivan the Terrible to the great European power ruled by Catherine the Great. The political, economic and social systems of Muscovite and eighteenth-century Russia; civil wars, peasant rebellions, and foreign invasions; the reforms of Peter the Great; female monarchs in the 18th century; enlightened absolutism under Catherine the Great.

**Credits:** 3

**HIS 3241: Revolutionary Russia 1861-1939**

Major political, economic and social changes in the Russian Empire from the war against Napoleon to World War I; reform from above and revolution from below; Russia's industrial revolution; social and cultural modernization; the institution of monarchy under the last Romanov tsars; Russia's expansion in the East.

**Credits:** 3

**HIS 3242: Russia from Stalin to Putin**

Russia from the 1917 Revolution to the present; the radical transformation of a state, economy and society in revolution and civil war, the Stalin dictatorship, the trial of World War II, and the patterns of reform and continuity in the post-Stalin and post-Soviet eras.

**Credits:** 3

**HIS 3351: 19th c. European Cult & Soc**

Social and cultural impact of industrialization, the evolution of mass society, changing conceptions of elite and popular culture; social conflict, revolution, and imperialism.

**Credits: 3**

**HIS 3352: 20th C European Cult & Soc**

Cultural modernism and the impact of modern technology, experience and representation of war, violence, and genocide; post-World War II social transformations; Americanization and Sovietization; post-industrial society and post-modern culture.

**Credits: 3**

**HIS 3360: Women in the Pre-Modern West**

Roles of women from ancient world to revolutionary France, including analysis of the status of women in Biblical, Greek, Roman, medieval, early modern and Enlightenment cultures and times. Themes of motherhood, women's work, women in literature and women's ways of exerting control over their lives.

**Credits: 3**

**HIS 3361: Women in Modern Eur Soc**

The changing roles of women in society and politics in Europe from the 18th to 20th centuries. Topics include women and the household economy; women and revolution; feminism and feminist movements; the rise of female professions; women's literature and feminist critical theory.

**Credits: 3**

**HIS 3995: Topics in European History**

Selected topics in European history of interest to faculty and students.

**Credits: 3**

**HIS 4031: Islamic Civilization to 1800**

The Islamic World from the seventh century through the eighteenth century with special emphasis on its cultural, social, and political history and contributions.

**Credits: 3**

**HIS 4041: Hist Modern Middle East**

The political, economic and social history of the Middle East with emphasis on the passing of imperial institutions and emergence of republics, trade and commerce, colonialism, and revolutionary movements.

**Credits: 3**

**HIS 4076: Jewish History**

The relation of the Jews to the historical process; the Jews in relation to the larger civilizations in which they have lived; Jewish intellectual and moral contributions; Jewish history in the Christian world; the Holocaust; formation of a Jewish homeland, Israel.

**Credits: 3**

**HIS 4090: Women in the Middle East**

Roles of Middle Eastern women from the seventh century to the present era. Women's lives and experiences, with emphasis on their influence and contribution to the economy, politics, literature and the arts. Attention to the effects of regional, ethnic, class, and religious differences on women's status and activities.

**Credits: 3**

**HIS 4095: Top Middle Eastern Hist**

Selected topics in Middle Eastern history of interest to faculty and students.

**Credits: 3**

**HIS 4120: Emergence Modern Africa**

The impact of 19th century European colonialism on Africa; the division of Africa into European dependencies; change and continuity in African culture; the emergence of independent African nation states after World War II; their difficulties and opportunities.

**Credits: 3**

**HIS 4195: Topics African History**

Selected topics in African history of interest to faculty and students.

**Credits: 3**

**HIS 4210: Byzantine Civilization**

The history and culture of the eastern Roman Empire from the founding of Constantinople in 330 by Constantine to its capture by the Ottoman Turks in 1453. The emperor and his court, Byzantine art and architecture, monasticism, Byzantine women, the rise of Islam, the Latin west and the Crusades.

**Credits: 3**

**HIS 4316: Intro to His of Japanese Civ**

A broad and basic introduction to Japanese society, culture and history from its inception to 1600 when Japan began to limit its citizen's contact with Christian nations.

**Credits: 3**

**HIS 4320: Modern East Asia**

The political, economic and social history of Modern East Asia (China, Japan and Korea) with an emphasis on the impact of the West, the Japanese Empire and the development of modern institutions.

**Credits: 3**

**HIS 4325: Modern China I, 1644-1912**

Survey of Chinese history, 1644 to 1912, covering demise of last Chinese empire: the Qing empire. Topics include emergence of commercial society; Opium Wars, Imperialism, engagement with European world, and demise of the Empire and birth of modern Chinese nation.

**Credits: 3**

**HIS 4330: Modern China II, 1912-Present**

China during its republican and Communist periods.

**Credits: 3**

**HIS 4335: Modern Japan**

The social and political history of modern Japan (1868-Present); its dramatic rise to world power status, the long road to WW II, the impact of Allied Occupation; themes of cooperation and conflict in state-society relations.

**Credits: 3**

**HIS 4340: Cult. of East Asian Capitalism**

This course is a thematic historical survey focusing on the relationship between economic and non-economic processes -- social, cultural, and intellectual -- around the world the last three centuries. Readings are global in scope but will emphasize the historical experiences of East Asia, and in particular modern China and Japan.

**Credits: 3**

**HIS 4360: History of Modern South Asia**

History of Indian subcontinent from late Mughal period through British Empire, culminating in independence and partition in 1947. Emphasis on knowledge, power and state formation; resistance, revolution, and nationalism; gender and the role of women; and post colonial legacies.

**Credits: 3**

**HIS 4365: Modern India and Pakistan**

Modern history of the Indian subcontinent from late Mughal Empire to the present. Themes include: expansion of British power, anti-colonial nationalism, birth of India and Pakistan, and contemporary politics, economics, and culture in the region.

**Credits: 3**

**HIS 4395: Topics in Asian History**

Selected topics in Asian history of interest to faculty and students.

**Credits: 3**

**HIS 4405: The Americas & Span Conquest**

Incas, Mayas, Aztec and Mochica cultures in Ancient Latin America; indigenous cultural and military clashes with European invaders; the 16th-century political economy and subsequent theological debates regarding the humanity of Indians; social repercussions of an "incomplete" conquest.

**Credits: 3**

**HIS 4410: Colonial Latin America**

Establishment and maintenance of a Hapsburg colonial state; indigenous responses to religious and secular colonization; the creation of a multicultural society from African, indigenous, and Iberian peoples from the 1580s the 1780s.

**Credits: 3**

**HIS 4415: Revolutionary Latin America**

Latin America's revolutionary century from the beginnings of political revolt in the 1780s to the beginning of economic modernization in the 1880s. Social and economic impact of the Bourbon Reforms; indigenous revolts and slave rebellions; liberal revolutionary movements culminating in the political independence but economic dependence of Spanish America; slavery and abolition.

**Credits: 3**

**HIS 4420: Contemp Lat Amer History**

20th century economic inequalities, U. S. intervention and military dictatorships, cultural imperialism and immigration Communism in Latin America, human rights within a multiracial society.

**Credits:** 3

**HIS 4495: Topics Latin Amer Hist**

Selected topics in Latin American history of interest to faculty and students.

**Credits:** 3

**HIS 4499: Topics in World History**

Selected topics in world or non-western history of interest to faculty and students.

**Credits:** 3

**HIS 4526: Mod Science Art Invention**

Interactions among science, technology and art that have shaped modern culture since the industrial revolution of the late 18th century. Special attention to the sources, styles, and contexts of creativity in various fields.

**Credits:** 3

**HIS 4527: Frankenstein to Artificial Lif**

The origins of artificial life forms by modern science, the perspective of involved scientists, literary observers, politicians and businessmen, and society as a whole. Topics include cloning, transplanted organs, genetic engineering, and artificial intelligence.

**Credits:** 3

**HIS 4528: Women in Mod Sci & Tech**

Women in the development of modern (since 1600) science and technology, including gender issues shaping theories and research, the impact of innovation on women's lives, and women as professionals and as creative workers.

**Credits:** 3

**HIS 4620: 20th Cent Military Hist**

The major wars of the 20th century: World War I, World War II, Korea and Vietnam. Cold War, wars of liberation.

**Credits:** 3

**HIS 4660: World at War, 1939-1945**

Visions and experiences of a global war; Nazism and a culture of total war; war and civilians; racism and the Holocaust; the atomic bomb; historical commemoration and memory.

**Credits:** 3

**HIS 4700: "War Lords" of WW II**

The military leaders of the Second World War in both the European and Pacific theaters.

**Credits:** 3

**HIS 4701: The Cold War**

The origins, conduct, and outcomes of the Cold War, and analysis of evolving interpretations of this conflict and its significance.

**Credits:** 3

**HIS 4995: Topics Comparative Hist**

Selected topics in non-Western and world history of interest to faculty and students.

**Credits:** 3

**HIS 4996: Topics History of Gender**

Selected themes in the history of gender examined in depth.

**Credits:** 3

**HIS 4997: Topics in the History of Race**

Selected themes in the history of race examined in depth.

**Credits:** 3

**HIS 4998: Topics in Public History**

Selected themes in public history examined in depth.

**Credits:** 3

**HIS 5001: Junior Research Seminar**

The junior research seminar introduces majors to research methods, sources, and historiography -- how historians have reconstructed, interpreted, and written about the past. By examining diverse interpretations and historical controversies, the seminars help students develop their abilities to critique historical arguments and develop their own arguments. The course prepares history majors for their Senior Research Methods course, HIS 5501.

**Credits:** 3

**HIS 5501: Sem in Historical Methodology**

Student research and reports. Seminar format. Written permission of chair required.

**Credits:** 3

**Prerequisites:**

Written permission of chair required.

**HIS 5515: Independent Research**

An intensive research project under individual direction. Written permission of chair required.

**Credits:** 3

**Prerequisites:**

Written permission of chair required.

**HIS 8002: Sem in North Amer Hist**

Selected topics in North American History. Topic will be announced in advance of registration.

**Credits:** 3

**HIS 8003: Amer Women & Gender His**

Topics in women's and gender history in America from pre-contact to the present, analyzing the relative positions of men and women within the various contexts of race, region, religion, class, ethnicity, law, sexuality, and society.

**Credits:** 3

**HIS 8011: Amer Soc in Col. Era to 1750**

Colloquium on the Anglo-American colonies to 1750. The emergence of distinctive and diverse colonial societies; the response to the wilderness environment; the problem of race in early America.

**Credits:** 3

**HIS 8016: Amer Nation 1750-1800**

Colloquium on the revolutionary and Federalist eras. The movement toward revolution; the War of Independence; the emergence of new governmental structures; the Hamiltonian economic program and the organization of the first party system.

**Credits:** 3

**HIS 8021: Early American Republic**

Study of selected topics on the Jeffersonian-Jacksonian eras, emphasizing the formation of the political and constitutional system, and including such topics as the party system, federal-state relationships, the presidency, and the emergence of popular democracy.

**Credits:** 3

**HIS 8026: U.S. Civil War**

Selected research projects and readings on the era of the Civil War and Reconstruction, covering the origins of the conflict, the events of the war and its consequences.

**Credits:** 3

**HIS 8033: The Gilded Age, 1865-1900**

Colloquium on the development of American History from Reconstruction to the turn of the century, focusing on the political, social and economic changes attending the emergence of an industrial and urban society in America.

**Credits:** 3

**HIS 8041: Roosevelt to Roosevelt**

The Progressive movement, World War I, Normalcy and the New Deal, examined through selected historical documents and secondary readings.

**Credits:** 3

**HIS 8042: U S since the New Deal**

Domestic developments in the United States and its Cold War role from the Second World War until the Vietnam war, examined through selected historical documents and secondary readings.

**Credits:** 3

**HIS 8061: Amer For Rel to 1914**

Foreign relations of the United States from the Declaration of Independence to World War I, covering U.S. diplomacy during the territorial expansion, and the emergence of the U.S. as a great power.

**Credits:** 3

**HIS 8062: Amer For Rel sn 1914**

Readings in and discussion of such major issues as the ideology of American expansionism, American entry into World War I, Woodrow Wilson and the New Diplomacy, independent internationalism in the 1920s, the breakdown of the international system in the 1930s, U.S. entry into World War II, the origins of the Cold War, the institutionalization of the Cold War, and the U. S. effort to adjust to the end of the Cold War.

**Credits:** 3

**HIS 8066: American Cultural History**

Readings and discussion of selected topics in American intellectual and cultural history, social Darwinist thought, political economy, modern cultural movements and the role of the intellectual in American life.

**Credits:** 3

**HIS 8071: Top:Early Amer Soc Hist**

Readings and discussion of selected topics in American social history to 1865, reflecting various social history perspectives and methodologies, including such subjects as the colonial economy, the social structure of the Revolutionary period, 19th-century cities and industry, and the ferment of reform.

**Credits: 3**

**HIS 8072: Topics:Mod Amer Social History**

Readings and discussion of selected topics in American social history since 1865, reflecting various social history perspectives and methodologies, and including themes related to industrialization, expansionism, and their effects.

**Credits: 3**

**HIS 8076: Topics: Amer Econ Hist**

Topics pertaining to the development of the American colonial economy, the rise of American industrialism in the nineteenth century, and the emergence of international American economic power and influence in more recent times.

**Credits: 3**

**HIS 8077: Top in Af-Am Hist During Slav**

Selected topics on the development and experiences of the African American community during the age of slavery, including the African slave trade, bondage and freedom in North America, slave culture and society, the free black community, abolitionism, the Civil War, and Reconstruction.

**Credits: 3**

**HIS 8078: Top in Af-Am Hist since 1865**

Selected topics on the development and experiences of the African American community since the age of slavery, including Reconstruction, American apartheid, migration and urbanization, black nationalism, the Harlem Renaissance, the civil rights struggle, and race relations.

**Credits: 3**

**HIS 8081: Readings in Amer Ethnic His**

Examination of post-Civil War civil rights legislation, redefinitions of citizenship, debates about federal power and protection of individual rights, changing relations of labor and property rights, extension of the railroad, and new ways of understanding nationalism in the thirty year period from 1863 to 1896 in US History.

**Credits: 3**

**HIS 8202: Seminar Topics Euro History**

Selected topics in European history offered each semester. The topic will be announced in advance of registration.

**Credits: 3**

**HIS 8204: Sem Topics in Ancient History**

Selected topics in ancient history. The topic will be announced in advance of registration.

**Credits: 3**

**HIS 8205: Ancient Mediterranean**

Issues in current historiography dealing with the cultures of the ancient Mediterranean, including state formation, social structure, economic life, and the interplay between imperial and indigenous cultures.

**Credits: 3**

**HIS 8206: Dark Ages**

Comparative anthropological analysis of two "dark age" cultures in European history: ancient Greece 1200-750 BCE, and western Europe, 400-900 CE with special attention to such topics as oral poetry, forms of exchange, honor and status, ritualized behaviors, violence and social control, marriage and sexuality, and conceptions of the divine.

**Credits: 3**

**HIS 8207: Wm & Gender in Europe 400-1650**

A survey of women and gender in Europe from ca. 400-1650 AD in Western Europe both northern and Mediterranean. Analyzing the legal, economic, and cultural position of women within the contexts of the family, religion, sexuality and society.

**Credits: 3**

**HIS 8208: Medieval Europe**

Important historiography in English, along with literary, historical, and legal sources in translation, focusing on selected political, economic, intellectual and social themes, such as courtly love, Muslim and Jewish culture in medieval Spain, the Black Death, peasant uprisings. Alternating between Medieval Mediterranean World (c.1100- 1400) and Medieval Britain (c.1100-1400).

**Credits: 3**

**HIS 8209: The Renaissance**

The transformation of European culture in the Renaissance (14th - 16th centuries) with special attention to the role of intellectuals; the function of ideas and attitudes in socio-cultural change; philosophical and methodological issues in studying the Renaissance; and major historiographical trends.  
**Credits: 3**

**HIS 8211: Ref & Cath Counter Reformation**

An examination of late medieval religion and society; the various Protestant Reformations; the Catholic Reformation; and the social and political dimensions of religious change in early modern Europe.  
**Credits: 3**

**HIS 8215: Medieval Christian, Muslim, Jew**

Should the historiography of interfaith relations in Europe between c.1100-1400 be understood in terms of coexistence, cultural entanglement or crusade? In exploring this question we will analyze chronicles, sermons, conversion accounts, Inquisition trials, maps, romances and other literature and art.  
**Credits: 3**

**HIS 8225: The Enlightenment**

Selected topics in the social and intellectual history of eighteenth-century Europe, including philosophical critiques of the Old Regime, the rise of the bourgeoisie, and the condition of the peasants, especially in France.  
**Credits: 3**

**HIS 8231: French Rev and Napoleonic Era**

An analysis of the causes, nature and course of the French Revolution, including a study of its historical interpretation, with additional coverage of the Napoleonic era to 1815.  
**Credits: 3**

**HIS 8235: Brit Econ Soc 1689-1815**

The relationship between economic, social and cultural change in Hanoverian England, including such topics as mercantilism and war, women and family life, industrialization, the rise of the novel, metropolitan and provincial culture, political economy, and radicalism.  
**Credits: 3**

**HIS 8241: Eur Natlism 1815-1870**

Consideration of the nature of European nationalism, its origins, and factors leading to its successes and failures up to 1870.  
**Credits: 3**

**HIS 8245: Great Britain since 1815**

Major themes in the development of Great Britain from the end of the Napoleonic Wars until World War 1: industrialism, political reform, and the the modernization of the state, the triumph of liberalism, and the rise of labor.  
**Credits: 3**

**HIS 8248: Early Modern Ireland**

Analysis of Irish society from 1600 to 1800, examining the events and conditions that led to the turbulent 1790s, a pivotal decade in Irish history, with a particular focus on the writing of history and historical controversies.  
**Credits: 3**

**HIS 8252: Modern France since 1815**

France since the collapse of the Revolution: the Restoration, the 1848 Revolution, the Second Empire, the Paris Commune, World Wars I and II, modern French art and thought.  
**Credits: 3**

**HIS 8262: Imperial Russia to 1917**

An examination of selected problems in Russian history from 1800 to 1917, relying primarily on recent English-language scholarship, memoirs and literature.  
**Credits: 3**

**HIS 8272: Europe on the Eve of WWI**

The development of the European state systems between 1870 and 1914, with special emphasis on the expansion of European imperialism in the colonial world. Historiographical analysis of the origins of the First World War.  
**Credits: 3**

**HIS 8274: Twentieth Century Europe**

Readings and discussions on selected topics in European history from World War I to the present, with emphasis on post World War II topics, such as the post-1945 division of Europe, the Cold War, and the decline of colonialism.

**Credits:** 3

**HIS 8275: European Imperialism**

Case studies of imperialism in various areas (the Mediterranean and Middle East, Asia, Africa) and in various forms during the period from the 1830s to World War II, examined from the perspective of both the imperialists and those subjected to imperialism; analysis of contemporary and historical arguments justifying and criticizing imperialism.

**Credits:** 3

**HIS 8279: Germany since 1945**

An analysis of divided Germany in both its domestic and international aspects. Social, cultural and economic developments in both East and West Germany including reunification.

**Credits:** 3

**HIS 8281: Russia USSR 20th Century**

A study of the major events and issues in the political, economic and social history of Russia and the USSR, with emphasis on the period from 1917 to 1953. Focus on new research and historiographical debates.

**Credits:** 3

**HIS 8290: Women & Gender in Mod Europe**

Investigation of change and continuity in the social, scientific, political and cultural definitions of gender and gender roles from the Enlightenment to the modern era; the roles of women and representations of them in social and political movements, culture, and the economy; women's relationship to the private and public spheres, and their involvement in war, revolution, and economic transformation in modern Europe. Readings will include both women's and gender history and theory.

**Credits:** 3

**HIS 8402: Sem Topics in World History**

Selected topics in world history. The topic will be announced in advance of registration.

**Credits:** 3

**HIS 8410: Atlantic World 1500-1800**

A study of the Atlantic world in its imperial and economic aspects from the sixteenth through the eighteenth centuries, including Europe, the Americas, the Caribbean, and Africa.

**Credits:** 3

**HIS 8412: Colonial Latin America**

Hegemonic colonial rule and resistance; European institutions including Catholicism, slavery, racial hierarchies, and indigenous labor systems; African and indigenous resistance; 16th and 17th centuries.

**Credits:** 3

**HIS 8414: Topics Latin Amer Hist.**

Selected themes in Latin American History of interest to instructor and students. Topics will be announced prior to registration.

**Credits:** 3

**HIS 8416: Modern Latin America**

Selected topics including nationalism; indigenous and African cultural identities; economic development; industrialization; U.S. intervention; socialist revolutions; women's movements; 20th and 21st centuries.

**Credits:** 3

**HIS 8421: China & Japan since WWII**

The politics of post war China and Japan in their cultural and economic interrelationships.

**Credits:** 3

**HIS 8425: Modern Japan**

A colloquium on the major historiographical issues in the history of Japan since 1600, including the role of the Emperor, economic development, and the causes of World War II.

**Credits:** 3

**HIS 8426: Modern China**

A seminar on the major historiographical issues in the history of China since 1600, including revolution, colonialism, and gender.

**Credits:** 3

**HIS 8433: Imperial. & Natlism in MidEast**

Empire, modernization & nation building in the Middle East from the nineteenth century, through an examination of historical narratives & debates; gender as a factor in imperialism & nationalism.

**Credits:** 3

**HIS 8436: Women & Gender in Middle East**

Women's roles in Middle East societies with a particular emphasis on the influences of religion, culture, and class; analysis of women's social status and their participation in social movements.

**Credits:** 3

**HIS 8441: Africa & Emer from Colonialism**

An examination of the key issues of the pre-colonial and colonial eras and a study of the impact of these issues on the formation of modern African society.

**Credits:** 3

**HIS 8452: History of Modern South Asia**

Selected topics in the history of the Indian subcontinent from the late Mughal period through the British Empire to independence and the postcolonial period. Emphasis on knowledge, power, and state formation; resistance, revolution, and nationalism; gender, democracy and development; postcolonial legacies.

**Credits:** 3

**HIS 8454: Empire & Decolonization**

European empires & opposition to empire in Asia, Africa & the Americas, 1500-present. Emphasis on political, economic & cultural modes of domination & resistance. Interdisciplinary approach using historical, theoretical & literary readings on colonialism, nationalism & the post-colonial predicament.

**Credits:** 3

**HIS 8602: Sem Top in Comparative History**

Seminar on a selected topic of particular interest to faculty and students in comparative history. Topic will be announced prior to registration.

**Credits:** 3

**HIS 8603: Topics in the His of Rev**

The comparative history of modern revolutions, including causes and consequences, and the roles of such factors as ideology, language, violence, and war; Marxist and post-Marxist interpretations and historiography; case studies of revolutions in various regions of the world since the eighteenth century.

**Credits:** 3

**HIS 8613: Topics in Gender & Women's His**

Studies of women and gender considered in non-western and transnational contexts, including such topics as women in the Third World, women and globalization, Third World feminism, and the feminization of poverty.

**Credits:** 3

**HIS 8642: Top in His of Science & Tech**

Comparative perspectives on selected topics concerning science and technology in modern history, from the European Scientific Revolution to the present.

**Credits:** 3

**HIS 8648: Environmental History**

The influence of natural environmental forces on human activity and historical change, and the changes in social and cultural attitudes towards nature and natural resources. Focus on Europe and the United States with examination of such topics as European expansion, the scientific revolution, industrialization, and environmentalist movements.

**Credits:** 3

**HIS 8662: Impact of War on Society**

War's consequences for society in the 19th and 20th centuries in Europe and America, with some references to the Far East.

**Credits:** 3

**HIS 8682: The Cold War as History**

Origins, conduct, and outcomes of the Cold War, and analysis of evolving interpretations of this conflict and its significance.

**Credits:** 3

**HIS 8702: Intro to Public History**

Methods, theory, and practice of history outside the classroom, including historic sites, museums, archives, and other public history settings. Interaction with public history professionals and investigation of issues of history and memory in public settings.

**Credits:** 3

**HIS 8703: Public History Practicum**

Supervised group projects in public history settings with emphasis on applied research. Prerequisite: Introduction to Public History or permission of the instructor.

**Credits: 3**

**HIS 8704: Material Culture**

Artifacts as sources for understanding past cultures, with emphasis on both academic scholarship and the field of public history. Development of material culture studies, methods of material culture analysis; artifacts as sources for historians; and the role of artifacts in museum exhibitions.

**Credits: 3**

**HIS 8800: Topics in Historiography**

An examination of selected historical methodologies or recognized subfields of historical writing and research of interest to students and faculty.

**Credits: 3**

**HIS 8802: Seminar in American Historiography**

An examination of selected American historians and historical problems. Readings in the works of significant historians; research and reports by students.

**Credits: 3**

**HIS 8804: Seminar in European Historiography**

An examination of selected European historians and historical problems. Readings in the works of significant historians; research and reports by students.

**Credits: 3**

**HIS 8806: Historiography of Gender**

An examination of selected historians and historical problems in the study of women and gender. Readings in the works of significant historians; research and reports by students.

**Credits: 3**

**HIS 8850: Theory and Methods in History**

Introduction to historiography, theories of history, source analysis and diverse methodologies to prepare students for advanced historical research and writing.

**Credits: 3**

**HIS 8900: Topics in Digital History**

Exploration of emerging topics in field of digital history, including Geographic Information Systems, remote archival access, online collaborative projects, virtual exhibits, text mining, and methodology.

**Credits: 3**

**HIS 9000: Teaching Nationalism in High School**

This two-day workshop is designed to serve as a supplement for instructors who teach the unit on nationalism in AP European History but it has relevance for secondary school teachers who engage topics of the nation, nationalism, and patriotism in their classrooms in a variety of contexts across history and social studies curriculums. This is a 1 credit graduate course for teachers and meets the requirements for Act 48 credit.

**Credits: 1**

**HIS 9002: Research Seminar**

A research seminar of particular interest to faculty and students. The topic will be announced in advance of registration.

**Credits: 3**

**HIS 9006: Grad Internship in Public History**

Internships at area public history sites arranged and supervised by members of the faculty. Practical experience in public history, opportunities to advance historical knowledge, skills, and understanding while applying them to contemporary situations and problems. Graduate students may take this course only once. For graduate students only: permission of graduate program director required.

**Credits: 3**

**HIS 9012: Directed Readings in History**

An independent study and reports on selected topics. Permission of the instructor and approval of the graduate chairperson are required.

**Credits: 3**

**HIS 9022: Thesis Direction I**

Supervised research for students writing master's theses. Permission of the graduate chairperson is required.

**Credits: 3**

**HIS 9032: Thesis Direction II**

Supervised research for students writing master's theses. This course may be taken concurrently with HIS 9022. Permission of the graduate chairperson is required.

**Credits: 3**

**HIS 9042: Internship in Teach of History**

An option for graduate students, normally in their second year of studies, to gain teaching experience under graduate faculty supervision. Graduate students might lead discussions of assigned readings, present a few lectures to undergraduate classes, hold remedial or supplementary tutorials, or assist in dividing and evaluating quizzes, examinations, and paper assignments. The internship is designed to assist graduate students in gaining teaching and classroom experience. Internships are by faculty invitation only, but students may express an interest; consult the graduate or departmental chairperson.

**Credits:** 1**HIS 9080: Thesis Continuation**

Continuation of supervised research for students writing master's theses. Permission of departmental chairperson is required.

**Credits:** 0

## Honors

**HON 1000: Interdisc Humanities I:PHI**

Major works and ideas from the classical Graeco-Roman and Christian traditions. Emphasis on philosophical ideas. Extensive reading and writing requirements. Team-taught.

**Credits:** 3**HON 1001: Interdisc Humanities I:LIT**

Major works and ideas from the classical Graeco-Roman and Christian traditions. Emphasis on literature and drama. Extensive reading and writing requirements. Team-taught.

**Credits:** 3**HON 1003: Interdisc Humanities I: THL**

Major works and ideas from the Graeco-Roman and Christian traditions. Emphasis on religious thought and development. Extensive reading and writing requirements. Team-taught.

**Credits:** 3**HON 1005: Interdisc Humanities I**

Honors seminar on major works and ideas from the classical Graeco-Roman world. Emphasis on literature, drama, and performance.

**Credits:** 1**Co-Requisites:**

HON 1000  
HON 1003  
HON 1000  
HON 1003

**HON 1006: Interdisc Humanities II**

Honors seminar on major works and ideas from the medieval, Renaissance, and early modern periods. Emphasis on literature, drama, and performance.

**Credits:** 1**Co-Requisites:**

HON 1051  
HON 1053  
HON 1051  
HON 1053

**HON 1007: Interdisc Humanities III**

Honors seminar on major works and ideas from the modern and contemporary periods. Emphasis on literature, drama, and performance.

**Credits:** 1**Co-Requisites:**

HON 2002  
HON 2005  
HON 2002  
HON 2005

**HON 1050: Interdisc Humanities II: PHI**

Major works and ideas from the Medieval period to the French Revolution. Emphasis on the evolution in philosophy from medieval to modern. Extensive reading and writing requirements. Team-taught.

**Credits:** 3**HON 1051: Interdisc Humanities II:LIT**

Major works and ideas from the Medieval period to the French Revolution. Emphasis on the evolution in literature from medieval to modern. Extensive reading and writing requirements. Team Taught. (3 cr) Sem 2. Two coreq: HON 1050, 1052, 1053, 1054.

**Credits:** 3**Co-Requisites:**

Two coreq: HON 1050, 1052, 1053, 1054.

**HON 1053: Interdisc Humanities II:THL**

Major works and ideas from the Medieval period to the French Revolution. Emphasis on the evolution in religious thought and institutions from medieval to modern.

**Credits:** 3

**HON 2000: Interdisc  
Humanities III: PHI**

Major works and ideas of the 19th and 20th centuries, with emphasis on philosophy. Extensive reading and writing requirements. Team-taught.  
**Credits: 3**

**HON 2001: Interdisc  
Humanities III: LIT**

Major works and ideas of the 19th and 20th centuries, with emphasis on literature. Extensive reading and writing requirements. Team-taught.  
**Credits: 3**

**HON 2002: Interdisc  
Humanities III: HIS**

Major works and ideas of the 19th and 20th centuries, with emphasis on historical developments. Extensive reading and writing requirements. Team-taught.  
**Credits: 3**

**HON 2003: Interdisc  
Humanities III: THL**

Major works and ideas of the 19th and 20th Centuries, with emphasis on religious thought. Extensive reading and writing requirements. Team taught.  
**Credits: 3**

**HON 2005: Interdisc  
Humanities III: ETH**

Major works and ideas of the 19th and 20th Centuries, with emphasis on ethical thought. Extensive reading and writing requirements. Team taught.  
**Credits: 3**

**HON 2550: Humanities  
Seminar**

Interdisciplinary study of distinctiveness of humanistic knowledge, humanist perspectives on the social and natural sciences, hermeneutics and interpretation, objectivism and relativism.  
**Credits: 3**

**HON 2560: Social Science  
Seminar**

Methodology of empirical and statistical analysis in the social sciences. Computer applications to data analysis, model designs and theory testing.  
**Credits: 3**

**HON 2570: Natural Science  
Seminar**

Methods and issues related to scientific research, including representation and evaluation of data, value questions, and the nature of scientific certainty.  
**Credits: 3**

**HON 3000: Art and Art  
History**

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**Credits: 3**

**HON 3050: Art and Art  
History**

-  
**Credits: 3**

**HON 3100: Classics**

-  
**Credits: 3**

**HON 3300: Education**

-  
**Credits: 3**

**HON 3350: Education**

-  
**Credits: 3**

**HON 3400: Communication**

-  
**Credits: 3**

**HON 3450: Communication**

-  
**Credits: 3**

**HON 3600/3601: Literature**

-  
**Credits: 3**

**HON 3601: Literature**

-  
**Credits: 3**

**HON 3800: Geography**

-  
**Credits: 3**

**HON 3850: Geography**

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**Credits: 3**

**HON 4000/4001: History**

-  
**Credits: 3**

**HON 4001: History**

-  
**Credits: 3**

**HON 4075: Humanities**

Honors Seminar. Topics will vary.  
**Credits: 3**

**HON 4090: Humanities**

Honors Seminar. Topics will vary.  
**Credits: 3**

**HON 4100: Mathematics**

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**Credits: 3**

**HON 4150: Mathematics**

-  
**Credits: 3**

**HON 4200: Topic:  
Criminology**

Topics addressing special or emerging interests, chosen for their current importance and the specific expertise of an instructor.  
**Credits: 3**

**HON 4201: Topic: Criminology**

An evidence-based analysis of what works, what does not work, and what is promising for programs and policies designed to prevent crime and delinquency. An overview of criminological theories, in-depth coverage of school-based delinquency prevention, and analysis of prevention strategies in other settings such as families, communities, places, and labor markets.  
**Credits: 3**

**HON 4300/4301: Philosophy**

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**Credits:** 3

**HON 4301: Philosophy**

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**Credits:** 3

**HON 4400: Justice Seminar Abroad**

Two week intensive course abroad examining social justice efforts in another country. Lectures by local experts and site visits.

**Credits:** 3

**HON 4500: Political Science**

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**Credits:** 3

**HON 4501: Political Science**

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**Credits:** 3

**HON 4700: Psychology**

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**Credits:** 3

**HON 4701: Psychology**

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**Credits:** 3

**HON 4800/4801: Theology & Religious Studies**

-

**Credits:** 3

**HON 4801: Theology & Religious Studies**

-

**Credits:** 3

**HON 4900/4950: Sociology**

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**Credits:** 3

**HON 4950: Sociology**

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**Credits:** 3

**HON 5001: Shaping A College Life**

Shaping a College Life aims at helping Honors students navigate successfully the transition of high school to college by inviting them into a co-curricular one-credit experience focused around several themes. This is a graded course that can be bundled with 2 other approved 1 credit courses for Honors credit.

**Credits:** 1

**HON 5002: Shaping A College Life II**

Shaping a College Life II continues the themes of Shaping a College Life, and invites students to have a reflective experience that provides the opportunity to gain a deeper understanding of yourself, your peer group, and Villanova. This is a graded course that can be bundled with 2 other approved 1 credit courses for Honors credit.

**Credits:** 1

**Prerequisites:**

HON 5001

**HON 5003: Shaping a Work Life**

Professional development seminar focusing on the meaning of work and developing and achieving career goals. Course will combine in-class and out-of-class activities engaging students to explore career and calling.

**Credits:** 1

**HON 5050: Biology**

Advanced seminar in Biology; topics to be determined by the instructor of record.

**Credits:** 3

**HON 5051: Biology**

Advanced seminar in Biology; topics to be determined by the instructor of record.

**Credits:** 4

**HON 5100: Theatre Theory and Performance**

Topics, genres, and practice in production, performance, and critical vocabulary with which to analyze and discuss what is seen and read; texts which engage critically with performance. Staging challenges and performance possibilities offered by stage scripts.

**Credits:** 3

**HON 5300: Enrichment: Topics**

Intensive experiential courses providing enrichment opportunities. Individual and group participation directed toward enhancing intellect and delight.

**Credits:** 1

**HON 5305: Colloquium**

Colloquium is a one-credit seminar for Honors students that is capable of being bundled into a 3-credit course. Course meets once a week. Discussion of books and readings selected by instructor. May be repeated.

**Credits:** 1

**HON 5400: Performing Arts: Dance**

Intensive experiential courses in performance, literary, and plastic arts. Individual and group participation directed toward reflexive understanding of one's self as engaged in the process of creativity.

**Credits:** 1

**HON 5410: Performing Arts: Instrument**

Intensive experiential courses in performance, literary, and plastic arts. Individual and group participation directed toward reflexive understanding of one's self as engaged in the process of creativity.

**Credits:** 1

**HON 5420: Performing Arts: Theatre**

Intensive experiential courses in performance, literary, and plastic arts. Individual and group participation directed toward reflexive understanding of one's self as engaged in the process of creativity.

**Credits:** 1

**HON 5430: Performing Arts: Voice**

Intensive experiential courses in performance, literary, and plastic arts. Individual and group participation directed toward reflexive understanding of one's self as engaged in the process of creativity.

**Credits:** 1

**HON 5435: Music Theory**

The art of music as an expansion of metaphoric language, including images from the visual arts, scientific and philosophic ideas.

**Credits:** 1

**HON 5440: Literary Arts: Poetry**

Intensive experiential courses in performance, literary, and plastic arts. Individual and group participation directed toward reflexive understanding of one's self as engaged in the process of creativity.

**Credits:** 1

**HON 5450: Literary Arts: Prose**

Intensive experiential courses in performance, literary, and plastic arts. Individual and group participation directed toward reflexive understanding of one's self as engaged in the process of creativity.

**Credits:** 1

**HON 5460: Plastic Arts: Painting**

Intensive experiential courses in performance, literary, and plastic arts. Individual and group participation directed toward reflexive understanding of one's self as engaged in the process of creativity.

**Credits:** 1

**HON 5470: Plastic Arts: Sculpture**

Intensive experiential courses in performance, literary, and plastic arts. Individual and group participation directed toward reflexive understanding of one's self as engaged in the process of creativity.

**Credits:** 1

**HON 5480: American Sign Language**

The structure and production of ASL, linguistic expression through face and body. Deaf culture and literature.

**Credits:** 1

**HON 5490: Culture Leadership Workshop**

Civic engagement skill set development in global events; cultural trends; intercultural communication; and discourse across academic disciplines.

**Credits:** 1

**HON 5500: Ind Study & Research**

Independent Study and Research

**Credits:** 3

**HON 5501: Ind Study & Research**

Independent Study and Research

**Credits:** 3

**HON 5506: Ind Study & Res Science**

Independent Study and Research in Science

**Credits:** 3

**HON 5507: Ind Study & Res Science**

Independent Study and Research in Science

**Credits:** 3

**HON 5508: Ind Study: Topics in Intl Rsch**

Directed Independent Research to include flexible components that allows a student to tailor the research to their own areas of interest and scholarship while enrolled in an approved VU study abroad program.

**Credits:** 3

**HON 5509: Ind Study: Topics In Intl Rsch**

Directed Independent Research to include flexible components that allows a student to tailor the research to their own areas of interest and scholarship while enrolled in an approved VU study abroad program.

**Credits:** 3

**HON 5598: Teaching Practicum**

Teaching Practicum.

**Credits:** 1

**HON 5599: Teaching Practicum**

Intern teaching under supervision of Practicum Coordinator.

**Credits:** 3

**HON 5600: Seminar for Visiting Professor**

Seminar topic to be determined by visiting professor.

**Credits:** 3

**HON 5700: Colloquia**

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**Credits:** 3

**HON 5701: Colloquia**

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**Credits:** 3

**HON 5702: Colloquia**

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**Credits:** 3

**HON 5750: Colloquia**

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**Credits:** 3

**HON 6000: Senior Thesis I**

Major independent research project under the direction of a thesis advisor. The first semester includes a comprehensive proposal and bibliography, research design, detailed outline, and substantive writing sample.

**Credits:** 3

**HON 6002: Senior Thesis II**

Major independent research project under the direction of a thesis advisor. In addition to completing the thesis, students must participate in the Senior Research Conference and thesis defense.

**Credits:** 3

**HON 6003: Oral Exam Capstone**

Course will prepare students pursuing the Honors Degree through the non-thesis track for their oral examination.

**Credits:** 1

## Human Services

**HS 2000: Intro:Prin & Survey Prac**

Course is Writing Enriched.

**Credits:** 3

**HS 2100: Assessment and Referral**

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**Credits:** 3

**HS 2200: Research in Human Services**

An introduction to the basic principles, approaches, and methods of social science research as utilized in the field of Human Services. The integration and parallels between Human Service practice and research will be underscored.

**Credits:** 3

**HS 3000: Lab Communication Skills**

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**Credits:** 3

**HS 3100: Lab in Group Process**

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**Credits:** 3

**HS 3400: Working w Diverse Populations**

This course explores historical and contemporary diversity issues related to providing competent cross-cultural human services. The impact of socio-identities (e.g., race, ethnicity, gender, religion, socioeconomic status, sexual orientation, and disability) will be examined considering individual, group, and macro-system functioning.

**Credits:** 3

**HS 3500: Gerontology**

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**Credits:** 3

**HS 3600: Life Skills Planning**

Determination of personal and professional life goals from the perspective of one's own strengths and weaknesses. Helping others in the process of selecting career paths and developing self and peer helping skills. Recommended for undergraduate students interested in the decision-making factors in career selections.

**Credits:** 3

**HS 3700: Human Service Systems**

Organizational structures, trends and influences that impact Human Services Systems. Special emphasis upon managed care and case management as well as Human Resource Development.

**Credits:** 3

**HS 3900: Human Services Ind. Study**

Supervised research or field experience project and paper. Students may only register for this class once, and it cannot take the place of any Human Service course requirements.

**Credits:** 3

**HS 4000: Seminar Human Services**

Integration of the theoretical and practical aspects of the student's program.

**Credits:** 3

**Prerequisites:**

HS 2000 :D- and HS 2100 :D- and HS 3000 :D- and HS 3100 :D-

**HS 4100: Pract Human Services**

Application of human service skills gained in the program through volunteer service in a community organization and structured peer counseling. The on-campus seminar will focus on tapes and case study material.

**Credits:** 6

## Humanities

**HUM 1903: Internship**

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**Credits:** 3

**HUM 1906: Internship**

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**Credits:** 3

**HUM 1975: Epiphanies of Beauty**

Exploration of literary arts as illuminating human condition and mystery of creation through several genres: novel, novella, drama, poetry, short story. T.S. Eliot, Claudel, G.M. Hopkins, J. Joyce, Flannery O'Connor, R.L. Stevenson, O. Wilde.

**Credits:** 3

**HUM 2001: THL:God**

What is religion, anyway? Do we need it anymore? What is the place of religion in the contemporary world? How revelation might illuminate God and creation in a way that transforms the world? Fulfills an upper level Theology in the Core Curriculum.

**Credits:** 3

**HUM 2002: Human Person**

What is human nature, human destiny? How does one become more deeply human? What does it mean to act for the human good? How can we discover meaning in primordial human experiences such as love, mortality, finitude, and suffering?

**Credits:** 3

**HUM 2003: PHI:World**

Modern science is a dominant way of interpreting the world, and so human life. How does modern science interpret the world? What are the effects of this interpretation on the way we view human beings? Fulfills an upper level Philosophy in the Core Curriculum.

**Credits:** 3

**HUM 2004: PSC:Society**

Political, economic, and family life dominate our concerns and yet we seem cynical about possibly finding meaning in them. How is our dependent, rational nature developed through marriage, family, work, markets, and government? Fulfills an upper level Political Science in the Core Curriculum.

**Credits:** 3

**HUM 2100: HIS:The Goods & the Good Life**

Explore issues in economic life through texts in theology, philosophy, history, anthropology, literature, and arts. Why do we work, what is the difference between work and toil? What does the production and consumption of things tell about the human person, world, and God?

**Credits:** 3

**HUM 2200: HIS: Literature & Politics**

How has literature affected political life and imagination? If writers can write about politics, should they enter politics and become acknowledged legislators? Students will read fiction and non-fiction. The focus will be on the political intelligence of literature. Fulfills an upper level History in the Core Curriculum.

**Credits:** 3

**HUM 2300: PSC: What is Politics**

What is Politics? How does it cultivate the human good? How do political actors coordinate complex activities to bring about justice? What difference would the common good make for policy decisions? What are the limits of what politics can achieve?

**Credits:** 3

**HUM 2500: HIS:Imperialism & Humanities**

What have been the meanings of empire for imperialist and imperialized? How can different humanities complement, enrich, and contradict each other? Theme pursued through literature, history, philosophy, theology, art, music and film. Fulfills an upper level History in the Core Curriculum.

**Credits:** 3

**HUM 2900: Topics**

Specific topics vary each semester.

**Credits:** 3

**HUM 2950: Vocation and Purpose**

Reflection on Villanova college experience in guided seminar discussion and workshops designed to envision and shape post-graduate career and life paths. Restriction: Instructor Permission

**Credits:** 1

**HUM 2993: Internship**

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**Credits:** 3

**HUM 2996: Internship**

Humanities majors must satisfy all requirements set by the Internship Office. Students must submit a 10-15 page essay to the Humanities Chair copying the Internship Office. See department web page for particulars.

**Credits:** 6

**HUM 3000: ENG: The Catholic Imagination**

Investigates life as drama; investigates themes of sin, grace, redemption, creation and incarnation, how these disclose the human person. Fulfills an upper level Literature in the Core Curriculum.

**Credits:** 3

**HUM 3001: ENG:Lewis Tolkien & Inklings**

Explores the fictional, theological, and philosophic writing of C.S. Lewis, J.R.R. Tolkien, and the Inklings (Charles Williams, Dorothy L. Sayers, G.K. Chesterton, George MacDonald). Investigates the relationship between fantastic "otherworldly" fiction and human "wordly" experience. Fulfills an upper level Literature in the Core Curriculum.

**Credits:** 3

**HUM 3002: Romantic Revolutions**

Examines culture, religion, and politics in romantic period literature and beyond. Includes major romantic poets, important women writers, and later Victorian paths of "romantic religion." Asks fundamental questions about the role of art, transcendence, and human consciousness in social transformation. Fulfills an upper level Literature in the Core Curriculum.

**Credits:** 3

**HUM 3050: The Poetry of Meditation**

Study of philosophical and religious poetry: Dante, Herbert, Hopkins, Eliot, Pinkerton, and Hill.

**Credits:** 3

**HUM 3140: PSC: Religion and Politics**

The relation of religion and politics found in classical, modern, and contemporary literature especially in Christianity and Islam. Fulfills an upper level Social Science in the Core Curriculum.

**Credits:** 3

**HUM 3150: PHI: Beauty & Human Existence**

Significance of beauty for human life. Is beauty "subjective"? Students consider contemporary thinkers on art, culture, and survey philosophies of art and beauty from ancient to modern. Fulfills an upper level Philosophy in the Core Curriculum.

**Credits:** 3

**HUM 3170: The Nature of Human Freedom**

History of philosophy texts discussing meaning of freedom, (Plato, Aristotle, Augustine, Aquinas, Hobbes, Locke, Spinoza, Leibniz, Schiller, Schelling). Relationship of intellect and will, freedom and the good, free choice and determinism, and autonomy and respect for others.

**Credits:** 3

**HUM 3180: PHI: Faith & Reason**

Reflects on classical and contemporary texts dealing with relation between faith and reason. Discusses imaginative presentations of the christian worldview attempting to show how it's both reasonable and mysterious. Fulfills an upper level Philosophy in the Core Curriculum.

**Credits:** 3

**HUM 3200: PSC: Politics & Human Nature**

Our conception of human nature arises in part from our practice of politics and vice versa. What is the relationship between the way we think about the nature and meaning of human life and the practice of politics? Fulfills an upper level Political Science in the Core Curriculum.

**Credits:** 3

**HUM 3500: PSC: Early Political Theories**

The relevance of the classics of political thought for understanding modern politics from the Greeks to the to the modern era. Fulfills an upper level Social Science in the Core Curriculum.

**Credits:** 3

**HUM 3600: Amer Architecture since 1865**

Survey of architecture and town planning in the United States from 1865 to present. Themes of American exceptionalism, emergence of modern design, and continuity of traditional architecture. Major figures include Frank Lloyd Wright, Mies van der Rohe, Frank Gehry.

**Credits:** 3

**HUM 3700: Political Thought of Rousseau**

Understandings of the human person in Locke and Rousseau, and their consequences for political order, citizenship and education -- agreements and disagreements that almost define the terms of controversy in the modern view of humanity.

**Credits:** 3

**HUM 4000: Jews, Christians, Muslims: Dialog**

An overview of the context of radical pluralism within which contemporary discourse occurs. An examination of the challenges of this situation, an observation of Aquinas' interaction with other thinkers, and a proposal for this medieval model for inter-religious inquiry.

**Credits:** 3

**HUM 4200: Forgiveness: Pers & Pol**

This seminar mimes recent discussions that address these crucial questions: Does forgiveness abrogate justice? What is the place of anger and hate? May we forgive persons who will not repent? Is forgiveness a duty? Can forgiveness resolve political disputes and racial tensions?

**Credits:** 3

**HUM 4350: PHI: Problem of Love**

Reading a broad survey of philosophical discussions of love, from Plato to Derrida, we will address a variety of questions concerning the nature of love, the relationship between self-interest, self-love, and love of other, whether Christianity makes a difference to the meaning of love, and related issues. Fulfills an upper level Philosophy in the Core Curriculum.

**Credits:** 3

**HUM 4900: Courtship and the Family**

Human beings long for intimacy. How does one achieve it? Marriage is perhaps the most intimate relationship. How can we tell which person we ought to marry? How does one raise a family in the contemporary world?

**Credits:** 3

**HUM 5000: History, Mystery, Destiny**

Examination of history and its meaning over the ages. Authors: Thucydides, Plutarch, Augustine, Gibbon, Marx, Foucault, and others. Class discussions, short essays, final paper.

**Credits:** 3

**HUM 5110: HIS: Utopia**

Oscar Wilde once said that any map of the world that does not include Utopia is not even worth glancing at. Students will study the maps of Utopia drawn up by a variety of writers from antiquity to the present. Fulfills an upper level History in the Core Curriculum.

**Credits:** 3

**HUM 5150: Literature & Politics**

Exploration of the relationship between literature and politics through novels, poetry, theater, and journalism. Authors: Orwell, Conrad, Zola, Wilde, Silone, Baldwin, and others.

**Credits:** 3

**HUM 5800: THL: Religion & Literature**

This course examines ways in which modern literature explores, develops, confirms and challenges concerns central to Christianity.

**Credits:** 3

**Prerequisites:**

THL 1050 or THL 1051

**HUM 5900: HUM - International Context**

Course integrates both academic and practical approaches exploring issues in service projects and voluntary organizations.

**Credits:** 3

**HUM 5950: Citizenship & Globalization**

Examination of the sweep of British History since 1327, with special attention to four periods: Medieval England; Early-Modern London and Reformation, Renaissance, and Revolution; Eighteenth and Nineteenth Century Britain and the growth of Empire; and Post-Colonial United Kingdom and the European Union. Consideration given to English Music, Art and Architecture, Literature, and Political Theory. To take place partly in London.

**Credits:** 3

**HUM 5975: Pellegrinaggio: Augustine**

Learn more about the life and works of St. Augustine of Hippo. Examination of the life and writings of St. Augustine in preparation for the pilgrimage to Italy, and on-site exploration of Augustine's historical context and legacy.

**Credits:** 3

**HUM 6000: Great Thought Seminar**

Focused engagement with great text, great thinker, great idea in the intellectual tradition. Examples include: Brothers Karamazov, Plato's Republic, Wordsworth, Frank Lloyd Wright, John Ruskin, Thomas Aquinas. Course explores basic human questions as illuminated by the thinker or text.

Restriction: Must have completed 2 Gateway courses.

**Credits:** 3

**Prerequisites:**

HUM 2001 or HUM 2002 or HUM 2003 or HUM 2004

**HUM 6500: Senior Seminar**

The department's capstone is a seminar, meeting once a week, in which students read contemporary texts on issues they have engaged in their study of the humanities.

**Credits:** 3

**HUM 6950: Ind Study & Research**

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**Credits:** 3

**HUM 8000: German Workshop**

German Workshop

**Credits:** 0

**HUM 8001: Biblical Hebrew Workshop**

Biblical Hebrew Workshop

**Credits:** 0

## Italian

**ITA 1111: Introductory Italian I**

Groundwork in Italian, including oral proficiency, aural comprehension and reading for students with no prior knowledge of Italian.

Supplementary language laboratory work and oral drills.

**Credits:** 4

**ITA 1112: Introductory Italian II**

Groundwork in Italian, including oral proficiency, aural comprehension and reading for students. Supplementary language laboratory work and oral drills.

**Credits:** 4

**ITA 1121: Intermediate Italian I**

Review of grammar, composition, reading and conversation. Students should have completed ITA 1111 and 1112 or the equivalent.

**Credits:** 3

**ITA 1122: Intermediate Italian II**

Review of grammar, composition, reading and conversation. Students should have completed ITA 1121 or the equivalent.

**Credits:** 3

**ITA 1131: Conversation & Composition I**

Intensive practice in conversation and composition with emphasis on developing advanced language skills in Italian.

**Credits:** 3

**ITA 1132: Conversation & Composition II**

Further practice in conversation and composition with focus on advanced proficiency in Italian. Students should have completed ITA 1131 or the equivalent.

**Credits:** 3

**ITA 1138: Advanced Grammar**

Intensive practice of spoken and written Italian.

**Credits:** 3

**Prerequisites:**

ITA 1131 :D-

**ITA 1140: Writing & Stylistics in Ita.**

Intensive practice in written expression and textual analysis. Compositions are modeled on selected Italian texts.

**Credits:** 3

**ITA 1141: Italy in Business**

An overview of contemporary Italy from the perspective of business (leading brands, productive sectors, marketing strategies, financial trends, law and politics).

**Credits:** 3

**Prerequisites:**

ITA 1131

**ITA 1143: Readings in Italian Literature**

Readings in fiction, verse and drama representing various literary currents and personalities from the Renaissance to modern times.

**Credits:** 3

**Prerequisites:**

ITA 1131

**ITA 2220: Italian Lit and Culture I**

Introduction to Italian literature and culture from the Middle Ages to the Renaissance. A required course for majors. Pre-requisite: ITA 1131 or authorization from instructor.

**Credits:** 3

**Prerequisites:**

ITA 1131

ITA 1131 or authorization from instructor.

**ITA 2221: Italian Lit. and Culture II**

Introduction to Italian literature and culture from the Baroque to the 20th century. A required course for majors. Pre-requisite: ITA 1131 or authorization from instructor.

**Credits:** 3

**Prerequisites:**

ITA 1131

ITA 1131 or authorization from instructor.

**ITA 2222: Italians and America**

Introduction to the cinematographic and literary images of Italians and Italian-Americans, from the discovery of the new world to the present.

**Credits:** 3

**Prerequisites:**

ITA 1131

**ITA 2225: Italian Music**

The interaction of musical performance and poetry (from opera to contemporary songwriting) and the role of music in Italian society. Pre-requisite: ITA 1131 or authorization from instructor.

**Credits:** 3

**Prerequisites:**

ITA 1131

ITA 1131 or authorization from instructor.

**ITA 2314: Italian Poetry**

A selection of masterpieces of Italian poetry from the origins to the present. Pre-requisite: ITA 1131 or authorization from instructor.

**Credits:** 3

**Prerequisites:**

ITA 1131

ITA 1131 or authorization from instructor.

**ITA 2324: Diversity, Gender, Race**

The course addresses issues of identity related to diversity mainly gender, but also race in modern Italy. Pre-requisite: ITA 1131 or authorization from instructor.

**Credits:** 3

**Prerequisites:**

ITA 1131

ITA 1131 or authorization from instructor.

**ITA 2993: Italian Internship Project**

Students may receive up to 3 credits for an internship experience in an Italian business, non-profit, government agency, museum, or an Italian cultural association. Approval of the Italian Coordinator is required. Pre-requisite: ITA 1131 or authorization of instructor.

**Credits:** 3

**Prerequisites:**

ITA 1131

Approval of the Italian Coordinator is required. ITA 1131 or authorization of instructor.

**ITA 3064: Performing Comedy**

Reading and staging of a theatrical piece in Italian. The course includes grammar review, critical interpretation and production of the text. Pre-requisite: Any ITA course at the 2000 level or authorization from instructor.

**Credits:** 3

**Prerequisites:**

ITA 1131

Any ITA course at the 2000 level or authorization from instructor.

**ITA 3074: Intro to Italian Cinema**

A critical introduction to the masterpieces of the Italian cinema from DeSica and Fellini to Tornatore and Sorrentino. Pre-requisite: Any ITA course at the 2000 level or authorization from instructor.

**Credits:** 3

**Prerequisites:**

ITA 1131

Any ITA course at the 2000 level or authorization from instructor.

**ITA 3075: Visual History of Italy**

A study of Italian history and culture with an emphasis on film, painting, and architecture. In Italian. Pre-requisite: Any SPA course at the 2000 level or authorization from instructor.

**Credits:** 3

**Prerequisites:**

Any SPA course at the 2000 level or authorization from instructor.

**ITA 3285: Italy and Europe**

The contribution and role of Italy in the European politics, economy, and culture, from its making as a nation to the present. Pre-requisite: Any SPA course at the 2000 level or authorization from instructor.

**Credits:** 3

**Prerequisites:**

ITA 1131

Any SPA course at the 2000 level or authorization from instructor.

**ITA 3365: The Italian Theatre**

A selection of masterpieces of Italian theatre, from the Renaissance to modern times. Pre-requisite: Any ITA course at the 2000 level or authorization from instructor.

**Credits:** 3

**Prerequisites:**

ITA 1131

Any ITA course at the 2000 level or authorization from instructor.

**ITA 3366: Italian Opera**

Introduction to Italian opera from Monteverdi to Verdi and Puccini. Pre-requisite: Any ITA course at the 2000 level or authorization from instructor.

**Credits:** 3

**Prerequisites:**

ITA 1131

Any ITA course at the 2000 level or authorization from instructor.

**ITA 3412: Special Topics**

Advanced study of topics of special interest in Italian literary and/or cultural studies. May be repeated for credit if topic changes. Pre-requisite: Any ITA course at the 2000 level or authorization from instructor.

**Credits:** 3

**Prerequisites:**

ITA 1131

Any ITA course at the 2000 level or authorization from instructor.

**ITA 3413: Topics on Italy and Beauty**

Advanced study of expressions of beauty as manifested in Italian Culture (Literature, Art, Philosophy, Design, and Commerce). Offered in Italian. Pre-requisite: Any ITA course at the 2000 level or authorization from instructor.

**Credits:** 3

**Prerequisites:**

Any ITA course at the 2000 level or authorization from instructor.

**ITA 3455: Dante's Divine Comedy**

Selected readings in Italian from Dante's masterpiece. Pre-requisite: Any ITA course at the 2000 level or authorization from instructor.

**Credits:** 3

**Prerequisites:**

ITA 1131

Any ITA course at the 2000 level or authorization from instructor.

**ITA 3545: Petrarca and Boccaccio**

The major works of Francesco Petrarca and Giovanni Boccaccio. Pre-requisite: Any ITA course at the 2000 level or authorization from instructor.

**Credits:** 3

**Prerequisites:**

ITA 1131

Any ITA course at the 2000 level or authorization from instructor.

**ITA 3625: The Italian Renaissance**

Writers, artists, intellectuals of the Humanistic age and of the Renaissance. Pre-requisite: Any ITA course at the 2000 level or authorization from instructor.

**Credits:** 3

**Prerequisites:**

ITA 1131

Any ITA course at the 2000 level or authorization from instructor.

**ITA 3725: The Italian Baroque**

An introduction to the poetics and the main artists of the Italian Baroque. Caravaggio, Bernini, Galileo, Marino, Vico, commedia dell'arte, opera. Pre-requisite: Any ITA course at the 2000 level or authorization from instructor.

**Credits:** 3

**Prerequisites:**

ITA 1131

Any ITA course at the 2000 level or authorization from instructor.

**ITA 3824: Classics and Romantics**

An overview of Italy's culture in the 18th and 19th centuries: neo-Classicism, Romanticism (Foscolo, Leopardi, Manzoni) and Risorgimento. Pre-requisite: Any ITA course at the 2000 level or authorization from instructor.

**Credits:** 3

**Prerequisites:**

ITA 1131

Any ITA course at the 2000 level or authorization from instructor.

**ITA 3925: Italian Modernism**

Literature and art of the 20th century. Futurism, avant-gardes, Pirandello, De Chirico, Calvino and postmodernism. Pre-requisite: Any ITA course at the 2000 level or authorization from instructor.

**Credits:** 3

**Prerequisites:**

ITA 1131

Any ITA course at the 2000 level or authorization from instructor.

**ITA 3970: Research Seminar**

Concentrated study on one aspect of Italian literature chosen by the instructor. Immersion in primary and secondary materials and introduction to principles and techniques of literary research and bibliography ultimately leading to the writing of the research paper. Required for majors. Open to all advanced students. Pre-requisite: Any ITA course at the 2000 level or authorization from instructor.

**Credits:** 3**Prerequisites:**

ITA 1131

Any ITA course at the 2000 level or authorization from instructor.

**ITA 3971: Directed Research in Italian**

Directed semester-long research project that satisfies the College research requirement, taken in conjunction with another upper-level ITA content course. Pre-requisite: ITA 2220, ITA 2221 or approval from the ITA coordinator.

**Credits:** 1**Prerequisites:**

ITA 2220 and ITA 2221

**ITA 5900: Independent Study**

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**Credits:** 3**Prerequisites:**

ITA 1131

## Japanese Language

**JPN 1111: Introductory Japanese I**

Functional use of Japanese for students with no prior knowledge of Japanese. Communication skills (speaking and listening), reading and writing skills. Supplementary practice with computer. JPN 1111 or equivalent or permission of instructor.

**Credits:** 6**JPN 1112: Introductory Japanese II**

Functional use of Japanese for students with no prior knowledge of Japanese. Communication skills (speaking and listening), reading and writing skills. Supplementary practice with computer. JPN 1112 or equivalent or permission of instructor.

**Credits:** 6**JPN 1121: Intermediate Japanese I**

Further practice of communication skills (speaking and listening), reading and writing skills. Supplementary practice with computer.

**Credits:** 5**JPN 1122: Intermediate Japanese II**

Further practice of communication skills (speaking and listening), reading and writing skills. Supplementary practice with computer. JPN 1121 or equivalent or permission of instructor.

**Credits:** 5**JPN 1131: Advanced Japanese I**

Advanced practice of communication skills - oral, speech and discussion skills, reading and writing skills. Supplementary practice with computer. JPN 1122 or equivalent or permission of instructor.

**Credits:** 3**JPN 1132: Advanced Japanese II**

Advanced practice of communication skills - oral, speech and discussion skills, reading and writing skills. Supplementary practice with computer. JPN 1131 or equivalent or permission of instructor.

**Credits:** 3**JPN 1133: Advanced Japanese III**

Advanced practice of communication skills including reading, discussing topics on current events and speech. Supplementary practice with computer. JPN 1132 or equivalent or permission of instructor.

**Credits:** 3**Prerequisites:**

JPN 1132

**JPN 1134: Advanced Japanese IV**

Advanced practice of communication skills including reading, discussing topics on current events and speech. Supplementary practice with computer. JPN 1133 or equivalent or permission of instructor.

**Credits:** 3**Prerequisites:**

JPN 1133

**JPN 2100: Japanese Lit Eng Trans**

The masterpieces of Japanese literature with a component on women writers. Conducted in English.

**Credits:** 3

**JPN 2102: Japanese Film**

Introduction to Japanese film to those who are interested in but not necessarily exposed to Asian culture and language. Fulfills requirements for minor in Japanese.

**Credits:** 3

**JPN 2143: Japanese Animation**

Explores how anime is a reflection of Japanese society, art & culture. Introduction to rich & varied world of Japanese animated films by considering anime as medium, art, culture, & industry. Introduction to history, theory, aesthetics & cultural aspects of anime, with emphasis on 'the art of communication' with the medium. Fulfills requirement for Japanese minor.

**Credits:** 3

**JPN 2144: Japanese Culinary Culture**

General introduction to Japanese culinary culture, relationship to Japanese society & culture in general, & historical & cultural reasons it has developed as it has. Familiarizes students with historical & modern Japanese cuisine. Discusses historical, geographical & religious background as well as foreign influences. Fulfills requirement for Japanese minor.

**Credits:** 3

**JPN 2215: Women in Asia**

Current interdisciplinary feminist scholarship on Asian women dealing with current status of Asian women and the various factors that shaped it. Fulfills requirement for minor in Japanese.

**Credits:** 3

**JPN 3412: Special Topics**

Advanced study of topics of special interest in Japanese literary and/or cultural studies. May be repeated for credit if topic changes. Fulfills

requirements for Japanese minor and concentration in East Asian Studies. Taught in English.

**Credits:** 3

**JPN 5900: JPN:Independent Study**

Supervised study, activity or research. May be taken more than once. Prior approval of chair and instructor.

**Credits:** 3

## Latin

**LAT 1111: Introductory Latin I**

Basic forms, syntax and vocabulary; selected Latin prose in second semester.

**Credits:** 3

**LAT 1112: Introductory Latin II**

Basic forms, syntax and vocabulary; selected Latin prose in second semester.

**Credits:** 3

**LAT 1113: Intensive Introductory Latin**

Intensive one-semester course covering all basic skills (grammar, morphology, vocabulary) needed to translate Latin.

**Credits:** 3

**LAT 1121: Intermediate Latin I**

Review of Latin syntax; selected readings from prose and poetry.

**Credits:** 3

**LAT 1122: Intermediate Latin II**

Review of Latin syntax; selected readings from prose.

**Credits:** 3

**LAT 2031: Intermediate Latin I**

Review of Latin syntax; selected readings from prose and poetry.

**Credits:** 3

**LAT 3001: Readings in Authors**

Selected readings from a variety of Latin authors.

**Credits:** 3

**LAT 3050: Prose Composition**

Practice in the composition of Latin in a variety of styles.

**Credits:** 3

**LAT 3150: Latin Language**

Historical Latin grammar and syntax; the syntax of classical Latin.

**Credits:** 3

**LAT 4051: Cicero**

Reading of selected orations with special emphasis on the historical background. Selection from rhetorical and philosophical works and letters.

**Credits:** 3

**LAT 4150: Caesar**

Reading and interpretation of Julius Caesar's commentaries. Fulfills advance literature requirements.

**Credits:** 3

**LAT 4350: Livy**

Extensive reading in the *Ab Urbe Condita*; Livy as historian of Rome.

**Credits:** 3

**LAT 4450: Tacitus**

Extensive reading in the Annales; Tacitus as historian of the early principate. Fulfills advanced literature requirements.

**Credits:** 3

**LAT 4550: Suetonius**

Reading of the major Lives; Suetonius conception of biography, the historical and literary value of the Lives.

**Credits:** 3

**LAT 5050: Plautus & Terence**

The nature of Roman comedy.

**Credits:** 3

**LAT 5250: Vergil**

The Aeneid, read and interpreted in the light of ancient poetical theory and the epic tradition; the civilized epic as a new form; Vergilian epic techniques; careful reading of selections from the Eclogues and Georgics.

**Credits:** 3

**LAT 5350: Ovid**

Ovid as an epic poet of the Augustan age.

**Credits:** 3

**LAT 5450: Horace**

Augustan lyric and satire.

**Credits:** 3

**LAT 5900: Latin: Independent Study**

Supervised study, activity or research. May be taken more than once. Prior approval of chair and instructor.

**Credits:** 3

**LAT 6001: Senior Latin Capstone**

A reading, research, and conference course on selected topics of Roman literature and history; introduction to research in classical studies. Fulfills advanced literature requirements.

**Credits:** 3

**LAT 7101: Intensive Latin**

Intensive study of Latin grammar, morphology and vocabulary.

**Credits:** 3

**LAT 7150: Prose Composition**

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**Credits:** 3

**LAT 7250: Hist Latin Literature**

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**Credits:** 3

**LAT 7264: Latin linguistics**

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**Credits:** 3

**LAT 7270: Epigraphy/Paleography**

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**Credits:** 3

**LAT 7290: Rome 133 BC to 31 BC**

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**Credits:** 3

**LAT 7291: Rome 31 BC to AD 118**

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**Credits:** 3

**LAT 7300: Teaching Latin**

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**Credits:** 3

**LAT 8001: Directed Readings**

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**Credits:** 3

**LAT 8051: Cicero**

-

**Credits:** 3

**LAT 8150: Caesar**

-

**Credits:** 3

**LAT 8250: Catullus**

-

**Credits:** 3

**LAT 8350: Livy**

-

**Credits:** 3

**LAT 8450: Tacitus**

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**Credits:** 3

**LAT 8550: Suetonius**

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**Credits:** 3

**LAT 9000: Grad Latin Independent Study**

Graduate level independent study in Latin literature.

**Credits:** 3

**LAT 9031: Thesis I**

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**Credits:** 3

**LAT 9032: Thesis II**

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**Credits:** 3

**LAT 9050: Roman Drama**

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**Credits:** 3

**LAT 9251: Vergil**

-

**Credits:** 3

**LAT 9350: Ovid**

-

**Credits:** 3

**LAT 9450: Horace**

-

**Credits:** 3

**LAT 9550: Roman Satire**

-

**Credits:** 3

**LAT 9650: Age of Nero**

-

**Credits:** 3

**LAT 9750: Medieval Latin**

-

**Credits:** 3

**LAT 9850: Proseminar**

-

**Credits:** 3

**LAT 9851: Seminar**

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**Credits:** 3

# Latin American Studies

## **LAS 3412: Special Topics**

Study of topics of special interest in Latin American Studies. Topics to be arranged.  
**Credits:** 3

## **LAS 3950: Latin American Studies Seminar**

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**Credits:** 3

## **LAS 5000: Internship**

Global, cross-cultural experience. Six weeks of summer practicum at a major economic, political, or cultural institution in Chile.  
**Credits:** 3

## **LAS 6000: Independent Study & Research**

Independent research on a topic relevant to Latin America. Cross-disciplinary. Required integration of theory and data.  
**Credits:** 3

# Leadership

## **LDR 2000: Foundations of Leadership**

Introduction to the concepts of and approaches to leadership. Historical and contemporary leadership theories.  
**Credits:** 3

## **LDR 2010: Strategic Planning for Leaders**

The strategic planning process in organizations. Mission, values, goals, alignment and accountability in the development and execution of a strategic plan.  
**Credits:** 3

## **LDR 2020: Leadership & Community**

Leadership in the public sector. A study of leaders in politics, civil rights, academics/research and corporations. Evaluation of effective/ineffective leadership styles.  
**Credits:** 3

## **LDR 2030: Leading with a Digital Mindset**

Analysis of the implications of technology on leadership. The strategic role of technology in organizations. Define and analyze attitudes and behaviors of a "digital mindset".  
**Credits:** 3  
**Prerequisites:**  
LDR 2000

## **LDR 2040: Ethics & Leadership**

The nature of ethical leadership. How the leader's values and beliefs affect decision making. The concepts of organizational and social responsibility.  
**Credits:** 3

## **LDR 2050: History of Leadership**

This course evaluates the history of leadership and leaders from both the theoretical and practical perspective. Historical aspects examined will include war, peace, severe economic conditions, technology advances, societal changes, and the evolution of organizations. Students will develop a leadership philosophy and approach, and examine this approach and its place in the grander context of the history of leadership.  
**Credits:** 3  
**Prerequisites:**  
LDR 2000

## **LDR 2060: Global Strategic Leadership**

Global leadership dynamics and strategy. Cross-cultural awareness; ethics and social responsibility and international and global contexts  
**Credits:** 3  
**Prerequisites:**  
LDR 2000

## **LDR 2070: Strategy Driven Talent Mgmt**

Develop a personal talent management philosophy and plan. Improve ability to reflectively lead talent management efforts. Develop the capacity to analyze and assess talent management practices. Sharpen decision making and problem solving techniques. Research, develop and present a talent management project.  
**Credits:** 3

## **LDR 2080: Leadership Communication**

Explore strategies and tactics for engaging and inspiring your team, clients, and partners. Includes topics such as communicating your vision, social media strategy, storytelling, and crisis communication.  
**Credits:** 3  
**Prerequisites:**  
LDR 2000

## **LDR 3400: Leadership Internship Practicum**

Approved semester project involving supervised practical application of previously learned knowledge. Supervision by faculty member and staff. Permission of Dean required  
**Credits:** 3  
**Prerequisites:**  
Permission of Dean required

**LDR 5000: Leadership Capstone Course**

Utilizes integration and analysis of leadership principles. Case studies and team-based project covering major topics in the leadership curriculum.

**Credits:** 3

**Prerequisites:**

LDR 2000

**LDR 5100: Leadership Topics-Prof Ed**

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**Credits:** 1

**LDR 5940: Leadership Topics**

Presentation of selected topics in leadership. May be repeated for credit if topics are different. Pre-requisites may be imposed depending on the topics.

**Credits:** 3

**Prerequisites:**

Pre-requisites may be imposed depending on the topics.

**LDR 5950: Special Topics in Leadership**

Intensive workshops or seminars in selected areas of leadership that focus on professional development and applied knowledge. May be repeated for credit if topics are different. Pre-requisites may be imposed depending on the topics.

**Credits:** 1

**Prerequisites:**

Pre-requisites may be imposed depending on the topics.

**LDR 5993: Leadership Topics**

Reading, research and/or projects in a selected area of leadership under the direction of a member of the staff. May be repeated for credit.

**Credits:** 3

## Liberal Arts

**CLA 6001: Senior Classics Capstone**

A reading, research, and conference course on selected topics of classical culture and history; introduction to research in classical studies.

**Credits:** 3

**LA 1903: Internship Elective**

Permission of Program Director required. Rising sophomore standing (minimum 30 credits completed) with a 3.0 overall GPA for fall or spring internship; 2.7 overall GPA for summer internship.

**Credits:** 3

**Prerequisites:**

Permission of Program Director.

**LA 1904: Global Internship**

Global internship course. Must secure approval of Office for Undergraduate Students (OUS) Internship Office.

**Credits:** 3

**LA 1906: Internship Elective**

Permission of Program Director. Rising sophomore standing (minimum 30 credits completed) with a 3.0 overall GPA for fall or spring internship; 2.7 overall GPA for summer internship

**Credits:** 6

**LA 1909: Internship Elective**

Permission of Program Director. Rising sophomore standing (minimum 30 credits completed) with a 3.0 overall GPA for fall or spring internship. 2.7 overall GPA for summer internship.

**Credits:** 9

**LA 2993: Internship**

Credits may be applied to requirements for the major in Liberal Arts in the required Liberal Arts elective slots. Permission of Program Director. Rising sophomore standing (minimum 30 credits completed) with a 3.0 overall GPA for fall or spring internship; 2.7 overall GPA for summer internship.

**Credits:** 3

**LA 2996: Internship**

Credits may be applied to requirements for the major in Liberal Arts in the required Liberal Arts elective slots. Permission of Program director. Rising sophomore standing (minimum 30 credits completed) with a 3.0 overall GPA for fall or spring internship; 2.7 overall GPA for summer internship.

**Credits:** 6

**LA 5001: Liberal Arts Seminar**

Integrative seminar dealing with the relation of the social sciences and the humanities. May be viewed as similar to a "Core Seminar III" combining ancient, modern, and contemporary thought.

**Credits:** 3

## Management

**MGT 1102: Management Essentials**

Introduction to organizational structures and functions; management processes and behavior of individuals and groups in organizations.

**Credits:** 3

**Prerequisites:**

(ECO 1001 or SBI 2005) and ECO 1002 and ACC 1101

**MGT 2153: Intro Human Resources**

Role of Human Resources Management in corporate strategy and success. Staffing, compensation, work design, performance measurement, individual and career development, safety, health, and separation. Focus on HR as critical success factor in organizations. Junior or senior standing, or permission of instructor.

**Credits:** 3

**Prerequisites:**

(VSB 2020 and VSB 2009 or VSB 2010 :Y or VSB 2030 :Y and VSB 2040 :Y) or MGT 1102

**MGT 2155: Organizational Behavior**

Human behavior in organizations; research and theoretical writing on organizational behavior; case discussions. Junior or senior standing.

**Credits:** 3

**Prerequisites:**

(VSB 2020 and VSB 2009 :Y or VSB 2010 :Y or VSB 2030 :Y and VSB 2040 :Y) or MGT 1102

**MGT 2206: Management Practice**

Application of management theory to problem identification and solutions. Motivation, leadership, discipline and shaping organizational cultures. Junior or senior standing.

**Credits:** 3

**Prerequisites:**

(VSB 2020 and VSB 2009 :Y or VSB 2010 :Y or VSB 2030 :Y and VSB 2040 :Y) or MGT 1102

**MGT 2208: International Topics**

Examination of a specific international management topic, which may vary from semester to semester, as reflected in the course title (e.g., Internatl Top: Mgt in Europe). Can be used toward the elective course requirement for the VSB IB Co-Major and IB Minor and as an management elective. Junior or senior standing.

**Credits:** 3

**Prerequisites:**

(VSB 2020 and VSB 2009 :Y or VSB 2010 :Y or VSB 2030 :Y and VSB 2040 :Y) or MGT 1102

**MGT 2210: Small Business Mgt**

The environment and significance of small business in the economy, entrepreneurship, and factors leading to success or failure. Extensive focus on entrepreneurs, and writing a business plan. Senior standing.

**Credits:** 3

**Prerequisites:**

(VSB 2020 and VSB 2009 :Y or VSB 2010 :Y or VSB 2030 :Y and VSB 2040 :Y) or MGT 1102

**MGT 2212: Leadership**

Focuses on the behavioral dimension of managerial action and decision-making with emphasis on the underlying theory and ethical components of effective leadership. Individual self awareness of motivating values and effective participation on team projects emphasized.

**Credits:** 3

**Prerequisites:**

(VSB 2020 and VSB 2009 :Y or VSB 2010 :Y or VSB 2030 :Y and VSB 2040 :Y) or MGT 1102

**MGT 2250: Global Corp Responsibility**

Explores globalization and its implications for corporate social responsibility. Drawing from multiple disciplines and perspectives, students examine stakeholder claims and issues related to the environment, labor, and human rights, and analyze corporations' response to these pressures using specific cases and examples.

**Credits:** 3

**Prerequisites:**

(VSB 2020 and VSB 2009 :Y or VSB 2010 :Y or VSB 2030 :Y and VSB 2040 :Y) or MGT 1102

**MGT 2350: Global Business Management**

An elective topic dealing with the cross-cultural aspects of management. Student cases will address how politics, religion, social customs, and history shape and influence management practices. Junior or senior standing.

**Credits:** 3

**Prerequisites:**

(VSB 2020 and VSB 2009 :Y or VSB 2010 :Y or VSB 2030 :Y and VSB 2040 :Y) or MGT 1102

**MGT 2352: Business in Emerging Markets**

Focuses on management and strategy in "big emerging markets," like Argentina, Brazil, China, India, Malaysia, Mexico, Poland, South Africa, Taiwan, and Turkey. Examines social, political, economic, cultural, and financial conditions challenging businesses exporting to or investing in these countries.

**Credits:** 3

**Prerequisites:**

(VSB 2020 and VSB 2009 :Y or VSB 2010 :Y or VSB 2030 :Y and VSB 2040 :Y) or MGT 1102

**MGT 2360: Global Leadership**

Help students gain insights about the nature of culture, the nature of leadership, and their intersection. Provide students with an increased understanding of, (1) existing theory and research on different leadership and culture topics and, (2) themselves with respect to leadership development and cultural intelligence.

**Credits:** 3

**Prerequisites:**

(VSB 2020 and VSB 2009 :Y or VSB 2010 :Y or VSB 2030 :Y and VSB 2040 :Y) or MGT 1102

**MGT 2370: Global Business Ethics**

Interactive study of business ethics within a global economy. Alternative ethical theories across and within different cultures are presented. Both Western and non-Western traditions are explored to develop a framework useful to address ethical challenges as they arise globally.

**Credits:** 3

**Prerequisites:**

(VSB 2020 and VSB 2009 :Y or VSB 2010 :Y or VSB 2030 :Y and VSB 2040 :Y) or MGT 1102

**MGT 2400: Mgt of Creativity & Innovation**

Develops students' awareness and confidence to innovate. Value of creativity tools and techniques for individual and group innovation. Students develop their own preferred creativity process and apply to individual and group challenges. Study innovation processes at organizational system level.

**Credits:** 3

**Prerequisites:**

(VSB 2020 and VSB 2009 :Y or VSB 2010 :Y or VSB 2030 :Y and VSB 2040 :Y) or MGT 1102

**MGT 3070: Solving Complex Bus Problems**

Explores solving complex business problems. Focus is on developing tools, techniques, and methodologies used in the consulting industry.

**Credits:** 3

**Prerequisites:**

VSB 2009 and VSB 2020

**MGT 3080: Management Consulting Practicu**

Focuses on application of consulting practices through a hands-on, practical consulting experience working with an organization/live client.

**Credits:** 3

**Prerequisites:**

MGT 3070

**MGT 3160: Business Decision Making**

Integration of behavioral science and quantitative approaches to decision-making; descriptive and prescriptive models in individual, group and organizational settings, expected value, utility theory, the analytic hierarchy process, risk analysis, and computer simulation of business problems especially in business technology management.

**Credits:** 3

**Prerequisites:**

(VSB 2020 and VSB 2009 :Y or VSB 2010 :Y or VSB 2030 :Y and VSB 2040 :Y) or MGT 1102

**MGT 3170: Data Mining**

The process of exploring and modeling large amounts of data to uncover previously unknown patterns. Using data mining techniques, managers can exploit large databases, identifying useful patterns to help make business decisions. Applications to marketing, finance and other business disciplines. VSB 2005 Business Statistics or equivalent or instructor permission.

**Credits:** 3

**Prerequisites:**

(VSB 2020 and VSB 2008 and VSB 2009 :Y or VSB 2010 :Y or VSB 2030 :Y and VSB 2040 :Y) or MGT 1102

**MGT 3300: Business Analytics Internship**

Employment with approved business firm where business analytics experience is gained through appropriate training, instruction, and supervision. Department chair approval required.

**Credits:** 3

**Prerequisites:**

Department chair approval required.

**MGT 3305: International Study Practicum**

Class work, enrichment activities, and projects at a selected international academic institution, including visits to businesses in the surrounding region. Three-week requirements include a comprehensive research paper worthy of publication.

**Credits:** 3

**MGT 3310: B.A. Internship**

Employment with approved business firms where various meaningful assignments are performed with appropriate training, instruction, and supervision. Department chair approval required.

**Credits:** 3

**Prerequisites:**

Department chair approval required.

**MGT 3320: Ind Study - Management**

Study with faculty member's guidance and approval in area of special interest to student. Department chair approval required.

**Credits:** 3

**Prerequisites:**

(VSB 2020 and VSB 2009 :Y or VSB 2010 :Y or VSB 2030 :Y and VSB 2040 :Y) or MGT 1102

**MGT 3340: Ind Study-Internat Busn**

Study with faculty member's guidance and approval in area of special interest to student. Department chair approval required.

**Credits:** 3

**Prerequisites:**

(VSB 2020 and VSB 2009 :Y or VSB 2010 :Y or VSB 2030 :Y and VSB 2040 :Y) or MGT 1102

**MGT 3350: Ind Study Small Business**

This independent study will help students understand the environment and significance of small business in the economy. Problems in starting a small business and factors that contribute to success or failures. Department chair approval required.

**Credits:** 3

**Prerequisites:**

(VSB 2020 and VSB 2009 :Y or VSB 2010 :Y or VSB 2030 :Y and VSB 2040 :Y) or MGT 1102

**MGT 3360: Ind Top: Entrepreneurial Exp**

Study with faculty member's guidance and approval in a area of special interest to student. Department chair approval required. Restricted to MGT Majors.

**Credits:** 3

**Prerequisites:**

(VSB 2020 and VSB 2009 :Y or VSB 2010 :Y or VSB 2030 :Y and VSB 2040 :Y) or MGT 1102

**MGT 4132: Seminar in Management**

Study of selected topics in Management including disucssion and lecture materials prepared and presented by individual students. Topics to be announced each semester, when seminar is offered.

**Credits:** 3

**Prerequisites:**

(VSB 2020 and VSB 2009 :Y or VSB 2010 :Y or VSB 2030 :Y and VSB 2040 :Y) or MGT 1102

**MGT 4170: Advanced Analytics**

Covers how managers use advanced business analytics tools to support tactical and strategic business decisions. Covers applications of advanced business analytics techniques that support cross-functional decision making using software packages (for example: @Risk, Extend, Tableau, Hadoop, and aText) to help support the analytics process.

**Credits:** 3

**Prerequisites:**

MGT 3170 :Y

## Marketing

**MKT 1137: Principles of Marketing**

Description and evaluation of the ways in which goods and services are developed to meet customer and consumer needs and distributed for domestic and international consumption; economic, government, social, and other environmental forces in relation to the marketing function.

**Credits:** 3

**Prerequisites:**

ECO 1001 or SBI 2005

**MKT 2120: Buyer Behavior**

Development and attainment of organizational goals within the framework of human behavior and its relationship to marketing. Theory from psychology, sociology, and social psychology, with emphasis on application to marketing problems in consumer and industrial environments.

**Credits:** 3

**Prerequisites:**

VSB 2020 or MKT 1137 or SBI 3006

**MKT 2197: Marketing Research**

The principal internal and external procedures used in collecting, processing, and evaluating both quantitative and qualitative data; research design; management of information for decision making.

**Credits:** 3

**Prerequisites:**

(VSB 2008 :Y and VSB 2020 or MKT 1137 or SBI 3006) and (MAT 1235 :Y or MAT 1430 :Y or STAT 1235 :Y or STAT 1430 :Y)

**MKT 2220: Integrated Marketing Communica**

Management of marketing communications within organizations; role of marketing communication for branding; understanding environments for marketing communications; development of messaging and media channels; assessment of the impact of the integrated marketing communications on consumer behavior and society as a whole.

**Credits:** 3

**Prerequisites:**

VSU 2020 or MKT 1137 or SBI 3006

**MKT 2224: Professional Selling**

Stresses skills and professionalism required in intensely competitive selling environments in global markets. This course concentrates on complex consultative selling processes required in business-to-business relationships.

**Credits:** 3

**Prerequisites:**

VSU 2020 or MKT 1137 or SBI 3006

**MKT 2225: Business Development Leadership**

Policies and procedures for managing a business development organization; the role and characteristics of the business development function; techniques for selecting, training, supervising, and evaluating business development personnel including ethical and legal considerations.

**Credits:** 3

**Prerequisites:**

VSU 2020 or MKT 1137 or SBI 3006

**MKT 2230: Marketing of Services**

Application of marketing principles to service organizations; differences between goods and services marketing and how these differences influence marketing strategy and the tactical design of the marketing mix variables.

**Credits:** 3

**Prerequisites:**

VSU 2020 or MKT 1137 or SBI 3006

**MKT 2235: Sports Marketing**

Essentials of effective, innovative sports marketing practices, activities, techniques. Lectures, readings, guest speakers, trade publications, field experience.

**Credits:** 3

**Prerequisites:**

VSU 2020 or MKT 1137 or SBI 3006

**MKT 2240: Marketing Analytics**

Covers analytics skills necessary for marketing decision making; adds experience with SAS JMP, Google Analytics and Adwords (certifications earned in course), advanced Excel functionality, and other analytical techniques to reflect marketplace changes.

**Credits:** 3

**Prerequisites:**

VSU 2020 and VSU 2006 and VSU 2008

**MKT 2280: Global Marketing**

The world market and its implications for global marketing; the relationships of imports and exports to policies; impacts of major national cultures on foreign marketing communications and business development programs will be researched through multiple sources.

**Credits:** 3

**Prerequisites:**

VSU 2020 or MKT 1137 or SBI 3006

**MKT 2285: Social Media Marketing**

Understand social media interactions, examine the various social media channels available to marketers, learn how to build social marketing strategies, and practice how to track their effectiveness.

**Credits:** 3

**Prerequisites:**

VSU 2020 or MKT 1137 or SBI 3006

**MKT 2290: Digital Marketing**

Covers digital marketing skills: search engine optimization (SEO), search engine marketing (SEM), e-mail, Social Media, and Mobile marketing. Uses on-line simulation to develop SEM skills.

**Credits:** 3

**Prerequisites:**

VSU 2020 or MKT 1137 or SBI 3006

**MKT 2349: Cont. Topics in Marketing**

Contemporary issues and topics which affect a firm's marketing strategies.

**Credits:** 3

**Prerequisites:**

VSU 2020 or MKT 1137 or SBI 3006

**MKT 2375: Marketing Management**

Analytic procedures to understand and integrate effective policies applied to demand, product research, channel selection and development, promotion, and pricing on both domestic and international levels; concentration on decision making.

**Credits:** 3

**Prerequisites:**

VSB 2008 and VSB 2020 and VSB 3006

**MKT 3350: Independent Study - Marketing**

Independent study under faculty guidance in an area of student's special interest.

**Credits:** 3

**Prerequisites:**

(VSB 2008 and VSB 3006 and VSB 2020)

**MKT 3450: Internship Marketing**

Employment with approved firm where varied Marketing experience is gained with appropriate training, instruction and supervision. Junior/senior standing and GPA GE 2.5.

**Credits:** 3

**MKT 3470: Marketing Co-Op**

Full-time employment with an approved firm in the area of marketing, where experience is gained through appropriate training, instruction, and supervision. Does not fulfill requirement for major. Minimum gpa will vary.

**Credits:** 6

**MKT 4132: Seminar in Marketing**

Study of elected topics in Marketing including discussion and lecture materials prepared and presented by individual students. Topics to be announced each semester, when seminar is offered.

**Credits:** 3

**Prerequisites:**

VSB 2020 or MKT 1137 or SBI 3006

## Mathematics and Statistics

**MAT 1000: Math and Stat Communities**

Understanding the role of creative thinking, problem solving, and collaboration in mathematics and statistics; exploration of research and careers in the mathematical and statistical sciences; building community with fellow mathematics and statistics majors.

**Credits:** 1

**MAT 1210: Mathematical Concepts**

Topics selected from logic, number theory, finance, set theory, geometry, applied linear algebra, calculus. Not open to students who have completed MAT 1505.

**Credits:** 3

**MAT 1220: Discrete Math Social Sci**

Discrete mathematics for the Liberal Arts student: voting methods, weighted voting, fair division, apportionment, circuits, network, trees, directed graphs, planning and scheduling, linear programming, growth and symmetry. Not open to students who have completed MAT 1505.

**Credits:** 3

**MAT 1280: Mathematics of Fairness**

Examining fairness in our personal lives and in society: Voting systems and power indices, strategic political positioning spatial models, fair division, congressional district apportionment, game theory, the GINI index of economic inequality, gerrymandering.

**Credits:** 3

**MAT 1290: Topics in Core Mathematics**

Course in an area of pure or applied mathematics or statistics. May be repeated for credit if areas of topical focus are different. Designed specifically to satisfy the core requirement in mathematics and statistics, for students in the humanities and social sciences.

**Credits:** 3

**MAT 1312: Biocalculus**

Discrete and continuous dynamics of biological systems: discrete dynamical systems, sequences, functions, discrete and continuous limits, the derivative, the integral, methods and applications of differentiation and integration, Taylor polynomials, modeling with differential equations, Euler's method, applications to Biology.

**Credits:** 4

**MAT 1314: Modeling for the Life Sciences**

Mathematical and statistical modeling in the Life Sciences. Topics selected from: dynamical systems, diffusion, Markov, Bayesian, connectionist, and information theory models, applied to epidemiology, ecology, neuroscience and neuron signaling, cell and molecular biology, genetics, physiology, psychology, and other areas. Pre-requisites MAT 1312 or Equivalent

**Credits:** 3

**Prerequisites:**

MAT 1310 or MAT 1312 or MAT 1320 or MAT 1400 or MAT 1500

**MAT 1320: Calculus I for Liberal Arts**

Calculus for Liberal Arts students: polynomial, rational and transcendental functions, the derivative, numerical and graphical introduction to integration.

**Credits:** 3

**MAT 1325: Calculus II for Liberal Arts**

Techniques of differentiation and integration, applications and further developments of calculus.

**Credits:** 3

**Prerequisites:**

(MAT 1320 :D- or MAT 1500 :D- )

**MAT 1340: Single Var Optim for Soc. Sci.**

Solving real-world problems using single-variable math models, calculus, and technology: problem formulation, translation between mathematical symbols and verbal descriptions, single variable modeling with real data, rates of change, techniques of differentiation, optimization, post-optimality analysis, continuous probability distributions, integrals, Fundamental Theorem of Calculus, applications to everyday life.

**Credits:** 3

**MAT 1345: Multivar Optim for Soc. Sci.**

Solving real-world problems using multivariable models, calculus, and technology: problem formulation, translation between mathematical symbols and verbal descriptions, multivariable modeling with real data, regression analysis, partial derivatives and unconstrained optimization, Lagrange multipliers and constrained optimization, matrix algebra, linear programming, game theory, applications to everyday life.

**Credits:** 3

**Prerequisites:**

MAT 1320 or MAT 1340

**MAT 1400: Business Calculus**

Functions, limits, and basic definitions of differential and integral calculus. Techniques of differentiation and integration. The Fundamental Theorem of Calculus. Applications in various areas of business and economics.

**Credits:** 4

**MAT 1500: Calculus I**

Limits, transcendental functions (logarithms, exponential functions, inverse trigonometric functions), differentiation (definition, tangent lines, rates of change, techniques, implicit differentiation, related rates), applications of differentiation (graphing, optimization), indeterminate forms and L'Hopital's Rule. Use of a computer algebra system, eg. MAPLE.

**Credits:** 4

**MAT 1505: Calculus II**

Integration (indefinite, definite), applications of integration (area, volume, applications to physics and economics, etc.), methods of integration, approximate integration (trapezoidal and Simpson's rules), improper integrals, differential equations, infinite sequences and series. Continued use of a computer algebra system.

**Credits:** 4

**Prerequisites:**

MAT 1500 :D-

**MAT 1903: Internship Elective**

Internship Elective

**Credits:** 3

**MAT 1906: Internship Elective**

Internship Elective

**Credits:** 6

**MAT 1909: Internship Elective**

Internship Elective

**Credits:** 9

**MAT 2400: Linear Algebra for Computing**

Vectors, matrices, and matrix algebra; systems of linear equations; matrix inverses; least squares problems; eigenvalues and eigenvectors; using Python for computational linear algebra; applications from areas such as data science, computer graphics, graph algorithms, and web search.

**Credits:** 4

**Prerequisites:**

MAT 1500

**MAT 2500: Calculus III**

Parametric equations; polar, cylindrical, and spherical coordinates; vectors and the geometry of space; vector functions (derivatives, integrals, curvature, etc.); partial derivatives; optimization; multiple integration and its applications; vector calculus (line integrals, vector analysis). Continued use of a computer algebra system.

**Credits:** 4

**Prerequisites:**

MAT 1505 :D-

**MAT 2600: Foundation of Math I**

Topics selected from natural numbers, mathematical induction, irrational and transcendental real numbers, complex numbers, Fundamental Theorem of Algebra, infinite cardinals, symbolic logic, functions and relations, iterated functions, mathematical chaos.

**Credits:** 3

**Prerequisites:**

MAT 1500 :D-

**MAT 2705: Diff Equation with Linear Alg**

First order and linear second order differential equations, matrices and linear equation systems, eigenvalues and eigenvectors, and linear systems of differential equations.

**Credits:** 4

**Prerequisites:**

MAT 1505 :D-

**MAT 2993: Internship**

Internship

**Credits:** 3

**MAT 2996: Internship**

Internship

**Credits:** 6

**MAT 3001: Topics in Mathematics & Stats**

Lecture course in an area of mathematics or statistics. May be repeated for credit if topics are different.

**Credits:** 1

**MAT 3011: Problem Solving Seminar**

Explore techniques for solving mathematical problems, including problems typical of the Putman Mathematical Competition. Students solve and present solutions to problems posed.

**Credits:** 1

**Prerequisites:**

MAT 1500

**MAT 3100: Applied Linear Algebra**

Vectors, matrices, transpose and inverse of a matrix, systems of linear equations, the four fundamental subspaces, eigenvalues and eigenvectors, symmetric matrices, matrix factorizations, applications such as information retrieval, ranking web pages, graphs and networks, least squares, and data compression.

**Credits:** 3

**Prerequisites:**

MAT 1312 or MAT 1320 or MAT 1400 or MAT 1500

**MAT 3300: Advanced Calculus**

Real numbers, sequences, convergence, supremum and infimum, completeness of the reals, continuous functions, Intermediate Value Theorem, differentiable functions, Mean Value Theorem, Riemann integral, Fundamental Theorem of Calculus, Taylor's Theorem.

**Credits:** 3

**Prerequisites:**

MAT 2500 :D- and (MAT 2600 :D- or HON 4151 :D-)

**MAT 3305: Topics in Analysis**

Advanced topics selected from real analysis, complex analysis, or higher analysis.

**Credits:** 3

**Prerequisites:**

MAT 3300 :D-

**MAT 3400: Linear Algebra**

Vector spaces, linear transformations, basis and dimension, orthogonal transformations, least squares, eigenvalues and eigenvectors, similarity, diagonalization, symmetric, applications.

**Credits:** 3

**Prerequisites:**

MAT 2705 :D-

**MAT 3500: Modern Algebra I**

Topics selected from groups and subgroups, cyclic groups, permutation groups, isomorphisms, direct products, cosets and Lagrange's Theorem, normal subgroups and factor groups, group homomorphisms, the Fundamental Theorem of Finite Abelian Groups, rings, fields.

**Credits:** 3**Prerequisites:**

MAT 2600 :D- and MAT 2705 :D-

**MAT 3505: Modern Algebra II**

Rings, subrings, integral domains, ideals and factor rings, ring homomorphisms, polynomial rings, fields, extensions fields, finite fields.

**Credits:** 3**Prerequisites:**

MAT 3500 :D-

**MAT 3930: History of Mathematics**

Development of mathematics from ancient times to the birth of calculus in the seventeenth century.

**Credits:** 3**Prerequisites:**

MAT 1505 :D- and MAT 2600 :D-

**MAT 4110: Combinatorics**

Induction, permutations and combinations, general counting methods, generating functions, recurrence relations, principle of inclusion-exclusion, graph theory, trees, planarity, crossing numbers, Hamiltonian cycles, Eulerian tours.

**Credits:** 3**Prerequisites:**

MAT 1505 :D-

**MAT 4270: Numerical Analysis**

Numerical and computational aspects of root-finding methods, interpolation and polynomial approximation, numerical differentiation and integration, approximation theory.

**Credits:** 3**Prerequisites:**

MAT 1505 :D-

**MAT 4410: Math Modeling**

Model formulation, the modeling process, graphs as models, examples from the physical and social sciences, parameter estimation, experimental modeling, dimensional analysis, modeling discrete and continuous dynamic behavior, implementation.

**Credits:** 3**Prerequisites:**

MAT 2705 :D-

**MAT 4500: Mathematics of Games**

Study of popular games, toys, and puzzles using recursions, counting techniques, graph theory, group theory, probability, Markov chains, and other mathematical tools.

**Credits:** 3**Prerequisites:**

MAT 2600 and (STAT 1230 or STAT 1250 or STAT 1313 or STAT 1430 or STAT 4310)

**MAT 4550: Math of Financial Derivatives**

Basic tools of financial markets; options; asset price random walks; estimation of parameters; arbitrage put-call parity; Black-Scholes Model; implied volatility; portfolio-optimization; hedging.

**Credits:** 3**Prerequisites:**

MAT 2705 :D-

**MAT 4600: Deterministic Oper Res**

Deterministic methods: mathematical optimization, linear programming, formulation and solution techniques, duality, integer linear programming, transportation problem, assignment problem, network flows, dynamic programming.

**Credits:** 3**Prerequisites:**

MAT 2500 :D- and (MAT 2705 or MAT 3100 or MAT 3400)

**MAT 4610: Stochastic Oper Research**

Probabilistic methods: brief review of probability, transient and asymptotic properties of Markov chains, queuing models and their applications, Markov decision processes, forecasting, game theory, simulation.

**Credits:** 3**Prerequisites:**

MAT 2705 :D-

**MAT 5110: Topics in Geometry**

Topics selected from affine, hyperbolic, spherical, elliptic, Euclidean or projective geometry.

**Credits:** 3**Prerequisites:**

MAT 2600 :D-

**MAT 5200: Theory of Numbers**

Congruences, quadratic reciprocity, Diophantine equations; applications.

**Credits:** 3**Prerequisites:**

MAT 2600 :D-

**MAT 5400: Complex Analysis**

Algebra of complex numbers, analytic functions, Cauchy-Riemann equation, Laplace equations, conformal mapping, integrals of complex functions, Cauchy's theorem, power series, Taylor's theorem, Laurent's theorem, residues, entire functions.

**Credits:** 3**Prerequisites:**

(MAT 2500 :D- and MAT 2600 :D-)

**MAT 5500: Topology**

Topological equivalence, connectedness, compactness, topology of subsets of  $R^n$ , manifolds, topological embeddings, topological spaces.

**Credits:** 3**Prerequisites:**

MAT 3300 :Y

**MAT 5600: Differential Geometry**

Geometry of curves and surfaces, curvature, first and second fundamental forms, minimal surfaces, use of MAPLE.

**Credits:** 3**Prerequisites:**

MAT 2500 :D-

**MAT 5900: Seminar in Mathematics**

Supervised study of selected topics or problems in mathematics, student presentations. May be repeated for credit if content is different.

**Credits:** 3**Prerequisites:**

MAT 3300 :D- or MAT 3500 :D-

**MAT 5920: Topics in Applied Mathematics**

Lecture course in an area of applied mathematics. May be repeated for credit if topics are different.

**Credits:** 3**MAT 5930: Topics in Pure Mathematics**

Lecture course in an area of pure mathematics. May be repeated for credit if topics are different.

**Credits:** 3**MAT 5991: Independent Study**

Reading in a selected branch of mathematics under the direction of a member of the staff. May be repeated for credit.

**Credits:** 1**Prerequisites:**

MAT 1505 :D-

**MAT 5992: Independent Study**

Reading in a selected branch of mathematics under the direction of a member of the staff. May be repeated for credit.

**Credits:** 2**Prerequisites:**

MAT 1505 :D-

**MAT 5993: Independent Study**

Reading in a selected branch of mathematics under the direction of a member of the staff. May be repeated for credit.

**Credits:** 3**Prerequisites:**

MAT 1505 :D-

**MAT 7101: Grad Studies Internship**

Internship in a professional setting related to the course of study in either Mathematics or Applied Statistics.

**Credits:** 1**MAT 7110: Quantitative Literacy**

Workshop format is used to present content and pedagogy for statistical methods in the K-12 curriculum. Topics include data analysis, probability, simulation, surveys, and measurements. Emphasis is on understanding of statistics through discovery and non-formula orientation to material. Restricted to graduate students & qualified undergraduates.

**Credits:** 3**MAT 7290: Geometry**

Topics selected from affine, finite, hyperbolic, spherical, elliptic, Euclidean or projective geometry.

**Credits:** 3**MAT 7300: History of Math**

The development of mathematics from ancient times to the birth of calculus in the seventeenth century. Independent work on a topic in the history of mathematics since 1700.

**Credits:** 3**MAT 7305: Technology in Teaching of Math**

Applications of technology to topics selected from algebra, geometry, calculus, statistics and programming. Technologies used may include computer algebra systems, e.g., Maple, geometry software, e.g., Sketchpad, and statistics software, e.g., Fathom.

**Credits:** 3**MAT 7310: Topics in the Teaching of Math**

Selected topics of interest to teachers of secondary school mathematics.

**Credits:** 3

**MAT 7600: Advanced Calculus**

Real numbers, completeness, sequences, limits, continuous functions, the derivative, sequences of functions, pointwise and uniform convergence, power series.

**Credits:** 3

**MAT 7605: Topics in Analysis**

Advanced topics selected from real analysis, complex analysis, or higher analysis. Prerequisite: Determined by instructor.

**Credits:** 3

**Prerequisites:**

MAT 7600 :C

**MAT 7610: Complex Analysis**

Complex numbers, analytic functions, Cauchy-Riemann equations, complex integration, Cauchy integral theorem and Cauchy integral formulae, power series, Taylor and Laurent series, singularities, residue theorem, harmonic functions.

**Credits:** 3

**MAT 7660: Linear Algebra**

Vector spaces, linear transformations, eigenvalues and eigenvectors, invariant subspaces, decomposition theorem, Jordan forms, bilinear forms, selfadjoint operators, functions of operators, differential systems.

**Credits:** 3

**MAT 7670: Mathematical Logic**

The sentential calculus, truth functions, analytic tableaux, natural deduction, first order logic, models, consistency, completeness. Applications to computer science including the P-NP problem.

**Credits:** 3

**MAT 7750: Numerical Analysis I**

Error generation and propagation, root finding, approximation of functions by polynomials and cubic splines, direct and iterative solutions of linear systems, operations count, numerical differentiation and integration.

**Credits:** 3

**MAT 7755: Numerical Analysis II**

Topics selected from: calculation of eigenvalues and eigenvectors, finite difference techniques, numerical methods for solving initial and boundary value problems, convergence, stability.

**Credits:** 3

**Prerequisites:**

MAT 7750 :C

**MAT 7770: Number Theory**

Divisibility; Euclidean algorithm; prime numbers; Fundamental Theorem of Arithmetic; congruences; arithmetic functions; Diophantine equations, additional topics, which may vary by semester, include cryptography, law of quadratic reciprocity, continued fractions.

**Credits:** 3

**MAT 7780: Financial Mathematics**

Basic tools of financial markets; annuities; options; asset price random walks; estimation of parameters; Black-Scholes Model; implied volatility; portfolio-engineering; hedging; discrete models.

**Credits:** 3

**MAT 7790: Dynamical Systems & Chaos**

Topics selected from: iteration of real and complex functions, population models, qualitative theory of differential equations, fractals and dimension, topological and metric properties of systems, and applications.

**Credits:** 3

**MAT 7990: Seminar in Biomathematics**

Supervised study and research project incorporating mathematical and computational models for topics such as: pattern detection and pattern matching in DNA sequences; population growth and the dynamics of epidemics.

**Credits:** 3

**MAT 8010: Biomath Pedagogy Seminar**

Supervised study to develop, test, and implement an interdisciplinary instructional module for use in a high school curriculum. Module incorporates mathematical and computational models for topics such as: pattern detection and pattern matching in DNA sequences; population growth and the dynamics of epidemics.

**Credits:** 3

**MAT 8430: Operations Research**

Deterministic mathematical models, including linear programming, integer programming, inventory, transportation and assignment problems, networks and flows, nonlinear programming and dynamic programming with an emphasis on principles and techniques.

**Credits:** 3

**MAT 8435: Mathematical Modeling**

Model construction, Markov chains, game theory, networks and flows, growth processes and models for epidemics and queues with an emphasis on model construction.

**Credits:** 3

**MAT 8600: Real Analysis**

General theory of measure and integration, Lebesgue measure, Lebesgue integral.

**Credits:** 3

**Prerequisites:**

MAT 7605 :C

**MAT 8650: Abstract Algebra**

Groups, homomorphisms, factor groups, rings, fields, finite fields, selected applications.

**Credits:** 3

**MAT 8655: Topics in Algebra**

Possible topics include Boolean algebras, graph theory, coding theory, Galois theory.

**Credits:** 3

**Prerequisites:**

MAT 8650 :C

**MAT 8700: Topology I**

Topological equivalence, connectedness, compactness, manifolds, homotopy.

**Credits:** 3

**MAT 8705: Topics in Topology**

Selected topics from point set and geometric topology.

**Credits:** 3

**Prerequisites:**

MAT 8700 :C

**MAT 8740: Applied Math I**

Symmetric linear systems, eigenvalue and dynamical systems, Lagrange multipliers, equilibrium and minimum principles, least squares estimation and Kalman filter, equilibrium of fluids and solids, calculus of variations.

**Credits:** 3

**Prerequisites:**

MAT 7660 :C

**MAT 8745: Applied Math II**

A continuation of MAT 8740.

**Credits:** 3

**MAT 8790: Selected Topics I**

Particular topics of study determined on a year to year basis to suit the desire and preparation of students.

**Credits:** 3

**MAT 8795: Selected Topics II**

Same as MAT 8790.

**Credits:** 3

**MAT 8800: Independent Study**

Reading in a selected branch of mathematics under the direction of a member of the faculty.

**Credits:** 3

**MAT 8801: Independent Study**

Reading in a selected branch of mathematics under the direction of a member of the faculty.

**Credits:** 1

**MAT 8802: Independent Study**

Reading in a selected branch of mathematics under the direction of a member of the faculty.

**Credits:** 2

**MAT 9000: Graduate Math Seminar**

Supervised study of selected topics in mathematics with presentations by individual students. Content may be chosen by the instructor or may be tailored to interests of students.

**Credits:** 3

**Prerequisites:**

MAT 7660 :C

**MAT 9011: Thesis Direction I**

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**Credits:** 1

**MAT 9021: Thesis Direction II**

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**Credits:** 2

**MAT 9031: Thesis Direction III**

-

**Credits:** 3

**MAT 9061: Thesis Direction IV**

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**Credits:** 6

**MAT 9080: Thesis Continuation**

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**Credits:** 0

**STAT 1230: Intro Statistics I**

Displaying and summarizing data, basic probability concepts, normal distributions, sampling distributions, estimation for a single population parameter, regression and correlation. Not open to students who have completed MAT 1505.

**Credits:** 3

**STAT 1235: Intro Statistics II**

Probability concepts, hypothesis testing, inferences about means, variances and proportions, contingency tables, analysis of variance. Not open to students who have completed MAT 1505.

**Credits:** 3

**Prerequisites:**

MAT 1230 or STAT 1230

**STAT 1250: Stats in Health Care Research**

Descriptive and inferential statistics: graphical displays, estimation, & hypothesis testing. Restricted to nursing students; others by special permission only.

**Credits:** 3

**STAT 1260: Elementary Statistics**

Introduction to statistics including topics such as study design, graphical and numerical descriptive statistics, bivariate data analysis, probability, sampling distributions, confidence intervals, hypothesis testing, goodness of fit tests, analysis of variance; resampling and simulation using statistical software; interpreting output from and understanding selected algorithms used in statistical packages.

**Credits:** 3

**STAT 1313: Statistics for Life Sciences**

Statistical concepts and methods with applications in biological and life sciences; data visualization, descriptive statistics, probability distributions, interval estimation and hypothesis testing for one and two variables, statistical software.

**Credits:** 3

**STAT 1430: Business Statistics**

Statistical concepts and methods useful in analyzing problems in all areas of business. Descriptive statistics, probability, sampling distributions, confidence intervals, hypothesis testing, regression analysis, and time series. Applications in various areas of business and economics.

**Credits:** 4

**STAT 4210: Bayesian Statistical Analysis**

Application of Bayesian statistical procedures. Implementation using the programming language R. Bayes's Theorem. Bayesian statistical inference. Various types of prior distributions. Computer-intensive methods. Assessing the prior. Robustness analysis. Writing Bayesian statistical reports.

**Credits:** 3

**Prerequisites:**

MAT 4310 or STAT 4310

**STAT 4310: Stat Methods**

Data displays and summarization, probability distributions, point and interval estimation, hypothesis testing, categorical data analysis, regression and correlation.

**Credits:** 3

**Prerequisites:**

MAT 1505 :Y

**STAT 4315: Applied Statistical Models**

Simple and multiple linear regression, including prediction, correlation, model building, multicollinearity, influential observations, and model fit; ANOVA for designed experiments, including completely randomized, randomized block and factorial designs; Time Series including linear time series models, moving averages, autoregressive and ARIMA models, estimation and forecasting.

**Credits:** 3

**Prerequisites:**

MAT 1505 and (MAT 1430 or STAT 1430 or MAT 4310 or STAT 4310)

**STAT 4380: Data Science**

Combining and summarizing real-world data to inform decision-making and predictions; data wrangling, visualization, text mining, ethics; uses R programming language. Some programming experience recommended.

**Credits:** 3

**Prerequisites:**

MAT 1230 or STAT 1230 or MAT 1250 or STAT 1250 or MAT 1313 or STAT 1313 or MAT 1430 or STAT 1430 or MAT 4310 or STAT 4310

**STAT 4416: Design of Experiments**

Completely randomized, randomized block, and Latin square designs; full and fractional factorial designs; nested and split plot designs; response surface methodology.

**Credits:** 3

**Prerequisites:**

MAT 4310 or STAT 4310

**STAT 4450: Regression for Biostatistics**

Regression methods for analyzing medical and biological data, including multiple regression, logistic regression, survival modeling, and longitudinal mixed modeling.

**Credits:** 3

**Prerequisites:**

MAT 4310 or STAT 4310

**STAT 4452: Nonparametric Statistics**

One-sample, two-sample, and multi-sample rank tests; nonparametric confidence intervals; permutation tests; nonparametric regression and correlation; the bootstrap.

**Credits:** 3

**Prerequisites:**

MAT 4310 or STAT 4310

**STAT 4480: Data Mining**

Supervised and unsupervised data mining techniques, including clustering, classification, and association rule learning.

**Credits:** 3

**Prerequisites:**

MAT 4310 or STAT 4310

**STAT 5700: Math Statistics I**

Probability, random variables, joint distributions, expected values, limit theorems, distributions derived from the normal distribution.

**Credits:** 3

**Prerequisites:**

MAT 2500

**STAT 5705: Math Statistics II**

Survey sampling, parameter estimation, hypothesis testing, two sample tests, analysis of variance, analysis of categorical data, linear least squares.

**Credits:** 3

**Prerequisites:**

MAT 2500 and (MAT 5700 or STAT 5700)

**STAT 5900: Seminar in Statistics**

Supervised study of selected topics or problems in statistics, student presentations. May be repeated for credit if content is different.

**Credits:** 3

**STAT 5905: Seminar in Statistics**

Supervised study of selected topics or problems in statistics, with student presentations and papers. May be repeated for credit if content is different.

**Credits:** 3

**Prerequisites:**

(MAT 4315 or STAT 4315) and (MAT 5700 or STAT 5700)

**STAT 5910: Topics in Statistics**

Lecture course in an area of statistics. May be repeated for credit if topics are different. Prerequisites: Dependent on Topic.

**Credits:** 3

**STAT 7111: AP Statistics Workshop**

Workshop for teachers of the Advanced Placement (AP) Statistics course. Inference, design of experiments, exploratory data analysis, simulation, probability, investigative tasks, and AP Statistics exam overview.

**Credits:** 3

**STAT 7120: Intro to Stats for HS Teachers**

A brief overview of statistical reasoning using both descriptive and inferential statistical methods. Special focus on the Advanced Placement statistics course.

**Credits:** 1

**STAT 7125: Intermed Stats for HS Teachers**

Workshop for teachers of introductory statistics. Overview of material just beyond the AP / introductory statistics curriculum, including simulation-based inference, multiple regression, ANOVA, statistical programming, and selected topics.

**Credits:** 1

**STAT 7130: Teaching Intro. Statistics**

For current or future teachers of statistics. Combines theoretical framework and hands-on experience in understanding and developing statistical reasoning and thinking necessary for teaching an introductory statistics course. Ideas for addressing common student misconceptions will be addressed.

**Credits:** 3

**Prerequisites:**

STAT 1230 or STAT 1250 or STAT 1313 or STAT 1430 or STAT 4310 or STAT 7404

**STAT 7200: Data Science for Professionals**

Reading and scraping data, data wrangling, data visualization, and predictive analytics from a variety of sources. Knowledge of statistics and programming experience (any language) strongly recommended.

**Credits:** 2

**STAT 7404: Statistical Methods**

Data summarization and display, distributions; binomial, Poisson, normal, t, chi-square and F, estimation, hypothesis testing, linear regression, correlation, statistical software packages.

**Credits:** 3

**STAT 7500: Statistical Programming**

Use SAS and R for data manipulation, presentation, and summarization. Topics include inputting/importing/exporting data cleaning and manipulation, and numerical and graphical summaries/analyses. Students will be introduced to simulations, SAS macro programming, and R functions.

**Credits:** 3

**Prerequisites:**

MAT 4310 :Y or STAT 4310 :Y or MAT 7404 :Y or STAT 7404 :Y

**STAT 8400: Statistical Theory I**

Probability, random variables, univariate and multivariate distributions, mathematical expectation, Central Limit Theorem, Law of Large Numbers.

**Credits:** 3

**STAT 8401: Statistical Theory II**

Sampling, estimation, hypothesis testing, decision theory, least squares, regression, analysis of variance, Bayesian statistics.

**Credits:** 3

**Prerequisites:**

MAT 5700 or STAT 5700 or MAT 8400 or STAT 8400

**STAT 8406: Regression Methods**

Linear regression, correlation, multiple regression, weighted least squares, residuals and influence diagnostics, model building, variable selection, nonlinear regression.

**Credits:** 3

**Prerequisites:**

MAT 4310 or STAT 4310 or MAT 7404 or STAT 7404

**STAT 8408: Multivariate Methods**

Multivariate normal distribution, principal component analysis, Hotelling T2 test, discriminant function analysis, multivariate analysis of variance, covariance and repeated measurements, canonical correlation analysis, factor analysis, classification and cluster analysis.

**Credits:** 3

**Prerequisites:**

MAT 4310 or STAT 4310 or MAT 7404 or STAT 7404

**STAT 8410: Bayesian Statistics**

Prior distributions, Posterior distributions, Conjugate priors, the Metropolis-Hastings algorithm, the Gibbs sampler, Markov chain Monte Carlo, Convergence diagnostics, Credible Intervals Hierarchical modeling, Differences between Bayesian and frequentist inference.

**Credits:** 3

**Prerequisites:**

(MAT 4310 or STAT 4310 or MAT 7404 or STAT 7404) and (MAT 5700 or STAT 5700 or MAT 8400 or STAT 8400)

**STAT 8412: Linear Models**

Analysis of general linear models, fixed and random effects, variance components, unbalanced data.

**Credits:** 3

**Prerequisites:**

MAT 4310 or STAT 4310 or MAT 7404 or STAT 7404

**STAT 8414: Categorical Data Anal**

Estimation, maximum likelihood, weighted least squares, log-linear models, logistic regression.

**Credits:** 3

**Prerequisites:**

MAT 8406 or STAT 8406 :Y

**STAT 8416: Design of Experiments**

Completely randomized, randomized block, latin square, nested, split plot, balanced incomplete block and crossover designs, factorials, systems of confounding, fractional factorials and response surface designs.

**Credits:** 3

**Prerequisites:**

MAT 8412 or STAT 8412

**STAT 8424: Statistics Practicum**

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**Credits:** 3

**STAT 8440: Statistics Quality Control**

Industrial applications of statistical techniques, Deming's 14 points, Ishikawa's charting techniques, control charts for attributes and variables, acceptance sampling, military standards, process capability studies, introduction to Taguchi designs.

**Credits:** 3

**Prerequisites:**

MAT 4310 or STAT 4310 or MAT 7404 or STAT 7404

**STAT 8444: Time Series & Forecasting**

Frequency domain approaches to the analysis of time series, autoregressive models, forecasting.

**Credits:** 3

**Prerequisites:**

MAT 8406 or STAT 8406

**STAT 8446: Survival Data Analysis**

Analysis of survival or lifetime data; life tables and Kaplan-Meier estimation; survival analysis with covariates; Cox proportional hazard models.

**Credits:** 3

**Prerequisites:**

(MAT 5700 or STAT 5700 or MAT 8400 or STAT 8400) and (MAT 8406 :Y or STAT 8406 :Y)

**STAT 8448: Clinical Trials**

Basic principles of clinical trials, rationale, history, organization and planning, randomization and ethical issues, sample size determination, study designs: parallel, crossover, repeated measurements, statistical analysis of clinical trials data, interim analyses.

**Credits:** 3**Prerequisites:**

MAT 4310 or STAT 4310 or MAT 7404 or STAT 7404

**STAT 8450: Longitudinal Data Analysis**

Longitudinal data plots, univariate and multivariate repeated measures ANOVA, generalized linear models, response profile models, linear mixed models, generalized linear mixed models, residual diagnostics, missing data, clinical trials applications, analysis in SAS.

**Credits:** 3**Prerequisites:**

(MAT 8406 or STAT 8406) and (MAT 5700 or STAT 5700 or MAT 8400 or STAT 8400)

**STAT 8452: Nonparametric Statistics**

One sample rank tests, estimates and confidence intervals, paired replicates, two sample rank tests, nonparametric correlation and regression techniques.

**Credits:** 3**Prerequisites:**

MAT 4310 or STAT 4310 or MAT 7404 or STAT 7404

**STAT 8454: Sampling Methods**

Sampling and survey methodology, basic sampling theory, random and stratified sampling, systematic sampling errors, estimation procedures.

**Credits:** 3**Prerequisites:**

MAT 4310 or STAT 4310 or MAT 7404 or STAT 7404

**STAT 8462: Stochastic Modeling**

Monte Carlo Simulation, Markov chains, generating functions, random walk models, gambler's ruin problem, queuing processes, Poisson processes, Gaussian processes.

**Credits:** 3**Prerequisites:**

MAT 5700 or STAT 5700 or MAT 8400 or STAT 8400

**STAT 8480: Data Mining & Predictive Analy**

Data preparation, Predictive modeling via decision trees, regression models and neural network, Model assessment and implementation, Pattern discovery, Association rule discovery, Text mining.

**Credits:** 3**Prerequisites:**

MAT 8406 or STAT 8406

**STAT 8790: Selected Topics I**

Particular topics of study determined on a year to year basis to suit the desire and preparation of students.

**Credits:** 3**STAT 8796: Selected Topics**

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**Credits:** 3

# Meteorology

**MET 1221: Severe & Hazardous Weather**

This introductory meteorology course covers the fundamentals of meteorology with emphasis on severe and hazardous weather and effects of these on human life, environment and the economy. Severe storms that include tropical cyclones (hurricanes), extratropical cyclones, "Nor-easters", thunderstorms, lightning, tornados, and blizzards are featured. Floods, droughts, cold waves and heat waves are covered and their effects on health, agriculture and commerce are discussed. Also included are causes and effects of climate change with emphasis on the recent global warming trends over the last century. The consequences of global warming on the global economy will be stressed.

**Credits:** 3

**MET 1222: Climate Change: Past & Present**

Earth's climate and climate changes. Past climates (Paleoclimatology), major Ice Ages over the last billion years, methods for reconstructing past climates, including radio isotopic techniques. Fossil, geological, sedimentary, flora and fauna and documentary records. Physical causes of climate changes, recent warming trends in global climate (both natural and anthropogenic), future global climate (short- and long- term) and climate models. Possible effects of global climate change on our environment and resulting economic and geopolitical consequences.

**Credits:** 3

**Prerequisites:**

MAT 1310 or MAT 1320 or MAT 1330 or MAT 1500 or MAT 1400

## Naval Science (Navy ROTC)

**NS 1000: Naval Professional Lab**

Military drill, information briefings, and seminars on various subjects of USN/USMC interest including naval orientation (freshman), naval warfare specialties (sophomores), navigation laboratory (juniors), career planning and pre-commissioning information (seniors).

**Credits:** 0

**NS 1100: Seapower and Maritime Affairs**

Naval history from the beginnings of the age of sail through the twentieth century. The works and influence of Alfred Thayer Mahan as they relate to current and past fleet doctrine. The impact of foreign nations' maritime activities on world seapower. Normally taken by freshmen.

**Credits:** 3

**NS 2100: Naval Ships Systems I**

Construction and propulsion of naval ships, including design, stability, control of damage. Propulsion systems including steam, diesel, gas turbine, nuclear power plants; shipboard electrical power generation and distribution; and shipboard auxiliary systems including refrigeration, fresh water distilling plants and air compressors. Normally taken by sophomores.

**Credits:** 3

**NS 2200: Naval Ships Systems II**

Introduction to naval weapons systems including basics of radar, sonar, and gyroscopes; weapons systems analysis stressing the fire control problem, information flow, the servo principle, and use of computers; general operation, safety and maintenance of shipboard weapons systems. Normally taken by seniors.

**Credits:** 3

**NS 3100: Navigation**

The theory and technique of piloting and celestial navigation. Normally taken by juniors.

**Credits:** 3

**NS 3200: Naval Operations**

The maneuvering board, tactical communications, rules of the road, and seamanship.

Normally taken by juniors.  
**Credits:** 3

**NS 3500: Evolution of Warfare**

The evolution of weapons, tactics, and military organization applicable to land operations; the classic principles and variables of land operations.

**Credits:** 3

**NS 3600: Fundamentals of Maneuver Warfare**

Introduces the student to the foundational concepts and history of the USMC as the premier Maneuver Warfighting Organization. Develops an individual who is both a critical thinker and scholar in the profession of arms.

**Credits:** 3

**Prerequisites:**

NS 1000

**NS 4100: Leadership and Management**

Fundamentals of leadership and management of an organization; emphasis on the Naval officer as leader and manager, concentrating on areas such as professional ethics, organizational theory, and the characteristics and roles of successful leaders. Normally taken by sophomores.

**Credits:** 3

**NS 4200: Leadership and Ethics**

Applications of the principles of leadership and management with a focus and emphasis on the military arena. Ethical and moral responsibility examined with emphasis on the interrelationship of authority, responsibility and accountability in an organization. Discussion intensive with oral presentations. Draws upon the experiences of a number of guest speakers, both military and civilian.

**Credits: 3**

## Organizational Development Management

**ODM 1000: Foundation of Organizational Behavior**

Overview of the key principles and research of organizational behavior. Examines individual human behavior in the workplace as influenced by personality, values, perceptions, and motivations, and group behavior as related to collaboration, communication, politics, and negotiation.

**Credits: 3**

**ODM 1100: Foundations of Strategic Mgmt**

Overview of key principles and practices of strategic management. Examines topics such as establishing mission, vision, and direction, evaluating environmental influences, assessing industry and market trends, building organizational culture, leading effective teams, managing and leading change. Emphasizes the development and implementation of strategy across industries.

**Credits: 3**

**ODM 2000: Essentials of Finance & Acct**

Introduction to basic standards and concepts underlying finance and accounting. Topics include balance sheets, income statements, cash flow statements, budgets, forecasts, and reporting.

**Credits: 3**

**ODM 2010: Foundations of Marketing**

Introduction to key concepts, terms, and strategies used in the marketing function of an organization. Focus is on understanding how firms and consumers behave and developing a tool kit of strategies and tactics to be used in promoting an organization's marketing strategy.

**Credits: 3**

**ODM 2020: Ethics, Regulations & Soc Resp**

Examines the intersection of ethics, regulation, and social responsibility, and the business management and strategy. Provide students with the opportunity to understand and analyze the economic, legal, political, ethical, and societal issues involving the interaction of business, government, and society.

**Credits: 3**

**ODM 2030: Organizational Decision Making**

Explores decision-making philosophy, approaches, challenges, and best practices. Provides opportunities to analyze contexts that impact decision process and quality, and develop skills related to individual and organizational decision-making.

**Credits: 3**

**ODM 2040: Strategic Oper & Process Impro**

Introduces key components of operations management and strategy. Overview and analysis of tools, techniques, and methodologies of process improvement.

**Credits: 3**

**ODM 2050: Innovation & Creative Thinking**

The cultivation of innovation and creative thinking are essential to an organization's success in the 21st Century Global context. This course will examine how innovation and creativity can be facilitated, managed and sustained in a work setting. Students will learn about the theories behind and the practical applications of these key concepts.

**Credits: 3**

**ODM 5000: Organiz Devlp & Mgmt Capstone**

Integrates strategic management and organizational development tools and practices from throughout the curriculum to topics such as change management and entrepreneurship.

**Credits:** 3

## Peace and Justice

- Peace and Justice, B.A. (GIS)

Location: Corr Hall, Rm. 106

**PJ 2200: Caring for the Earth**

The richness and diversity of Planet Earth, especially in its species forms; current forms of degradation to land, water, soil, and air, and human and animal inhabitants; economic, political, religious, cultural and social causes of global environmental problems; personal and ethical/ social justice decisions necessary to care for the Earth.

**Credits:** 3

**PJ 2250: Violence & Justice in the Wrld**

Examines root causes of violence, pathways to building a more peaceful and just world. Basic issues include, peace, justice, power dynamics, violence, nonviolence, restorative justice peacemaking, peacekeeping, and peace building.

**Credits:** 3

**PJ 2500: Education & Social Justice**

American education's contribution to class, gender, and "race" inequality; political bias in school curricula: unequal treatment of students by teachers and administrators based on "race", ethnicity, class, and gender; unequal allocation of resources among public schools; the public - private school debate; possible political influences in universities; the mass media as an important component of education.

**Credits:** 3

**PJ 2600: Catholic Social Teaching**

One hundred years of Catholic Social Thought. Papal encyclicals, especially *Rerum Novarum* (1891) and *Sollicitudo Rei Socialis* (1987). The pastoral letters of the American Bishops, special emphasis on the *Challenge of Peace* (1983) and *Economic Justice for All* (1986). Guest lecturers will help to show the interdisciplinary nature of Catholic teaching.

**Credits:** 3

**PJ 2700: Peacemakers & Peacemaking**

Classical and contemporary examples and approaches to peacemaking in response to injustice and social conflict. Issues to be considered include the nature and significance of nonviolent struggle, political reconciliation, and the role of religion in shaping moral action for social change.

**Credits:** 3

**PJ 2800: Race, Class, & Gender**

A critical examination of the social constructions of race, class, gender, and sexuality in U.S. culture and the injustices and inequalities that arise from them. Strategies, policies, and procedures for change are also examined.

**Credits:** 3

**PJ 2900: Ethical Issues in P & J**

Introduction to contemporary complex moral issues. Examines economic, political, and social roots. Brings the Catholic Christian ethical tradition to bear to understanding their moral significance and responsibility to address them. Issues include: poverty, environmental justice, conflict, refugees, migration, genocide, and others.

**Credits:** 3

**PJ 2993: Internship**

Internship

**Credits:** 3

**PJ 2996: Internship**

Internship.

**Credits:** 6

**PJ 3000: Selected Topics**

Violence in families and society, the traditions of Just War theory, and the critiques of war from the perspective of pacifism and non-violence. The importance and role of the peacemakers of the world, the values of conflict resolution, and strategies that aid the creation of a peaceful world order.

**Credits:** 1

**PJ 3100: Amer. Indian Thought & Culture**

Historical, philosophical, religious, literary and artistic contributions of the Navajo, Sioux, Iroquois, and Hopi cultures. American Indian Art and Poetry, American Indian colonial history, American Indian tribal claims, and American Indian spirituality of the earth. Guest speakers and films.

**Credits:** 3

**PJ 3200: Justice and Sports**

The benefits and problems of competition. The role and value of competition in contemporary sports, with attendant social justice issues. The importance of play to a wholistic human life.

**Credits:** 3

**PJ 3400: War and Morality**

Three traditions of moral reflection on war: "Just War" theory; Pacifism; and, the historical experience of women. Discussions focus on concrete cases (e.g., the modern world wars, Vietnam, the Persian Gulf War, Bosnia).

**Credits:** 3

**PJ 3500: Making Peace Work**

Various theories of peace; describing, explaining, and predicting the occurrence of peace; conflict, peace-making, -keeping, -building. Computer simulations of peace process.

**Credits:** 3

**PJ 4000: Selected Topics**

The history of the struggle for justice and human rights in geographical locations, such as the Middle East, Ireland, Africa, and Central America, focusing on such issues as world hunger and apartheid, and culminating in an attempt to articulate systemic questions of justice.

**Credits:** 3

**PJ 4600: Global Poverty & Justice**

The challenges to creating a more just global order. The contribution of the christian theological and ethical traditions toward constructing an ethical framework appropriate for the emerging global order. Introduction to and critical examination of global institutions and policies e.g., the World Trade Organization, the World Bank, the International Monetary Fund, the United Nations and others, with an eye to their impact on reducing global poverty.

**Credits:** 3

**PJ 4650: Service Learning Practicum**

Integrating the participation requirement for field experience with the academic requirements (reading, research paper, project, etc.) set by the instructor. Permission of the instructor.

**Credits:** 1

**PJ 5000: Selected Topics**

Justice & discrimination in U.S. society from social, economic, political & ethical perspectives. Strategies for the just elimination of discrimination. Topics include civil rights, gender issues of justice, etc.

**Credits:** 3

**PJ 5100: Discrimination, Justice & Law**

Development of discrimination and civil rights law in the United States through case materials in areas of racial discrimination, gender-based discrimination, reverse discrimination, sexual preference-based discrimination, and age discrimination, if time permits.

**Credits:** 3

**PJ 5200: Perspectives on US Poverty**

An interdisciplinary perspective on poverty in the United States, emphasizing the past thirty years. Trends in the extent and incidence of poverty. Underlying causes of poverty; policies that might be used to combat poverty.

**Credits:** 3

**PJ 5400: Ethics, Justice and the Family**

The moral meaning of marriage; justice, gender, and the domestic division of labor; the legal protection of marriage and the parties to it; marriage, reproductive technology, and the commodification of children; the moral meaning of "having children"; the responsibilities of parents to their children; the responsibilities of children to their parents, with special reference to care for the aged; distributive justice and the family; society's responsibilities to serving the needs of its children. Course readings will be taken from a number of disciplines, including Christian ethics, law and legal history, philosophy, and sociology.

**Credits:** 3

**PJ 5500: Politics of Whiteness**

Examination of scholarship addressing the structure, function, & manifestations of "whiteness," primarily in U.S. culture, & its relationship to issues of diversity. Topics also include white supremacy, white identity, & the future of critical white studies.

**Credits:** 3

**PJ 5600: Independent Study**

Independent Study

**Credits:** 3

**PJ 5700: The Meanings of Justice**

Libertarian, socialist, welfare liberal, communitarian, feminist, and multicultural approaches to justice in contemporary literature. Consideration of recent studies of social justice in Christian ethics.

**Credits:** 3

## Philosophy

**PHI 1000: Knowledge, Reality, Self**

Philosophical responses to the questions of how we can know, what is real, and what is the nature of human existence that explore the dialogue between Catholic, Christian, secular and skeptical perspectives on these questions.

**Credits:** 3

**PHI 1990: Topics**

One-credit course on variable topics; course meets for a minimum of 14 hours.

**Credits:** 1

**PHI 2010: Logic & Critical Thinking**

The study of logic and critical thinking. Topics include: argument identification and analysis; formal and informal logic; fallacies; inductive argument; the role of argumentative structures in various philosophical traditions.

**Credits:** 3

**PHI 2020: Symbolic Logic**

Propositional and first-order predicate logic; logical structure of arguments; symbolic languages; correct and incorrect inferences; fallacies; truth-tables; natural deduction.

**Credits:** 3

**PHI 2115: Ethics for Health Care Prof**

Rights and duties of the patient/client and the members of the health care team, death and dying, genetic engineering and manipulation.

**Credits:** 3

**PHI 2117: The Good Doctor**

The art and science, learning and dispositional attitudes necessary for the moral practice of medicine by a good doctor. Themes for the course drawn from philosophical resources, sociological theory, data and first-person medical narratives.

**Credits:** 3

**PHI 2121: Environmental Ethics**

The relation of the physical and biological environment to ethical values. Priorities among environmental, economic and political values as a basis for ethical decisions.

**Credits:** 3

**PHI 2130: Business Ethics**

Social justice and charity as principles of order in economic life and relationships: topics include consumer rights, corporate social responsibility, and ecology.

**Credits:** 3

**PHI 2140: Phil of Criminal Justice**

Philosophical dimensions of criminal justice; law and morality, criminal versus civil disobedience, philosophical presuppositions of the insanity defense, philosophical problems in controlling and correcting criminal and delinquent behavior.

**Credits:** 3

**PHI 2155: Engineering Ethics**

Engineering ethics through case studies focusing on professional responsibility, the role of technology in society and a holistic evaluation of the purpose of science and engineering.

**Credits:** 3

**PHI 2160: The Ethics of War**

Just war theory, total war, nuclear deterrence and nuclear war, disarmament, genocide, war crimes and atrocities, terrorism, non-violent resistance, and pacifism.

**Credits:** 3

**PHI 2170: Mass Media Ethics**

The impact of the changing communications technologies on the human person and society; freedom of the press, violence; pornography and censorship, confidentiality of sources, advertising ethics and codes of ethics and standards of practice.

**Credits:** 3

**PHI 2180: Computer Ethics**

Codes of professional ethics, unauthorized access, ownership of software, and the social responsibility of computing professionals.

**Credits:** 3

**PHI 2190: Freedom**

Human freedom analyzed from a metaphysical and political perspective; readings from classical and contemporary sources on such topics as determinism, slavery, rights, authority and dissent.

**Credits:** 3

**PHI 2300: Philosophy of Law**

The nature and function of law, relation of law to ethics, the judicial process, the role of constitutions, the rights of citizens, law and international relations.

**Credits:** 3

**PHI 2400: Social & Political Phil**

Social and political philosophers and the influence of their theories on the philosophical foundation of modern culture and society; emphasis on such conceptions as society, the state, justice and equality, and the social and political nature of persons.

**Credits:** 3

**PHI 2410: Philosophy of Sex & Love**

Embodiment, the nature of sexuality, the types of love, sexual ethics, marriage, sexual differences, and sexual discrimination.

**Credits:** 3

**PHI 2420: Philosophy of Women**

Nature and status of women from ancient times to the present, with consideration of the more general context of self-identity; contemporary feminist theories; feminism as a political movement.

**Credits:** 3

**PHI 2430: Eco-Feminism**

Basic positions in eco-feminism as they relate to the philosophical and religious traditions of the West.

**Credits:** 3

**PHI 2440: Amer Indian Thought & Culture**

Religious and philosophical concepts of personhood, community, and nature; contrast of European and Euro-American Indian philosophies.

**Credits:** 3

**PHI 2450: Catholic Social Thought**

Catholic Social Thought from *Rerum Navarum* to the present. Its Aristotelean-Thomistic grounding. The Church's challenge to analyses of contemporary social, political, and economic systems.

**Credits:** 3

**PHI 2460: Globalization**

Philosophical issues of globalization including: international law and human rights, immigration and migration, human trafficking, cyber solidarity, fair trade, poverty tourism, protest in the global civic sphere, and religious dialogue across borders.

**Credits:** 3

**PHI 2470: Irish Thought and Literature**

An examination of main thinkers in the Irish tradition; the relation of reason (science) and religion; the importance of poetry; themes to be explored include (e)migrant thought, exile and home, English as colonizers, language and voice, laughter and comedy.

**Credits:** 3

**PHI 2480: Africana Philosophy**

Survey of theoretical writings and discourses by authors from Africa and the African diaspora at large, especially African-American and West-Indian authors.

**Credits:** 3

**PHI 2490: Latin Amer & African Amer Phil**

Colonialism and anti-colonial struggles, slavery and abolition, the Black and Latinx radical traditions, intersectionality and materialist critique, race/gender/sexuality/class relations, mass incarceration and detention, media and culture, liberation struggles.

**Credits:** 3

**PHI 2500: Philosophy of Exchange**

Monetary exchange in philosophical perspective: money as a means and as an end; higher and lower forms of exchange; sacrificial economies; the politics of scarcity; sacred economics.

**Credits:** 3

**PHI 2550: Technology & Society**

Case studies of specific technologies (such as television, automobiles, health technology) and critical examination of ethical, philosophical and policy issues that these technologies raise.

**Credits:** 3

**PHI 2650: Philosophy of Sport**

Nature of play, sport and game with special emphasis on the role of sport in modern society.

**Credits:** 3

**PHI 2700: Philosophy of Science**

Philosophical implications of specific laws and theories; Newton's laws, energy, evolution, relativity, atomic theory. Methodological problems of observation, discovery, testing; scientific realism, revolutions in scientific thought.

**Credits:** 3

**PHI 2710: Information Knowledge Inquiry**

The nature of human knowledge; sources of knowledge; justification of belief; conduct of inquiry; information; scientific reasoning; testimony; ecological rationality; and technologically extended knowledge.

**Credits:** 3

**PHI 2750: Philosophy of Art**

The principles and causes of beauty and art with special reference to the formation of art objects and the cultural context of philosophy and art.

**Credits:** 3

**PHI 2760: Philosophy & Literature**

Philosophical ideas in selected literary works; examination of the relation of literature to philosophy; fiction and truth, modes of communication.

**Credits:** 3

**PHI 2800: Philosophy of History**

Theories concerning the nature of history, the idea of progress, historical inevitability, the role of the "great man".

**Credits:** 3

**PHI 2900: Philosophy of Religion**

The meaning of God, the experience of the Divine, nature of revelation, negative theology, the absence of God.

**Credits:** 3

**PHI 2910: Mysticism & Philosophy**

The metaphysical interpretation of God, humans and the world implicit in the writings of selected mystics; epistemological issues such as mysticism and logic, the value of mystical experience, mysticism and psychedelic experience, mysticism and ethics.

**Credits:** 3

**PHI 2920: Asian Philosophies**

Sources of Eastern philosophies; aspects of Hinduism, Jainism, Buddhism, Confucianism, Taoism, and/or Sufism.

**Credits:** 3

**PHI 2930: Indian Philosophy**

Introduction to basic traditions of Indian philosophy; exploration of debates between these traditions on fundamental issues of epistemology metaphysics, and philosophy of religion.

**Credits:** 3

**PHI 2940: Indian & Tibetan Buddhist Phil**

An exploration of fundamental problems, traditions, and themes in Buddhist philosophy as developed in India and Tibet.

**Credits:** 3

**PHI 2990: Topics in Philosophy**

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**Credits:** 3

**PHI 2993: Internship**

Departmentally related and academically creditable field work experience. See department chair for more information. Permission of Department Chair required.

**Credits:** 3

**Prerequisites:**

Permission of Department Chair required.

**PHI 2996: Internship**

Departmentally related and academically creditable field work experience. See department chair for more information.

**Credits:** 6

**PHI 3020: History of Ancient Philosophy**

Plato, Aristotle and selected pre-Socratic and Hellenistic philosophers in the context of ancient and classical Greek civilization.

**Credits:** 3

**PHI 3030: History of Medieval Philosophy**

Philosophical movements from the early Middle Ages to the rise of modern philosophy; the influence of later Medieval speculation upon thinkers of the modern period; readings from Augustine, Aquinas, Bonaventure, and others.

**Credits:** 3

**PHI 3040: Hist of Early Mod Philosophy**

The systems of Descartes, Spinoza, Leibniz, and the empiricists - Locke, Berkeley, and Hume; Kant; selections read and evaluated.

**Credits:** 3

**PHI 3050: Kant & 19th Cent Philosophy**

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**Credits:** 3

**PHI 3100: Augustine & Antiquity**

Life and thought of Saint Augustine; the problem of certitude, the problem of evil, the nature of history, human knowledge and God, the soul-body relations, and political philosophy.

**Credits:** 3

**PHI 3120: Augustine & Modernity**

Influences of Augustine's major teachings in shaping medieval and modern thought.

Augustine's position on human nature, human freedom, sin and grace, history, and the nature and end of society.

**Credits:** 3

**PHI 3160: History of Islamic Phil**

Islamic thought, concentrating particularly on Islamic medieval theology and philosophy.

**Credits:** 3

**PHI 3410: Thomas Aquinas**

Historical influences in the formation of St. Thomas' thought; specific contributions of Aristotelianism and Neoplatonism; theory of knowledge, being, persons and morality.

**Credits:** 3

**PHI 3720: Marx & Marxism**

Marx on the theories of human nature, freedom and history; related developments in Marxist thought.

**Credits:** 3

**PHI 3730: American Philosophy**

The growth of philosophy in America, concentrating on the thinkers of the classical period, especially Peirce, James, Royce, Dewey, and Santayana.

**Credits:** 3

**PHI 3990: Topics in Hist of Philosophy**

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**Credits:** 3

**PHI 3991: Philosophy for Theology I**

Historical and contemporary approaches to philosophical problems of theological relevance; philosophical methods for use in ministry; influence of Augustine on Western thought. Restricted to students in the Augustinian Novitiate Program.

**Credits:** 1

**PHI 3992: Philosophy for Theology II**

The relationships that exist between modern and contemporary philosophy and Christian theology; philosophical methods for use in ministry. Restricted to students in the Augustinian Novitiate Program.

**Credits:** 2

**Prerequisites:**

PHI 3991

**PHI 4100: Plato & Aristotle**

Selected texts and themes from Plato and Aristotle.

**Credits:** 3

**PHI 4110: Metaphysics**

Questions regarding the nature and possibility of metaphysics; selected texts from Greek philosophy to the present.

**Credits:** 3

**PHI 4120: Philosophy of Biology**

Key assumptions of the contemporary sciences: the meaning of life, the relevance of science, the structure of the life sciences, the "doctrine" of DNA and molecular genetics, evolutionary theory, ecology and the "Gaia" hypotheses, and the ethical and social issues spawned by new advances in biology and molecular genetics.

**Credits:** 3

**PHI 4125: Bioethics**

Advanced issues in clinical and research ethics: neuro-enhancement, radical life-extension, phase 1 trials on the non-consenting, ethics of life and death, and ethics of pandemics.

**Credits:** 3

**PHI 4140: Phil of Contemporary Music**

Critical listening to rock pop, jazz, rap, funk, punk, dance, and ambient music; relation of music to noise; theories of Hanslick, Nietzsche, Adorno, Barthes, Foucault, Deleuze, and Cage.

**Credits:** 3

**PHI 4150: Philosophy & Film**

Analysis of selected classics and current films from the perspective of basic philosophical concepts and questions.

**Credits:** 3

**PHI 4200: Philosophy of Language**

Major classical and contemporary philosophical theories concerning language, including the relationship of language to thought, experience and reality; theories of meaning, communication, linguistics, translation, poetic and religious language.

**Credits:** 3

**PHI 4210: Environmental Philosophy**

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**Credits:** 3

**PHI 4300: Death and Dignity**

An account of the most influential philosophical interpretations of death, and an exploration of the fact of dying as a political and social phenomenon grounded on historical examples.

**Credits:** 3

**PHI 4600: Psychoanalysis & Philosophy**

Philosophical implications of Freudian theory as it relates to the individual and culture; the role of the unconscious; interpretation, structure of the ego, human sexuality and the foundations of civilization.

**Credits: 3**

**PHI 4610: Philosophy of Mind**

The nature of mind, soul, consciousness; the mind-brain relationship; classical and contemporary philosophical approaches; the nature of person identity and moral responsibility.

**Credits: 3**

**PHI 4825: Existentialism**

The active, feeling and living human being as the starting point for thinking about existence as more than brute facts and rational truths. Alienation, absurdity, emptiness and dread but also the freedom, authenticity, commitment and creativity as human responses to the apparent meaninglessness of life.

**Credits: 3**

**PHI 4900: Feminist Theories**

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**Credits: 3**

**PHI 4990: Independent Study & Research**

Topic chosen by the student and approved by the professor and the chair.

**Credits: 3**

**PHI 5000: Adv Sem for Phil Majors**

Special topic in philosophy or current interest to faculty and students. Course is open to Philosophy majors and minors and graduate students with the approval of the Director of Graduate Studies in Philosophy.

**Credits: 3**

**PHI 6000: Research Seminar**

Inquiry in depth into one major philosophical problem or into the thought of one major philosopher; practice in the use of research and bibliographical techniques.

**Credits: 3**

**PHI 7000: The Pre-Socratics**

An investigation of the origins and development of Western philosophy before Socrates

**Credits: 3**

**PHI 7110: Philosophy of Socrates**

A study of the priority of definition, unity of virtue, irony, philosopher's relation to the polis, friendship, character formation and the elenctic method which identifies Socrates in Plato's early dialogues, including Alcibiades, Apology, Charmides, Crito, Euthydemus, Euthyphro, Gorgias, Hippias Major, Hippias Minor, Ion, Laches, Lysis, Meno, Protagoras, and Republic I.

**Credits: 3**

**PHI 7120: Plato: Middle Dialogues**

Reading and discussion of The Republic, Symposium, and Timaeus.

**Credits: 3**

**PHI 7130: Plato: Later Dialogues**

Reading and discussion of the Thaetetus, Parmenides, and Sophist.

**Credits: 3**

**PHI 7220: Aristotle: Theoret Phil**

An examination of Aristotle's theoretical philosophy based on selections from the Metaphysics, Physics, De Anima, and the "Organon."

**Credits: 3**

**PHI 7230: Aristotle: Practical Phi**

An examination of Aristotle's practical philosophy based on selections from the Nicomachean Ethics, Politics, Rhetoric, and Poetics.

**Credits: 3**

**PHI 7300: Roman Philosophy**

The focus of this seminar is on the Romanization of Greek philosophy. the scope is late republic to waning empire, and the figures covered generally include (but are not limited to) Plotinus and Augustine. Of special concern is the nature and fate of autarkic virtue -- the dominant ideal of philosophical self-sufficiency -- under Stoic, skeptical, Platonic, and Epicurean regimes. Counts for distribution credit in ancient philosophy.

**Credits: 3**

**PHI 7330: Medieval Philosophy**

A study of selected texts from Christian, Jewish, and Islamic thinkers. This course will also include reference to the origins medieval philosophy in ancient philosophy and/or the anticipation of modern philosophical concerns.

**Credits: 3**

**PHI 7340: Topics in Hist Philosophy**

A number of important topics, e.g., space and time or the eternity of the world, are best considered both in immediate historical settings and across traditional historical divisions. Such topics will be considered as they are defined and redefined in ancient, medieval, and modern terms.

**Credits: 3**

**PHI 7410: Augustine's Speculative**

Augustine's epistemology, anthropology, and metaphysics. Topics include the possibility and process of knowledge, freedom, the problem of evil, the existence and nature of God.

**Credits:** 3

**PHI 7420: Augustine's Prac Phil**

Augustine's ethics, social and political philosophy, and philosophy of history. Topics include Happiness, Good and Evil, the Family, the State, origins and destiny of the human being.

**Credits:** 3

**PHI 7510: Aquinas: Metaphysics**

The nature of metaphysics; the potency-act relationship; essence-existence; matter-form; substance-accidents; efficient, final, and exemplary causality; the existence and nature of God; the transcendentals.

**Credits:** 3

**PHI 7520: Aquinas: Ethics and Law**

Selected texts from the Summa Theologica of St. Thomas on the nature of morality and the essence of law. Special attention given to such topics as human destiny, human acts, habits, virtues, and law.

**Credits:** 3

**PHI 7610: Topics: Early Mod Phil**

Selected texts and themes from the early modern period. The readings will be taken from major philosophical figures of the period such as: Descartes, Locke, Malebranche, Leibniz, Spinoza, Berkeley, Hume, Reid.

**Credits:** 3

**PHI 7640: Spinoza**

A study of such major works as the Ethics or Theologico-Political Treatise in their historical context and with respect to contemporary problems.

**Credits:** 3

**PHI 7710: Kant's First Critique**

Textual and philosophical analysis of the Critique of Pure Reason; the historical framework of the Critique.

**Credits:** 3

**PHI 7720: Kant's Practical Phil**

The principle themes of Kant's practical philosophy. Selected readings from the Critique of Practical Reason, the Groundwork of the Metaphysics of Morals, the Critique of Judgement, The Metaphysical Elements of Justice, and other writings.

**Credits:** 3

**PHI 7730: Kant's Third Critique**

A close reading of the third critique along with some of the contemporary responses to it by Lyotard, Gadamer, Derrida, Arendt, Deleuze.

**Credits:** 3

**PHI 7810: Romanticism to Idealism**

Readings from Kant, Hegel, Reinhardt, Schelling, Fichte, Schlegel, Schiller, and Holderlin.

**Credits:** 3

**PHI 7910: Hegel's Phenom of Spirit**

A detailed reading of Hegel's 1806 Phenomenology of Spirit with particular emphasis upon its anticipation of Hegel's later works.

**Credits:** 3

**PHI 7920: Hegel's Logic**

A detailed reading of both Hegel's 1812 Science of Logic and the 1830 Encyclopedia of the Philosophical Sciences. A study of Hegel's dialectical treatment of the logical categories, initiating with the famous triad "Being-Nothingness-Becoming."

**Credits:** 3

**PHI 7930: Hegel's Phil of Right**

A study of Hegel's social and political philosophy with particular emphasis upon its influence upon contemporary thought.

**Credits:** 3

**PHI 8020: Marx**

The early philosophical writings of Marx; the influence of Hegel and Feuerbach on him; the problem of humanism.

**Credits:** 3

**PHI 8070: Nietzsche**

Nietzsche's relationship to Schopenhauer; the Apollonian and the Dionysian; the critique of morals; the death of God; the "Übermensch"; eternal recurrence; the will to power; Nietzsche's relationship to existentialism and phenomenology.

**Credits:** 3

**PHI 8090: American Philosophy**

A survey of the thought of the philosophers of America's classical period, roughly 1875 to 1935, such as Pierce, James, Royce, Mead, Santayana, and Dewey. They are closely connected to the movements named idealism, naturalism, and pragmatism.

**Credits:** 3

**PHI 8110: History of Analytic Philosophy**

The development of analytic philosophy from its beginnings in Moore and Russell up to the present; topics such as: logic and language, the mind-body problem, and ontology.

**Credits:** 3

**PHI 8120: Wittgenstein**

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**Credits:** 3

**PHI 8210: Husserl**

The problem of psychologism, the ideal of a strict science; transcendental phenomenology; phenomenology and idealism; the phenomenology of the lifeworld; Husserl's phenomenology and existential phenomenology.

**Credits:** 3

**PHI 8220: Heidegger's Being/Time**

A reading of Heidegger's early masterpiece, taking up such issues as the question of being, the idea of fundamental ontology, the analytic of Dasein, existence, being-in-the-world, care, resoluteness, temporality and historicity; the pre-Being and Time period; the "turning" after Being and Time.

**Credits:** 3

**PHI 8230: Sartre**

The development of Sartre's philosophy from the phenomenological beginnings, to dialectic, and beyond.

**Credits:** 3

**PHI 8250: Merleau-Ponty**

Interpretation of phenomenology; science and the lifeworld; perception; body and language; art and being.

**Credits:** 3

**PHI 8260: Gadamer**

A study of Gadamer's major writings focussing on Truth and Method and treating such issues as the hermeneutic circle, objectivism and relativism, the tradition, the classic, understanding, dialogue, play, the work of art, history, language; Gadamer's interpretation of Plato, Aristotle, and Hegel; the exchanges with Habermas and Derrida.

**Credits:** 3

**PHI 8280: Arendt**

The major themes of her philosophy including, labor, work, and action; the private, the social, the public; totalitarianism, revolution, and civil disobedience; Eichmann and evil; freedom and authority; thinking, willing, and judging.

**Credits:** 3

**PHI 8310: Levinas**

A study of Levinas' principal works, Totality and Infinity and Otherwise than Being or Beyond Essence, emphasizing such issues as ethics as first philosophy, the question of the other, sensibility, substitution, and responsibility; the influence of Levinas on Derrida and Lyotard and the question of postmodernism and ethics; Levinas' critique of Heidegger.

**Credits:** 3

**PHI 8340: Derrida**

A study of Derrida's principal writings, from the early work on Husserl to the present treating such issues as: the idea of deconstruction, difference, trace, arch-writing, textuality, the signature, literature, the gift, the quasitranscendental, the ethical and political implications of deconstruction; relationship to Heidegger.

**Credits:** 3

**PHI 8350: Foucault**

A close study from Foucault's principal texts and interviews of some combination of the following themes: archaeology, genealogy, taxonomy, transgression, voices from the outside, the author, the death of man, power, discipline, cartography, panopticism, the archive, the event series, the limit experience, the aesthetics of existence.

**Credits:** 3

**PHI 8420: Healthcare Ethics**

A comparison and contrast of various theoretical approaches to healthcare ethics. Issues include healthcare rationing, human beginnings, death with dignity, refusing medical interventions, and professional-patient/client interactions.

**Credits:** 3

**PHI 8430: Concept Hlth and Disease**

Consideration of the various and often competing epistemological/aesthetic approaches that ground the non-moral judgements about what is healthy or diseased, what is normal or abnormal, what is beautiful or disfigured, and what is a good quality of life.

**Credits:** 3

**PHI 8510: Political Philosophy**

A survey of major political theories from works such as Plato's Republic, Machiavelli's The Prince, Hobbes' Leviathan, Rousseau's Discourses, Hegel's Philosophy of Right, and Rawls' Theory of Justice with some consideration of such contemporary post-Hegelian thinkers as Kojève and Fukuyama who maintain that political philosophy has come to an end.

**Credits:** 3

**PHI 8520: Liberalism & its Critics**

A study of the historical development of liberalism from Hobbes to contemporary liberal theory with careful attention to the critique of liberalism mounted by contemporary communitarian theory, especially the theories of Alistair MacIntyre, Charles Taylor, and William Gladstone.  
**Credits: 3**

**PHI 8530: Crit Thry Frankfurt Schl**

A study of the historical development of critical theory in the Frankfurt School, from its inception in Kantian philosophy to its present formation in the work of Jurgen Habermas.  
**Credits: 3**

**PHI 8540: Feminist Theories**

A study of the philosophical foundations of a philosophy of women with an emphasis on the metaphysical, ethical, and epistemological questions raised by feminist criticism.  
**Credits: 3**

**PHI 8550: Body Politics**

Readings and discussions studying the centrality of the body for theories about and practices of politics. Themes such as the lived body, structured body, fluid body, disciplined body, desiring body, gendered body, marked body will be treated in the works of writers such as Sartre, Merleau-Ponty, Irigaray, Foucault, Deleuze, Lingis, Butler.  
**Credits: 3**

**PHI 8560: Philosophy of Language**

Theories of reference, meaning, semiotics and symbolism and their historical implications in the twentieth century. Authors may include: Saussure, Frege, Russell, Wittgenstein, Heidegger, Derrida, Lacan, Davidson.  
**Credits: 3**

**PHI 8610: Topics in Postmodernism**

Readings selected from recent postmodern writers such as Derrida, Foucault, Lyotard, Deleuze, and others.  
**Credits: 3**

**PHI 8630: Philosophy of the Image**

A study of the aesthetics of painting, photography and film in light of the commentaries by Heidegger, Derrida, Barthes, Goodman, Merleau-Ponty, Foucault, Deleuze, and Rosalind Krauss.  
**Credits: 3**

**PHI 8640: Philosophy Contemporary Music**

A critical reevaluation of Hanslick's *On the Musically Beautiful* with an ear for the comments in selected writings by Nietzsche, Atali, Cage, Adorno, Barthes, Goodman, and Kivy as well as for the music made by selected contemporary composers.  
**Credits: 3**

**PHI 8710: Seminar in Philosophical Tops.**

A specialized study of one or more important philosophical themes.  
**Credits: 3**

**PHI 8720: Sem: Phil Figures**

A specialized study of one or more important philosophers.  
**Credits: 3**

**PHI 8815: Contemp Hermeneutics**

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**Credits: 3**

**PHI 8830: Independent Study I**

Independent research on a topic chosen by the student and approved by the professor and the graduate director.  
**Credits: 3**

**PHI 8835: Independent Study II**

Independent research on a topic chosen by the student and approved by the professor and the graduate director.  
**Credits: 3**

**PHI 8870: Consortium I**

Graduate courses offered at the University of Pennsylvania and Temple University and taken by students participating in the Greater Philadelphia Philosophy Consortium.  
**Credits: 3**

**PHI 8875: Consortium II**

Graduate courses offered at the University of Pennsylvania and Temple University and taken by students participating in the Greater Philadelphia Philosophy Consortium.  
**Credits: 3**

**PHI 8885: Critical Theory Workshop**

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**Credits: 0**

**PHI 8920: Teaching Internship**

Full-semester Internship in the foundation courses or an upper-division philosophy course.  
**Credits: 0**

**PHI 8930: Pedagogy Workshop**

Intensive training in pedagogy for philosophy professors; teaching a mission directed core course; interdisciplinary engagement; course design; lesson planning; creating a cooperative learning environment; assessment; implicit bias; and advising services.

**Credits:** 0

**PHI 9010: Dissertation**

To be taken when Ph.D students have completed course work; may only be taken once. Permission from Director of Graduate Studies.

**Credits:** 0

**PHI 9081: Dissertation Continuation**

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**Credits:** 0

**Prerequisites:**

PHI 9010

## Physics

**PHY 1020: Great Ideas in Physics I**

General physics at a primarily conceptual level (algebra only). History and Philosophy of science, especially physics and astronomy. Topics include mechanics, optics, and relativity. Personalities include Aristotle, Galileo, Newton, and Einstein. Recommended for Arts majors.

**Credits:** 3

**PHY 1021: Great Ideas in Physics Lab I**

Experiments designed to complement the topics in PHY 1020. Recommended for Arts majors.

**Credits:** 1

**PHY 1022: Great Ideas in Phy II**

A continuation of Great Ideas in Physics I. Thermodynamics, earth science, electricity and magnetism, and modern theories of physics.

Personalities include Joule, Maxwell, Faraday, Bohr, and Feynman. Recommended for Arts majors.

**Credits:** 3

**Prerequisites:**

(PHY 1020 :D- and PHY 1021 :D- )

**Co-Requisites:**

PHY 1023

**PHY 1023: Great Ideas in Physics Lab II**

Experiments designed to complement the topics in PHY 1022. Recommended for Arts majors.

**Credits:** 1

**Prerequisites:**

(PHY 1020 :D- and PHY 1021 :D- )

**Co-Requisites:**

PHY 1022

PHY 1022

**PHY 1100: General Physics I**

Mechanics, heat and sound. Recommended for Biology majors.

**Credits:** 3

**Prerequisites:**

(MAT 1310 :Y :D- or MAT 1312 :Y :D- or MAT 1320 :Y :D- or MAT 1400 :Y :D- or MAT 1500 :Y :D-)

**PHY 1101: General Physics I Lab**

Selected experiments in mechanics, heat and sound. Recommended for Biology majors.

**Credits:** 1

**PHY 1102: General Physics II**

A continuation of PHY 1100; light, electricity and modern physics. Recommended for Biology majors.

**Credits:** 3

**Prerequisites:**

PHY 1100 :D- and (MAT 1312 :D- or MAT 1320 :D- or MAT 1400 :D- or MAT 1500 :D-)

**PHY 1103: General Physics II Lab**

Selected experiments in light and electricity. Recommended for Biology majors.

**Credits:** 1

**Prerequisites:**

PHY 1101 :D-

**PHY 1500: The Concept of Light**

Historical and analytical survey of the concept of light from classical to modern view points. Open to VSB and Arts majors (fulfills Arts core science requirement when taken with PHY 1501).

**Credits:** 3

**PHY 1502: Gravity**

Gravitational force and the laws governing the motion of objects; Newton and Einstein's theories; role in the evolution of the universe; interaction with other forces of nature. Non-calculus based. For VSB and Arts majors (fulfills Arts core science requirement when taken with PHY 1503).

**Credits:** 3

**PHY 2400: Physics I Mechanics**

Introduction to Mechanics. Designed for students in the College of Engineering.

**Credits:** 3

**Prerequisites:**

MAT 1500 :Y :D-

**PHY 2402: Physics II Elec & Magnet**

Electrostatics, DC Circuits, magnetism, and AC circuits. Designed for students in the College of Engineering.

**Credits:** 3

**Prerequisites:**

MAT 1505 :Y :D- and (PHY 2400 :D- or PHY 2410 :D-)

**PHY 2403: Phy Lab for Engineering**

Selected experiments illustrating the principles of Mechanics and Electricity and Magnetism. Designed for students in the College of Engineering.

**Credits:** 1

**Prerequisites:**

PHY 2402 :Y :D-

**PHY 2410: University Phy:Mechanics**

Vectors, kinematics, and dynamics of particles, rigid bodies, and fluids. Recommended for Science majors.

**Credits:** 3

**Prerequisites:**

MAT 1500 :Y :D-

**PHY 2411: Lab: Mechanics**

Selected experiments demonstrating the fundamental principles of Mechanics and Waves with emphasis on techniques of measurements and data analysis. Recommended for Science majors.

**Credits:** 1

**Co-Requisites:**

PHY 2410

**PHY 2412: Univ Physics:Elec & Mag**

Electrostatics, DC circuits, magnetism, and AC circuits. Recommended for Science majors.

**Credits:** 3

**Prerequisites:**

(PHY 2410 :D- or PHY 2400 :D-) and MAT 1505 :Y :D-

**PHY 2413: Lab:Elec & Magnetism**

Recommended for Science majors.

**Credits:** 1

**Co-Requisites:**

PHY 2412

**PHY 2414: Univ Physics: Thermo**

Heat, kinetic theory of gases, first and second laws of thermodynamics, wave motion acoustics, geometrical and physical optics. Recommended for Science majors.

**Credits:** 3

**Prerequisites:**

(MAT 2500 :Y :D- and PHY 2410 :D-)

**PHY 2415: Lab: Thermodynamics**

Selected experiments in heat, waves and optics. Recommended for Science majors.

**Credits:** 1

**Co-Requisites:**

PHY 2414

**PHY 2416: Modern Physics**

Special theory of relativity, atomic theory, quantum physics, the Schrodinger equation, solid-state physics, nuclear physics, elementary particles and cosmology. Recommended for Science majors.

**Credits:** 3

**Prerequisites:**

(PHY 2410 :D- and PHY 2412 :D- and PHY 2414 :D-) and (MAT 2500 :Y :D- or MAT 2705 :Y :D-)

**PHY 2417: Lab:Modern Physics**

Interference; Franck Hertz experiment; Photoelectric effect; Michelson interferometry; Millikan oil drop experiment; Electron Spin Resonance (ESR); Ferroelectricity; Superconductivity; Low Temperature physics experiments. Recommended for Science majors.

**Credits:** 1

**Prerequisites:**

PHY 2416 :Y :D-

**PHY 2601: Computational Phy Lab I**

Computer applications, data analysis and presentation, algorithms and programming, numerical methods, and basic graphics for Physics and Astronomy majors. Prerequisite:Any Intro Physics course (may be taken concurrently).

**Credits:** 1

**Prerequisites:**

Any Intro Physics course (may be taken concurrently).

**PHY 2603: Computational Phy Lab II**

Continuation of Computational Physics I.

**Credits:** 1

**Prerequisites:**

PHY 2601 :D-

**PHY 3310: Electronics**

DC and AC analysis including network theorems, power, resonance, filters, bridge circuits, amplifiers, integrated circuits, active devices, digital logic circuits and applications.

**Credits:** 3

**Co-Requisites:**

PHY 3311

**PHY 3311: Electronics Lab**

Laboratory experiments are chosen to supplement the Physics 3310 lectures and to give experience with sophisticated electronic equipment.

**Credits:** 1

**Co-Requisites:**

PHY 3310

**PHY 4000: Elec & Magnetism I**

Electrostatics, Coulomb's and Gauss' Laws, Maxwell's first two equations, Laplace's equation and boundary value problems, dielectrics, currents in conductors.

**Credits:** 3

**Prerequisites:**

(PHY 2414 :D- and PHY 4200 :D-)

**PHY 4001: Elec & Magnetism I Lab**

Selected experiments in the field.

**Credits:** 1

**Prerequisites:**

(PHY 2414 :D- and PHY 4200 :D-)

**Co-Requisites:**

PHY 4000

**PHY 4002: Elec & Magnetism II**

Magnetism, Biot-Savart's law, Faraday's law, Maxwell's third and fourth equations, electromagnetic wave equation, radiation.

**Credits:** 3

**Prerequisites:**

PHY 4000 :D-

**Co-Requisites:**

PHY 4003

**PHY 4003: Elec & Magnetism II Lab**

Selected experiments in the field.

**Credits:** 1

**Prerequisites:**

(PHY 4000 :D- and PHY 4001 :D-)

**Co-Requisites:**

PHY 4002

**PHY 4100: Mechanics I**

Newtonian Mechanics, oscillations (simple, non-linear and driven), Lagrangian and Hamiltonian dynamics, central force motion and scattering, special theory of relativity.

**Credits:** 3

**Prerequisites:**

PHY 2414 :D-

**PHY 4102: Mechanics II**

Dynamics of rigid bodies, coupled oscillations, wave phenomena, fluid mechanics (steady and turbulent flow, the equations of Euler and Navier-Stokes).

**Credits:** 3

**Prerequisites:**

PHY 4100 :D-

**PHY 4200: Mathematical Physics I**

Vector and tensor analysis, matrices and determinants, infinite series, functions of a complex variable.

**Credits:** 3

**Prerequisites:**

(PHY 2414 :D- and MAT 2500 :D-)

**PHY 4202: Mathematical Physics II**

A continuation of PHY 4200; second order differential equations, orthogonal functions, integral transforms, integral equations.

**Credits:** 3

**Prerequisites:**

PHY 4200 :D-

**PHY 4301: Experimental Methods I**

Introduction to experimental methods in Physics. Applications of spectroscopic techniques in nuclear, solid-state, and materials Physics. Detection of particle and electromagnetic radiation, signal processing, spectral analysis and interpretation.

**Credits:** 2

**PHY 4303: Experimental Methods II**

Introduction to experimental methods in Physics continued: X-Ray and Mossbauer Spectroscopy; interaction of electromagnetic radiation with matter; resonant versus non-resonant scattering cross-sections; hyperfine interactions in solids, crystal field splittings and dynamic magnetic relaxation phenomena in nonoscale systems; introduction to nanotechnology. Course is Writing Intensive.

**Credits:** 2

**PHY 5100: Quantum Mechanics**

Operators, Schrodinger Equation, one dimensional problems, harmonic oscillator, angular momentum, hydrogen atom, scattering theory.

**Credits:** 3

**Prerequisites:**

PHY 4100 :D- and PHY 4200 :D-

**PHY 5200: Thermo/Statistical Mech**

Statistical methods, statistical thermodynamics, Ensembles, Partition functions. Quantum statistics. Kinetic theory of transport processes.

**Credits:** 3

**PHY 5300: Subatomic Physics**

Structure of subatomic particles and nuclei, symmetries and conservation laws, interactions and nuclear models, radioactivity and passage of radiation through matter. A writing intensive course.

**Credits:** 3

**PHY 5500: Solid State Physics I**

Description of crystal structure, diffraction of X-rays, classification of solids, thermal properties of solids, dielectric properties, diamagnetism and paramagnetism, free electron theory of metals, band theory of solids.

**Credits:** 3

**Prerequisites:**

PHY 2416

**PHY 6000: Advanced Optics**

Topics in geometrical and physical optics.

**Credits:** 3

**PHY 6400: General Relativity**

Introduction to Einstein's Theory of General Relativity. Differential geometry, equivalence principle, geodesics, and the Einstein equations. Applications to black holes, gravitational waves, and cosmology.

**Credits:** 3

**Prerequisites:**

(PHY 4100 :D- and PHY 4200 :D-)

**PHY 6450: Supervised Study in Physics**

Reading and/or laboratory work in a selected branch of physics under the direction of a member of the staff. Restricted to the Permission of the Instructor.

**Credits:** 1

**PHY 6500: Supervised Study in Physics**

Reading and/or laboratory work in a selected branch of physics under the direction of a member of the staff.

**Credits:** 2

**PHY 6600: Supervised Study in Physics**

Same as PHY 6500 with increased number of hours.

**Credits:** 3

**PHY 6700: Supervised Study Physics**

Same as PHY 6500 with increased number of hours.

**Credits:** 4

**PHY 6900: Topics in Physics**

Lecture course in an area of Physics. May be repeated for credit if topics are different.

**Credits:** 3

## Political Science

**PSC 1100: American Government**

Constitutional development; national institutions, federalism, civil rights and liberties; instruments of popular control. Pre-requisite for 2100 and 5100-level courses and PSC 6900.

**Credits:** 3

**PSC 1200: International Relations**

Theories and concepts in the study of international relations; important and enduring questions in world affairs; trends and changes in the post-Cold War and post-9/11 world. Prerequisite for 2200 and 5200-level courses and PSC 6900.

**Credits:** 3

**PSC 1300: Comparative Politics**

Political dynamics of various countries and regions. Regime types and political institutions. Politics of inclusion and exclusion. Sources of political change and continuity. Pre-requisite for 2300 and 5300-level courses and PSC 6900.

**Credits:** 3

**PSC 1400: Political Theory**

A survey of early and modern political thought and its relevance to contemporary politics. Prerequisite for 2400 and 5400-level courses and PSC 6900.

**Credits:** 3

**PSC 1900: Research Seminar**

Covers elements required for writing research paper on a problem in political science, including using the library, evaluating and properly citing sources, understanding appropriate research methods, and writing and redrafting a research paper. Prerequisite for PSC 6900.

**Credits:** 3

**PSC 2110: U.S. State & Local Government**

Constitutions, institutions, instruments of popular control, and intergovernmental relations.

**Credits:** 3

**Prerequisites:**

PSC 1100

**PSC 2120: U.S. Congress**

Congressional functions, structures, and procedures; distribution of power; elections, representation, parties, committees, and the legislative process. Relations with the President, executive bureaucracy, judiciary, and interest groups. Congress's role in the economy, budgeting, domestic policy, and national security policy.

**Credits:** 3

**Prerequisites:**

PSC 1100

**PSC 2125: U.S. Presidency**

The nature, functions, and development of the American presidency, including relations between the president and other Washington actors, the public and the press.

**Credits:** 3

**Prerequisites:**

PSC 1100

**PSC 2130: U.S. Judiciary**

Historical overview of the Supreme Court; competing perspectives on judicial behavior; and patterns in the relationship between the Court and other branches of the federal government.

**Credits:** 3

**Prerequisites:**

PSC 1100

**PSC 2140: US Con Law I: Powers&Struct**

Major Supreme Court cases concerning the powers of Congress and the president, federalism, commerce taxing, and voting.

**Credits:** 3

**Prerequisites:**

PSC 1100

**PSC 2145: US Con Law II:Rights&Lib**

Major Supreme Court decisions, 1789 to the present, concerning provisions of the Bill of Rights and the Fourteenth Amendment; emphasis on constitutional "literacy," or the ability to read Court decisions and write about them.

**Credits:** 3

**Prerequisites:**

PSC 1100

**PSC 2150: U.S. Pol. Parties & Elections**

The place of parties in national politics; the nature, organization, and functions of political parties; suffrage requirements and election methods; the activities of organized interests.

**Credits:** 3

**Prerequisites:**

PSC 1100

**PSC 2180: U.S. National Security Policy**

Development of strategic thought in the United States, arms control and disarmament, intelligence, technology, alliance policy, role of civilian and military branches of government, and related topics.

**Credits:** 3

**Prerequisites:**

PSC 1100

**PSC 2190: U.S. Pub Opinion & Polit Behav**

The normative and empirical roles of public opinion and civic involvement in American democracy; conceptual and measurement issues, individual-level and societal factors influencing public opinion and political behavior.

**Credits:** 3

**Prerequisites:**

PSC 1100

**PSC 2210: Globalization**

Transformation of international politics through diffusion of ideas, technology, migration, capital and markets. Globalization, diffusion, and interactions of ideas, technology and capital. Effects on domestic and international politics, economics, society.

**Credits:** 3

**Prerequisites:**

PSC 1200

**PSC 2220: International Law**

The rules and principles of international law based on a study of treaties, diplomatic practice, and cases dealt with by international and national courts.

**Credits:** 3

**Prerequisites:**

PSC 1200

**PSC 2230: International Organization**

The development of international organization, the U.N., its principles, structure, and accomplishments; regional organizations; prospects for the future.

**Credits:** 3

**Prerequisites:**

PSC 1200

**PSC 2240: Internat'l Political Economy**

Interactions between domestic, comparative and international politics and economics. Institutions, ideas and power dynamics in trade, finance, and development. The movement of labor, goods, services, and capital across national boundaries.

**Credits:** 3

**Prerequisites:**

PSC 1200

**PSC 2260: War and Conflict**

Causes of interstate war, laws and norms of war, nuclear proliferation and deterrence, terrorism, civil war, territorial disputes, religion and conflict, and humanitarian and military intervention and peacekeeping.

**Credits:** 3

**Prerequisites:**

PSC 1200

**PSC 2310: Nationalism**

National identity and consciousness, origin and development of nations and states. Role and effects of nationalism in modern politics, culture, society, and economy.

**Credits:** 3

**Prerequisites:**

PSC 1300

**PSC 2330: East Asian Politics**

Northeast Asian countries' political and economic development after World War II.

**Credits:** 3

**Prerequisites:**

PSC 1300

**PSC 2340: Politics of the Arab World**

Political change in the principal Arab States with emphasis on the diverse forms of rule and political movements. The impact of colonial rule and socioeconomic changes on political life, leadership, social structure, political culture, and modernization.

**Credits:** 3

**Prerequisites:**

PSC 1300

**PSC 2350: African Politics**

Politics and societies of contemporary Africa. Colonialism and its legacies. Postcolonial regimes; authoritarianism, neo-patrimonialism and "big man" rule; political reform and democratization. Theories of conflict and conflict resolution. Economic development: International and domestic explanations of poverty and underdevelopment; the HIV crisis, foreign aid, debt and debt relief, and economic reform and renewed growth.

**Credits:** 3

**Prerequisites:**

PSC 1300

**PSC 2360: Latin American Politics**

Politics and societies of contemporary Latin America. Legacies of social revolution and authoritarian rule; democratic transition and consolidation; market reforms and their consequences. Democratic representation; the resurgence of the political left; identity politics (race/ethnicity, inclusion and exclusion). US-Latin American relations: immigration, trade, energy, and security policies.

**Credits:** 3

**Prerequisites:**

PSC 1300

**PSC 2370: Third World Politics**

Political systems of the developing world, including ideologies, the role of the military, nation building, gender issues, religion, ethnic conflict and additional topics.

**Credits:** 3

**Prerequisites:**

PSC 1300

**PSC 2380: European Politics**

European political institutions, changes in party systems, and impact of European integration/globalization on domestic economies.

**Credits:** 3

**Prerequisites:**

PSC 1300

**PSC 2390: Indian & South Asian Politics**

The historical development of India and Pakistan; their contemporary problems and conduct of foreign relations with the great powers.

**Credits:** 3

**Prerequisites:**

PSC 1300

**PSC 2410: Early Political Theories**

The relevance of the classics of political thought for understanding modern politics from the Greeks to the modern era.

**Credits:** 3

**PSC 2420: Modern Political Theories**

The structure of modern political thought and developments of twentieth century political thought as an aid to understanding our age.

**Credits:** 3

**PSC 3110: Politics of Immigration (U.S.)**

This course explores the varied perspectives of public, private, and nonprofit leaders on the nature of American citizenship from the founding era to the 21st century. It examines how the meaning of American citizenship continues to shape political life in multiple ways - from legislation, to advocacy, to social service provision in the United States.

**Credits:** 3

**PSC 3120: Political Communication (U.S.)**

The role, behavior and influence of communications in American politics.

**Credits:** 3

**PSC 3130: Women and Politics in the U.S.**

Why women traditionally have been marginal to political life; the efforts of women in the past and today to change that fact; the problems that must be solved before women can translate their numerical strength into political power.

**Credits:** 3

**PSC 3140: Race, Ethnicity & Pol. in U.S.**

The importance of race and ethnicity in American politics, and the politics (historical, legal, attitudinal, and behavioral) of four of the United States' principal racial and ethnic minority groups—blacks (African-Americans), Latinos, Asians, and Native Americans.

**Credits:** 3

**PSC 3150: Political Psychology**

The interplay between politics and psychology; principles, terminology, and methods of psychological theories to understand how people think and feel about politics and how politics affects their thinking.

**Credits:** 3

**PSC 3160: Black Politics**

This course is designed to provide students with an overview of Black Politics and introduce several theories, approaches, and analyses of the African American predicament. The course also examines the dynamics of two of the most salient forms of Black Politics: protest activity and conventional electoral politics. Within this framework the course will analyze the character functions, and influence of Black leadership, sociopolitical organizations, and examine the persistence of racial disparities in several public policy areas of significance faced by Black Americans.

**Credits:** 3

**PSC 3165: Black Political Economy**

Black Political Economy examines the complex interplay between race and economics. The course covers the principles, terminology, and methods of standard economics and Black political economy. There is an examination of the complicated journey of Black workers from the transatlantic slave trade to the demise of the industrial order in the twenty-first century. There is a particular focus in the course on the current economic circumstance and outlook for African Americans in major American cities in the context of the global economy.

**Credits:** 3

**PSC 3210: American Foreign Policy**

The institutions, processes, and ideas which shape contemporary American foreign policy; the major problem areas.

**Credits:** 3

**PSC 3220: Middle East International Rels**

Intra-regional and international problems facing the Middle East: the struggle for independence; the impact of the Cold War; the protracted conflict between Israelis and Arabs; and the tensions in the oil-rich Persian Gulf.

**Credits:** 3

**PSC 3230: Development and Aid**

Development and the role of official development assistance. Includes aid effectiveness, modalities, impact of globalization, conflation of aid with strategic purpose, and rising influence of non-traditional donors, such as China and oil-exporting countries.

**Credits:** 3

**PSC 3240: East Asia Political Economy**

Interactions between domestic and international actors in Asia; role of political regimes, institutions and firms; dynamic processes of trade and financial sector liberalization and economic crisis. Pre-requisite: PSC 1200 or junior standing.

**Credits:** 3

**Prerequisites:**

PSC 1200 or junior standing.

**PSC 3250: Genocide and Mass Killing**

Definitions of genocide and mass killing, causes of genocide and mass killing, contexts in which violence occurs, dynamics of violence, variations in violence, individual motivations of perpetrators, rescue and resistance, obstacles and opportunities for intervention and prevention, tribunals and truth commissions.

**Credits:** 3

**PSC 3320: Russian Politics**

The contemporary Russian political system; political transformation from the Communist system which preceded it.

**Credits:** 3

**PSC 3330: British Politics**

Development of the British state; the powers of Parliament and other institutions; the British welfare state, public opinion, and policing; questions of union and devolution; major current topics in British politics.

**Credits:** 3

**PSC 3340: Irish Conflict and Peace**

Foundations of the Irish state; political system and party system development; conflict in Northern Ireland; relations within the divided island and between the Irish Republic and Britain; Irish social, political cultural and economic development; gender in Irish society and politics; Ireland in the international political system.

**Credits:** 3

**PSC 3410: Theories of War and Peace**

The relevance of the classics of political thought for understanding modern politics from the Greeks to the modern era.

**Credits:** 3

**PSC 3420: American Political Thought**

The founding of the American Republic; nature of the federal union, factions, popular sovereignty, the extended republic, representation, separation of powers, and checks and balances. Subsequent issues and controversies about these and related matters.

**Credits:** 3

**PSC 3440: Politics and Religion**

The nature of religious and political identity; the possibility and desirability of keeping them apart; the relationship between religion and politics in a free society; religious pluralism, its requirements and consequences; the prospects for "civil religion."

**Credits:** 3

**PSC 4175: Topics in Am Gov & Politics**

Topical courses in American Government and Politics offered on occasional basis.

**Credits:** 3

**PSC 4275: Topics in Internat'l Relations**

Topical courses in International Relations offered on occasional basis.

**Credits:** 3

**PSC 4375: Topics in Comparative Politics**

Topical courses in comparative politics offered on occasional basis.

**Credits:** 3

**PSC 4475: Topics in Political Theory**

Topical courses in political theory offered on an occasional basis.

**Credits:** 3

**PSC 5110: Ind Study in Am Gov & Politics**

Readings, research, and writing on topics in American government and politics under faculty supervision. Pre-requisite: permission of instructor and department chair.

**Credits:** 3

**Prerequisites:**

PSC 1100  
permission of instructor and department chair.

**PSC 5210: Ind Study in Intern'l Rel**

Readings, research, and writing on topics in international relations under faculty supervision. Pre-requisite: permission of instructor and department chair.

**Credits:** 3

**Prerequisites:**

PSC 1200  
permission of instructor and department chair.

**PSC 5310: Ind Study in Comparative Pol**

Readings, research, and writing on topics in comparative politics under faculty supervision. Pre-requisite: permission of instructor and department chair.

**Credits:** 3

**Prerequisites:**

PSC 1300  
permission of instructor and department chair.

**PSC 5410: Ind Study in Political Theory**

Readings, research, and writing on topics in political theory under faculty supervision. Pre-requisite; permission of instructor and department chair.

**Credits:** 3

**Prerequisites:**

PSC 1400  
permission of instructor and department chair.

**PSC 6160: Washington Minimester**

A three-week program of seminars in Washington, D.C. with public officials, staff members, party leaders, and interest group representatives. Held annually in mid-May. Enrolls the previous fall. Limit: 15 students. Permission of instructor required.

**Credits:** 3

**Prerequisites:**

Permission of instructor required.

**PSC 6503: Internship Elective**

Internship.

**Credits:** 3

**PSC 6900: Political Sci Seminar**

Capstone seminar on specialized topics in political science.

**Credits:** 3

**Prerequisites:**

PSC 1100 and PSC 1200 and PSC 1300 and PSC 1400 and PSC 1900

**PSC 7000: Research Concepts & Approaches**

Tools needed to think critically about questions of political science; various research methods employed by political scientists; skills necessary to write cogent essays and conduct original research. .

**Credits:** 3

**PSC 7175: Topics in American Government**

Topics of special interest in American Government.

**Credits:** 3

**PSC 7275: Topics in Int'l Relations**

Topics of special interest in International Relations.

**Credits:** 3

**PSC 7375: Topics in Comparative Politics**

Topics of special interest in Comparative Politics.

**Credits:** 3

**PSC 7475: Topics in Political Theory**

Topics of special interest in Political Theory.

**Credits:** 3

**PSC 8110: U.S. Congress**

The contemporary House and Senate; elections, structures, functions, procedures, theories and controversies examined through current scholarship; relations with the president and executive branch.

**Credits:** 3

**PSC 8120: U.S. Presidency**

Nature, functions and evolution of the American presidency; competing definitions and interpretations of the power of the office; special attention to recent presidents.

**Credits:** 3

**PSC 8130: US Constitutional Interpretat**

A review of key decisions in American Constitutional law, with particular attention to adopted modes of argumentation.

**Credits:** 3

**PSC 8140: Race and Ethnicity**

Influence of race and ethnicity on American political attitudes and behaviors; nature and consequences of race and ethnicity in American politics; group identities and political decision-making.

**Credits:** 3

**PSC 8160: Political Communication**

Role and influence of communication in American politics; relationship between media use and political engagement; new and emerging media.

**Credits:** 3

**PSC 8165: Cyberpolitics**

The Internet as a political tool; social media and politics; how the Internet enables individuals to build virtual and real-world communities, shape media narratives, and bring about political outcomes.

**Credits:** 3

**PSC 8170: Public Opinion**

Underpinnings of public opinion; opinion formation, stability and change; effects of public opinion on political participation; media influences on public opinion; equality and representation in a democratic society.

**Credits:** 3

**PSC 8180: National Security Policy**

How and why the United States defended itself with conventional, covert, and nuclear strategies during the Cold War and post-Cold War eras.

**Credits:** 3

**PSC 8185: US Intelligence**

Issues, history, laws and bureaucratic concerns pertaining to U.S. intelligence.

**Credits:** 3

**PSC 8190: American Party Politics**

Organization and function of American political parties as contestants for political power and architects of public policy; political party realignment; parties and campaigns; the party in the electorate and the party in government.

**Credits:** 3

**PSC 8210: Globalization**

Links between Globalization and anti-Americanism, new security threats, income inequality, rise in NGOs, immigration, retrenchment in welfare politics.

**Credits:** 3

**PSC 8220: International Law**

The development of international law, including legal principles, theoretical approaches, major treaties and disputes; application to contemporary issues.

**Credits:** 3

**PSC 8230: International Organization**

Institutions, processes, and politics of the United Nations and regional international organizations.

**Credits: 3**

**PSC 8255: Genocide and Mass Killing**

Conceptual, analytical and theoretical approaches to genocide and mass killing; causes of violence; contexts in which violence occurs; variations in violence; perpetrators' motivations; intervention and prevention; trials and tribunals; the politics of memory.

**Credits: 3**

**PSC 8260: International Security**

Theories of international relations, focusing on causes of interstate war. Laws and norms of war; terrorism and counterterrorism; civil war and insurgency; religion and conflict; violence against civilians; humanitarian intervention and peacekeeping; cyber-security.

**Credits: 3**

**PSC 8265: Global Inequality**

Theories, trends, regional variations, economic growth, democracy, culture, state roles, political mobilization and structural constraints in explaining inequality across countries; comparative and aggregate quantitative analysis; in-depth selected country studies.

**Credits: 3**

**PSC 8270: Intern'l Political Economy**

Mercantilism, classical liberalism, imperialism, world systems theory, international trade and finance, multinational corporations, foreign aid, development, integration.

**Credits: 3**

**PSC 8305: Democratization**

The role of political elites, institutions, socio-economic development, religion, and culture in promoting or hindering democracy in different parts of the world.

**Credits: 3**

**PSC 8310: Comparative Political Economy**

The interaction between states and markets in developing and advanced industrial countries; theories of economic development; varieties of capitalism and the rise of state capitalism; post-communist transitions; causes and consequences of development and underdevelopment.

**Credits: 3**

**PSC 8315: Comparative Civil Liberties**

Laws and practices regarding civil liberties in countries around the world; legal and political frameworks that define and protect or limit rights; police powers; freedom of speech; racial discrimination; the source and protection of rights.

**Credits: 3**

**PSC 8320: Russian Politics**

Russian political system in transition from authoritarian rule; historical and ideological roots of the Soviet system and initial efforts to reform it; the collapse of communism in Russia and the emergency of a new system.

**Credits: 3**

**PSC 8330: African Politics**

Patterns of political change in Africa; problems of political and economic development, national integration, and interregional cooperation; linkages between internal and external affairs.

**Credits: 3**

**PSC 8340: Middle East Politics**

Political patterns and crosscutting influences in political identity in the Arab world, Israel and Iran. The interaction of secular nationalism and political Islam. Political thinkers and political movements.

**Credits: 3**

**PSC 8360: Latin American Politics**

Politically important groups, movements, institutions and ideologies in Latin American nations. Competing theories about the political roles of the military, church, bureaucracy, parties, unions, economic elites and branches of government.

**Credits: 3**

**PSC 8370: Third World Politics**

Political systems of the developing world; nation- and state-building; constitutional and legal development; the role of the military; refugees; gender issues; religion and ethnic conflict.

**Credits: 3**

**PSC 8380: European Politics**

The impact of European integration and globalization on domestic political economies (labor relations, welfare spending and Keynesianism); the rise of Green parties and right-wing populists; long-term political development (causes of interwar fascism, social democracy and liberalism).

**Credits: 3**

**PSC 8390: South Asian Politics**

Political institutions and theories governing the relations of the states and citizens of South Asia, notably India and Pakistan.

**Credits:** 3

**PSC 8440: Religion and Politics**

Relationship between civic and religious identity in Western and non-Western societies; the role of shared values and goals in a liberal democracy.

**Credits:** 3

**PSC 8450: The American Founding**

Issues about the nature of the federal union, sovereignty, majority faction, the extended republic, representation, branches of government, separation of powers, checks and balances, slavery, popular government and civic responsibility during the Philadelphia Convention of 1787 and the ratification debates over the Constitution.

**Credits:** 3

**PSC 8455: Lincoln/Douglas Debates**

The political understanding and statesmanship of Abraham Lincoln and Stephen Douglas; examination of the theoretical and practical concerns of political leadership in a free society; issues of equality, sovereignty, liberty, and justice.

**Credits:** 3

**PSC 9078: Thesis Research Problems**

Required for students on research track. Objectives are to address problems of research and question formulation and conceptualization; apply foundational research skills, techniques, broad survey of methodological and data techniques and appropriate applications; development of thesis proposal and research design.

**Credits:** 3

**PSC 9079: Thesis Direction**

Directed thesis research.

**Credits:** 3

**Prerequisites:**

PSC 9078

**PSC 9080: Thesis Continuation**

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**Credits:** 0

**PSC 9800: Read-Resrch Polit Scien**

An individual student with a specific interest which cannot be satisfied by a regular course is allowed to work on a tutorial basis with a particular professor.

**Credits:** 3

**PSC 9801: Read-Resrch Polit Scien**

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**Credits:** 3

## Psychological and Brain Sciences

**PSY 1000: General Psychology**

Introductory examination of the fundamental concepts of psychology, with particular emphasis on the description of normal human behavior and those factors that underlie it. Prerequisite to all other courses in psychology.

**Credits:** 3

**PSY 1001: Intro to Brain and Behavior**

Examination of fundamental concepts in psychology with special emphasis on underlying neural mechanisms. Satisfies same pre-requisite requirements as PSY 1000 and is the preferred introductory psychology course for CBN majors. Cannot receive credit for both PSY 1000 and PSY 1001.

**Credits:** 3

**PSY 2000: Intro Statistics**

Basic concepts, assumptions, and applications of descriptive statistics and inferential statistics.

**Credits:** 3

**Prerequisites:**

PSY 1000 :D- or PSY 1001 :D- or HON 1811 :D-

**PSY 2050: Research Methods in Psy.**

Introduction to the reading, design, and reporting of psychological research. Writing intensive.

**Credits:** 3

**Prerequisites:**

PSY 1000 :D- or PSY 1001 :D- or HON 1811 :D-

**PSY 2100: Sem Professional Development**

Overview of ethical and professional issues in psychology.

**Credits:** 1

**Prerequisites:**

PSY 1000 :D- or PSY 1001 :D- or HON 1811 :D-

**PSY 2150: Undergrad Research Experience**

Supervised research experience. Students may register for PSY 2150 more than once.

**Credits:** 1

**Prerequisites:**

PSY 1000 or PSY 1001 or HON 1811

**PSY 2400: Cross-Cultural Psychology**

Theory and research on cultural influences on human diversity in behavior and psychological processes.

**Credits:** 3

**Prerequisites:**

PSY 1000 :D- or PSY 1001 :D- or HON 1811 :D-

**PSY 2450: Psychology of Gender**

Sexism in psychological research & theory; gender stereotyping & discrimination; psychological theories of gender; women's physical & mental health, female sexuality & lifespan development; sexual orientation; victimization of women; biological influences on women's experiences.

**Credits:** 3

**Prerequisites:**

PSY 1000 :D- or PSY 1001 :D- or HON 1811 :D-

**PSY 2700: Industrial/Organizational Psy**

Applications of psychological data, theories, research methods, and testing procedures to individuals in organizational settings.

**Credits:** 3

**Prerequisites:**

PSY 1000 :D- or PSY 1001 :D- or HON 1811 :D-

**PSY 2800: Human Factors**

Application of theories of human performance (perception, cognition, and motor control) to the design of products and systems.

**Credits:** 3

**Prerequisites:**

PSY 1000 :D- or PSY 1001 :D- or HON 1811 :D-

**PSY 2900: Special Topics**

An intensive examination of selected topical areas within psychology.

**Credits:** 3

**Prerequisites:**

PSY 1000 :D- or PSY 1001 :D- or HON 1811 :D-

**PSY 2901: Special Topics Laboratory**

Laboratory course corresponding to a special topics course. May be required for a particular topics course.

**Credits:** 1

**Prerequisites:**

PSY 1000 :D- or PSY 1001 :D- or HON 1811 :D-

**PSY 2905: Special Topics Seminar**

Selected topics in memory improvement, time management, stress management, interpersonal communication, etc. Open to all Majors. Only three 1-credit seminars may be applied toward graduation. Cannot be used to fulfill Psychology electives.

**Credits:** 1

**PSY 2993: Psychology Internship**

Supervised work experience in agency, hospital, school, or company. Minimum 3.0 G.P.A., Psychology major. Permission of instructor. Apply in Psychology Department office. Cannot be used to fulfill Psychology electives. Graded S/U.

**Credits:** 3

**Prerequisites:**

PSY 1000 :D- or PSY 1001 :D- or HON 1811 :D-

**PSY 2996: Psychology Internship**

Supervised work experience in agency, hospital, school, or company. Minimum 3.0 G.P.A., Psychology major. Permission of instructor. Apply in Psychology department office. Cannot be used to fulfill Psychology electives. Graded S/U.

**Credits:** 6

**Prerequisites:**

PSY 1000 :D- or PSY 1001 :D- or HON 1811 :D-

**PSY 3200: Human Development**

Theory and research on social/personality, physical, and cognitive/intellectual changes from infancy through old age.

**Credits:** 3

**Prerequisites:**

PSY 1000 :D- or PSY 1001 :D- or HON 1811 :D-

**PSY 3300: Perception**

Theory and application of sensory and perceptual processes such as distance perception, color vision, illusions and deafness.

**Credits:** 3

**Prerequisites:**

PSY 1000 :D- or PSY 1001 :D- or HON 1811 :D-

**PSY 3500: Psych of Personality**

Theories, dynamics, and structure of personality. Students cannot receive credit for this course and PSY 4700.

**Credits:** 3

**Prerequisites:**

PSY 1000 :D- or PSY 1001 :D- or HON 1811 :D-

**PSY 3600: Social Psychology**

Survey of theory and research on altruism, attraction, social cognition, the self, attitudes and attitude change, social influence, affiliation, personal control, and aggression.

**Credits:** 3

**Prerequisites:**

PSY 1000 :D- or PSY 1001 :D- or HON 1811 :D-

**PSY 3700: Abnormal Psychology**

Classification, etiology, and treatment of mental and behavioral disorders with emphasis on contemporary theory and research.

**Credits:** 3

**Prerequisites:**

(PSY 1000 :D- or PSY 1001 :D- or HON 1811 :D-) and PSY 2050 :D-

**PSY 3800: Clinical Psychology**

Fundamental concepts, basic areas of professional functioning, and contemporary issues in the mental health field.

**Credits:** 3

**Prerequisites:**

(PSY 1000 :D- or PSY 1001 :D- or HON 1811 :D-) and PSY 2050 :D-

**PSY 4200: Biopsychology**

Theoretical and laboratory examination of basic neural and hormonal processes underlying behavior.

**Credits:** 3

**Prerequisites:**

(PSY 1000 :D- or PSY 1001 :D- or HON 1811 :D-) and (PSY 2000 :Y :D- and PSY 2050 :D-) or (PSY 2000 :D- and PSY 2050 :Y :D-)

**PSY 4500: Cognitive Psychology**

Theory and research on human learning, memory, and cognitive processes. Writing intensive.

**Credits:** 3

**Prerequisites:**

(PSY 2000 :Y :D- or PSY 4000 :D-) and PSY 2050 :D- or PSY 2000 :D- and PSY 2050 :Y :D-

**PSY 4600: Animal Learning & Cognition**

Cognitive mechanisms responsible for simple behavior and behavioral change as they have been studied using animal subjects.

**Credits:** 3

**Prerequisites:**

(PSY 1000 :D- or PSY 1001 :D- or HON 1811 :D-) and PSY 2050 :D-

**PSY 4700: Personality Theory & Research**

Contemporary theories of personality and the scientific investigation of personality variables. Intended for psychology majors. Students may not enroll in this course and PSY 3500.

**Credits:** 3

**Prerequisites:**

(PSY 1000 :D- or PSY 1001 :D- or HON 1811 :D-) and PSY 2050 :D-

**PSY 4800: Psychological Measurement**

Basic principles and problems of psychological measurement in the assessment of behavior.

**Credits:** 3

**Prerequisites:**

(PSY 1000 :D- or PSY 1001 :D- or HON 1811 :D-) and PSY 2050 :D-

**PSY 5150: Foundations of Modern Psych**

Overview of the major concepts and theories of psychology presented in a historical context.

**Credits:** 3

**Prerequisites:**

(PSY 1000 :D- or PSY 1001 :D- or HON 1811 :D-) and PSY 2000 :D- and PSY 2050 :D-

**PSY 5250: Contemp Research Issues in Psy**

Recent and emerging topics, issues, and methods in psychological science.

**Credits:** 3

**Prerequisites:**

(PSY 1000 :D- or PSY 1001 :D- or HON 1811 :D-) and PSY 2000 :D- and PSY 2050 :D-

**PSY 5900: Independent Research Project**

Supervised research project and report. Student may register for PSY 5900 more than once; however, only 3 hours of research can be applied toward the degree requirements in psychology.

**Credits:** 3

**Prerequisites:**

PSY 1000 :D- or PSY 1001 :D- or HON 1811 :D-

**PSY 8000: Seminar**

Basic issues of experimental design, methodology, ethics, procedures, and philosophy in general-experimental psychology.

**Credits:** 3

**PSY 8050: Biopsychology**

Basic principles of neurophysiology, neuroanatomy, and endocrinology and their application in the experimental analysis of behavioral processes.

**Credits: 3**

**PSY 8100: Stat & Experimental Des**

Basic principles in experimental design; foundations and applications of analysis of variance, covariance, and multiple regression.

**Credits: 3**

**PSY 8150: Cognitive Psychology**

Theory and research in human learning, memory, and cognitive processes.

**Credits: 3**

**PSY 8175: Animal Learning & Cognition**

Seminar exploring contemporary views of learning and simple cognitive processes as developed from laboratory studies of non-human animals.

**Credits: 3**

**PSY 8200: Perception**

Survey of sensation and perception, primarily human, emphasizing the relevance of sensory processing to our daily lives.

**Credits: 3**

**PSY 8225: Psychopathology**

Examination of contemporary theories and research on classification, etiology, and treatment of mental and behavioral disorders.

**Credits: 3**

**PSY 8275: Approaches to Psychotherapy**

Examination of the major theoretical positions within contemporary psychotherapy and their clinical applications to human behavior.

**Credits: 3**

**PSY 8300: Developmental Psychology**

An investigation of the development of the principal psychological processes of learning, perception, and motivation with emphasis on phylogenetic comparisons and the effects of early experiences on these processes in the nature organism.

**Credits: 3**

**PSY 8325: Psychological Testing**

Psychometric principles underlying the development and validation of psychological tests, and techniques for administration and interpretation of selected tests.

**Credits: 3**

**PSY 8350: History & Systems**

Overview of major concepts and theories of psychology presented in a historical context.

**Credits: 3**

**PSY 8400: Personality: Empirical Res**

Seminar in design, conduct, and evaluation of personality research.

**Credits: 3**

**PSY 8425: Organizational Behavior**

Understand individual, group, and organizational behavior at work as it relates to well-being and performance. Individual group, and environmental factors will be explored as to how they independently and interactively shape employees' job attitudes, motivation, behavior, and performance in organizations. Pre-requisites: Introduction to HR in the Business World (may be waived based on HR experience). Critical evaluation and research writing (may be waived based on writing assessment).

**Credits: 3**

**Prerequisites:**

HRD 8101 and HRD 8102

**PSY 8450: Psychologic Measurement**

Theoretical issues in the measurement of psychological dimensions, with special consideration of approaches to the quantification of both sensory and non-sensory continua.

**Credits: 3**

**PSY 8475: Training & Development**

Organizations that link learning strategies to business strategies report better financial performance. Training has changed from a classroom event to learning experiences that can occur through a variety of methods: online learning, developmental assignments, team collaboration or a blend. Prerequisites: Introduction to HR in the Business World (may be waived based on HR experience). Critical evaluation and research writing (may be waived based on writing assessment).

**Credits:** 3

**Prerequisites:**

HRD 8101 and HRD 8102 :Y

**PSY 8500: Psychopharmacology**

Effects of drugs on the neurochemistry of brain systems which control instinctive and learned behavior patterns.

**Credits:** 3

**PSY 8550: Social Psychology**

Contemporary social psychological theory and research.

**Credits:** 3

**PSY 8625: Psychopathology of Child**

A survey of the behavioral and emotional disorders of childhood.

**Credits:** 3

**PSY 8650: Psy of Child Adoles Dev**

A description and explanation of the courses of psychological development from infancy to adulthood.

**Credits:** 3

**PSY 8750: Behav Modific in Counsel**

Cognitive-behavioral techniques applied to programs in school, industrial, family, and institutional settings.

**Credits:** 3

**PSY 8800: Psy Personal Adjustment**

Examination of the nature and variety of healthy and disturbed personalities from the framework of the counseling profession.

**Credits:** 3

**PSY 8850: Personality Theories**

Selected major theories of personality and their applications in counseling and psychotherapy.

**Credits:** 3

**PSY 8875: Organization Development**

Planned, system-wide effort with the goal to increase organization effectiveness and health through diagnosis and interventions in the organization's processes using behavioral science knowledge. Focus on developing organization capability through alignment of strategy, structure, management processes, and people. Prerequisites: Introduction to HR in the Business World (may be waived based on HR experience). Critical evaluation and research writing (may be waived based on writing assessment).

**Credits:** 3

**Prerequisites:**

HRD 8101 and HRD 8102

**PSY 8900: Special Topics**

An intensive examination of selected individual topical areas within psychology.

**Credits:** 3

**PSY 9031: Individual Research**

Individual research project conducted under the direction of a Psychology faculty member.

**Credits:** 3

**PSY 9032: Thesis Direction I**

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**Credits:** 3

**PSY 9033: Thesis Direction II**

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**Credits:** 3

**PSY 9080: Thesis Continuation**

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**Credits:** 0

## Public Administration

**PA 1050: Public Administration**

Administrative politics, law, and ethics, organizational theory and technical fields, such as budgeting, planning, and personnel.

**Credits:** 3

**PA 2000: Public Policy**

Theories of public policy making, national public policies, and contemporary issues.

**Credits:** 3

**PA 2100: City and Suburb**

Politics and problems in metropolitan areas of the United States.

**Credits:** 3

**PA 3000: Overview of Non-Profit Sector**

Examination of the size, scope, central activities, and public impact of the nonprofit sector in the U.S. and abroad. Exploration of current trends and career opportunities in the nonprofit sector.

**Credits:** 3

**PA 4100: Public Budgeting**

How government and nonprofits raise revenue, engage in the budgeting process, and use budgets to manage in the public sector.

**Credits:** 3

**PA 4200: Organizational Development**

Evaluation of human capital initiatives, marketing and communication strategies, and service delivery in government and nonprofit organizations.

**Credits:** 3

**PA 5000: Special Topics**

Special topics in public administration.

**Credits:** 3

**PA 5100: Independent Study**

Individual students with specific interests in public administration work on a tutorial basis with an appropriate professor.

**Credits:** 3

**PA 6000: Vocation of Public Service**

The exploration of the concept of public service as a "vocation," envisioning public service as a means of self-expression through which citizen-servants discover meaning and purpose in their lives by promoting the common good and developing the bonds of community.

**Credits:** 3

**PA 6100: PSA Internship**

Supervised work opportunity to explore public service professional interests and gain experience in the public or nonprofit sector. Prerequisite: Approval from the Chair of the Department of Public Administration.

**Credits:** 3

**Prerequisites:**

PA 1050 :Y or PA 2000 :Y

## Russian Studies

**RUS 1111: Introductory Russian I**

Functional use of Russian for students with no prior knowledge of Russian.

Recitations, readings and oral drills. Supplementary language laboratory work.

**Credits:** 6

**RUS 1112: Introductory Russian II**

Functional use of Russian for students with no prior knowledge of Russian.

Recitations, readings and oral drills. Supplementary language laboratory work. RUS 1111 or equivalent or permission of instructor.

**Credits:** 6

**RUS 1123: Intermediate Russian I**

Review of Introductory Russian, followed by further development of reading, speaking, writing, and translation skills.

**Credits:** 3

**Prerequisites:**

RUS 1111 :D-

**RUS 1124: Intermediate Russian II**

Continued development of skills employed in Intermediate Russian I.

**Credits:** 3

**Prerequisites:**

RUS 1123 :D-

**RUS 1125: Intermediate Russian III**

Continued development of skills employed in Intermediate Russian II.

**Credits:** 3

**Prerequisites:**

RUS 1124 :D-

**RUS 1131: Conversation Composition**

Advanced communication skills including reading and discussing topics on current events.

**Credits:** 3

**RUS 1132: Advanced Convers & Comp**

A continuation of RUS 1131.

**Credits:** 3

**RUS 3412: Russian Culture in Context**

Advanced study of topics of special interest in Russian language, literary and/or cultural studies. May be repeated for credit if topic changes.

**Credits:** 3

**RUS 4110: Russian Film**

Understanding of Russian life and culture today by focusing on basic historical, ideological, economic, religious and cultural developments. Each student chooses one aspect of social development for further research. Conducted in English.

**Credits:** 3

**RUS 4120: The Russian Short Story**

Representative Russian short stories from Pushkin to Pasternak. Conducted in English.

**Credits:** 3

**RUS 4130: Russian Novel**

Major Russian novels of the 19th century, including Pushkin, Lermontov, Gogol, Turgenev, Dostoevsky and Tolstoy. Conducted in English.

**Credits:** 3

**RUS 5900: Russian:Independent Study**

Supervised study, activity or research. May be taken more than once. Prior approval of chair and instructor.

**Credits:** 3

# Sociology

## **SOC 1000: Intro to Sociology**

Introduction to the analysis of social behavior, emphasis on socialization, collective and group behavior.

**Credits:** 3

## **SOC 1500: Social Problems**

Significant problems of American society; the sociocultural basis of social problems, the conditions facilitating their incidence, and approaches to therapeutic intervention.

**Credits:** 3

## **SOC 1903: Internship Elective**

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**Credits:** 3

## **SOC 1906: Internship Elective**

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**Credits:** 6

## **SOC 1909: Internship Elective**

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**Credits:** 9

## **SOC 2100: Cultural Anthropology**

Principles of cultural anthropology; ethnological variations in language, techniques, customs and values; problems of cultural development and change.

**Credits:** 3

## **SOC 2200: Sociology of Deviance**

A sociological examination of rule-breaking behavior; causal theories of deviance; types of deviance and their distribution in contemporary society.

**Credits:** 3

## **SOC 2300: Sociology of the Family**

Institutional organization of mate selection, courtship, and marriage relationships in American society; family relationships and functions; family disorganization and change.

**Credits:** 3

## **SOC 2400: Sociology of Social Work**

History and development of social welfare; basic issues in social welfare planning and administration. The major methods of social work, practice; social casework, group work and community organization, in such areas as child welfare, family service and counseling, probation and corrections.

**Credits:** 3

## **SOC 2600: Sociology of Religion**

The interaction between society and religion; religion and scientific claims; investigation of human nature as social and the concept of oneness in religion.

**Credits:** 3

## **SOC 2700: Business and Society**

The structure of complex organizations and their relationship to other social institutions. Emphasis on the modern corporation, how corporations interact with labor and government, and how corporations and organizations affect our everyday lives.

**Credits:** 3

## **SOC 2800: Sociology of Occupations**

Influence of the social milieu upon internal organizations of occupations and professional modes of selection, entrance, and training; occupational mobility and career patterns; occupational influences upon individual behavior.

**Credits:** 3

## **SOC 2900: Politics, Economy and Society**

Relationships between state and society from a comparative perspective. Focuses primarily on the United States, with frequent references to the experiences of other developed nations as well as those of third world countries.

**Credits:** 3

## **SOC 2950: Perspectives on US Poverty**

Poverty in the United States, emphasizing the experience of the past thirty years (measurement, causes, and policies to combat poverty). Emphasis on the special problems of urban poverty and poverty among children.

**Credits:** 3

## **SOC 2993: Internship**

Internship

**Credits:** 3

## **SOC 2996: Internship**

Internship

**Credits:** 6

## **SOC 3300: Sociology of Law**

The meaning, origin, and impact of law viewed from several sociological perspectives; the law in action and the social context of legal professions.

**Credits:** 3

**SOC 3400: Health, Medicine & Society**

This course explores the social dimensions of health, disease and illness, focusing especially on the social determinants of disease, the social experience of illness, and the role and meaning of medicine and public health in modern U.S. society. The class examines how we define health problems and their solutions, and it considers the ways in which factors such as race, gender and class, and social connections affect health.

**Credits:** 3

**SOC 3450: Soc of Mental Health & Illness**

Examination of mental health and illness in social and historical context; different frameworks for understanding mental illness (e.g. psychological, biomedical, and sociological); social meanings, definitions, and determinants of mental illness; approaches to treatment; and the various ways in which the mentally ill (and/or those labelled as mentally ill) have been marginalized in society.

**Credits:** 3

**SOC 3500: Sociology of Gender**

Exploration of gender as a social construct shaped by social structures and cultural norms; focus on intersections of gender with other axes of inequality including race/ethnicity, social class, sexuality, and citizenship.

**Credits:** 3

**SOC 3600: Sociology of Race & Racism**

Development of race and ethnic relationships in America; the impact of power-conflict relations on race and ethnic patterns; particular attention given to development from early 1950's to present.

**Credits:** 3

**SOC 3700: Urban Sociology**

The nature of the city; history of urban settlement; urban form; institutions, organizational structures and processes; major problems of living in urban America.

**Credits:** 3

**SOC 3750: Human Populations**

The composition of and change in human populations; analysis of fertility; mortality and migration; emphasis on current population, principles, problems and policies as well as practical applications.

**Credits:** 3

**SOC 3800: Social Movements**

The sociological study of social movements, including mobilization, participation, tactics, goals and ideology; the social contexts in which movements arise and develop; the nature and influence of historical and contemporary movements and activism.

**Credits:** 3

**SOC 3900: Social Inequality**

Development and influence of class structures; emphasis upon modern stratification systems and their relation to community and societal power structures.

**Credits:** 3

**SOC 4000: Special Topics**

Topics addressing special or emerging interests, chosen for their current importance and the specific expertise of an instructor.

**Credits:** 3

**SOC 4200: Sports and Society**

Sports as both a unifying and divisive social force. The corporatization and commodification of organized sports.

**Credits:** 3

**SOC 5000: Nature & His of Soc Thry**

The nature of sociological theory and the major theoretical developments which have shaped the field of sociology.

**Credits:** 3

**SOC 5050: Soc Theory & Public Policy**

Influence of sociological ideas on social policies. Students will be expected to design a theoretically driven empirical study which impacts on some public policy.

**Credits:** 3

**Prerequisites:**

SOC 1000

**SOC 5100: Contemp Thry & Research**

Significant contemporary contributions to sociology theory and research.

**Credits:** 3

**Prerequisites:**

SOC 1000

**SOC 5300: Data Analysis-Social Scientist**

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**Credits:** 3

**SOC 5400: Applied Research in Soc**

The development of real-world research skills through the application of sociological methods and statistics. Special emphasis is given to sampling, measurement, applied statistics, data management and evaluative research.

**Credits:** 3

**SOC 6000: Sociology Independent Study**

Supervised project or research culminating in research report or major paper.

**Credits:** 3

**SOC 6500: Seminar**

Advanced course for seniors focusing on particular substantive area; topics rotate.

**Credits:** 3

**Prerequisites:**

(SOC 5300 and SOC 5400) and (SOC 5000 or SOC 5050 or SOC 5100)

## Spanish Studies

**SPA 111: Introductory Spanish I**

Groundwork Spanish, including oral proficiency, aural comprehension, and reading; for students with no prior knowledge of Spanish. Supplementary language laboratory work and oral drills.

**Credits:** 4

**SPA 112: Introductory Spanish II**

Groundwork Spanish, including oral proficiency, aural comprehension, and reading; for students with no prior knowledge of Spanish. Supplementary language laboratory work and oral drills.

**Credits:** 4

**SPA 1121: Intermediate Spanish I**

Review of grammar, composition, reading and conversation. Students should have completed SPA 1111 and 1112 or the equivalent.

**Credits:** 3

**SPA 1122: Intermediate Spanish II**

Review of grammar, composition, reading and conversation. Students should have completed SPA 1121 or the equivalent.

**Credits:** 3

**SPA 1130: Span. for Heritage Speakers I**

Combination of reading and writing in addition to speaking. Work is individualized for needs of students. Objective is to prepare students for a more advanced course. Restricted to student with Hispanic background who have been exposed to Spanish at home, at all levels.

**Credits:** 3

**SPA 1131: Conversation & Composition I**

Regular practice in conversation and composition with review of grammar and continuing work on language skills in Spanish. Students should have completed SPA 1122 or the equivalent.

**Credits:** 3

**SPA 1132: Conversation & Composition II**

Spanish 1132 is a continuation of 1131 with more intensive practice in conversation and composition in Spanish, through literary and cultural analysis of texts, as well as a review of difficult grammatical points. As a result, students will develop their vocabulary and improve their proficiency and skills for analyzing literary works of representative Hispanic texts, while also developing essential critical thinking skills in preparation for taking upper-level courses in Spanish. Students should have completed Spanish 1131 or the equivalent.

**Credits:** 3

**SPA 1135: Span for Heritage Speakers II**

Practice in conversation and composition with focus on advanced proficiency in Spanish. Course conducted in Spanish. Restricted to students with Hispanic background who have been exposed to Spanish at home.

**Credits:** 3

**SPA 1138: Advanced Grammar**

Intensive grammar review with special attention to literary style. Students should have completed 1132 or the equivalent.

**Credits:** 3

**SPA 1140: Writing & Stylistics in Span.**

Intensive practice in written expression and textual analysis for heritage and non-heritage speakers. Compositions are modeled on selected Spanish texts.

**Credits:** 3

**SPA 1142: Adv. Spanish for Health Prof.**

Beyond improving the linguistic competence of students, this course aims to exposes the challenges of the medical profession within the United States and how it addresses problems of power, oppression, deprivation, marginalization, and/or social privilege.

**Credits:** 3

**Prerequisites:**

SPA 1122

**SPA 2012: Special Topics Abroad**

The course will serve to transfer study abroad courses at the 2000 level whose description is relevant to the program but do not have an exact equivalent in our curriculum. Pre-requisite SPA 1132 or authorization from instructor.

**Credits:** 3

**Prerequisites:**

SPA 1132

SPA 1132 or authorization from instructor.

**SPA 2044: Latin American Novel**

Reading and interpretation of Spanish-American novels from the modernist period to the present. Students should have completed 1132 or the equivalent. Pre-requisite SPA 1132 or authorization from instructor.

**Credits:** 3

**Prerequisites:**

SPA 1132

SPA 1132 or authorization from instructor.

**SPA 2124: Sounds of Spanish**

Overview of major features of Spanish phonetics and phonology with a secondary focus on regional and social variations found in the Spanish-speaking world. Applications to measurement and analysis of acoustic features of speech and improvement of Spanish pronunciation.

**Credits:** 3

**Prerequisites:**

SPA 1132

SPA 1132 or authorization from instructor.

**SPA 2220: Literature & Culture of Spain**

The foremost works of Spanish literature from the beginnings to present day. A required course for majors. Students should have completed 1132 or the equivalent. Pre-requisite SPA 1132 or authorization from instructor.

**Credits:** 3

**Prerequisites:**

SPA 1132

SPA 1132 or authorization from instructor.

**SPA 2221: Lit. & Cult. of Latin America**

Spanish-American literature from colonial times to the present. A required course for majors. Students should have completed 1132 or the equivalent. Pre-requisite SPA 1132 or authorization from instructor.

**Credits:** 3

**Prerequisites:**

SPA 1132

SPA 1132 or authorization from instructor.

**SPA 2424: Saints in Spain**

This course will study the evolution of the idea of sainthood between the 8th and 13th centuries. Drawing on Arabic and Latin texts in Spanish translation as well as Spanish texts, we will study issues like shared saint veneration, social norms and collective memory in Medieval Spain. Pre-requisite SPA 1132 or authorization from instructor.

**Credits:** 3

**Prerequisites:**

SPA 1132

SPA 1132 or authorization from instructor.

**SPA 2993: Community Interpre. Internship**

A community-based experience helping lawyers translate & interpret for the Philadelphia Hispanic community. Pre-requisite SPA 1132 or authorization from instructor.

**Credits:** 3

**Prerequisites:**

SPA 1132

SPA 1132 or authorization from instructor.

**SPA 3025: Faces of Modernity**

Study of artistic trends in twentieth century Spain. Pre-requisite: Any SPA course at the 2000 level or authorization from the instructor.

**Credits:** 3

**Prerequisites:**

Any SPA course at the 2000 level or authorization from the instructor.

**SPA 3044: Tales of an Unstable World**

Representative trends in 20th and 21st Centuries Spanish narrative.

**Credits:** 3

**Prerequisites:**

any SPA course at the 2000 level or authorization from instructor.

**SPA 3045: Spanish Dystopian Fiction**

This popular course analyzes several kinds of Spanish dystopian fiction. The analysis of these texts will allow students to understand how renowned Spanish authors see the future of our planet and civilization.

**Credits:** 3

**SPA 3046: Latin America Now**

This course examines the most contemporary cultural movements happening in Latin America: environmentalism, feminism, indigenism, populism, etc. To do so we will analyze literary, journalistic, and sociological texts as well as visual sources. Prerequisite: Any SPA at the 2000 level or authorization from instructor.

**Credits:** 3

**Prerequisites:**

any SPA course at the 2000 level or authorization from instructor.

**SPA 3047: Entangled Hist in Col Latin Am**

This course examines major themes in colonial literature through a corpus of novels, short stories, poems, images, and historical documents. Students will examine different materials related to the pre-Hispanic and early modern world and discuss how today's imaginaries associated with the colonial past are continuously in dialogue with contemporary literary and cultural productions. By analyzing the entangled nature of literary artefacts produced in the colonial world, we will give special emphasis to the multiple voices that shape the past and present of the Spanish Americas. Attributes: Diversity Requirement 3, Latin American Studies

**Credits:** 3

**Prerequisites:**

SPA 1132

**SPA 3054: Hispanic Poetry**

A study of Spanish and Spanish-American foremost male and female poets from Spain's vanguard movement to present day jointly from Latin America's colonial times to present day against Europe's socio-political and aesthetic backdrop. Pre-requisite: any SPA course at the 2000 level or authorization from instructor.

**Credits:** 3

**Prerequisites:**

any SPA course at the 2000 level or authorization from instructor.

**SPA 3064: Spanish Theatre of 20 & 21 c.**

A critical analysis of representative dramatic works of Spain from Jacinto Benavente to present day, with special emphasis on women dramatists and gender issues of the twentieth and twenty-first centuries within the historical and socio-cultural evolution of contemporary Spain. Pre-require: Any SPA course at the 2000 level or authorization from instructor.

**Credits:** 3

**Prerequisites:**

Any SPA course at the 2000 level or authorization from instructor.

**SPA 3074: Hispanic Cinema**

Spanish films based on literary works as a medium will be used to better understand contemporary Spanish culture and civilization. Pre-requisite: any SPA course at the 2000 level or authorization from instructor.

**Credits:** 3

**Prerequisites:**

any SPA course at the 2000 level or authorization from instructor.

**SPA 3200: Intro to Spanish Translation**

Hands-on introduction to written Spanish-English translation. The emphasis is on Spanish to English translation of a variety of different texts from the fields of business, law, literature, tourism, and science. Basic theory principles and translation procedures considered a vital component in the formal training of a translator.

**Credits:** 3

**Prerequisites:**

SPA 1138

**SPA 3214: Intro to Spanish Linguistics**

The structure of Spanish. Methods, findings, and theory of linguistic research on the sound system and the structures of present-day Spanish. The basics of abstract linguistic analysis. Hands-on introduction to the major subdisciplines of linguistics: morphology, phonetics, phonology, semantics, and syntax. Pre-requisite: Any SPA course at the 2000 level or authorization from instructor.

**Credits:** 3

**Prerequisites:**

Any SPA course at the 2000 level or authorization from instructor.

**SPA 3254: Spanish Lyric Tradition**

Examines the major themes and evolution of Spanish lyrical verse through the political and socio-cultural experiences of Spain's most representative male and female poets from its beginnings to present day. Pre-requisite: Any SPA course at the 2000 level or authorization from instructor.

**Credits:** 3

**Prerequisites:**

Any SPA course at the 2000 level or authorization from instructor.

**SPA 3412: Special Topics**

Advanced study of topics of special interest in Spanish literary and/or cultural studies. May be repeated for credit if topic changes. Pre-requisite: Any SPA course at the 2000 level or authorization from instructor.

**Credits:** 3

**Prerequisites:**

Any SPA course at the 2000 level or authorization from instructor.

**SPA 3484: Medieval Cultures**

The Cid and other major works of the Spanish Middle Ages: early lyric, epic, ballad, prose. Pre-requisite: Any SPA course at the 2000 level or authorization from instructor.

**Credits:** 3

**Prerequisites:**

Any SPA course at the 2000 level or authorization from instructor.

**SPA 3485: Nature on the Middle Ages**

Nature in Medieval Culture explores issues of sustainability, race gender and intersectionality in Medieval literature

**Credits:** 3

**Prerequisites:**

Any SPA course at the 2000 level or authorization from instructor.

**SPA 3654: Early Modern Poetry**

Traces the political and socio-cultural milieu of Spain's Early Modern era as reflected in the works of representative poets of Spain's renaissance period at the beginning of Europe's 16th century through Spain's baroque ending with the close of the 17th century. Pre-requisite: Any SPA course at the 2000 level or authorization from instructor.

**Credits:** 3

**Prerequisites:**

Any SPA course at the 2000 level or authorization from instructor.

**SPA 3744: Cervantes**

An interdisciplinary approach to Cervantes's work. Pre-requisite: Any SPA course at the 2000 level or authorization from instructor.

**Credits:** 3

**Prerequisites:**

Any SPA course at the 2000 level or authorization from instructor.

**SPA 3764: Monster & Ghosts in Span Roman**

This class studies the canonical texts of Spanish Romanticism within the European context. The different literary genres are studied in dialogue with other arts and with the Spanish society of that period. The goal is to understand the thinking and feelings of people from the early part of the nineteenth century, in the cultural ambience of that particular time in Spain and Europe. We will also study the vision of women at the time, from the point of view of men and also of women writers, and we will compare those ideas with society today. The course has Diversity II Attributes.

**Credits:** 3

**Prerequisites:**

Any SPA course at the 2000 level or authorization from instructor.

**SPA 3944: Latinx Lit and Performance Art**

This course will expose students to performance studies and literary criticism. Overall, the seminar offers a historical and critical grounding for Chicano/Latino writing in the US by surveying Latinx literature and performance from the nineteenth century to the present.

**Credits:** 3

**Prerequisites:**

Any SPA course at the 2000 level or authorization from instructor.

**SPA 3970: Research Seminar**

Principles and techniques of literary research. Overview of major Spanish and Spanish-American authors and representative works. Pre-requisite: Any SPA course at the 2000 level or authorization from instructor.

**Credits:** 3

**Prerequisites:**

Any SPA course at the 2000 level or authorization from instructor.

**SPA 5900: Independent Study in Spanish**

Supervised study, activity or research. May be taken more than once. Pre-requisite: Intermediate Spanish or above. Prior approval of chair and instructor.

**Credits:** 3

**Prerequisites:**

SPA 1132 :Y

**SPA 7000: Reading Spanish Texts**

This course/workshop aims to assist graduate students interested in developing their skills to read sources written in Spanish as part of their scholarly research. As an intensive summer course, it provides a reading-focused exploration of Spanish grammar, integrated with representative examples of academic and literary discourse. Each class meeting will discuss at least one major point of grammar, detailing the essential structures of the Spanish language to prepare students for a final translation exam (dictionary allowed) that certifies their basic proficiency in Spanish-language reading comprehension. No prior knowledge of the Spanish language is necessary, but given the short timeframe of the class, additional work outside of assigned exercises is strongly encouraged. The instructor will provide supplementary resources and advice to help students develop their language skills more rapidly.

**Credits:** 0

**SPA 7400: Approach to Teaching SPA Lang**

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**Credits:** 3

**SPA 7401: New Approach to Teach Hisp Lit**

Presentations and discussions on current approaches and methods of teaching literary works at the secondary and college levels.

**Credits:** 3

**SPA 7410: Latin American Poetry**

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**Credits:** 3

**SPA 7420: Literary and Cultural Theories**

Critical approaches to literature with the necessary theoretical background designed to familiarize students with various methods for analyzing literary texts.

**Credits:** 3

**SPA 7440: Special Topics**

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**Credits:** 3

**SPA 7450: Cultural Authority**

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**Credits:** 3

**SPA 7451: Cervantine Spain**

An interdisciplinary approach to Cervantes' Spain

**Credits:** 3

**SPA 7470: Poetics in Early Modern Spain^**

Examines the socio-humanist and theo-philosophical revolution of Spanish society of the 16th and 17th centuries through its foremost poets.

**Credits:** 3

**SPA 7491: Contemporary Spanish Stage**

Examines the dichotomy between socio-political repression and conformity and protest in Spain of XX and XXI centuries through representative dramatists.

**Credits:** 3

**SPA 7492: Readings Spanish Modernism**

A study of Spanish modernism, showing how imported images and pessimistic ideologies from Europe helped shape the Spanish culture of the first part of the twentieth century.

**Credits:** 3

**SPA 7493: Poetic Voices of SPA-20 & 21 c**

Lyric poetry of Spain from the beginning of the twentieth-century to present day against the background of European historical, socio-cultural, philosophical and artistic consciousness.

**Credits:** 3

**SPA 8510: The Dream of Reason**

This graduate seminar studies the romantic period in Spain examining its evolution in relation to other European Countries. The major authors of this period are presented, beginning with Cadalso, and ending with Becquer and Rosalia de Castro, two authors that led the way to modernism.

**Credits:** 3

**SPA 8540: Nature in the Middle Ages**

Examines literary representation of the relation between human beings and the natural world as it has been conceived by Medieval Spanish writers. The literary works studied will focus on the period between the 10th and the 15th centuries, coinciding with the beginning of the Spanish reconquista.

**Credits:** 3

**SPA 8580: Rel. & Politics in Med. Lit.**

The creation of historical Memory in Spanish Medieval Literature. By studying works like the Poema de Fernan Gonzalez and the Cantar de Mio Cid, and Syrian hagiographic material, the course attempts to shed light on the intersection of religion and politics in Medieval Spain.

**Credits:** 3

**SPA 8597: Latin American Crime Fiction**

Analyzes the use of the detective formula by Latin American authors as an essential instrument of historical revisionism of political events of the 20th and 21st century.

**Credits:** 3

**SPA 8598: Latin American Cinema**

Hispanic narrative or poetic discourses (testimonio, autobiography, memoir) that reflect individual or collective memory.

**Credits:** 3

**SPA 8599: Postmodernity & Spanish Novel**

A study of major authors and artists that comprise the cultural and aesthetic revolution that began approximately in 1950 and continued with new directions to today.

**Credits:** 3

**SPA 9031: Spanish Independent Study**

Supervised study, activity or research. May be taken more than once. Approval of the instructor and Department Chairperson.

**Credits:** 3

**SPA 9570: Transnational Migration Narrat**

Examines the topic of migration from a transnational perspective through the study of border crossing literature, musical practices from the U.S.-Mexico border, and movies directed by Mexican filmmakers in the Hollywood industry.

**Credits:** 3

**SPA 9575: Hispanic Cultural Studies**

Reviews major concepts of cultural studies, such as subjectivity and consciousness, ideology and hegemony, critique and polisemy and their manifestation in Hispanic texts.

**Credits:** 3

**SPA 9580: Post/Colonial Text: Dialogues**

Reading and discussion of the historiography of the colonial times in Latin America in their historical, political and cultural contexts of production and reception.

**Credits:** 3

**SPA 9582: Postmod Fiction in Latin Amer**

Study of postmodern fiction written in the last two decades dealing with exile, collective memory, marginality, gender and urban violence as part of the post-dictatorship imaginary.

**Credits:** 3

**SPA 9584: Short Story of the Americas**

Short story in Latin America examined through literary analysis. Readings include stories by North American and Latin American authors.

**Credits:** 3

**SPA 9588: Theater in Latin America**

Study of contemporary Latin American theater (text and stage) through historical, sociological and literary analysis of works from various leading dramatists.

**Credits:** 3

# Theatre

## **THE 2019: The Theatrical Experience**

The variety of arts and crafts that combine to create theatre. Through hands-on experience, discussion, and performance, the interrelations among dramatic idea, stage direction, acting, design and technical elements that harmonize in a theatrical production are discovered.

**Credits:** 3

## **THE 2021: Theatre in Philadelphia**

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**Credits:** 3

## **THE 2025: Improvisational Theatre**

Improvisation to explore non-verbal communication strategies and the study of theatre as a communication medium. Readings in non-verbal communication and modern theatre theory.

**Credits:** 3

**Prerequisites:**

THE 2029 :D-

## **THE 2029: Fund Princ of Acting**

Traditional acting theories and basic techniques: games, improvisation, sensory awareness exercises and beginning work on scenes.

**Credits:** 3

## **THE 2030: Advan Princ of Acting**

Creation of an original piece of theater. Self-selected scenes used to deepen individual growth.

**Credits:** 3

## **THE 2032: Elements of Dance**

The broad range of dance styles, dance theory, vocabulary, and body placement.

**Credits:** 3

## **THE 2033: Advanced Elements of Dance**

Expanded study of dance styles, dance theory, vocabulary, and body placement.

**Credits:** 3

**Prerequisites:**

THE 2032 :D-

## **THE 2034: Musical Theatre**

Explores the conventions of musical theatre. Practical work in the application of musical performance theory to specific song, movement and stylized acting techniques.

**Credits:** 3

## **THE 2040: Theatre Practicum**

Significant and responsible participation in the department's production program.

**Credits:** 0

## **THE 2051: Creativity**

Students from all disciplines experiment with creativity in their major and their work, utilizing theatre-based approaches to creating performances, stories, ads, business plans, films, and/or projects that nurture innovation, originality, and collaboration.

**Credits:** 3

## **THE 3006: Shakespeare on Stage**

Applies the acting and design techniques of Shakespeare's theatre - architecture, lighting, special effects, and rehearsal practices - to the contemporary stage. Choose to act, direct, or design for the final project, a series of site-specific performances on campus. No experience necessary

**Credits:** 3

## **THE 3007: Playwriting**

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**Credits:** 3

## **THE 3008: Theatre of the Afr. Diaspora**

Theatre of the African Diaspora explores the effects of the cultural landscape on dramatic literature throughout the diaspora and vice-versa. We will examine plays, essays, articles and other media that deal with issues of race and class, beauty aesthetics, masculinity, power, feminism, queer identity and post-colonialism with the goal of finding their contemporary resonance.

**Credits:** 3

## **THE 3010: Mindfulness in Action**

An investigation of classic forms of mindfulness meditation and contemplation - from calm abiding to insight awareness to transformation - through studying traditional techniques and experiencing traditional practices. All in the interest of exploring and expanding creativity in everyday life.

**Credits:** 3

**THE 3011: Asian Theatre**

To understand Asian artistic style and practice through viewing performances, examining aesthetics, and studying plays.

**Credits:** 3

**THE 3020: Teaching of Acting**

A laboratory course for teachers of dramatic arts at the junior and senior high school levels. Emphasis is on the development of teaching skills, including exercises in movement, improvisation and scene study.

**Credits:** 3

**THE 3030: Spec Topics in Theatre**

A specialized area of theatre studies (e.g., avant-garde, feminist, Asian, Melodrama), combining elements of theatre history, dramatic literature and criticism, as well as performance and production aspects of live theatre.

**Credits:** 3

**THE 4010: Scenography**

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**Credits:** 3

**THE 4011: Directing the Play**

Fundamentals of directing: script analysis, approaches to working with the actor, movement and blocking, visualization, design, and rhythm.

**Credits:** 3

**THE 4014: Women and Theatre**

The contribution of women artists to the American theatre, discussing the particular social issues, and the pertinent historical perceptions and problems encountered by women in the arts.

**Credits:** 3

**THE 4020: Directed Studies in Theatre**

Reading and practical work in a specialized area of theatrical production or scholarship under the direction of a faculty artist or scholar.

**Credits:** 3

**THE 7000: Creative Drama-Teachers**

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**Credits:** 3

**THE 7100: Principles of Acting**

Fundamental training in the Stanislavsky System as applied to performing realistic plays, including exercises, improvisation, & scene work. Restricted to graduate students & qualified undergraduates.

**Credits:** 3

**THE 7110: Script Analysis**

Examination of the sociological, psychological and ideological circumstances of modern and contemporary American plays through a line-by-line breakdown of text to reveal the connection of action and characterization to theme. Restricted to Graduate students and qualified Undergraduates

**Credits:** 3

**THE 7120: Dramaturgy-Classic**

Introduction to production dramaturgy, examining dramatic literature and exploring theatrical practices from the fourth century B.C.E. to the beginning of the nineteenth century. Development of research skills necessary for dramaturgical work. Restricted to Graduate students and qualified Undergraduates.

**Credits:** 3

**THE 7130: Dramaturgy-Modern**

Further studies in production dramaturgy, examining dramatic literature and exploring late-nineteenth- and twentieth-century theatrical practices (Eastern and Western). Development of research skills necessary to prepare dramaturgical materials designed to support production. Restricted to Graduate students and qualified Undergraduates.

**Credits:** 3

**THE 7140: Dramtc Vis & Frm Classic**

Study of the radical juxtaposition of contrasting plays from different countries (Eastern and Western) and different eras (classic orientation) in the context of dramatic theory and criticism.

**Credits:** 3

**Prerequisites:**

(THE 7110 or THE 8039) and (THE 7120 or THE 8504) and (THE 7130 or THE 8501)

**THE 7150: Dramtc Vis & Frm Modern**

Study of the radical juxtaposition of contrasting plays from different countries (Eastern and Western) and different eras (modern orientation) in the context of dramatic theory and criticism.

**Credits:** 3

**Prerequisites:**

(THE 7110 or THE 8039) and (THE 7120 or THE 8504) and (THE 7130 or THE 8501)

**THE 7200: Production Practicum I**

Significant & responsible participation in the department production program.

**Credits:** 0

**THE 7210: Production Practicum II**

Significant & responsible participation in the department production program.

**Credits:** 0

**THE 7220: Production Practicum III**

Significant & responsible participation in the department production program.

**Credits:** 0

**THE 8100: Improvisation**

Exploration of unscripted performance through individual & group exercises, theatre games, & short- & long-form improvisation.

**Credits:** 3

**THE 8110: Voice & Movement**

Exploration of theories in voice production & body work (Eastern & Western) & application of techniques to integrate the components of the performer's physical instrument.

**Credits:** 3

**THE 8120: Characterization**

Acting explored from the point of view of social class, focusing on voice & behavior adjustments to create class distinctions. Group exercises & scene work in a variety of social class-based circumstances. Prerequisite is THE 7100 or permission of instructor.

**Credits:** 3

**THE 8125: Scene Study**

Further exploration of scene work to deepen actors' understanding of their art, themselves, & their collaborative relationship with scene partners. Prerequisite is THE 7100 or permission of instructor.

**Credits:** 3

**THE 8130: Solo Performance**

Immersive workshop integrating all aspects of theatre-making - writing, directing, dramaturgy, acting, design - through the weekly creation and presentation of original pieces for the solo artist. Prereq: THE 7100; or permission of instructor

**Credits:** 3

**THE 8140: Musical Theatre**

Practical approach to developing & integrating the performance skills required for musical theatre: acting, singing, & dancing.

**Credits:** 3

**THE 8150: Acting Styles**

Laboratory on performing nonrealistic theatre; actors develop approaches to classical and/or modern plays with heightened language, physical & stylistic demands. Prerequisite is THE 7100 or permission of instructor.

**Credits:** 3

**THE 8160: Scenography**

Introduction to & investigation of the three primary elements of stage design - scenery, costume, & lighting - with an emphasis on the visual realization of production concepts. Prerequisite is THE 7110 or permission of instructor.

**Credits:** 3

**THE 8170: Directing**

Fundamentals of directing realistic plays: script analysis, creative interpretation, approaches to working with the actor, movement & blocking, visualization, design, rhythm & picturization, culminating in the staging of two realistic scenes.

**Credits:** 3

**Prerequisites:**

(THE 7100 or THE 8000) and (THE 7110 or THE 8039)

**THE 8180: Styles:Actors & Directors**

Laboratory that concentrates on the process of evolving original approaches to nonrealistic plays, & on developing with actors an expressive approach to classical, poetic, fantastic, extreme, and/or abstract material.

**Credits:** 3

**Prerequisites:**

THE 7002

**THE 8190: Playwriting**

Hands-on exploration of the art & craft of playwriting through exercises, scene writing, the study of existing plays (as texts & in production,) & the development of students' own dramatic work. Prerequisites are THE 7100 & THE 7110 or permission of instructor.

**Credits:** 3

**THE 8200: Theatre Topics**

Seminar focusing on a specialized area of theatre studies (Ancient Greek, Asian, Irish, Melodrama, feminist, etc.), combining elements of theatre history, dramatic literature & criticism as well as performance & production aspects of live theatre. Restricted to graduate students & qualified undergraduates.

**Credits:** 3

**THE 8210: Performance Theory**

Investigation of performance, from theatre and dance to ritual and popular entertainment (e.g., circus, kathakali, Broadway musicals, festivals, schamanism), using a variety of theories to examine contemporary critical issues.

**Credits:** 3

**THE 8220: Gender, Politics & Performance**

Theoretical approach to the interpretation of dramatic texts and performances, focusing on topics of gender, identity, subjectivity and politics. Students will integrate theory and practice, while enhancing writing skills.

**Credits:** 3

**THE 8230: Avant-Garde Theatre**

Seminar exploring the twentieth-century American avant-garde, including artists such as the Living Theatre, the Open Theatre, Allan Kaprow, Bread and Puppet Theatre, Performance Group, Ontological-Hysteric Theatre, Robert Wilson, Mabou Mines, the Wooster Group, etc.

**Credits:** 3

**THE 8240: Asian Theatre**

Seminar exploring the performance forms (both traditional & modern) of India, China, Japan, & Southeast Asia, with emphasis on their characteristic features; cultural, religious, & aesthetic influences. The impact of these forms on Western theatre practice.

**Credits:** 3

**THE 8250: Critical Writing for Theatre**

Workshop in critical writing about dramatic texts and theatrical production, including but not limited to innovative scholarship and production reviews.

**Credits:** 3

**THE 8300: The Teaching of Theatre**

Exploration of the skills necessary to teach practical theatre at all levels: formulating teaching goals, creating syllabi, developing lesson plans, creating lectures & in-class presentation materials, & learning to adapt these to a variety of learning styles. Prerequisites are THE 7100, THE 7110, THE 7120 & THE 7130 or permission of instructor.

**Credits:** 3

**THE 8310: Technical Theatre**

Introduction to various scene shops and scenic technologies, including the study of traditional and modern materials, construction tools and techniques, and shop organization and management as they pertain to scenic production.

**Credits:** 3

**THE 8320: Theatre Administration**

Project-driven introduction to the basics of theatre administration: crafting a mission statement; building a board; establishing 501(c)3 status; creating budgets; PR/marketing; grantwriting and cultivating funders; hiring and managing a staff; acquiring performance spaces; and working with theatrical unions.

**Credits:** 3

**THE 8400: Rehearsal & Performance**

Faculty/student seminar discussing just-completed & current projects for the purpose of exchanging practical & philosophical responses to issues, problems, & procedures encountered in the work.

**Credits:** 1

**THE 8410: Rehearsal & Performance**

Faculty/student seminar discussing just-completed & current projects for the purpose of exchanging practical & philosophical responses to issues, problems, & procedures encountered in the work.

**Credits:** 2

**THE 8420: Rehearsal & Performance**

Faculty/student seminar discussing just-completed & current projects for the purpose of exchanging practical & philosophical responses to issues, problems, & procedures encountered in the work.

**Credits:** 3

**THE 8540: Collaborative Theatremaking**

Laboratory workshop in collective creation for actors, directors, playwrights, dramaturgs, and designers generating weekly installments of a semester-long narrative written, designed, directed, and performed by participants in rotating small groups. Prereq.: Permission of instructors.

**Credits:** 3

**THE 8550: Play Development Workshop**

Laboratory workshop for playwrights, dramaturgs and directors developing new plays and exploring the collaborative process through script conferences, work with actors, and ongoing revision, culminating in public staged readings. Prereq.: Permission of instructor.

**Credits:** 3

**THE 9100: Advanced Acting Workshop**

Advanced performance work focusing on a specialized acting method or technique, such as Commedia dell'Arte, Shakespeare, Suzuki Method, or professional audition techniques.

**Credits:** 3

**Prerequisites:**

(THE 7100 or THE 8000) and (THE 7110 or THE 8039) and (THE 8120 or THE 8001) or (THE 8125 or THE 8003) or (THE 8150 or THE 8002)

**THE 9110: Advanced Dramaturgy**

Advanced work on production research methods, developing the relationship between the director and the dramaturg, and the creation of program material.

**Credits:** 3

**Prerequisites:**

(THE 7100 or THE 8000) and (THE 7120 or THE 8504) and (THE 7130 or THE 8501)

**THE 9120: Advanced Scenography Workshop**

Advanced exploration of the three primary elements of stage design.

**Credits:** 3

**Prerequisites:**

THE 8160 or THE 7010

**THE 9130: Advanced Directing Workshop**

Advanced work on play texts: advanced scene scoring & picturization, open rehearsals, fostering of artistic collaborations, staging of stylistically challenging scenes.

**Credits:** 3

**Prerequisites:**

THE 8170 or THE 7002

**THE 9140: Advanced Playwriting Workshop**

Advanced work on original full-length or long one-act plays, with particular attention to revision strategies and techniques.

**Credits:** 3

**Prerequisites:**

THE 8190 or THE 7051

**THE 9200: Spec Stud - Production**

Advanced work in an area of technical production (e.g., set construction, stage management, scenic painting, etc.) on a tutorial basis. May include the public presentation and defense of production work. Permission of instructor and approval of department chair.

**Credits:** 3

**THE 9210: Spec Stud - Research**

Advanced research in theatre history, literature or criticism on a tutorial basis. May include the defense of a research project. Prereqs: THE 7120 and THE 7130, permission of instructor and approval of department chair.

**Credits:** 3

**THE 9220: Stud - Voice & Movement**

Advanced voice production and body work on a tutorial basis. May include the public performance of an original voice and movement program. Prereq.: THE 8110; permission of instructor and approval of department chair.

**Credits:** 3

**THE 9230: Spec Stud - Acting**

Advanced scene and monologue work in a range of acting styles on a tutorial basis. May include the public performance of a dramatic program. Prereqs: THE 7100 and THE 7110 and THE 8120 or THE 8125 or THE 8150; permission of instructor and approval of department chair.

**Credits:** 3

**THE 9240: Spec Stud - Solo Performance**

Advanced work in solo performance on a tutorial basis. Includes the public performance of an original piece. Prereq.: THE 8130; permission of instructor and approval of department chair.

**Credits:** 3

**THE 9250: Spec Stud - Dramaturgy**

Advanced practical work in dramaturgy on a tutorial basis. May include the defense of a dramaturgical project. Prereq.: THE 7120 and THE 7130; permission of instructor and approval of department chair.

**Credits:** 3

**THE 9260: Spec Stud - Scenography**

Advanced work specializing in one area of stage design (scenery, costume, or lighting) on a tutorial basis. May include the public presentation and defense of a design project. Prereq.: THE 8160; permission of instructor and approval of department chair.

**Credits:** 3

**THE 9270: Spec Stud - Directing**

Advanced directing work on a one-act play or significant portion of a full-length play on a tutorial basis. Includes a public presentation of the directing project. Prereq.: THE 8170; permission of instructor and approval of department Chair.

**Credits:** 3

**THE 9280: Spec Stud - Playwriting**

Advanced playwriting on a tutorial basis. May include a public reading of an original script. Prereq.: THE 8190; permission of instructor and approval of department chair.

**Credits:** 3

**THE 9300: Thesis Continuation**

Continuation of supervised research for students writing master's theses. Prereq.: Approval of department chair.

**Credits:** 0

## Theology and Religious Studies

**THL 1000: Faith, Reason, and Culture**

Study of Christianity with a particular focus on Roman Catholicism, animated by Augustine's concern to relate Christian faith, reason and human culture, using various disciplinary approaches within the fields of theology and religious studies.

**Credits:** 3

**THL 1500: Spirituality & Healing Arts**

Discovery of practical spirituality through engaging select contemplative practices; deepening of individual spirituality and the discovery of the presence of God in practicing healing arts; exploration of connections with self, and patient, care; particular attention given to Christian contemplative traditions.

**Credits:** 3

**THL 2050: Old Testament Survey**

Critical analysis of Old Testament texts. Historical and archaeological focus with attention to theory and practice of exegesis (text, source, form, redaction, literary, narrative, rhetorical methods). Emphasis on the structure, historical development continuing vitality of texts and their contribution to the Old Testament teaching concerning Creation, Covenant, Ten Commandments, Exodus, Conquest, Prophets, apocalyptic literature, etc.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1850 :D- or HON 1827 :D-

**THL 2100: Genesis to Judges**

Critical analysis of Genesis through Judges. Historical and archaeological focus with topics including Creation, Flood, Abraham and Sarah, Isaac and Rebekah, Moses, Exodus, Covenant, Joshua, the judge Deborah, Samson and Delilah and others with social, political and religious life situations of these.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1850 :D- or HON 1827 :D-

**THL 2200: Hebrew Prophets**

Isaiah, Jeremiah, Ezekiel and "the 12"; the meaningfulness of the Prophets in today's world; Hebrew Wisdom Literature; influence of Egyptian and Greek culture. Prerequisite: Introductory bible course or permission of instructor

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1850 :D- or HON 1827 :D-

**THL 2300: New Testament Survey**

Critical analysis of New Testament texts; structure, meaning historical development, continuing vitality and application; introduction to transmission of traditions, formation of New Testament canon, use of textual, source, form, redaction, and literary methods.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 2310: Synoptic Gospels**

Critical analysis of Matthew, Mark and Luke; structure, meaning, historical development, continuing vitality and application; use of textual, source, form, redaction and literary methods

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1850 :D- or HON 1827 :D-

**THL 2420: Women in the Bible**

Analysis of stories about women in the Bible: traditional and feminist readings examined; use of textual, source, form, redaction and literary methods.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 2460: Bible and Environment**

Exploration of biblical perspectives on the environment through a variety of key characters and their relation to the land and other creatures. Attention to historical treatment of the ecology in Christian and Jewish theology and engagement of contemporary ecological issues.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1825 :D- or HON 1827 :D- or HON 1850 :D-

**THL 2470: New Testament Ethics**

Exploration of New Testament ethical traditions.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1825 :D- or HON 1827 :D- or HON 1850 :D-

**THL 2480: New Testament Spirituality**

Study of New Testament spiritual writers and traditions.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 2490: Themes in Biblical Studies**

Interdisciplinary approach to biblical texts. Critical exegesis of biblical texts.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 2500: Themes Ancient Christianity**

Early Christian writings, controversies, councils and events growth of Christianity from persecution to official acceptance in the Roman Empire; God, creation, evil, Jesus Christ, Church, Christian living, Holy Spirit, culture.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 2525: Themes Medieval Christianity**

Medieval Christian writings, controversies, and events.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1850 :D- or HON 1827 :D-

**THL 2550: Themes Modern Christianity**

Modern Christian writings, controversies, and events.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 2590: Themes Historical Theology**

Selected topics in historical theology.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 2750: Augustine: Then and Now**

Exploration of connections between our time and culture and Augustine's time and culture; study of select sermons and letters of St. Augustine; comparison and contrast of 'snapshots' of moments in Augustine's experience with 'snapshots' from the 3rd millennium.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 2760: Augustine's Influence & Legacy**

Exploration of Augustine's influence on western theology - the nature of the human being, the existence of human freewill, the nature of human sexuality, the nature of grace, the role of Christ as Savior, the extent of God's salvific will for humanity.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 2780: Christianity in History**

The emergence, growth and transformation of Christianity from its origins in the eastern Mediterranean to its worldwide expansion. Role of Christian doctrinal and institutional developments in the emergence of Western societies. Ways in which Christian symbolism and ritual have shaped the lives of ordinary Christians.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1825 :D- or HON 1827 :D- or HON 1850 :D-

**THL 2900: Themes U.S. Catholicism**

Specialized treatment of particular topics in this field; see announcement on Department website @ [www1.villanova.edu/villanova/artsci/theology/undergrad.html](http://www1.villanova.edu/villanova/artsci/theology/undergrad.html)

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 2910: Themes Global Catholicism**

Specialized treatment of particular topics in this field; see announcement on Department website @ [www1.villanova.edu/villanova/artsci/theology/undergrad.html](http://www1.villanova.edu/villanova/artsci/theology/undergrad.html)

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1825 :D- or HON 1827 :D- or HON 1850 :D-

**THL 3100: Christian Anthropology**

The relationship between God and the human person from a variety of view points: human origins; the purpose of life; the problem of evil and the human condition; salvation as divinization - insights and approaches of recent writers.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 3200: Understanding Jesus**

The historical Jesus and questions of method; christologies of the early Christian sources and councils; the later tradition of Christological reflection; contemporary trajectories.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 3250: Problem of Evil**

Formulations of the problem and historical attempts to solve it.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1825 :D- or HON 1827 :D- or HON 1850 :D-

**THL 3310: Christian Practices of Beauty**

Exploration of Christian practices of beauty as prophetic resistance to dominating consumeristic and technocratic tendencies of trans-Atlantic culture. Investigation of theology of the icon in the Eastern Orthodox tradition; liberative-aesthetic praxis of Latin American liberation theology; and emergent ecological theology.

**Credits:** 3

**THL 3400: Sacraments**

History of Christian sacraments; sacraments as celebrations of life in God; theology of worship as fulfillment of being human; present and future shapes of Christian liturgy; applications to particular sacraments, e.g., baptism, reconciliation, eucharist.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 3450: Pastoral Care of the Sick**

Treatment of theological understanding of the sacrament, anointing of the sick. Examination of primary texts on pastoral care from the Roman Catholic Church, and of the spirituality of caregivers. Pastoral-theological exploration of entire range of care provided to the ill and dying.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 3510: Marriage in the Christian Trad**

Christian marriage in the third millenium; scriptural, historical, legal, sacramental, and moral issues.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1825 :D- or HON 1827 :D- or HON 1850 :D-

**THL 3600: Liturgy, Cultures, and Justice**

Study of historical development of Christian worship and prayer, from its roots in Jewish and early Church thought and practice to liturgical reforms of the twentieth century. Attention to cultural influences on liturgy and Christian understanding of connection between worship and justice.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 3740: Liberation Theology**

Theologies emerging from specific struggles for liberation in Latin American, Africa, Asia, and North America; their context, content, and critique.

**Credits:** 3

**Prerequisites:**

THL 1051 :D- or THL 1000 :D- or THL 1050 :D- or HON 1827 :D- or HON 1053 :D- or HON 1003 :D- or HON 1850 :D- or HON 1825 :D-

**THL 3760: Faith, Identity, and Calling**

Systematic reflection on "big questions" about discovering life as journey and "work" as calling in conversation with writings in the Western traditions - ancient Greek poetry, Christian wisdom, contemporary fiction, memoirs. Requires sharing faith experiences - or their absence and doubt.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 3790: Themes Theological Studies**

Exploration of issues of theological nature.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 3850: Theology of Ministry**

Historical, theological and biblical foundations of Christian ministry. Exploration of the meaning of "call" or "vocation". A practicum component will enhance the academic exploration of ministry.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1825 :D- or HON 1827 :D- or HON 1850 :D-

**THL 3900: Leadership for Ministry**

Exploration of scriptural foundations for ministry, leadership styles and the spirituality of ministry. Geared toward students who either are presently working in ministerial settings on campus or those who desire to do so in the future. Includes supervised practicum.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 4100: Catholic Ethics**

Development of post-Vatican II Catholic ethics. Focus on topics of contraception, economic justice, natural law theory, the Magisterium's teaching authority; also on the ethics of Jesus, environmentalism, technology, and agriculture.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 4200: Ethics of Life and Death**

Explorations of selected issues in biomedical ethics (e.g., abortion, euthanasia).

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 4250: Global Poverty and Justice**

Promoting equitable, sustainable development: Challenges and choices; Colonialism, trade, aid, investment, population, consumption, militarism, race and gender equality, ecology.

**Credits:** 3

**Prerequisites:**

THL 1000 :D- or THL 1050 :D- or THL 1051 :D- or HON 1003 :D- or HON 1053 :D- or HON 1825 :D- or HON 1827 :D- or HON 1850 :D-

**THL 4320: Markets and Morality**

Analysis of market economies - do they promote or stifle human welfare, freedom, and the common good? What does Christian discipleship require in the marketplace? Use of sources in Christian ethics, Catholic social thought, economics, and other disciplines to answer these questions.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 4330: Christian Environmental Ethics**

Examine foundational theological issues and major christian thinkers on the environment; in-depth study of synthetic chemical, agriculture, and treatment of animals; and weekly class discussions on various practical topics in environmental ethics.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or THL 1051 :D- or HON 1003 :D- or HON 1053 :D- or HON 1825 :D- or HON 1850 :D- or HON 1827 :D-

**THL 4360: Option for the Poor**

Study of preferential option for the poor as defined in Catholic Social Teaching. Case studies of individuals and movements engaged in struggle for justice and rooted in Christian Tradition. Illumination of structural and systemic nature of poverty and inequality.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1825 :D- or HON 1827 :D- or HON 1850 :D-

**THL 4480: Introduction Biomedical Ethics**

Development of tools for critical analysis of biomedical ethical issues. Reflection on ethical issues in society and personal lives. Focus on a distinctively Catholic Christian approach to these matters.

**Credits:** 3

**Prerequisites:**

THL 1050 or THL 1000 or HON 1825 or HON 1003 or HON 1053 or THL 1051 or HON 1827 or HON 1850

**THL 4490: Themes Christian Ethics**

Select topics in Christian ethics.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1825 :D- or HON 1827 :D- or HON 1850 :D-

**THL 4500: Augustinian Spirituality**

Study of spirituality of Augustine and of Augustinian spiritual writers and traditions.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 4550: The Contemplative Tradition**

Exploration of classical Christian teachings on silent prayer and meditation. Focus on both the theoretical understanding of the ancient practice of contemplation and its practice in daily life. Interdisciplinary approach through reading ancient Christian and contemporary authors.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 4700: Spirituality and Technology**

Reflection on living in a "technologized" world. Consideration of the ways in which Christian theology and spirituality might serve as a resource for society. Of particular importance are Christian ideas about God, creation and the spiritual practice of "detachment."

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1825 :D- or HON 1827 :D- or HON 1850 :D-

**THL 4990: Themes in Spirituality Studies**

Study of Christian and/or non-Christian spiritual voices, movements, traditions or themes (western or non-western, local or global) in ancient, medieval, early modern, modern, or contemporary times. Exploration of relationship to theology, faith, culture, and practice.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1825 :D- or HON 1827 :D- or HON 1850 :D-

**THL 5000: Themes in Religion**

Exploration of the evolution and development of some central themes or concepts in the academic study of religion such as Religion and Visual Culture; Religion, Violence and Conflict; Religion and Politics; Religion and Law; Study of myth and/or ritual; interreligious dialogue.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 5001: THM Presence/Absence of God**

Major seminar. Theism and the atheistic critiques of the nineteenth and twentieth centuries; the problem of God in western culture; contemporary retrieval of the doctrine of God as Trinity.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 5002: THM Major Thinkers & Ages**

Major seminar. Christian thinkers from the early church through the twenty-first century.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 5003: THM Catholic Studies**

Investigation of distinctive elements of Catholicism: ecclesiological, historical, sociological, moral, spiritual, theological, biblical, liturgical, among others.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 5004: THM Theology and Culture**

Study of the mutual interplay between theology and culture and the practical ways in which theology and culture interact in various historical, political, social, and economic contexts.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 5005: THM Global Religious Experienc**

Exploration of non-Christian religions, religions in non-Western regions of the world, religious beliefs and practices in a broader global context, or experiences deemed "religious".

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 5100: Themes in Judaism**

Development of the religious tradition of the Jewish people; the Torah, the Talmud and other commentaries; Jewish ideals in ethnic literature.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 5150:****Islam:History,Thought,Culture**

Islam: history and development; beliefs and rituals; sects and intellectual movement.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 5160: Islamic Mysticism**

Islamic Mysticism: sources; development and principles; contribution and influence.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 5170: Islamic Philosophy & Theology**

Islamic relationalism and the crisis of moderate and conservative Muslim theologians; the dialectical struggle between Islamic philosophy and theology.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1850 :D- or HON 1827 :D-

**THL 5180: Islamic Political Thought**

Integration of Islamic philosophy, religion, political science and history; the state in pre-Islamic Arabia, the Qur'anic concept of the state, the crisis of succession, Muslim theorists, revival and reform.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 5200: Religion in Russia**

The history, mind, spirit and life of Russia Orthodoxy; its influence in its adherents in the modern, complex and pluralistic world.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1825 :D- or HON 1827 :D- or HON 1850 :D-

**THL 5270: Religion in India and SE Asia**

The doctrinal and social history of the religious traditions of India and Southeast Asia: Hinduism, Buddhism, Jainism, Islam and Sikhism; the role of these religious in contemporary Indian and Southeast Asian societies.

**Credits:** 3

**Prerequisites:**

HON 1825 :D- or THL 1000 :D- or THL 1050 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 5280: Religion in China and Japan**

The doctrinal and social history of the religious traditions of East Asia: Confucianism, Taoism, Shinto, Buddhism; popular religion and state cults; the role of these religions in contemporary Asian societies.

**Credits:** 3

**Prerequisites:**

HON 1825 :D- or THL 1000 :D- or THL 1050 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 5285: Buddhist Tradition**

The doctrinal and social history of Buddhism: its origins in India, its current forms in Central, East and Southeast Asia; the role of Buddhism in contemporary Asian societies.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 5290: Hindus and Christians in India**

A multi-disciplinary examination of the two-thousand-year history of encounter between Christians and Hindus, highlighting areas of commonality, difference, exchange, interaction and identity formation. Exploration of historical modes of engagement: antagonism and distrust, reciprocity and mutual benefit, dialog, fulfillment, and hybridity.

**Credits:** 3

**THL 5400: Science & Religion**

The interaction of science and religion from Galileo to the contemporary period. Theological implications of recent developments in the natural sciences.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1850 :D- or HON 1827 :D-

**THL 5410: Theology and Film**

Exploration of connection between theology and film and of the ways that filmmakers "do" theology. Survey of the literature on the subject and analysis of films and filmmakers that have demonstrated theological sensitivity and/or interest in theological questions and themes.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1825 :D- or HON 1827 :D- or HON 1850 :D-

**THL 5420: Modernity and Crisis of Faith**

Analysis of so-called "New Atheism" through the lens of Soren Kierkegaard. Exploration of Kierkegaard's diagnosis of this "crisis of faith" and his understanding of the religious life.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1825 :D- or HON 1827 :D- or HON 1850 :D-

**THL 5450: Religion, Art, and Science**

Study of religion, art, and science as aspects of persons and cultures. Exploration of theology and ritual as they relate to societies, cultures or persons; and the artistic (or aesthetic) dimension of religion, the scientific, and the personal.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 5800: Religion and Literature**

Religious attitudes and experience in contemporary literature.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 5820: Themes Religion in America**

Specialized treatment of particular topics in this field; see announcement on Department website @ [www1.villanova.edu/villanova/artsci/theology/undergrad.html](http://www1.villanova.edu/villanova/artsci/theology/undergrad.html)

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 5850: Women in Rel & Society**

Examination of women's experiences in religious traditions with special emphasis on Christianity.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 5990: THM: Ecum & Interrel Studies**

Courses in ecumenical and interreligious or interfaith studies. Examination of principles and practices of academic and non-academic forms of dialogue between religions and between Christians.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 5999: Themes Faith and Culture**

Select topics on issues concerning the intersection of religion, society, and culture.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1825 :D- or HON 1827 :D- or HON 1850 :D-

**THL 6000: Topics in Theology or Religion**

Course work in theological or religious studies topics.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 6001: Themes in Religious Studies**

Themes in religious studies taken by Villanova students studying overseas.

**Credits:** 3

**Prerequisites:**

THL 1000

**THL 6050: Internship**

Supervised experience in an approved context (e.g., social service, teaching, etc).

**Credits:** 3

**THL 6051: Internship**

Supervised experience in an approved context (e.g., social service, teaching, etc).

**Credits:** 6

**THL 6100: Service Learning Charity**

Integration of action and critical reflection; U.S. poverty, hunger, and homelessness: its victims, roots, and remedies; Christian moral imperative to love the neighbor; service, advocacy and solidarity (15 hours of service required). Permission of instructor.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1825 :D- or HON 1827 :D- or HON 1850 :D-

**THL 6200: Service Learning Practicum**

Service or immersion experiences as an integral part of certain Theology/Religious studies courses. The practicum integrates the participation requirements for the field experience with the academic requirements (readings, research paper, project, etc) set by the instructor. Permission of the instructor.

**Credits:** 1

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or THL 1051 :D- or HON 1003 :D- or HON 1053 :D- or HON 1825 :D- or HON 1827 :D- or HON 1850 :D-

**THL 6300: Research Seminar**

Individual or group projects that participants design with the help of a faculty facilitator. Emphasis on the student's active role in the learning process. Exploration of fields and topics of interest to students that connect theology/religion with culture.

**Credits:** 3

**Prerequisites:**

THL 5001 :D- or THL 5002 :D-

**THL 6400: Independent Study**

Permission of chairperson required.

**Credits:** 3

**Prerequisites:**

THL 1050 :D- or THL 1000 :D- or HON 1825 :D- or HON 1003 :D- or HON 1053 :D- or THL 1051 :D- or HON 1827 :D- or HON 1850 :D-

**THL 6500: Advanced Seminar**

Consolidation and synthesis of knowledge gained in the research seminar. Preparation and delivery of student-lead conversations. Involves students communicating their explorations or discoveries. Includes a final product.

**Credits:** 3

**Prerequisites:**

THL 5001 :D- or THL 5002 :D-

**THL 6600: Portfolio Review**

Review serves as an assessment of the materials the student places in the portfolio. Materials document the student's general, broad knowledge in their specializations.

**Credits:** 0

**Prerequisites:**

THL 6300 :D-

**Co-Requisites:**

THL 6500

**THL 8000: Foundation SYS**

Examination of basic questions and research methods in fundamental and systematic theology. Special attention to the relationships between faith and culture.

**Credits:** 3

**THL 8001: Foundation BIB**

Examination of basic questions and research methods in biblical studies. Special attention to the relationships between faith and culture.

**Credits:** 3

**THL 8002: Foundation HIS**

Examination of basic questions and research methods in historical theory. Special attention to the relationships between faith and culture.

**Credits:** 3

**THL 8003: Foundation SPI**

Examination of basic questions and research methods in spirituality studies. Special attention to the relationships between faith and culture.

**Credits:** 3

**THL 8004: Foundation ETH**

Examination of basic questions and research methods in Christian ethics. Special attention to the relationships between faith and culture.

**Credits:** 3

**THL 8090: Themes In Fundamental Theology**

Specialized treatment of a particular area in this field; see Department announcements.

**Credits:** 3

**THL 8100: The Bible and Archaeology**

Survey of archaeology and the cultural contexts of peoples and places depicted in the Bible; explanation of archaeological methodology and history of excavations in the ancient Near East and the Holy Land; examination of discoveries related to the Bible.

**Credits:** 3

**THL 8110: Themes in Pentateuch**

An examination of the first five books of the Hebrew Bible, with emphasis on the theology of Deuteronomy as the interpretive framework of the history of Israelite and Judean peoples. Relevant ancient near Eastern beliefs and customs which appear in the Pentateuchal tradition will also be considered.

**Credits:** 3

**Prerequisites:**

THL 8001

**THL 8120: Themes in Prophets**

The Hebrew Prophets' involvement in the political and ethical problems of their day; their awareness of Divine Presence in history; the impact of the prophetic personality and its relevancy for our time.

**Credits:** 3

**THL 8130: Themes in Wisdom Literature**

An investigation of the Jewish Wisdom literature and the importance of its thought patterns for early and contemporary Christian theology.

**Credits:** 3

**THL 8140: Themes in Topics -Hebrew Bible**

Specialized treatment of a particular area in this field; see Department announcements.

**Credits:** 3

**THL 8150: Themes in Johannine Literature**

The Gospel, Epistles and Apocalypse of John, and their main theological themes. Emphasis on the theology of the Word and the passion, death and resurrection accounts.

**Credits:** 3

**THL 8160: Themes in Pauline Literature**

The theological themes of the Pauline corpus: faith, Christology, Soteriology, Eschatology.

**Credits:** 3

**THL 8170: Themes in Synoptic Gospels**

The historical-critical and contemporary literary approaches to the Gospels; the theologies of Mark, Matthew and Luke.

**Credits:** 3

**THL 8190: Topics In New Testament**

Specialized treatment of a particular area in this field; see Department announcements.

**Credits:** 3

**THL 8200: Christology**

New Testament Christologies; conciliar interpretations of Jesus and overview of subsequent theological tradition. Contemporary issues.

**Credits:** 3

**THL 8210: Ecclesiology**

The origins and development of the Ecclesia: discipleship, ministry, mission, teaching; developing a vision for the third millennium.

**Credits:** 3

**Prerequisites:**

THL 8000

**THL 8240: Sacramental THL: Pastoral Care**

Christian sacramentality as evident in the person of Jesus, the community of the Church, and an incarnational view of creation; the transformation of ecclesial rites under the impact of contemporary studies in symbol and ritual.

**Credits:** 3

**Prerequisites:**

THL 8000

**THL 8250: Christian Eschatology**

Biblical eschatology: prophetic and apocalyptic; Jesus and the symbol, Kingdom of God; later theologies of history; hope for history and hope for life eternal.

**Credits:** 3

**THL 8260: Christian Doctrine of God**

A critical corrective of the long hegemony of philosophical theology through the contemporary emphasis on God's Self-disclosure in the Hebrew Scriptures, and definitively, in Jesus of Nazareth; current responses to modern and contemporary critiques of theism; the contributions of transcendental Thomism, process theology, and political theology. Retrieval of the doctrine of the Trinity.  
**Credits: 3**

**THL 8270: Christian Anthropology**

A systematic exploration of the Christian tradition on the structure of human existence: biblical images of the human; grace and salvation in Augustinian and Thomistic anthropologies; retrieval of the communal dimensions of personhood and salvation.  
**Credits: 3**

**THL 8290: Themes in Theology**

Specialized treatment of a particular area in this field; see Department announcements.  
**Credits: 3**

**THL 8310: Sources of Christ Theol Ethics**

Examination of classical and contemporary Roman Catholic and Protestant figures and approaches to theological ethics; interpreting and using sources such as scripture, tradition, secular disciplines of knowledge, and experience in moral reasoning and argument.  
**Credits: 3**

**THL 8320: Catholic Theological Ethics**

Review and assessment of Catholic moral tradition; includes particular attention to post-Vatican II developments, currently contested moral questions, and pressing needs for future Catholic theological ethics.  
**Credits: 3**

**THL 8330: Themes in Ethics of Life&Death**

Course addresses ethical and moral issues related to life and death.  
**Credits: 3**

**THL 8350: Ethics Among The Disciplines**

Consideration of particular ethical issues with explicit attention to the intersections between Christian moral reflection and other disciplines of inquiry, which may include philosophy, literature, and the natural and social sciences.  
**Credits: 3**

**THL 8360: Catholic Sexual Ethics**

Consideration of the relation between sex, discipleship, and the imago dei. Application of the Catholic tradition to contemporary questions of sexual controversy with special attention to Thomistic approaches to natural law and virtue theory.  
**Credits: 3**

**THL 8370: Christ Ethics & 21st Century**

The meaning and implications of social justice for individuals, collectives, nations, and the environment. Issues considered include, among others: global poverty, globalization, war and peace, environmental ethics.  
**Credits: 3**

**THL 8380: Ethics In Liberation Context**

Critical and emancipatory approaches to Christian ethics in, e.g., liberation theologies, feminist ethics, and emergent contextual theologies among peoples and internationally.  
**Credits: 3**

**THL 8390: Themes In Ethic**

Consideration of special ethical issues, debates, or thinkers which are not part of the regular graduate ethics curriculum.  
**Credits: 3**

**THL 8400: Thought of Augustine**

Surveys Christian historical theology or church history. Study of key concepts in Augustine's thought.  
**Credits: 3**

**THL 8410: Topics in Ancient Christianity**

Course in Christian historical theology or church history; focus is on particular issues, challenges or persons as illustrative of the time or area bracket.  
**Credits: 3**

**THL 8420: Topics in Med&EarlyMod History**

Course in Christian historical theology or church history; focus is on particular issues, challenges or persons as illustrative of the time or area bracket.  
**Credits: 3**

**THL 8430: Topics in Eastern Christianity**

Course in Christian historical theology or church history; focus is on particular issues, challenges or persons as illustrative of the time or area bracket.  
**Credits: 3**

**THL 8440: Topics in Modern Christianity**

Course in Christian historical theology or church history; focus is on particular issues, challenges or persons as illustrative of the time or area bracket.

**Credits:** 3

**THL 8450: Topics in Amer. Christianity**

Course in Christian historical theology or church history; focus is on particular issues, challenges or persons as illustrative of the time or area bracket.

**Credits:** 3

**THL 8460: Topics in Augustinian Thought**

Course in Christian historical theology or church history; study of continuation and adaptation of Augustine's thought by his interpreters.

**Credits:** 3

**THL 8495: Topics in Church History**

Themes in Christian historical theology or church history; see Departmental announcements.

**Credits:** 3

**THL 8510: Topics in Spirituality**

Study of Christian spiritual traditions or themes (western or non-western) in ancient, medieval, early modern, modern, or contemporary times.

**Credits:** 3

**Prerequisites:**

THL 8003

**THL 8520: Augustinian Spirituality**

Augustinian spirituality. Restriction: Approval of Instructor.

**Credits:** 4

**THL 8530: Themes in Spirituality of Care**

Course addresses themes in the field of spirituality with a particular focus on ministries that reach directly into the primary social structures and institutions of our society.

**Credits:** 3

**THL 8540: Creativity in Contemplative Life**

Survey of practices of contemplative prayers, interior movement of God's Spirit, contemplative seeing and listening. Engagement of creative arts to express experiences of spirituality. Discussion of the different ways of coming to know and understand the movements of God's Spirit.

**Credits:** 3

**THL 8550: THM Medieval Spirituality**

Specialized treatment of a particular area in the field. See Departmental announcement.

**Credits:** 3

**THL 8560: THM Early Modern SPI**

Specialized treatment of a particular area in this field. See Departmental announcement.

**Credits:** 3

**THL 8570: THM (Post) Modern SPI**

Specialized treatment of a particular area in this field. See Departmental announcement.

**Credits:** 3

**THL 8600: Topics in Ecum&Interrel Dialog**

The ideal of ecumenism; factors in its realization; the emergence of religious dialogue in a pluralistic world.

**Credits:** 3

**THL 8610: THM Interfaith Studies**

Specialized treatment of a particular area in this field. See Departmental announcement.

**Credits:** 3

**THL 8620: THM Global Christianities**

Specialized treatment of a particular area in this field. See Departmental announcement.

**Credits:** 3

**THL 8630: THM Comparative THL/Religion**

Specialized treatment of a particular area in this field. See Departmental announcement.

**Credits:** 3

**THL 8640: THM Religious Studies**

Specialized treatment of a particular area in this field. See Departmental announcement.

**Credits:** 3

**THL 8701: Theological Pedagogy**

Seminar for students simultaneously enrolled in Graduate Student Teaching.

**Credits:** 3

**THL 8702: Contextual Education**

Seminar for students simultaneously enrolled in Graduate Student Teaching.

**Credits:** 3

**THL 8703: Teaching Practicum**

Independent teaching with supervision and mentorship during Classroom Apprenticeship 2.

**Credits:** 3

**THL 8704: Apprenticeship 2**

Instruction, supervision, and mentorship in evidence-based pedagogical theory and practices.

**Credits:** 3

**THL 8705: Graduate Student Teaching**

Teaching and observation under actual classroom conditions. Open to students enrolled in a Religious/Theological Education Seminar.

**Credits:** 0

**THL 8710: Themes Rel/Thl Education**

Themes in religious/theological education. See Department website for announcements.

**Credits:** 3

**THL 8750: Themes in Theology or Religion**

Themes in Theology and Religion.

**Credits:** 3

**THL 8801: Contextual Theologies**

Seminar on the characteristics of theological discourse that is informed by the concerns, questions, and demands arising from particular communities and particular cultural milieus.

**Credits:** 1

**THL 8802: Lay Ecclesial Ministry**

Seminar exploring the biblical, historical, and theological foundations of Christian ministry and the vocation and charisms of lay ecclesial ministers.

**Credits:** 1

**THL 8803: Intro to Counseling Skills**

Seminar introducing the basics of effective and ethically responsible pastoral care and counseling skills.

**Credits:** 1

**THL 8804: Intercultural Competencies**

Seminar focusing on cultural competencies for pastoral care, worship, and community development in the multi-cultural contexts of North-American society.

**Credits:** 1

**THL 8805: Ministry Practicum 1**

Ministry practicum (10hrs/wk) approved by instructor.

**Credits:** 0

**THL 8806: Ministry Practicum 2**

Ministry practicum (10 hrs/wk) approved by instructor.

**Credits:** 0

**THL 8807: Ministry Practicum 3**

Ministry practicum (10 hrs/wk) approved by instructor.

**Credits:** 0

**THL 8808: Ministry Practicum 4**

Ministry practicum (10 hrs/wk) approved by instructor.

**Credits:** 0

**THL 8820: Themes in Pastoral Ministry**

Specialized treatment of a particular area in this field; see Department announcements.

**Credits:** 3

**THL 8830: THM Theology & Suffering**

Examination of theological engagements with individual, collective, and global trauma and suffering caused by criminal justice system, poverty, racism, oppression, abuse, violence, war, atrocity or illness of every age and culture. How do trauma and suffering shape theology and practice?

**Credits:** 3

**THL 8881: Ministry Field Education 1**

Supervised field experience in an approved setting. Students are mentored by approved practicum supervisors and approved site supervisors. Course participation serves to deepen student understanding of their field experience and ministerial identity.

**Credits:** 1

**THL 8882: Ministry Field Education 2**

Supervised field experience in an approved setting. Students are mentored by approved practicum supervisors and approved site supervisors. Course participation serves to deepen student understanding of their field experience and ministerial identity.

**Credits:** 1

**THL 8883: Ministry Field Education 3**

Supervised field experience in an approved setting. Students are mentored by approved practicum supervisors and approved site supervisors. Course participation serves to deepen student understanding of their field experience and ministerial identity.

**Credits:** 1

**THL 8884: Ministry Field Education 4**

Supervised field experience in a approved setting. Students are mentored by approved practicum supervisors and approved site supervisors. Course participation serves to deepen student understanding of their field experience and ministerial identity.

**Credits:** 1

**THL 8900: Themes in Theological Research**

Instruction of individuals or of very small group of master's or certificate students.

**Credits:** 3

**THL 8910: Integrative Thesis**

Optional graduation requirement that seeks to round out the students' learning. Requires engagement of matters of faith and culture under the direction of scholars from different fields. Equivalent to integrative project or integrative examination.

**Credits:** 0

**THL 8920: Integrative Examination**

Optional graduation requirement that seeks to round out the students' learning. Requires engagement of matters of faith and culture under the direction of scholars from different fields. Equivalent to integrative thesis or integrative project.

**Credits:** 0

**THL 8940: Integrative Portfolio**

Capstone requirement that integrates the student's learning.

**Credits:** 0

**THL 9000: Themes in Theological Research**

Instruction of individuals or of very small group of doctoral students.

**Credits:** 3

**THL 9010: Foundation SYS**

Examination of basic questions and research methods in fundamental and systematic theology. Special attention to the relationships between faith and culture.

**Credits:** 3

**THL 9020: Foundation BIB**

Examination of basic questions and research methods in biblical studies. Special attention to the relationships between faith and culture

**Credits:** 3

**THL 9030: Foundation SPI**

Examination of basic questions and research methods in spirituality studies. Special attention to the relationships between faith and culture.

**Credits:** 3

**THL 9040: Foundation ETH**

Examination of basic questions and research methods in Christian ethics. Special attention to the relationships between faith and culture.

**Credits:** 3

**THL 9050: Theories & Methods of Culture**

Introduction of the main theories, concepts, and methods of the study of culture, focusing on central thinkers and texts in the sociology of culture, cultural anthropology, critical theory and cultural studies, including postcolonial critiques of culture and recent approaches to material culture.

**Credits:** 3

**THL 9100: THM: Biblical THL**

Doctoral program. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD Program.

**Credits:** 3

**THL 9110: THM: Johannine Tradition**

Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD program.

**Credits:** 3

**THL 9120: THM: Pauline Tradition**

Doctoral seminar. Treatment of a particular issue in the field; see Program announcements.

**Credits:** 3

**THL 9130: THM: Synoptic Gospels**

Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD Program.

**Credits:** 3

**THL 9140: THM: Pentateuch**

Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD Program.

**Credits:** 3

**THL 9150: THM: Prophetic Tradition**

Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD Program.

**Credits:** 3

**THL 9160: THM: Psalms**

Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of the PhD Program.

**Credits:** 3

**THL 9170: THM: Wisdom Literature**

Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD Program.

**Credits:** 3

**THL 9200: THM: Systematic THL**

Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD Program.

**Credits: 3**

**THL 9210: Themes in Theology of God**

Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD Program.

**Credits: 3**

**THL 9220: Humanity at the Threshold**

Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD Program.

**Credits: 3**

**THL 9230: THM: Aesthetic THL**

Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD Program.

**Credits: 3**

**THL 9240: Trinity and Non-Duality**

Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD Program.

**Credits: 3**

**THL 9250: Liturgy and Culture**

Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD Program.

**Credits: 3**

**THL 9260: Themes in Christology**

Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD Program.

**Credits: 3**

**THL 9270: Themes in Ecclesiology**

Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD Program.

**Credits: 3**

**THL 9300: THM: Christian Ethics**

Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD Program.

**Credits: 3**

**THL 9310: THM: Racism**

Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD Program.

**Credits: 3**

**THL 9320: THM: Economic Ethics**

Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD Program.

**Credits: 3**

**THL 9340: THM: Christian Environ Ethics**

Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD Program.

**Credits: 3**

**THL 9343: THM: Moral Philosophy & Ethics**

Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD Program.

**Credits: 3**

**THL 9350: Ethics of Higher Education**

Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD Program.

**Credits: 3**

**THL 9360: THM: Political THL**

Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD Program.

**Credits: 3**

**THL 9370: THM: Christian Sexual Ethics**

Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD Program.

**Credits: 3**

**THL 9400: THM: Augustinian THL Tradition**

Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non-THL students need approval of PHD Program.

**Credits: 3**

**THL 9410: THM: Modern & Contemporary THL**

Doctoral seminar. Treatment of a particular issue in the field. See program announcements. Non-THL students need approval of PhD Program.

**Credits: 3**

**THL 9420: THM:Medival THL**  
Doctoral Seminar. Treatment of a particular issue in the field; see Program announcements. Non-THL students need approval of PhD Program.  
**Credits: 3**

**THL 9430: THM:Early Christian THL**  
Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD Program.  
**Credits: 3**

**THL 9440: THM:Reformation&Early Mdrn THL**  
Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD Program.  
**Credits: 3**

**THL 9450: THM:Global Christianities**  
Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD Program.  
**Credits: 3**

**THL 9460: THM:Eastern Christianity**  
Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD Program.  
**Credits: 3**

**THL 9470: THM:Catholicism**  
Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD Program.  
**Credits: 3**

**THL 9500: THM: Spirituality**  
Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD Program.  
**Credits: 3**

**THL 9510: THM: Ancient/ Patristic Spirit**  
Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD Program.  
**Credits: 3**

**THL 9520: THM: Medieval Spirituality**  
Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD Program.  
**Credits: 3**

**THL 9530: THM: Early Modern Spirituality**  
Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non THL students need approval of PhD Program.  
**Credits: 3**

**THL 9540: THM:(Post) Modern Spirituality**  
Doctoral seminar. Treatment of a particular issue in the field; see Program announcements. Non-THL students need approval of PhD Program.  
**Credits: 3**

**THL 9900: Dissertation Writing**  
Writing and supervision of dissertation.  
**Credits: 0**

**THL 9910: Synthesis Portfolio**  
Capstone requirement for Theology Doctoral students.  
**Credits: 0**

**THL 9911: Evaluation Portfolio**  
Final Capstone requirement for Theology Doctoral students.  
**Credits: 0**

**THL 9920: Proposal Colloquium**  
Final capstone requirement for doctoral students.  
**Credits: 0**