

# VILLANOVA UNIVERSITY CATALOG

**UNDERGRADUATE STUDIES  
2019 – 2021**

**EXPANDED VERSION  
INCLUDES COURSE DESCRIPTIONS**

While this catalog was prepared on the basis of the best information available at the time of publication, all information, including statements of fees, course offerings, admissions, and graduation requirements, is subject to change without notice or obligation. Please consult the electronic catalog at <http://www1.villanova.edu/villanova/provost/catalog.html> for more recent information as well as the web sites listed for the particular policies, programs and services found in this catalog.

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VILLANOVA UNIVERSITY  
SEPTEMBER 2019  
An Equal Opportunity Educational Institution

# GENERAL INFORMATION

The University campus is situated in Villanova, Pennsylvania, on Lancaster Pike (U.S. Route 30) six miles west of City Line Avenue in Philadelphia, Pennsylvania. The post office address is 800 Lancaster Avenue, Villanova, Pennsylvania 19085-1699. University offices are open Monday through Friday from 9 a.m. to 5 p.m. The telephone number is 610-519-4500. The Web address is [www.villanova.edu](http://www.villanova.edu).

Prospective students may obtain additional information by contacting the Director of Admissions, Villanova University, 800 Lancaster Avenue, Villanova, Pennsylvania 19085-1699, tel. 610-519-4000, email: [gotovu@villanova.edu](mailto:gotovu@villanova.edu)

Villanova University is an affirmative action institution, and it is the continuing policy of Villanova not to discriminate against any person on the basis of race, color, sex, sexual orientation and gender identity, religion, national origin, age, veteran status, non-job-related disability or any other basis prohibited by law.

*NOTE:* In order that programs offered by Villanova University reflect current advances and additions to knowledge and upgraded professional requirements, Villanova University reserves the right to change programs and requirements without prior notice. Students generally are bound to the requirements in effect and published on the world wide web for the year in which their class begins its first year of study. Special requirements may be in effect for students who have left the University and are being readmitted.

Students are advised to check with the web catalog or with their college offices regarding changes that may affect them. Additional academic information may be obtained from the various college offices and the web sites listed for the particular policies, programs and services found in this catalog.

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# ACADEMIC CALENDAR: 2019-2020

## Fall Semester (2019)

Aug. 22-25 (Th-Sun)	New Student Orientation and Registration
Aug. 26 (M)	Classes Begin
Aug. 30 (F)	Last day for requesting Satisfactory/Unsatisfactory
Sept. 1 (Su)	Last Day for dropping and/or adding classes
Sept. 2 (M)	Labor Day - No Classes
Oct. 11 (F)	Mid-Term
Oct. 14 (M)	Semester Recess
Oct. 21 (M)	Classes Resume
Oct. 23 (W)	Grades Due (Noon)
Oct. 25 (F)	Registration Advising Begins
Nov. 4 (M)	Registration Begins for Spring 2020
Nov. 15 (F)	Last Day for Authorized Withdrawal without Academic Penalty (WX)
Nov. 26 (Tu)	Thanksgiving Recess begins after last class
Dec. 2 (M)	Classes Resume
Dec. 12 (Th)	Final Day of Classes
Dec. 13 (F)	Reading Day
Dec. 14-20 (Sat-F)	Final Examinations (No exams on Sunday, Dec. 15)
Jan 2 (Th)	Final Grades Due (12 Noon)

Tuesday, December 10 will be deemed a Friday class day and will follow a Friday schedule (UG Day only)

## Spring Semester (2020)

Jan. 13 (M)	Classes Begin
Jan. 17 (F)	Last Day for requesting Satisfactory/Unsatisfactory
Jan. 19 (Su)	Last Day for dropping and/or adding classes
Jan. 20 (M)	Martin Luther King Day (No Classes)
Feb. 28 (F)	Mid-Term
Mar. 2 (M)	Semester Recess
Mar. 9 (M)	Classes Resume
Mar. 11 (W)	Grades Due (Noon)
Mar. 13 (F)	Registration Advising Begins
TBA	Registration Begins for F2020 semester
Apr. 3 (F)	Last Day for Authorized Withdrawal without Academic Penalty (WX)
Apr. 8 (W)	Easter Recess begins after last class
Apr. 14 (T)	Classes Resume
Apr. 30 (Th)	Final Day of Classes
May 1 (F)	Reading Day
May 2-8 (Sat-F)	Final Examinations (No exams on Sun., May 3)
May 11 (M)	Final Grades Due (12 Noon)
May 15-16 (Fri-Sat)	Baccalaureate and Commencement

Tuesday, April 28 will be deemed a Friday class day and will follow a Friday schedule (UG Day only)

Wednesday, April 29 will be deemed a Monday class day and will follow a Monday schedule (UG Day only)



# ACADEMIC CALENDAR 2020-2021

## Fall Semester (2020)

Aug. 20-23 (Th-Sun)	New Student Orientation and Registration
Aug. 24	Classes Begin
Aug. 28 (F)	Last day for requesting Satisfactory/Unsatisfactory
Aug. 30 (Su)	Last day for dropping and/or adding classes
Sept. 7 (M)	Labor Day - No Classes
Oct. 9 (F)	Mid-term
Oct. 12 (M)	Semester Recess
Oct. 19 (M)	Classes Resume
Oct. 21 (W)	Grades Due (Noon)
Oct. 23 (F)	Registration Advising Begins
TBA	Registration Begins for Spring 2021
	Last Day for Authorized Withdrawal without Academic Penalty (WX)
Nov. 11 (W)	
Nov. 24 (Tu)	Thanksgiving Recess begins after last class
Nov. 30 (M)	Classes Resume
Dec. 10 (Th)	Final Day of Classes
Dec. 11 (F)	Reading Day
Dec. 12-18 (Sat-F)	Final Examinations (No exams on Sunday, Dec. 13)
Dec. 21 (M)	Final Grades Due (12 Noon)

Tuesday, December 8 will be deemed a Friday class day and will follow a Friday schedule (UG Day only)

## **Spring Semester (2021)**

Jan 11 (M) - Classes Begin

Jan 15 (F) - Last Day for requesting Satisfactory/Unsatisfactory

Jan 17 (Su) - Last Day for dropping and/or adding classes

Jan 18 (M) - Martin Luther King Day (No Classes)

Mar 1 (M) - Semester Recess

Mar 8 (M) - Classes Resume

Mar 8 (M) - Mid-term

Mar 10 (W) - Grades Due (Noon)

Mar 12 (F) - Registration Advising Begins

TBA            Registration Begins for Fall 2021

Mar 31 (W) - Last day for Authorized Withdrawal without Academic Penalty

Mar 31 (W) - Easter Recess begins after last class

Apr 6 (Tu) - Classes Resume

Apr 29 (Th) - Final Day of Classes

Apr 30 (F) - Reading Day

May 1-7 (Sat - Fri) - Final Examinations (No exams on Sun. May 2)

May 10 (M) - Final Grades Due - Spring 2019 semester (12 Noon)

May 14-15 (Fri - Sat) - Baccalaureate and Commencement

June 28 (Fri) - Last day for submission of work to remove incomplete ("N") grade

TBA - Last day for "N" grade conversion to final grade (Spring 2021 Semester). Grade change forms must be received by Registrar before 5:00 PM.

Tuesday, April 27 will be deemed a Friday class day and will follow a Friday schedule (UG Day only)

Wednesday, April 28 will be deemed a Monday class day and will follow a Monday schedule (UG Day only)

# VILLANOVA UNIVERSITY

## BACKGROUND

For a century and a half, Villanova has been directed by the Order of St. Augustine, known as the Augustinians (<http://heritage.villanova.edu/>), one of the oldest religious teaching orders of the Catholic Church. The first American foundation of the order within the present limits of the United States was established in 1796 at old St. Augustine's Church in Philadelphia. Villanova University traces its lineage from this foundation and from St. Augustine's Academy, which was opened there in 1811.

In January 1842, the Augustinians at old St. Augustine's took possession of Belle Air, the country estate of the Revolutionary officer and merchant John Rudolph. In accordance with the old Catholic custom, the new foundation was placed under the patronage of a saintly hero of the past. For their patron the Augustinians chose St. Thomas of Villanova, a 16th century Spanish Bishop who was a distinguished Augustinian writer and educator. The school soon became known as Villanova and gave its name to the surrounding countryside.

Classes were opened in the old mansion house at Belle Air during the fall of 1843. On March 10, 1848, the Governor of Pennsylvania, Francis R. Shunk, signed the Act of the Legislature incorporating The Augustinian College of Villanova in the State of Pennsylvania and conferring on Villanova College the right to grant degrees in the Arts and Sciences.

The Liberal Arts College took its first step toward university status in 1905 with the establishment of what is now called the College of Engineering. The Science unit, inaugurated in 1915, is now an integral part of the present College of Liberal Arts and Sciences. In 1918, what is presently known as the Part-Time Studies Division of the College of Professional Studies came into being. The College of Commerce and Finance was founded in 1922 and became the Villanova School of Business in 2006. The College of Nursing and the School of Law were founded in 1953. The College of Professional Studies was founded in 2014.

Villanova's development over the years into a complex institution of higher education received official sanction when, on November 10, 1953, pursuant to an act of the Legislature of the Commonwealth of Pennsylvania, its charter was amended to permit its being designated Villanova University.

## MISSION STATEMENT

Villanova University is a Catholic Augustinian community of higher education, committed to excellence and distinction in the discovery, dissemination and application of knowledge. Inspired by the life and teaching of Jesus Christ, the University is grounded in the wisdom of the Catholic intellectual tradition and advances a deeper understanding of the relationship

between faith and reason. Villanova emphasizes and celebrates the liberal arts and sciences as foundational to all academic programs. The University community welcomes and respects members of all faiths who seek to nurture a concern for the common good and who share an enthusiasm for the challenge of responsible and productive citizenship in order to build a just and peaceful world.

## **ENDURING COMMITMENTS**

In pursuit of this mission, we commit ourselves to academic excellence, to our values and traditions, and to our students, alumni and the global community.

To foster academic excellence, we as a University:

- Create a diverse community of scholars, united and dedicated to the highest academic standards;
- Emphasize the liberal arts and sciences as our foundation and foster in our students, active engagement, critical thinking, life-long learning and moral reflection;
- Concern ourselves with developing and nurturing the whole person, allowing students, faculty and staff to grow intellectually, emotionally, spiritually, culturally, socially and physically in an environment that supports individual differences and insists that mutual love and respect should animate every aspect of university life;
- Encourage interdisciplinary research, teaching and scholarship;
- Affirm the intrinsic good of learning, contemplation and the search for truth in undergraduate and graduate education;
- Support a curriculum that encourages both a global perspective and an informed respect for the differences among peoples and cultures.

To honor our values and tradition, we as a Catholic University:

- Believe that the dialogue between faith and reason drives the pursuit of knowledge and wisdom, and fosters St. Augustine's vision of learning as a community ethos governed by love;
- Seek to understand, enrich and teach the Catholic intellectual tradition through our curricula, scholarship and activities in ways that engage diverse religious, intellectual and cultural traditions in a vigorous and respectful pursuit of truth and wisdom in every area of humanity;
- Provide opportunities for students, faculty and staff to seek guidance from Catholic intellectual and moral traditions, while always welcoming people from all faiths, cultures and traditions to contribute their gifts and talents to our mission;
- Respect and encourage the freedom proposed by St Augustine, which makes civil discussion and inquiry possible and productive;
- Look to the Order of St. Augustine to preserve our Augustinian character, by showing appropriate preference to Augustinians in faculty and staff appointments, and by welcoming their presence and influence in our university community.

To serve our students, alumni and global community, we as an Augustinian University:

- Encourage students, faculty and staff to engage in service experiences and research, both locally and globally, so they learn from others, provide public service to the community and help create a more sustainable world;
- Commit to the common good, and apply the knowledge and skills of our students and faculty to better the human condition;
- Encourage our students and faculty to pursue virtue by integrating love and knowledge, and by committing themselves to research and education for justice, with a special concern for the poor and compassion for the suffering;
- Respect a worldview that recognizes that all creation is sacred and that fosters responsible stewardship of the environment;
- Include our alumni as an integral part of the Villanova community;
- Value highly our relationship with neighboring communities.

## **ACADEMIC PROGRAMS AND SERVICES**

### **DEGREE PROGRAMS**

Programs of undergraduate study in the various colleges lead to the following degrees:

- College of Liberal Arts and Sciences ([www.artsci.villanova.edu](http://www.artsci.villanova.edu)) Bachelor of Arts; Bachelor of Science; Bachelor of Arts, Honors; Bachelor of Science, Honors; Associate of Arts (only offered to students enrolled in Villanova's Graterford Program).
- College of Engineering ([www.engineering.villanova.edu](http://www.engineering.villanova.edu)): Bachelor of Science in Chemical Engineering, Bachelor of Science in Civil Engineering, Bachelor of Science in Computer Engineering, Bachelor of Science in Electrical Engineering, Bachelor of Science in Mechanical Engineering; Bachelor of Science in Chemical Engineering, Honors; Bachelor of Science in Civil Engineering, Honors; Bachelor of Science in Computer Engineering, Honors, Bachelor of Science in Electrical Engineering, Honors, Bachelor of Science in Mechanical Engineering, Honors.
- School of Business ([www.villanova.edu/business](http://www.villanova.edu/business)): Bachelor of Science in Accountancy, Bachelor of Business Administration, Bachelor of Business Administration, Honors.
- College of Nursing ([www.nursing.villanova.edu](http://www.nursing.villanova.edu)): Bachelor of Science in Nursing
- College of Professional Studies ([www.cps.villanova.edu](http://www.cps.villanova.edu)): Bachelor of Interdisciplinary Studies, Bachelor of Arts, Associate of Arts. Students may also pursue selected Bachelor of Arts or Bachelor of Science degrees in the College of Liberal Arts and Sciences.

Majors will be listed on the transcript, not on the diploma. To qualify for the Bachelor's Degree, the student must have completed successfully one of the four-year courses of study as specified by the University together with other work assigned. The awarding of the degree is conditioned not upon the attainment of any fixed number of credit hours, but upon the satisfactory completion of all the studies prescribed for the degree sought. Details are available in each college's sections of this Catalog.

Normally, a student may receive only ONE degree, regardless of how many majors s/he earns. Students who have completed all the requirements for two or more degrees – e.g., 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. The College Dean will be responsible for the proper counting of credits and for determining whether a given student will receive more than one degree/diploma.

## **ACCREDITATION AND RECOGNITION**

Villanova is approved by the Pennsylvania Department of Education and is accredited by the Middle States Association of Colleges and Secondary Schools. The degree program in computer science is accredited by the Computer Science Accreditation Commission of ABET, [www.abet.org](http://www.abet.org). The Chemistry Program is certified by the American Chemical Society. Villanova University is recognized by the United States Navy as a training center for Reserve Officer Training (NROTC). The undergraduate programs in Chemical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, and Mechanical Engineering are accredited by the Engineering Accreditation Commission of ABET, [www.abet.org](http://www.abet.org)

Degree programs within the School of Business are fully accredited by the American Assembly of Collegiate Schools of Business (AACSB).

The College of Nursing is approved by the State Board of Nursing of the Commonwealth of Pennsylvania. Upon completion of the undergraduate program, graduates are eligible to take the licensing examination (NCLEX) for professional registered nurses. The undergraduate and graduate programs are both fully accredited by the Commission on Collegiate Nursing Education.

## **ADVISING**

Villanova takes seriously the responsibility of academic advising. Students are urged to consult with their academic advisers on a regular basis. Each College has its own advising system. For details, see the college sections that follow in this Catalog and consult the various college offices.

## **AUGUSTINIANS AT VILLANOVA**

The Augustinian Order is a vibrant presence at Villanova University. Members of the Order serve in many areas of the University including teaching in academic departments, ministering and counseling in Campus Ministry, as well as serving in a number of administrative positions. Augustinians are also represented in the governance of the University, as President and through membership on the Board.

Villanova seeks to play an important role in allowing the voice of Augustine of Hippo (354-430 A.D.) to continue to speak effectively to today’s world. With this in mind, Villanova

established The Augustinian Institute to solidify efforts already undertaken and initiate new projects that flow from this rich Augustinian legacy. This Institute serves the university as an agent and resource to support its efforts to give Augustine's thought a vibrant and integral place within Villanova's academic and community life. Beyond the university it reaches out to the wider culture through conferences, publications, fellowships, and other initiatives. The Institute is located in 451 St. Augustine Center.

The Augustinian Historical Institute promotes the research and publication of studies in the history of the Augustinian Order and in the allied fields of theology, philosophy, missiology, and biography. Located in the Augustinian Room, 301 Old Falvey, the Institute maintains an exceptional collection of books, manuscripts, reviews and micro copies pertinent to these studies.

## **CAREER CENTER**

The Career Center provides guidance to all students and alumni of Villanova on every step of their career journeys: exploring career and graduate school options, strategically connecting to internships and jobs, changing careers, and more. The team at the Career Center partners with units across the university to deliver comprehensive professional development opportunities customized to a variety of interests each year. The Center manages Handshake, the university's career management system, which connects students and alumni to thousands of job postings and on-campus interviews, as well as hundreds of recruiting events which take place on campus. Individual career counseling is available year-round, allowing Villanovans to get specific feedback and best practices on interviewing, resume and cover letter writing, and industry-specific job search strategies. The Career Center's website provides extensive information on career development and resources for graduate school applicants. The office is located in Garey Hall on the 1<sup>st</sup> floor and our team, including trained student Career Assistants, looks forward to meeting you.

## **CENTER FOR ACCESS, SUCCESS AND ACHIEVEMENT**

The Center for Access, Success and Achievement (CASA) aims to recruit, retain, and graduate underrepresented, first generation, and Pell Eligible students through holistic support in a culturally diverse and academically excellent environment. Our goal is to maintain successful retention by providing students with a sense of belonging in a nurturing environment, opportunities for self-realization and personal development, and holding them accountable for working to the best of their abilities. As a multifaceted center, CASA houses a number of resources that provide access to success. In addition, our office coordinates programing throughout the year to promote self-care, self-actualization, and self-advocacy. To accomplish these goals, we partner with local units, resources, and Villanova departments to provide coordinated care and support. The Center for Access, Success and Achievement is located in the Learning Commons, Falvey Library, 2nd Fl. Call 610-519-4075 for information.

The main programs are:

- **Academic Advancement Program (AAP)** AAP is an admission and resource program designed especially for highly motivated students who have strong academic

credentials and could benefit from additional financial and academic support. The goal of the AAP program is provide an educational opportunity to such students and to facilitate their academic and personal adjustment to college. The pre-college component offers a three-credit freshman English course, math, college writing skills, general sciences classes, and critical thinking workshops. Selection for participation is made through the Admissions Office and is based on students' high school transcript, SAT/ACT scores, their college essay and family income levels. Students residing in Pennsylvania, New Jersey, Delaware and Maryland are eligible for the AAP program. Anyone interested in this program should call Linda Coleman at 610-519-4074.

- **A.C.T.I.V.E (Advising, Counseling, Tutoring, and Information to enhance the Villanova Experience):** CASA offers comprehensive integrated services to all incoming students. Our goal is to ease first and second year students' transition into the Villanova University community. In addition to academic tutoring, counseling and course advising, we can also help students select and get involved with a wide array of engaging extracurricular activities. First and second year students, at times, may feel overwhelmed and under prepared when inundated with opportunities and issues on and off campus. When faced alone, these issues may affect their personal and academic life. Adding to those concerns may sometimes include cultural differences, social, political, spiritual, and economic hardships. The Center for Access, Success and Achievement combats these concerns through the services they offer. Anyone seeking information about this program should call 610-519-4075.
- **St. Thomas of Villanova Scholars Program (STOVS):** The STOVS program is a three-week summer program where invited incoming freshmen begin their college career. During STOVS, students have the opportunity to familiarize themselves with college level courses, connect with University faculty and administrators, and meet some of their new best friends. STOVS is a residential program and during this summer program, students take a 3-credit, Augustine and Culture Seminar (ACS) class, or a 3- credit Economics class (based on major selection and committee recommendation). Through one-on-one meetings, students will begin to identify and work towards their academic, social, and career goals. Students are invited to apply to the STOVS program in early May, after submitting their deposit to attend Villanova University. For more information about the program contact The Center for Access, Success and Achievement at 610-519- 4075.

## **CENTER FOR RESEARCH AND FELLOWSHIPS**

The Center for Research and Fellowships (CRF) is a results-oriented team of professionals that supports Villanovans—at all levels and from diverse backgrounds—to enhance their career trajectories through mentoring, student research funding, and assistance in winning competitive awards. CRF provides the opportunity to engage in undergraduate research as well as comprehensive advising for students who pursue prestigious national scholarship and fellowship opportunities. The team at the Center mentors students in all aspects of professional development, and this mentoring can begin as early as a student's first year.

Applications assisted by the CRF team include the Truman, Goldwater, Udall, Fulbright,



Knight-Hennessy, Marshall, and Rhodes Scholarships, the National Science Foundation Graduate Research Fellowship, the DAAD-RISE international research internships, and National Science Foundation Research Experiences for Undergraduates, among others. Established in 2001, we have connected hundreds of Villanova students and alumni to programs of research and scholarship around the world.

CRF provides financial support for student research through the Villanova Match Research Program for First-Year Undergraduates and the Villanova Undergraduate Research Fellows Program, as well as short-term research, conference, and travel grants. In recent years, over 250 Villanova undergraduates have received CRF funding for research that they have published in peer-reviewed scholarly journals and presented at national and international conferences.

The Center is also proud to manage all aspects of the Presidential Scholars Program, including the nomination, application, and selection processes as well as mentoring Presidential Scholars throughout their time at Villanova—and beyond. CRF is located in Garey Hall.

## **DEAN'S LISTS**

Each year the Dean of each college at Villanova honors those students who are deemed to have established an outstanding academic record as determined by the College and its Dean. To qualify for the Dean's List, a student must be a full-time student, with no non-passing or missing grades on the semester report, at least 12 credits of earned letter grades and with a semester average of 3.5. The College of Nursing has a Dean's List only in the spring semester and requires a 3.5 average in both semesters.

## **EDUCATION ABROAD**

Each year, over 800 Villanova students study overseas for a summer, a semester, or a year to add an international dimension to their academic career. Villanova offers students a wide variety of programs and locations around the world. All majors can study abroad for a semester, though planning early is important, especially for Engineering, Nursing, and Science students. The Office of Education Abroad helps students identify opportunities and facilitates the process of enrollment in overseas programs. For more information, visit our website [abroad.villanova.edu](http://abroad.villanova.edu), email [abroad@villanova.edu](mailto:abroad@villanova.edu) or call the main office at 610-519-6412.

## **HONOR SOCIETIES**

In addition to the many honor societies appropriate to individual colleges and academic disciplines and departments, Villanova has chapters of these national honor societies:

- Phi Beta Kappa ([www1.villanova.edu/villanova/artsci/about/phibetakappa.html](http://www1.villanova.edu/villanova/artsci/about/phibetakappa.html)) The Sigma Chapter of Phi Beta Kappa was established at Villanova in 1986. Membership is an honor conferred primarily in recognition of outstanding scholarly achievement in the liberal arts and sciences.
- Phi Kappa Phi
- ([www1.villanova.edu/villanova/artsci/about/phikappaphi.html](http://www1.villanova.edu/villanova/artsci/about/phikappaphi.html)). Phi Kappa Phi is

an honor society whose objective is the recognition and encouragement of superior scholarship in all academic disciplines.

- Alpha Sigma Lambda  
([www1.villanova.edu/villanova/parttime/news/AlphaSigmaLambda.html](http://www1.villanova.edu/villanova/parttime/news/AlphaSigmaLambda.html)). The Mu Chapter of Alpha Sigma Lambda was established at Villanova University in 1958. The society honors dedicated part-time and evening students.

## **INFORMATION TECHNOLOGIES**

The Office for University Information Technologies (UNIT) partners with the Villanova Community to deliver IT Solutions and Services. UNIT delivers innovative technology offerings for wide and varied needs ranging from academic related technology, IT computing, network services, web development and support services to the entire campus community. UNIT also provides a campus-wide network for data, voice, and video communication for students, faculty, and staff. Wireless network connectivity and Xfinity Cable services are extended to all residence hall rooms. Virtual and VPN technologies facilitate access to network and campus technology resources from off-campus locations.

In addition to many college and department-specific student computing labs, UNIT manages public student labs located Tolentine hall as well as computer print stations throughout campus that are open 18-24 hours a day. Computer workstations in these locations feature Virtual Desktop (vDesktop) technology and support general-purpose applications such as the Microsoft Office suite and Adobe. Additionally, multiple Apple iMac are available in Tolentine Lab areas for student use.

The Villanova TechZone is a walk-up IT support center with multiple locations in Falvey Library, Charles Widger School of Law and The Commons in Cannon Hall. The TechZone provides assistance to students and Villanova Employees with University issued laptop computers, issues with BYOD (Bring Your Own Device) equipment, and general technical support issues from 9am to 7pm M-Th and 9am to 5pm F. Technical support is complemented by Web based documentation, IT Service Catalog, and UNIT's Facebook site. In addition to the TechZone, UNIT operates the University Help Desk and provides technical support and service from 8am to 7pm M-Th and 8am to 5pm F, via phone by calling 610-519-7777.

Technical service and support is also provided by Chat ([www.villanova.edu/villanova/unit.html](http://www.villanova.edu/villanova/unit.html)) from 9am to 7pm M-Th and 9am to 4pm F, by email ([Support@villanova.edu](mailto:Support@villanova.edu)) and Self-Service Support (<http://www.villanova.edu/villanova/unit/helpsupport/EasyVista.html>).

The Center for Instructional Technologies (CIT) provides many resources and services to promote the use of technology in the teaching and learning environment. Included in these services are multimedia development, online teaching and learning resources, instructional design consultation, training/support for the campus Learning Management System (Blackboard), video and audio streaming studios, classroom lecture capture utilizing Mediasite, video and web conferencing, access to Internet 2, workshops offered on a variety

of technologies utilized on campus, and classroom AV integration and support. All 200 classrooms are equipped with high-end AV systems that feature widescreen LCD projectors, large format projection screens, intuitive control systems, various AV connectivity options, (wireless) internet access, multimedia teaching technologies and are fully supported by our Classroom Technologies Support Hotline (610-519-5631).

The Villanova userid is assigned to each student to access many Villanova systems and services throughout campus such as myNova, wifi, Blackboard and email. All undergraduate students receive a Gmail email account with access to Google apps. Cloud services and storage are offered via Google Drive and Microsoft Office 365- OneDrive at office.villanova.edu.

All students have a personalized portal called myNova that provides access to their course schedules and course related materials and allows them to perform most administrative functions, such as registration or grade lookup.

The University Card Office provides the “Wildcard”, a photo identification card that is required for all Villanova students, faculty, and staff. The Wildcard allows convenient and secure access to all card related services, including personal identification, facility access and access monitoring, debit transactions processing (NovaBucks), meal plan administration, banking relationship management, student printing allowance, and web-based transaction processing. The Wildcard is universally accepted on campus and at selected off-campus locations.

Nova Alert is Villanova’s Emergency Communication system that uses text and phone messaging features that enables campus public safety and university officials to send targeted alerts to students and faculty members in a matter of seconds. Nova Alert is designed to communicate an emergency, which could jeopardize the physical safety of the members of the University community. The alert is also used to notify the Villanova community about weather issues, such as snow-related campus closures. The alert may contain instructions on where to go, what to do or not do, as well as instructions on where to find additional information. Depending on the recipient’s preference, the Nova Alert may be sent to cell phones, e-mail accounts, smart phones and PDA devices. Nova Alert sign-up allows for current students, faculty, and staff to enter multiple devices, enabling alerts to be sent to parents or other family members.

## **LEARNING COMMUNITIES**

Join one of our Learning Communities and get the most out of your first year of college! Villanova’s Learning Communities create innovative educational environments that integrate the academic, co-curricular, and communal aspects of the first year of college in specially themed versions of the required Augustine and Culture Seminar.

Your choice will help you quickly foster strong relationships with your classmates and professor. By also living in the same residence hall as your seminar classmates and participating in a 1-credit weekly workshop, you will integrate your academic and social experiences and participate in unique opportunities with special programming, events, and trips related to your learning community’s theme. Get more information at

[https://www1.villanova.edu/villanova/studentlife/be\\_home/learningcommunities.html](https://www1.villanova.edu/villanova/studentlife/be_home/learningcommunities.html)

Examples of themes/interests are

- Leadership (commuter sections also available)
- Art and Culture
- Caritas: Service Learning
- Creative Writing
- Environmental Leadership
- Faith and Reason
- Global Community
- Healthy Living
- Crossroads: Science and Humanities (no workshop requirement)

## **LEARNING SUPPORT SERVICES**

Learning Support Services (LSS) offers students a variety of academic support services that are designed to help all Villanova students maximize their academic success. These services include one on one weekly academic coaching sessions, study skills consultation, and accommodation support for students with disabilities. Online resources including a series of study skills workshops are available from our website at:

<https://www1.villanova.edu/villanova/provost/learningsupport/>

Additionally, LSS is committed to providing “reasonable academic accommodations” for students with learning disabilities, ADHD, students on the Autism spectrum, and students with mental health conditions and chronic health conditions that rise to the level of disability. Villanova students may request support services in accordance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA). Our goal is to ensure that students with disabilities have an opportunity to grow independently to their full potential at Villanova.

To receive academic accommodations, students need to register with LSS by first completing the Online Intake Form through Clockwork, our secure data management system. To access Clockwork, students select the Clockwork for Students login on the Villanova University LSS website or myNOVA. Once on the Clockwork homepage, select the Online Intake form. Students can then log in with their Villanova username and password to access and complete the form. Documentation supporting the need for accommodations can be loaded directly to Clockwork. Reasonable academic accommodations are based on the assessment of the current impact of the disability on academic performance; therefore, it is in the student’s best interest to provide current and complete documentation. Given the specific nature of the disability, “reasonable academic accommodations” will be determined on an individual basis. Once approved for accommodations, the student can go into Clockwork each term to request accommodations for specific classes.

The Office of Learning Support Services is in 212 Falvey Library. For additional information about our services, contact 610-519-5176 or email [learning.support.services@villanova.edu](mailto:learning.support.services@villanova.edu)

## **LIBRARY RESOURCES AND SERVICES FOR STUDENTS**

Falvey Memorial Library, located in the center of the campus, provides a variety of services to help all students excel at Villanova.

### **Collections**

The library's electronic and print collections include more than one million books, tens of millions of journal articles, as well as audio-visual and other types of materials. The library's e-books and e-journals are available 24/7 and can be accessed anywhere in the world through the library's website: <http://library.villanova.edu>. If a student needs a title that the library doesn't have, library staff usually can provide a copy of an article within 24 hours of request and a book within a few days.

Copies of select course materials are available at the library. Faculty may place print copies of the required and recommended readings for classes on reserve at the library's service desk or course materials may be available electronically via Blackboard.

The library also contains the University Archives and Special Collections that support the teaching and research of the campus community and the global network of scholarship. These collections include rare and unique materials with particular strengths in the histories of Villanova, Augustinians, and Irish-Americans. Many items from these distinctive collections have been digitized and are available at <http://digital.library.villanova.edu>.

### **Services**

Subject librarians are available to assist students through the year. Librarians can help students learn the skills and tools needed to find, evaluate, and cite information sources for research assignments. Students can call, email, text, chat online, or visit the library to work with a librarian. Students looking for an in-depth consultation are encouraged to schedule a meeting with a librarian. For more information see: <http://library.villanova.edu/research>.

Librarians have also created many self-help guides to assist students with the research assignments. Guides are available on many subjects and topics as well as for specific courses at <http://library.villanova.edu/research/subject-guides>.

The Learning Commons, located on the second floor of the library, provides academic support services for students. Services include the Center for Access, Success, and Achievement (CASA), Learning Support Services Office, Math Learning Resource Center, and Villanova Writing Center.

### **Facilities**

The library is a hot spot for student study. There are many places to work in the library ranging from silent individual study, to areas that allow quiet conversation, to group study rooms for highly collaborative work. The most popular study area in the library is Dugan Polk Family Reading Room which students can access 24 hours-a-day. Other 24-hour study spaces are available on the first and second floors of the library.

The library also has computer workstations, high-speed printers, and scanners located on the first floor of the library. TechZone is located on the first floor and provides help with connectivity, VPrint, software, hardware and other technical problems.

## **Community Engagement**

Falvey Memorial Library is the center for academic life outside the classroom and strives to provide a welcoming environment for students of all backgrounds and abilities. The library hosts hundreds of events for the community each academic year, ranging from scholarly lectures, to cultural events, to stress relieving activities for students. The library has several meeting rooms available for use by official student groups. For more information see: <http://library.villanova.edu/events/general>.

## **MATHEMATICS LEARNING AND RESOURCE CENTER**

The Mathematics Learning and Resource Center (MLRC) is a center for student learning excellence. It offers free peer tutoring in mathematics, primarily with first and second year math classes. It also provides an environment where students can work on group projects, study independently, and use its learning resources. These resources include computers capable of running the mathematical software currently being used in math courses offered at Villanova and a comprehensive collection of review materials which students may use for review or independent learning. The Center is located in 204 Falvey Library, tel. 610-519-6572.

## **ROTC**

Villanova University, in a long-standing relationship with the United States Navy, maintains one of approximately 60 Naval Reserve Officer Training Corps units in the United States. The University also has an Army ROTC program in affiliation with Widener University and an Air Force ROTC program in affiliation with St. Joseph's University. For more details about these programs, consult Special Programs in the Liberal Arts and Sciences section of this Catalog.

## **WRITING CENTER**

Writing Center tutors offer assistance to undergraduates, graduate students, faculty, and staff who are engaged in every kind of writing. Students are welcome to come to the Writing Center at any stage of their composing process. Walk-in appointments are welcomed, but scheduled appointments are strongly encouraged. An individual session takes approximately 45 minutes in length, and clients may request a specific tutor. The Center is located in 210 Falvey Library; Phone: 610-519-4604.

# CAMPUS PROGRAMS AND SERVICES

## ART GALLERY

In its role as an extension of the classroom, Villanova's world-class Art Gallery serves to make the visual arts an engaging part of campus life for students, their families, staff and the community. Free on-campus exhibits by leading American and international artists, and emerging ones of promise, are publicly presented throughout the academic year.

## ATHLETICS AND RECREATION

Villanova student-athletes compete in 24 varsity sports, including 13 sports for women and 11 for men. The rich tradition of Wildcat Athletics has produced 20 National Championships and 103 Conference Championships. Faculty, staff and students have access to fitness centers, a swimming pool and intramural and competition in a wide variety of sports. In addition, the Athletic Department offers 30 different club sports in which students participate.

## CAMPUS MINISTRY

St. Rita Hall

Linda Jaczynski: Director, Center for Worship and Spirituality

John Edwards: Director, Center for Pastoral Ministry Education

Kate Giancattarino: Director, Center for Service and Social Justice

[www.campusministry.villanova.edu](http://www.campusministry.villanova.edu)

610-519-4080

*Villanova Campus Ministry is inspired by the Augustinian values of truth, unity and love, and models its programs after St. Thomas of Villanova, who dedicated his life to serving those on the margins of society. We welcome and encourage all students to engage in the search for meaning and purpose - through prayer and liturgy as well as education, community, and service. Embracing people of all faiths, and those who do not identify with any faith tradition, we seek to provide spaces for students, individually and in community, to explore the intersection of personal beliefs, spirituality, justice, and compassionate engagement with the world around them*

Through its fulltime staff and graduate interns, Campus Ministry coordinates a diverse array of **worship and prayer opportunities** for the Villanova community. We pray together through daily and weekly Masses, a weekly Ecumenical Protestant worship service, Muslim Friday prayers, and opportunities for devotional and mindfulness practices, as well as special worship services marking major events throughout the academic year. Many students participate in worship leadership as liturgical ministers, pastoral musicians, and members of planning teams.

Students learn and grow together through weekly **“Get Real” discussion groups**, opportunities for individual **spiritual direction**, and a wide array of **retreats** that encourage reflection and understanding of personal faith. Campus Ministry partners with diverse Christian fellowship groups, Hillel, the Muslim Student Association, and the student-led

Interfaith Coalition to create **ecumenical and interfaith** experiences that enable students of diverse religious traditions to know and learn from one another.

Seeking to embody the call of the Gospel, and inspired by Catholic Social Teaching, Campus Ministry provides opportunities for students, faculty and staff to act in solidarity with neighbors in need – locally, nationally and globally - through **Service and Justice Education** break trips, and **weekly community service** options. These service experiences are accompanied by opportunities to reflect upon the people and communities encountered in light of issues of social injustice, in order to deepen students' ongoing learning.

Campus Ministers provide **pastoral care and counsel**, including helping students deal with value conflicts, grief, spiritual discernment, and many other issues connected with faith and life.

In all that we do, Campus Ministry prioritizes the development of leaders who embody the values of truth, unity and love, and the fostering of community life shaped by pursuit of the common good.

Campus Ministry is located on the first floor of St. Rita's Hall. Regular weekday office hours are 9 a.m. to 5 p.m., and appointments can be made in person or by phoning 610-519-4080. Detailed information on Campus Ministry activities can be found on the website and in *The Blue Book: The Villanova University Student Handbook*.

## **COUNSELING CENTER**

The University Counseling Center, located on the Main Floor of the Health Services Building, offers psychological counseling, groups, consultation, and referral. Except for emergencies, appointments are required and can be scheduled either by phone 610-519- 4050 or by visiting the Center. Some examples of services are:

- Personal and Psychological Counseling. Students can discuss personal concerns in a private, confidential setting. Individual counseling sessions are available, as are counseling groups. All contacts are completely confidential and are not recorded on the student's university records. Doctoral Psychologists help students with issues such as: depression; anxiety; relationship concerns; eating disorders; trauma; self-defeating behaviors; family issues; and other problems.
- Drug and Alcohol Counseling. Students who are concerned about their use of alcohol or other drugs are encouraged to seek help from our psychologists.
- Consultation regarding other individuals. Students who are concerned about a family member, friend, or fellow student, may also consult the Counseling Center staff about how best to support that person.
- Referrals are provided for students who prefer to obtain off-campus counseling, or whose counseling needs exceed the capacity of the Counseling Center.



## **CRISIS RESPONSE SERVICES**

Villanova University has devoted significant resources to providing a safe campus and assuring the safety of our community members. In addition to day-to-day coverage by our 75-member Public Safety team, we have an extensive Emergency Preparedness Plan in place that includes procedures to ensure a rapid response to an unanticipated emergency or threatening situation. Villanova takes all incidents affecting student, faculty, and staff safety as serious and time critical. We will use all available means of communications in a crisis situation, including text messaging, telephone, the Web site, and e-mail. The University will also implement on-site personal contacts by utilizing Public Safety officers and other University staff and officials. In the event of an emergency on campus or off, we provide full-service counseling services, as well as access to Campus Ministry staff trained to provide grief counseling.

## **INTERNATIONAL STUDENT SERVICES**

The International Student Office assists international students in becoming familiar with the Villanova community, policies and U.S. government regulations that will govern their status here in the United States. The office sponsors a variety of social and cultural programs in conjunction with other Villanova organizations and local area universities and colleges. Each Fall semester in conjunction with the Office of University Admission the office holds an orientation session geared towards the concerns of incoming international freshmen. Incoming international freshmen are strongly advised to plan to attend this program. Examples of topics covered during the orientation program include: the necessity to provide updated addresses and health insurance, how to maintain proper legal status during your academic career at Villanova, and regulations regarding employment. NOTE: Villanova University requires that all full-time students have health insurance.

All new international students to Villanova are required to check in with the International Student Services Office upon arrival at Villanova. This office, with the Registrar's Office, is responsible to ensure that all international students are registered with the Department of Homeland Security each semester. The International Student Service Office is located in the Connelly Center, second floor (610-519-4095 or 610-519-8017).

## **OFFICE OF DISABILITY SERVICES**

The Office of Disability Services (ODS) is responsible to oversee University compliance with the American with Disabilities Act (ADA) as it relates to academic accommodations.

The ODS is the primary office at Villanova University with specialized knowledge and experience in physical disability issues. ODS also advises faculty on the policies and procedures relevant to students with disabilities and acts as a general information and referral service on disability issues.

Students with identified disabilities have been admitted into Villanova University by the same criteria as other students and they have met the same rigorous standards for admission. The office meets with students to determine accommodations needed to succeed in academic programs. ODS works closely with Facilities Management to insure classroom and facility accessibility. Incoming students should make an appointment with the office to request accommodations by contacting either Mr. Greg Hannah (610-519-3209) or Dr.

Stephen McWilliams (610-519-4095). The office is located on the second floor of the Connelly Center.

## **OFFICE OF DIVERSITY, EQUITY AND INCLUSION**

- **Student Outreach and Diversity Initiatives:** Office of Diversity and Inclusion seeks to ensure that each student's educational experience at Villanova University takes place in the context of a welcoming, caring, just, and educationally purposeful community. The Center pursues this goal through the promotion and facilitation of intercultural awareness and by offering learning resources and structured learning experiences to support students and student organizations. Students are encouraged to contact the Center if they encounter any form of bias or discrimination at the University. Once reported, students will meet privately with office staff to develop strategies for remedying problems encountered with bias or discrimination. The office also offers opportunities for students to assist the office in achieving its goals by participating in student organizations to promote diversity. Students are encouraged to e-mail [bias@villanova.edu](mailto:bias@villanova.edu), visit the Office of Intercultural Affairs, or the Office of Diversity and Inclusion in person or online ([www.diversity.villanova.edu](http://www.diversity.villanova.edu)).
- **Intergroup Dialogue Program:** The Program on Intergroup Relations (IGR) is an educational program focused on supporting greater understanding about issues of inequity and promoting greater justice. IGR accomplishes this by providing students (as well faculty and staff) with the opportunity to understand their own social identities and those of others' more deeply, and to engage responsibly in promoting equity through allyship and action. IGR is a partnership between the Communication Department and the Office of Diversity and Inclusion. One-credit Dialogue classes (COM 5300) are the hallmark of the program and allow students in the four colleges to engage in small group conversations about race, class, gender, religion, and sexual orientation. IGR classes are housed in the Communication Department and are rooted in developing the communication skills of dialogic listening, cross-cultural understanding, empathy, and facilitation. Specially trained faculty and staff members co-facilitate each small class, limited to 12 students. For more information e-mail [igrinfo@villanova.edu](mailto:igrinfo@villanova.edu) or visit [www.villanova.edu/igr](http://www.villanova.edu/igr)

## **OFFICE OF HEALTH PROMOTION**

The mission of Health Promotion at Villanova University is to:

- Provide health resources and services grounded in evidence;
- Facilitate opportunities for students to build skills that empower them to make healthy and responsible lifestyle choices; and
- Instill a sense of personal responsibility for individual health decisions and recognize the impact those decisions can have on the Villanova community.

Health Promotion fulfills its mission through its comprehensive campus-wide change efforts related to high-risk behaviors (e.g., alcohol abuse and sexual violence), first year learning community, POWER peer education and academic internship program, the Stall Street Journal and Student Health 101 publications, Web and print resources, one-on-one consultation, and the Thrive 365 initiative. To find out more about the Office of Health

Promotion, please visit us on the first floor of the Health Services Building, call us at 610-519-7407 or e-mail us at [healthbytes@villanova.edu](mailto:healthbytes@villanova.edu).

## **MUSIC ACTIVITIES**

The Office of Music Activities promotes, maintains, and supervises the creative and artistic endeavors of student performing groups on the Villanova campus. These groups include: INSTRUMENTAL: The Villanova Band; Chamber Strings; Brass Ensemble; Woodwind Ensembles; Jazz Ensemble; Music and Instruments Club (MIC) – CHORAL: Villanova Singers (male); Villanova Voices (female); - A CAPPELLA: Haveners; Nothing But Treble; Minor Problem; Sirens; Spires; Supernovas; Vocal Minority; Measure Up – DANCE: Villanova Dance Team; Twirlers; Dance Company & Ensemble; Ablaze (Hip-Hop); Irish Dance Team; Nova Nassa (Indian Fusion/Bollywood); Nova Noise (Tap); Nova on Pointe (Ballet); Superlative (Hip Hop); Wazobia (African Dance) – THEATER: Student Musical Theater (VSMT); Student Theater (VST); Music Activities Stage Crew (MASC). For more information, visit the MUSIC ACTIVITIES website (<http://music.villanova.edu>). PHONE 610-519-5050

## **RESIDENTIAL FACILITIES**

The University maintains a variety of living facilities which are intended to serve as extensions of Villanova's learning environment. Approximately 5400 students are housed on-campus across 18 traditional residence halls and 14 residential apartment structures. Lounge areas and laundry facilities are available in most residence halls and dining facilities are conveniently located throughout campus.

Admission to the University as a resident and payment of the admission deposit guarantees placement in residential facilities for consecutive freshman, sophomore, and junior years. Beginning Fall 2019, on-campus residency will be available to limited number of Seniors via a housing lottery. Transfer students are not guaranteed on-campus residency. More information on residential facilities may be obtained by contacting Residence Life, Stanford Hall (610-519-4154) or by visiting our website [www.reslife.villanova.edu](http://www.reslife.villanova.edu).

## **STUDENT HEALTH SERVICE**

The Villanova University Student Health Center (610-519-4070), is staffed by registered nurses 24 hours daily. The Student Health Center is open with limited hours during semester breaks and over the summer. Physicians and nurse practitioners are available weekdays by appointment. Gynecologic services are provided by the nurse practitioners by appointment. Registered nurses provide 24-hour care to students who require inpatient treatment and observation, as well as to students who require walk-in care. Other medical services include diagnostic laboratory testing, administration of allergy injections and immunizations. In the event that a student requires emergency care, transportation is provided to a local hospital. Though students are not billed for physician or nurse practitioner visits, they are financially responsible for some medication and all laboratory fees, as well as consultation with specialists. For information about health insurance requirements for students please see our website. The Health Center is located in the Health Services Building, Third Floor.

## **STUDENT INVOLVEMENT**

Dedicated to the Augustinian mission of the University, the Office of Student Involvement seeks to foster the growth of the total person, one who builds community, values differences, leads ethically, and serves others. The office also provides a variety of services, programs, and activities which enhance campus life. The Office of Student Involvement enriches the student collegiate experience and serves the campus community through the active involvement of students, faculty, and staff in quality programs and organizations. Life at VU is filled with many opportunities for you to become an integral part of the Villanova community, as well as enriching your time at the university. There are so many options to choose from that will add to your experience on campus. Our office oversees the administration of over 200 student organizations at Villanova. Its aim is to provide a co-curricular program emphasizing leadership skills and co-curricular learning. The interest areas represented at Villanova include: governance, programming, student media, politics, academics, cultural activities, honor societies and special interest groups. A complete listing of organizations and information on how to join can be found in the Office of Student Involvement, 102 Dougherty Hall (610- 519-4211).

## **STUDENT ORGANIZATIONS**

Getting involved with a student organization can enhance the college experience. Organizations exist for a variety of purposes including: Academic and Professional, Athletics, Cultural, Fraternity/Sorority Life, Media, Music, Dance, Student Theater, Peace & Justice, and Political. Students also can start a club if an existing one does not meet their interests. For more information visit [click here](#) for a list of the many options on how to get connected to student organizations on campus.

## **TRANSCRIPTS**

Students may obtain transcripts of their records by ordering them online. Current students log in to myNOVA. In the search box, enter Order a Transcript. Select Order a Transcript *Current Undergraduate, Grad and Non-Credit*. Select Main Campus Degree Program and complete the order online. Student transcripts may be ordered for pick up, mailing, electronically or expedited delivery.

Students and Alumni without a myNOVA account order transcripts on-line from the Registrar's Website [www.registrar.villanova.edu](http://www.registrar.villanova.edu), Select Transcript Requests, *Undergraduate or Graduate – Office of the Registrar*, Select How to Request a Transcript and then select the TranscriptsPlus link under Alumni and Former Students to access the Main Campus Degree Program ordering form.

Telephone and email requests cannot be accepted. Official transcripts bear the seal of the University and the signature of the Registrar. Those given, mailed or electronic transcripts, delivered directly to the student are stamped with a statement which points out this fact. Transcripts will not be released for persons whose financial accounts are not clear in the Bursar's Office.

**Electronic Transcripts are available to students who attended since September 1984.**

### The cost of a Transcript:

PDF transcripts (payable by credit/debit card) = \$5.55 per transcript.

Online orders for mail delivery (payable by credit/debit card) = \$7.85 per transcript

Online orders for pick-up or campus mail (payable by credit/debit card) = \$5.55

Walk-in request (payable by check or cash) = \$10.00 per transcript

## **UNIVERSITY SHOP**

The Villanova University Shop is the on-campus provider of merchandise and course-related items for Villanova University. The University Shop provides textbooks, a full selection of school supplies, calculators, and study aids. Our authentic assortment of Villanova fan gear includes t-shirts, sweatshirts, shorts, pants, hats and accessories for men, women, and children. We also carry a full assortment of drinkware, home accessories and gift items as well as dorm essentials. Our technology department features Apple products as well as phone cases, chargers, cables, printers, speakers, and more. Order online at [www.villanovabookstore.com](http://www.villanovabookstore.com) and take advantage of our free in-store pickup option, which is a huge time saver when classes begin.

## **VETERANS BENEFITS**

The School Certifying Officials, located in the Registrar's Office (Room 205, Kennedy Hall) serve as a liaison between the University and the Veterans Administration. Veterans, Military Students and dependents, who will be registering for the first time must contact the SCO to file their application with the Veterans Administration. Application for VA Benefits is available online through the Department of Veteran Affairs online application (<https://www.va.gov/>). After the student has registered for the appropriate courses, the enrollment certification will be transmitted to the Veterans Administration to secure payment of benefits to the veteran. Veterans who transfer from another institution must complete the form "Request for Change of Program or Place of Training," available online through the Department of Veterans Affairs website. The veteran must submit the signature page of the completed application together with the course information to SCO. The enrollment certification will then be transmitted to the Veterans Administration to secure payment of benefits to the veteran. It is the Veteran Student's responsibility to notify the SCO each semester after they have registered that they plan to continue to use their VA benefits, so that their credits may be certified with the VA in a timely manner.

Please contact the School Certifying Official, Todd Robinson at 610-519-4034 for more information or for any questions that you may have.

More information can be found at <https://www1.villanova.edu/villanova/enroll/veterans-military.html>.

# ADMISSIONS

## GENERAL POLICY ON UNDERGRADUATE ADMISSION

Villanova seeks to enroll students who excel academically and possess wide interests and positive qualities of character. In selecting members of the first-year class from the large number of qualified candidates who meet the minimum quantitative and qualitative requirements, the University undertakes to admit those who appear best prepared to benefit from the programs of study offered.

The criteria used to assess academic potential are: the scholastic record as reflected by the rigor of courses chosen in high school and the quality of performance; rank in class (where rank is reported); scores earned the SAT and/or the ACT; participation in extracurricular and community service activities; secondary school counselor and teacher recommendation; and essays.

Students are holistically selected on the basis of individual merit. The University does not discriminate against applicants seeking admission because of their race, color, national or ethnic origin, religion, sex, sexual orientation, gender identity, age, disability, veteran status or family financial status.

## REQUIRED AND ELECTIVE UNITS FOR ADMISSION

Although individual consideration is given to each applicant, it is expected that all applicants, except in most unusual circumstances, will minimally satisfy the unit requirements listed below the college to which they make application. As used here, a unit represents a year's work in any subject. Each college requires 16 units.

### College of Liberal Arts and Sciences

For Liberal Arts Curriculum:

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

For Applied and Life Science Curricula:

English	4	Foreign Language	2
Chemistry	1	Physics (recommended)	1
Mathematics	4	Electives	4

### Villanova School of Business

English	4	Science	1
History	2	Electives	5
Mathematics (Calculus preferred)	4		

## College of Engineering

English	4	Physics (required)	1
Chemistry	1	Electives	6
Mathematics	4		

## College of Nursing

English	4	Mathematics	3
History	2	Electives	2
Biology	1	Other Science	1
Chemistry	1	Foreign Language	2

Elective units acceptable in all colleges

Latin	2	Social Studies	2
Foreign Language	2	Mathematics	2
History	2	Laboratory Science	2
Chemistry	1		
Biology	1		
Physics	1		

## HEALTH AFFILIATION PROGRAM

Villanova University has accelerated Health Science Affiliation programs with a number of institutions including the University of Pennsylvania School of Dental Medicine, and the Pennsylvania College of Optometry at Salus University. Completed applications to these programs must be received by the Office of Undergraduate Admission no later than November 1.

The SAT and/or ACT must be taken no later than October of the senior year.

## EARLY ACTION

Early Action admission is awarded to those exceptional students who have outstanding high school records, rigorous curricula, and correspondingly high SAT or ACT scores as judged by the Committee on Admission. Applicants will be evaluated on the basis of their three-year record and scores on the SATs and/or ACTs taken no later than October of the senior year.

For Early Action, the completed application must be received by the Office of University Admission no later than November 1. Every effort will be made to notify all Early Action applicants by January 15. These applicants need not apply only to Villanova. Deferred applicants will also be notified and will be reconsidered in the Regular Decision applicant pool; candidates may also be denied admission at this time. The Committee on Admission reserves the right to admit, defer, or deny any candidate for Early Action.

## EARLY DECISION

For students who have decided that Villanova is their first-choice after a thorough and thoughtful college search, we offer a binding Early Decision (ED) plan. With a

deadline of November 1, all ED applicants will be notified of their decision by December 15. An Early Decision Form must also be submitted by November 1 with all required signatures. The Early Decision Form is available on the [Common Application](#) website.

All standardized test results (SAT and/or ACT) must be submitted directly to Villanova and taken no later than October of the senior year for ED consideration. We will also require a senior progress report with any grades that are posted by November 1.

If you are applying for financial assistance, you must have all required documents including the FAFSA and CSS Profile submitted by November 1.

For those admitted through Early Decision, the non-refundable deposit of \$700 will be due by January 7, and all applications to other colleges and universities must be withdrawn.

For children of Villanova graduates, legacy affiliation will be given the most consideration through the Early Decision option.

## **REGULAR DECISION**

Applicants for Regular Decision may submit their credentials any time after August 1 prior to the start of the senior year. The completed application must be received by the Office of Undergraduate Admission no later than January 15. Applicants for Regular Decision will be evaluated on the basis of their three-year high school record (to include senior mid-year grades), rigor of curricula, and scores on the SAT and/or ACT taken no later than December of their senior year. Every effort will be made to notify all applicants by April 1 of the following appropriate decision: admittance, waiting list, denial, scholarship award, loan assistance and/or grant-in-aid. To secure a place in the class, admitted students must submit a non-refundable registration deposit of \$700 no later than May 1.

Students who are admitted as resident students and pay the \$700 enrollment deposit by May 1 are guaranteed three consecutive years (first year, sophomore and junior) of on-campus housing. Students accepting the University's offer of admission are advised to submit their registration deposits on-line or by check, credit card, or money order payable to "Villanova University" as soon as possible. The deposit is non-refundable and is applied toward the student's first semester account.

## **APPLICATION PROCEDURE**

To ensure proper processing of applications for admission, all candidates should follow the procedure outlined below:

- Complete the on-line Common Application with the Villanova Member Section by the appropriate deadline at [www.commonapp.org](http://www.commonapp.org). (This includes the submission of the Common Application and Villanova essay along with the \$80 application fee. Villanova participates in various fee waiver programs for eligible students.)
- Notify their secondary school counselor or other educational professionals to submit Secondary School Counselor section of the Common Application and official high school transcript to the Office of Undergraduate Admission. The completed admission applications must be received by Villanova no later than November 1 for



Early Action, Early Decision, Honors Program Consideration and Health Affiliation Programs; December 1 for Presidential Scholarship (including nomination) consideration and Villanova Scholarship consideration; and January 15 for Regular Decision consideration.

Villanova offers the applicant the option to self-report your SAT and/or ACT scores in the testing section of the Common Application. Should you choose, you may also have your official score sent to Villanova, but this is not necessary for your application to be reviewed. If you are admitted and choose to enroll, we will require that the official scores be sent directly from the College Board and/or ACT. Any misrepresentation of these scores will result in the denial or recession of admission.

- Submit one teacher recommendation on-line through the Common Application. (A paper copy will be reviewed, but may not become part of the applicant's file.)

## **TRANSFER STUDENTS**

Candidates for admission who have attended other colleges and universities should submit applications for transfer to the Office of Undergraduate Admission of Villanova University no later than June 1 for the fall and November 1 for the spring semester (unless otherwise stipulated).

The transfer applicant must submit complete seal-bearing transcripts from all the college/university and secondary schools attended, a list of courses in progress, a catalog describing courses completed at the college-level institution, evidence of honorable withdrawal (Common Application Transfer College Report), essay and any other information the Admission Committee may require. Transfer students are required to choose a major at the time they apply. Admission criteria vary slightly contingent upon the college or academic program to which a candidate applies. A cumulative grade point average of 3.00/4.00 is recommended for students interested in transferring to Villanova. Admitted transfer students into the College of Liberal Arts and Sciences are not eligible to transfer internally to one of the other Villanova academic colleges. If you intend to earn a degree from the Villanova School of Business, the M Louise Fitzpatrick College of Nursing, or College of Engineering, you must apply directly to that college

Transfer credit towards undergraduate degrees will, in general, be granted for appropriate academic work completed with a grade "C" (2.00) or better at an accredited institution. Credit may be granted for courses without direct Villanova equivalents when such courses are of clear academic merit. Quality-grade points for work taken elsewhere are not included in the calculation of the student's cumulative average used to determine advancement at Villanova and eligibility for graduation. The final thirty credits (senior year) of a degree program and at least half of all major courses must be taken at Villanova.

Candidates for admission from junior colleges, community colleges or institutes are judged by the same regulations pertaining to applicants from four-year institutions. Credits will be granted, as above, for appropriate courses completed in a two-year program, provided that the institution is regionally accredited or a candidate for such accreditation.

Transfer students from two-year programs should note that graduation after two years of study at Villanova cannot be guaranteed because of the complexities of scheduling and the fulfillment of the requirements of Villanova's program.

Applications for transfer of credit from non-accredited institutions are considered on an individual basis. Credit is granted for those courses that are of clear academic merit and in which the transfer applicant has earned grades. In all cases, the University reserves the right to require a written examination in the course or courses in question before transfer credit will be granted.

## **INTERNATIONAL STUDENTS**

Villanova University admits to its undergraduate program citizens from other countries who meet the appropriate criteria. International students are admitted to begin their studies in the fall semester only. The final date for receipt of the application for undergraduate students is January 15.

To be considered for admission, international students must submit the same admission application and supporting academic credentials, and all non-native English speakers must take an English language proficiency test such as the TOEFL or IELTS. Official results must be sent directly to the University. For admission consideration, candidates must attain a minimum score of 90 on the iBT (internet based), or 577 on the paper based TOEFL; or a band score of 6.5 on the IELTS. This requirement may be waived for students who have completed at least three years of secondary education at an American or International School where English is the primary language of instruction or for students who have achieved a 620 on the Evidence-based Reading and Writing section of the SAT.

All undergraduate international students should note that they must pay a non-refundable tuition deposit of \$700 by May 1 and submit a Certification of Finances form and supporting bank letter prior to the issuance of the form I-20. International students are eligible to compete for some merit-based and athletic scholarships. Need-based financial aid is available to first-time freshman international students from University sources on a limited basis.

Villanova recognizes advanced standing from the College Board's Advanced Placement program (AP) and from the International Baccalaureate Programme (IB). Students who have taken these courses should report to their College Dean's office to verify Villanova's receipt of the scores to ensure that proper adjustments have been made to their academic records. The courses will be entered into the student's record with Villanova credit without a grade. In some cases, the Advanced Placement or International Baccalaureate results may allow the student to place out of a lower level course, but will not be counted as credit.

The following AP courses will receive Villanova credit if a student receives a score of 4 or 5: U.S. History (07); Art /Art History (13); Biology (20); Calculus (66 or 68); Calculus Subgrade (69); Chemistry (25); Computer Science (31); Economics (34 and 35); English (36 or 37); European History (43); Chinese Language and Culture (28); French (48); Japanese Language and Culture (64); Italian Language and Culture (62); Latin (60); Environmental Science (40); Human Geography (53); Physics (80 or 82); Political Science (57 or 58); Psychology (85); Spanish (87 or 89); Statistics (90); World History (93).

Only International Baccalaureate Higher Level course work will be considered for credit. The following Higher Level IB courses will receive Villanova credit if a student receives a score of 6 or 7: Anthropology; Biology; Chemistry; Computer Science; Computer Science Information Technology; French A; English; Economics; Geography; History: Americas; History: Europe; Italian; Latin; Mathematics; Mathematics Further; Music; Philosophy; Physics; Psychology; Spanish A. Students also receive credit for a score of 5 in Computer Science H L, Computer Science Information Technology, English, Economics, Geography, and Mathematics Further.

### **CREDIT BY EXAMINATION**

Qualified matriculated students may test out of selected courses and receive full credit for them. Such courses are graded on a "Satisfactory/Unsatisfactory" basis; however, a failing grade will not appear on the student's transcript. Applications and information are available in room 107, St. Augustine Center.

### **TRANSFER WITHIN THE UNIVERSITY**

When a student transfers from one college to another within the University, the Dean may delete from the computation of the Grade Point Average courses which are not applicable to the new program. However, if such a student returns to her or his previous college, the Dean of that College will notify the Registrar to reinstate those courses. The grades and any credits earned will again be computed in the Grade Point Average.

### **PRE-MATRICULATED COLLEGE CREDIT**

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.

# TUITION AND FEES 2019-2020

## UNDERGRADUATE COLLEGES AND PROGRAMS

### TUITION(Per Year) <sup>1</sup>

	Tuition	Per Credit Rate	General Fees*	Student Health Fees
<b>All Undergrad Colleges</b>	\$54,550	\$3,031	\$360	\$370

Villanova begins producing Fall semester bills in July (due in August and Spring semester bill in November (due in December)

Semester charges are:

Semester Tuition Rate	Per Credit Rate	General Fee	Student Health & Wellness Fee
\$27,275	\$3,031	\$180	\$185

- 1) Per credit rate is charged for students registered in 1-8 credits in a semester
- 2) An Orientation Fee is charged to first year students - \$150

### FEES

Application Fee (Non-refundable)	\$80
Tuition Deposit (Non-refundable)(Deposit due upon acceptance; credited to account upon registration)	\$700
Orientation Fee (New Students only)	\$150
Student Health and Wellness Fee	\$185/semester
General University Fees	\$180/semester
Nursing Pre-Licensure Exam Fee	\$137/semester
Room (Depending on Accommodations)	\$3,380-\$5,400/semester
Board (Depending on Meal Plan)	\$2,100-\$4,025 (\$1,100 available for commuter/semester

Reinstatement Fee	\$250
Late Payment Fee <sup>2</sup>	\$25-\$200
Returned Check Charge	\$30
Monthly Service fee for Past-due Accounts	\$10/month
Parking Fee (Annually for students using University parking lots)	\$100

<sup>1</sup>Subject to change at the discretion of the University Administration.

<sup>2</sup>A Late Payment fee is charged to any account which is not paid in full by the official first day of class.

Students may be billed for tuition and related costs up to the week before in-person registration. However, payments are due no later than the first day of class. This requirement applies to all students, including those who register too late to receive a bill. Registration or the release of academic records cannot be completed until all financial obligations have been settled with the Bursar's Office. In addition to the above expenses, students should include expenses for textbooks, laundry, clothing, personal effects, and travel between the University and their homes in their educational costs.

## **TUITION FOR INTERNATIONAL STUDIES**

Villanova charges current students full tuition for all Fall and Spring term International Studies programs. Villanova students will be eligible to use Villanova University financial aid (i.e. grants and scholarships) to assist with study abroad tuition costs as long as those funds do not carry policy constraints or conditions which would restrict their use for this purpose.

If a recipient institution's tuition exceeds Villanova's, the University is obligated to pay a maximum amount equal to that of the normal Villanova tuition for that academic term's undergraduate tuition. Villanova will not pay for room, board, travel, books, brokerage or associated non-academic fees of an international studies experience.

There are special considerations for students on tuition remission programs. These students should check with the International Studies program for details.

## **COLLEGE OF PROFESSIONAL STUDIES, TUITION AND FEES 2019-2020**

Application Fee (Non-refundable)	\$50
Tuition Evening Rate	\$659 (per credit)
Tuition Day Rates	\$1,094 (per credit)
General University Fee	\$15/semester
Reinstatement Fee	\$250
Late Payment Fee <sup>2</sup>	\$200
Monthly Services Fee for Past Due Accounts	\$10/month
Returned Check Charge	\$30
Parking Fee <sup>3</sup>	\$50 (Night Courses) \$100 (Day Courses)

<sup>1</sup> Subject to change at the discretion of the University Administration.

<sup>2</sup> A Late Payment fee is charged to any account which is not paid in full by the official first day of class.

<sup>3</sup> Annually for evening students. For students taking day courses, the fee is \$100.

*NOTE:* Registration or the release of academic records cannot be completed until all financial obligations have been settled with the Bursar 's Office.

### **REFUND SCHEDULE**

#### Fall/Spring Semester Refund Policy

Segment of Semester	Refund
Up to first week	80%
Up to second week	60%
Up to third week	40%
Up to fourth week	20%
Beyond fourth week	No Refund

(For Summer Semester policy, please see Bursar's website)

Refunds as a result of official withdrawal will be made according to the following schedule. 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.

In addition to the University's refund schedule and in accordance with the Higher Education Amendments of 1992, if a student completely withdraws from the University and has utilized Federal Title IV funds (e.g. Federal Pell Grant, Federal Supplemental Educational Opportunity Grant [SEOG], Academic Competitiveness Grant, National SMART Grant, Federal Perkins Loan, Federal Direct Stafford Student Loan, Federal Direct PLUS, Federal Direct Graduate PLUS), during the semester in which they withdraw, the University will observe the federally mandated process in determining what, if any amount of money must be returned to the federal program (s). For more information on the Return of Title IV Funds please visit:

[http://www.villanova.edu/enroll/finaid/policies/title\\_iv.htm](http://www.villanova.edu/enroll/finaid/policies/title_iv.htm)

## **FINANCIAL ASSISTANCE**

The cost of a college education is a major concern facing parents and students. Villanova University recognizes this fact and attempts to provide a comprehensive package of financial assistance consisting of need-based grants, loans, and student employment. In addition to these need-based programs, Villanova offers several merit-based scholarships.

### **SCHOLARSHIPS**

Listed below are scholarship programs awarded by the University to entering first- year students. The academic requirements for these scholarships can be found on the web page for the Office of Financial Assistance ([www.finaid.villanova.edu](http://www.finaid.villanova.edu)).

**Presidential Scholarships.** The Presidential Scholarship is a renewable, merit-based award covering full tuition, room, board (up to 21 meals-per-week plan), general fee, and the cost of textbooks for eight semesters. Presidential Scholars are transformational leaders both on and off campus who have demonstrated a love of learning and a commitment to enhancing both their local and broader civic communities. Villanova Presidential Scholars represent diverse intellectual, social, ethnic, and economic backgrounds. Each year, of the 24 Presidential Scholarships, 6 scholarships are reserved for candidates from historically underrepresented groups; including African American/Black, Latino/Hispanic, American Indian/Native Alaskan, Asian/Pacific Islander, first in their family to pursue a college education, and low income (generally Federal Pell Grant eligible) students. Students must be nominated by the chief academic officer of their high school (principal, president, headmaster), secondary school counselor or an official school designee. They can also be nominated by a representative from a home school entity or non-profit educational organization dedicated to helping disadvantaged high school students with the college search process.

Nominees will be expected to show evidence of superior academic performance as reflected by their high school course selection and grade point average, as well as a high level of achievement on the SAT or ACT. Candidates will also be assessed in terms of leadership, civic engagement, ability to respond effectively to adversity, creativity, and expertise in a specific field. Candidates will be required to complete a series of short essays to supplement the nomination form. The average weighted high school grade point average of candidates selected as finalists for the Presidential Scholarship in the Fall 2017 entering freshman class

was 4.33 (on a 4.00 scale); the average combined SAT score (Evidence- Based Reading and Writing and Math) was 1500 and the average ACT was 34.

For more information regarding the Presidential Scholarship Program, application deadlines and the nomination process, visit the following websites: Center for Research and Fellowships and The Center for Access Success and Achievement. For more information regarding the Program's particular commitment to enrolling Underrepresented Students, contact the Center for Access Success and Achievement at 610-519-4075.

**Villanova Scholarships.** No new Villanova University scholarships will be offered after August, 2017. Students who have already received the award will continue with the scholarship assuming they continue to meet the criteria set out in their scholarship letter.

**The Saint Augustine Scholarship.** No new St. Augustine Scholarships will be awarded after August, 2019. Students who have already received the award will continue with the scholarship assuming they continue to meet the criteria set out in their scholarship letter.

**St. Martin de Porres Grant.** Villanova University offers St. Martin de Porres Grants to serve the University's goal of attracting a richly diverse and talented population of undergraduate students. St. Martin de Porres Grants are valued at full tuition and general fees. To be eligible for consideration, applicants must be U.S. citizens or permanent residents from one or more of the most underrepresented groups at Villanova University, including (but not limited to) underrepresented racial and ethnic populations, economically disadvantaged backgrounds and/or students whose parents have not graduated from college. All applicants also must have exemplary high school records, leadership roles, and active involvement through service to the community. In honor of the history of this award, preference will be given to applicants living in the greater Philadelphia area, which is defined as Bucks, Chester, Delaware, Montgomery, and Philadelphia counties in Pennsylvania; Burlington, Camden, Gloucester, and Salem Counties in New Jersey; and New Castle County in Delaware.

To apply, you must have already submitted a completed application for admission as a first-year student. Then, you must submit the St. Martin de Porres Scholarship application no later than February 1 and the required essay by February 7. Applicants may apply for admission via Early Action, Early Decision (both November 1 deadlines) or Regular Decision (January 15 deadline). Additional information will be sent to you via email once your completed application is received. Incomplete applications for admission and/or scholarship will not be eligible for consideration. Finalists will be required to interview either in person or via Skype. The selection committee will review qualified applicants and notify recipients by April 1.

**Denise McNair Memorial Scholarship.** The Denise McNair Memorial Scholarship has been instituted in memory of Denise McNair who, on Sunday, September 15, 1963, died in the early days of the civil rights movement in a racially motivated bomb attack at the Sixteenth Street Baptist Church in Birmingham, Alabama. This Scholarship, valued at full tuition for eight consecutive regular semesters (not including summer), will be awarded to a first-year student who is a U.S. citizen from a traditionally underrepresented population and, who has demonstrated outstanding academic achievement and a commitment to family,



religious faith, peace and justice. The McNair Scholarship is awarded every four years to an entering first year student. Therefore, this scholarship will next be awarded to an entering first-year student entering fall 2020.

To apply, you must have already submitted a completed application for admission as a first-year student. Then, you must submit the McNair Memorial Scholarship application no later than February 1 and the required essay by February 7. Applicants may apply for admission via Early Action, Early Decision (both November 1 deadlines) or Regular Decision (January 15 deadline). Additional information will be sent to you via email once your completed application is received. Incomplete applications for admission and/or scholarship will not be eligible for consideration. The selection committee will review qualified applicants and notify recipients by April 1.

**Goizueta Foundation Scholars Fund.** The Goizueta Foundation Scholars Fund has been instituted for the purpose of providing need-based scholarship assistance to those who have extensive personal interest, involvement, and experience in the Hispanic/Latino culture. The award (of a varying amount) is made to students who are U.S. Citizens or permanent residents and whose families currently reside in the United States, who come from communities or populations that have been historically underrepresented in the student body at Villanova, who have demonstrated financial need and who have demonstrated outstanding academic achievement. This award will be granted to two entering first-year students. This scholarship is renewable for a total of eight consecutive regular semesters (not including summer). Returning undergraduate students will be considered for scholarship renewal on the basis of their academic performance and financial need.

To apply, you must have already submitted a completed application for admission as a first-year student. Then, you must submit the Goizueta application no later than February 1 and the required essay by February 7. Applicants may apply for admission via Early Action, Early Decision (both November 1 deadlines) or Regular Decision (January 15 deadline). Additional information will be sent to you via email once your completed application is received. Incomplete applications for admission and/or scholarship will not be eligible for consideration. The selection committee will review qualified applicants and notify recipients by April 1.

**Anthony Randazzo Endowed Presidential Scholarship.** This award is a renewable, merit-based award covering full tuition, room, board (up to 21 meals-per-week plan), general fee, and the cost of textbooks for eight consecutive semesters that is awarded to one first-year African American/Black student. The chosen candidate must have demonstrated academic merit and financial need, been involved in community service and/or civic leadership activities, and reside in the city of Philadelphia, Pennsylvania.

To apply, you must have already submitted a completed application for admission as a first-year student. Then, you must submit the Randazzo Endowed Presidential Scholarship application no later than February 1 and the required essay by February 7. Applicants may apply for admission via Early Action, Early Decision (both November 1 deadlines) or Regular Decision (January 15 deadline). Additional information will be sent to you via email once your completed application is received. Incomplete applications for admission and/or scholarship will not be eligible for consideration. Applicants are also

required to complete the FAFSA and any applicable state grant application as the award may be reduced by any Federal Pell or state grant funding. This award was made possible by the generosity of Anthony T. and Marjorie Randazzo and family.

**Villanova National Merit Scholarship.** These awards, ranging from \$500 to \$2,000, are offered to top students who are designated as finalists by the National Merit Scholarship Corporation and who selected Villanova University as their first college choice. Students should file the Free Application for Federal Student Aid (FAFSA) and the CSS Profile so that the proper award amount can be determined.

**Army ROTC.** For recipients selected by the Army ROTC program, Villanova grants up to five scholarships. Villanova University agrees to fund U.S. Army scholarship winners with an amount not to exceed \$5,000 to be used for University room and board charges only.

**Naval ROTC.** Villanova University provides grants to NROTC scholarship recipients who are designated by the United States Navy. Villanova may award up to four partial scholarship annually to NROTC Scholarship recipients. These partial scholarships may be applied toward room or board expenses incurred at Villanova. To be eligible for consideration, a candidate must meet all minimum academic requirements of the St. Augustine Scholarship. The recipients of this award are selected after the successful completion of the first semester of their first year at Villanova by the Unit Commander.

### **Student Financial Aid**

To apply for all types of student aid, prospective full-time first-year students must file the Free Application for Federal Student Aid (FAFSA) for consideration for federal and state aid and the CSS Profile for consideration of University (institutional) aid. To receive priority consideration for financial aid, applicants must file the FAFSA and CSS Profile by November 1 (Early Decision); December 1 (Early Action) and January 15th (Regular Decision). Additionally, for students who wish to be considered for need based assistance, signed copies of the student's and custodial parents' and stepparent's (if applicable) U.S. or Puerto Rico Tax Returns, W-2 form(s) and 1099 form(s) must be submitted to the College Board Institutional Document (IDOC) Service no later than November 1 (Early Decision); December 1 (Early Action) and January 15th (Regular Decision). Late applicants will be aided only if funds remain available. Students and parents are also required to use the IRS Data Retrieval Tool to import their tax information from their filed federal tax forms directly into the FAFSA on the Web if selected for verification (see below). If unable to use the IRS Data Retrieval Tool the student and parent will need to submit a U.S. Tax Return Transcript to the Villanova University Office of Financial Assistance.

A limited number of accepted Full-time International Students may be reviewed for need-based Villanova University Grant Assistance. Applicants must file the CSS Profile by November 1 (Early Decision); December 1 (Early Action) and January 15th (Regular Decision) to receive consideration for need-based funding. International students are awarded two forms of funding: student employment and Villanova Grant. In addition to the CSS Profile, Villanova requires the following documentation to be submitted to determine financial need: A letter from each parent's employer verifying either the monthly or annual income, a Certificate of Finances verifying what their annual family contribution will be along with a bank letter to support their family contribution. The Certificate of Finances and

bank letter are also requirements of the Admissions Office in generating the student's visa. International students, who are not funded in their freshmen year, will not be reviewed for funding in future years.

A limited number of accepted Full-time freshmen Undocumented students who live in the United States without an approved visa, or without permanent residency/citizenship may be eligible for consideration of need-based financial assistance. To receive consideration for financial aid, applicants must file the FAFSA and CSS Profile by November 1 (Early Decision); December 1 (Early Action) and January 15th (Regular Decision). Students and parents are also required to submit signed copies of their Federal Tax Returns and schedules (if applicable), along with copies of all Federal W-2, 1099 and/or 1099R forms. Undocumented students who are not funded in their freshmen year, will not be reviewed for funding in future years.

Transfer students should consult the Office of Financial Assistance website for additional information and application deadlines.

Part-time on-campus students applying for admission through the College of Professional Studies or students seeking a second baccalaureate degree should consult the Office of Financial Assistance website for additional information and application deadlines. Some programs of aid may not be available to these students.

All returning undergraduate students and Undocumented students who live in the United States without an approved visa, or without permanent residency/citizenship and wishing to be considered for federal or state aid must reapply and must file the Renewal FAFSA. Returning students who are new financial aid applicants must file an original FAFSA for consideration for federal and state aid. Returning undergraduate students must also complete the CSS Profile to be considered for University (institutional) aid. To receive priority consideration for financial aid, returning undergraduate applicants must file the FAFSA and CSS Profile by April 1. Both new and renewal applicants who are not Pennsylvania residents should file the appropriate application for State Grant consideration in their home state. Additionally, signed copies of the student's and custodial parents' and stepparent's (if applicable) U.S. or Puerto Rico Tax Returns, W-2 form(s) and 1099 form(s) must be submitted to the College Board Institutional Document (IDOC) Service no later than April 1. Late applicants will be aided only if funds remain available. Students and parents are also required to use the IRS Data Retrieval Tool to import their tax information from their filed federal tax forms directly into the FAFSA on the Web if selected for verification (see below). (Returning students and parents are encouraged to use the IRS Data Retrieval Tool if their tax returns have been filed to facilitate the Renewal FAFSA application process.) If unable to use the IRS Data Retrieval Tool the student and parent will need to submit a U.S. Tax Return Transcript to the Villanova University Office of Financial Assistance.

Returning Full-time International Students who received need-based Villanova Grant funding are required to file the CSS Profile no later than April 1 in order to be reviewed for renewal of funding. The Certificate of Finances is not required after the student's first year. However, students and parents may be required to submit employer letters and bank letters supporting the family contribution.

Please refer to the section below titled Verification for additional information and/or requirements needed in order to receive financial assistance.

Throughout the application process prospective students are to check their Applicant Status Page. All enrolled students are to check on the completeness and status of their application via MyNova. Additionally, award eligibility is posted to the Applicant Status Page and MyNova. Returning Undergraduate and Graduate students will be sent an email indicating when their financial aid eligibility is available to be viewed on MyNova. Freshmen and transfer students will be sent their original award notice via regular mail and can also view their award on their Applicant Status Page and MyNova, once a deposit is made. Once a student enrolls all subsequent award notices will be sent via email to the student's Villanova email address.

Additional information regarding the financial assistance process may be obtained via the Office of Financial Assistance website at [www.finaid.villanova.edu](http://www.finaid.villanova.edu). Students and families may also address questions or concerns to the Office of Financial Assistance via phone at 610-519-4010, fax 610-519-7599 or email at [finaid@villanova.edu](mailto:finaid@villanova.edu). In addition to assistance from federal and state sources, students attending Villanova University may be considered for aid administered by the university which is provided through the generosity of individuals and organizations.

Villanova University believes the primary responsibility for meeting educational expenses belongs to both the parents and the student. However, Villanova University is committed to assisting with the needs of families for whom the needs analysis determines that they cannot afford the full cost of a Villanova education with financial aid packages from the following federal, state, private, and university sources:

**Villanova University Grant.** This need-based award is an institutional grant based on the demonstrated financial need of the student and parent based on information on the FAFSA and CSS Profile and tax documents. Students must be accepted/enrolled full-time (minimum of 12 credits per semester) in the day college in an undergraduate degree program and pursuing their first baccalaureate degree. All Villanova students must apply for need-based financial assistance each year to be considered for this program. This award can be applied only to tuition charges billed by Villanova University during the academic year (i.e. during the Fall and Spring semesters) for a maximum of 8 semesters (4 years), excluding summer terms, including semesters in which you do not receive the grant, regardless of the fact that a student may still have remaining Federal Title IV eligibility. To be given priority consideration for the grant, students must meet the application deadline. The Villanova University Grant may be replaced by endowed scholarship funds.

**Federal Pell Grant Program.** This is a federal grant for students demonstrating exceptional financial need and accepted/enrolled in an undergraduate degree program. Application for Federal Pell Grants may be made by submitting an initial FAFSA or a Renewal FAFSA. Part-time students may be eligible for Federal Pell Grants.

**Federal Supplemental Educational Opportunity Grant (SEOG).** This is a federal grant administered by Villanova University based on financial need. Only undergraduate degree

candidates are eligible. Priority consideration is given to Pell Grant recipients who are enrolled full-time.

**Federal Nursing Student Loan.** This is a federal loan based on financial need for students accepted/enrolled in an undergraduate nursing program. The Federal Nursing Student Loan is a 5% interest loan and becomes payable nine months after leaving the University, or nine months after the student is no longer enrolled at least half-time or is no longer in a Nursing degree program. Entrance and exit interviews are required by federal law. Due to limitations in our funding levels we have not been able to award Federal Nursing Loan funds to part-time students.

**Federal Work Study (FWS).** This is a federal employment program based on financial need for students who are accepted/enrolled in either an undergraduate or graduate degree program. Students are given the choice to work on campus (or off-campus if Pennsylvania domicile) with salaries set according to the job description. Students receiving work-study awards are limited to earning the amount of their initial allocation. Once that limit has been reached, students should contact a Financial Assistance counselor concerning further work study employment. Current work-study job listings are posted on the Office of Human Resources website. Due to limitations in our funding levels we have not been able to award Federal Work Study funds to part-time or graduate students.

**PHEAA Grant.** This is a Pennsylvania State Grant based on financial need for students who qualify as Pennsylvania state residents and who are accepted/enrolled in an undergraduate program and enroll for at least six credits each semester. Eligibility is determined by the state. For State Grant consideration, students are required to file either an initial FAFSA or a Renewal FAFSA by May 1. Additional information on the Pennsylvania State Grant can be found at [www.pheaa.org](http://www.pheaa.org).

**Other State Grants.** Certain states allow residents to take their state grants into Pennsylvania for study at Villanova. Students are responsible for checking with the respective State Higher Educational Agencies for the correct application necessary for state grant consideration.

**Outside Awards.** Organizations outside Villanova University may provide scholarships or financial assistance to Villanova students. Students are responsible for consulting the individual organization for the proper applications and deadlines and for sending transcripts to the scholarship committee if required. NOTE: State, federal, NCAA and University regulations prohibit over awards. All outside scholarships, whether based on academic merit, financial need or as a result of a benefit provided by the parents' employer will be counted as a source of aid and will be added to the student's total aid package. This may result in a reduction of a Villanova University Grant or federal or state aid. It is the student's responsibility to notify the Office of Financial Assistance concerning any outside aid received.

Any change in a student's financial or academic status may result in an adjustment to his or her aid. The Office of Financial Assistance retains the right to make any necessary changes.

**Federal Direct Loan Program.** This is an educational loan available to students accepted/enrolled on at least a half-time basis in an undergraduate or graduate degree program. Students must complete a Master Promissory Note (MPN) and Entrance Counseling with the U.S. Department of Education, who is the lender of the loan, at [www.studentloans.gov](http://www.studentloans.gov). Eligibility for a Federal Direct Loan is based on cost of education, amount of other financial aid being received, as well as an expected family contribution towards educational costs. Students who demonstrate remaining financial need will qualify for the Federal Direct Subsidized Loan. Students without remaining financial need will be eligible for a Federal Direct Unsubsidized Loan and either need to make interest payments while enrolled or capitalize interest payments (i.e. add interest to the principal balance). Repayment of the Federal Direct Loan begins six months after the student leaves the University or is no longer enrolled at least half-time. The student has up to ten years to repay. The interest rate is currently fixed at 4.53% for the Undergraduate Direct Subsidized and Unsubsidized Loans, and 6.08% for the Graduate Direct Unsubsidized Loan. Any changes to the interest rate will be reflected on the financial aid website should this occur. An origination fee of 1.062% for first disbursements between 10/1/2018 and 10/1/2019 and 1.059% for disbursements on or after 10/1/2019 and before 10/1/2020 will be charged on each Subsidized and Unsubsidized loan. The fee goes to the government to help reduce the cost of the loan program. The maximum loan amount per year is \$3,500 for freshmen, \$4,500 for sophomores, and \$5,500 for juniors and seniors. Students may also qualify for an additional \$2,000 Federal Direct Unsubsidized Loan.

Additional information regarding the application process for the Federal Direct Loan program can be found on the Office of Financial Assistance website ([www.finaid.villanova.edu](http://www.finaid.villanova.edu)) or the U.S. Government at [www.studentloans.gov](http://www.studentloans.gov).

**Family Financing Option.** The Family Financing Option has been developed in order to provide students and families with a way through which they can manage the challenge of affording a Villanova University education. The Family Financing Option offers the family the opportunity to combine Interest-Free Monthly Payment Options offered by the Tuition Management System (TMS) Tuition Payment Plan with low cost loan options such as the Federal Direct PLUS Loan and an Alternative or Private Educational Loan. This is not a specific program of aid but opportunities to consider for meeting your educational expenses

**Tuition Management Systems (TMS) Tuition Payment Plan.** The TMS Tuition Payment Plan allows students to spread their balance out over ten months for a small fee. There is no interest charged on the plan and life insurance is included to cover the bill payer and provide a variety of other benefits. Tuition Management Systems (TMS) administers the program for Villanova University. Information on this program can be obtained via their website at [www.afford.com](http://www.afford.com) or by calling them directly at 1-800-722-4867.

**Federal Direct PLUS Loan.** Parents of dependent undergraduate students may be eligible to borrow up to Villanova's cost of education minus estimated financial assistance. Eligibility for this loan is based on creditworthiness and the interest rate currently is fixed at 7.08%. The Federal Direct PLUS Master Promissory Note can be obtained from the U.S. Department of Education at [www.studentloans.gov](http://www.studentloans.gov). A FAFSA must also be completed in order to receive a Federal Direct PLUS loan. An origination fee of 4.248% of the principal amount of each Direct PLUS for loans first disbursed before 10/1/2019 and 4.236% for loans first

disbursed on or after 10/1/2019 will be charged on each loan. The fee goes to the government to help reduce the cost of the loan program.

**Alternative Loans.** Alternative or Private Educational Loans are loans administered by private lenders. These programs may be used to bridge the gap between cost and traditional need-based and/or merit-based assistance. Alternative loans require that the borrower (the student) and/or a co-signer be evaluated in order to determine if they meet minimum credit standards. Students may choose any alternative lender they wish but should carefully compare all options before selecting a lender. Additional information regarding how to compare Alternative loans can be found on the Office of Financial Assistance website ([www.finaid.villanova.edu](http://www.finaid.villanova.edu)).

### **Information About Subsequent Award years**

Villanova University is committed to maintaining the total level of funding if the Expected Family Contribution remains similar from year to year. However individual components within the total funding package may change.

- Need-based eligibility, including the Villanova University Grant could be affected (reduced or entirely removed) if the following circumstances occur in subsequent years:
- Any increase or decrease in the number of members in the household
- Any increase or decrease in the number of family members enrolled as full-time undergraduate students
- Receipt of outside aid (e.g. scholarships, state grants, tuition remission)
- Change in enrollment status from full-time to part-time
- Any increase or decrease in family income and/or assets
- The graduation, withdrawal or change to less than full-time enrollment from an undergraduate college, university or business, trade or technical school by members in the household. (A family's choice to continue to fund graduate education for a sibling cannot be considered.)
- Change in housing status
- Student's enrollment after 8 semesters (4 years)

Questions about how these circumstances could affect your aid should be addressed to the Office of Financial Assistance. We invite you to make an appointment to speak with a financial aid counselor if you anticipate there will be changes in the future so you can consider how that could affect your family's ability to pay for the entire academic period at Villanova.

### **Minimum Standards for Satisfactory Academic Progress for Financial Aid Applicants**

Federal regulations require that an institution establish, publish, and apply reasonable standards for measuring whether a student, who is otherwise eligible for aid, is maintaining satisfactory academic progress in his or her course of study. The standards must be the same or stricter than the institution's standards for a student enrolled in the same academic program who is not receiving financial assistance. Listed below is the complete statement of Minimum Standards for Satisfactory Academic Progress for

## Financial Aid Recipients.

The purpose of this policy is to provide undergraduate students with information on Villanova University's Satisfactory Academic Progress Standard for Federal Title IV Sources of Aid (Federal Pell Grant, Federal Supplemental Educational Opportunity Grant [SEOG], Federal Work Study, Federal Direct Subsidized Loan, Federal Direct Unsubsidized Loan, and Federal Direct PLUS Loan), as well as other Federal and Villanova University Need-Based Aid (Federal Nursing Loan, Villanova University Grant, and Villanova University Endowed Scholarships). This document describes the qualitative and quantitative standards that make up this policy, how standards are measured, and how financial aid is reinstated if eligibility is lost during enrollment.

**Process Overview.** The Office of Financial Assistance is required, in accordance with Federal Title IV regulations, to monitor satisfactory academic progress for students who receive federal financial assistance. In order to continue to receive financial aid while enrolled at Villanova University, undergraduate students must maintain the minimum standards as defined below. The Satisfactory Academic Progress standards for financial aid, listed below, are either the same or stricter than the individual Colleges' academic policy for students enrolled in the same academic program who are not receiving financial assistance.

Students must make both quantitative and qualitative progress towards their educational goals each academic year to receive federal and Villanova University need-based financial assistance. Villanova University's academic year consists of two regular semesters (fall and spring) and the summer sessions.

**Qualitative Standard.** Undergraduate students must maintain a minimum cumulative grade point average (GPA) of 2.00 calculated at the end of each academic year in order to be considered as a student making satisfactory academic progress for financial aid consideration. Only credits earned at Villanova University will affect the cumulative GPA calculation. The grade point average from transfer coursework at a previous college or university will not affect a student's Villanova University grade point average. **Quantitative Standard.** Students must pass the minimum number of credit hours during the academic year associated with their enrollment status for that academic year. If a student is full-time, the student would be enrolled in a minimum of 24 credits for the academic year and must complete a minimum of 24 credit hours. If a student is enrolled three-quarter time for the academic year (9- to 11 credits per semester) the student must complete at least 18 credits per academic year. If a student is enrolled half-time for the academic year (6- to 8 credits for the semester), then the student must complete at least 12 credits during the academic year.

Credits are considered successfully completed when a grade of A, B, C, or D is earned.

**Failures ("F" and "NF"), INCOMPLETES ("I"), WITHDRAWALS ("W," "WX", "Y"), MISSING GRADES ("N" or "NG"), Grade of Audit ("AU"), Grades of "In Progress" ("IP") are not successfully completed credits.**

**Repeated Coursework.** As defined by the U.S. Department of Education, Villanova University will include and fund any repeated coursework previously taken by the student in his or her enrollment status one time. Villanova University will only allow a student to



retake previously passed coursework one time and count the coursework in the student's enrollment status (e.g., the student is retaking the coursework in an attempt to meet an academic standard such as a better grade) for financial aid consideration.

A student may not receive Federal or Villanova University funds to retake previously passed coursework if the student is required to retake the course due to the student failing other coursework. For example, if the student is enrolled in four classes in the fall semester and fails one of those courses, the Dean may require the student to repeat the previously passed three courses along with the course that the student failed. If the student retakes the four courses in the spring, only the course that the student failed may be counted toward the student's enrollment status.

**Pace (Maximum Timeframe).** Within the Satisfactory Academic Progress Policy, Villanova University is required to establish a maximum time frame in which students must complete their program of study in order to remain eligible for financial aid funds. The maximum time frame for degree completion at Villanova University for an undergraduate student as defined by the U.S. Department of Education is 150% of the student's program(s) required credits.

Once a student reaches the maximum amount of credits attempted as specified by the program(s) for graduation, the student will be ineligible to receive further Federal Title IV aid. Students in this category may submit appeals in accordance with the Appeals section of this policy.

Note: The Villanova University Grant is only offered for a maximum of four academic years (eight semesters), excluding summer terms regardless of the fact that a student may still have remaining Federal Title IV eligibility.

**Measuring Academic Progress.** Academic Records are reviewed by the Office of Financial Assistance at the end of each academic year in May after spring grades are entered. Measurement begins with the Fall semester and ends with the last summer session. Students who were enrolled during the Fall and/or Spring semesters and who failed to meet the qualitative and/or quantitative requirements for academic progress can attempt to complete additional credits and raise their cumulative GPA during the summer sessions at Villanova University. Upon completion of additional credits, a new determination of academic progress will be made.

All financial assistance applicants are subject to the Satisfactory Academic Progress Standards regardless of whether or not they received financial assistance previously. **When the Minimum Standard of Academic Progress is Not Achieved.** A student who does not make satisfactory academic progress will be placed on financial assistance suspension until the requirements are met. During this suspension, a student is denied Federal and Villanova University aid. The student will be notified in writing of the financial assistance suspension. **Appeals.** If a student has failed to achieve satisfactory academic progress, the student can appeal the decision to the Office of Financial Assistance. The appeal must be submitted in writing and specify the extenuating circumstances which prevented the student from achieving academic progress. The following types of mitigating circumstances may be considered when a student appeals, and are listed, as follows: injury or extended illness of the

student, death in the family, or a change in educational objectives. Mitigating circumstances do not include the withdrawal from classes to avoid failing grades, pursuing a second major or a second degree. The student must explain what has changed that will allow him/her to make satisfactory academic progress by the end of the semester. A copy of the student's academic plan developed in conjunction with the student's faculty advisor, academic dean or his/her representative also must be submitted. The Office of Financial Assistance may request additional documentation and/or require a personal interview with the student.

Students must appeal within two weeks of receiving a notice from the Office of Financial Assistance of the financial aid suspension. Appeals will not be accepted after the two-week period has passed and the student will be responsible for all charges on their student account. The student will receive a reply from the Office of Financial Assistance within two weeks of receipt of their appeal.

A student who is denied assistance based on qualitative or quantitative standards will be considered for assistance when standards have been achieved.

**Academic Plan.** The academic plan is a written document developed by the student and his/her college that ensures the student is able to meet the University's Satisfactory Academic Progress Standards by a specific point in time. It could include qualitative and quantitative requirements necessary to achieve that plan. The academic plan could take the student to completion of their program rather than meeting the University's Satisfactory Academic Progress standard at a specific point in time as determined by an appropriate academic official.

#### **Financial Aid Probation.**

Villanova University will assign this status to a student who fails to make satisfactory academic progress and who has successfully appealed and had eligibility for aid reinstated. If the Office of Financial Assistance determines that the Academic Progress Standards can be waived for one semester, the student will be placed on Financial Aid Probation. As part of the student's Financial Aid Probation, the Office requires a student, along with their academic advisor, to develop and submit an academic plan that includes a strategy of improving progress and reaching the student's educational goals. A student placed on Financial Aid Probation may receive Federal and Villanova University funds for one semester. The student will be required to meet the University's Satisfactory Academic Progress standards at the end of the semester or meet the terms and conditions of their academic plan as well as the plan established by the academic advisor.

At the end of the probationary semester, the Office of Financial Assistance will determine if academic progress requirements have been met or if the student continues on the path of the designated academic plan. If requirements have been met, the probationary status will be removed. If academic requirements have not been met, and the student has deviated from the academic plan, the student may not receive Federal or need-based Villanova University funds for the following semester. A student may only be granted one semester of Financial Aid Probation during their academic career.

**Reinstatement of Financial Aid.** Once financial assistance has been discontinued, it will be reinstated provided:

- The student has successfully achieved the required number of credits and cumulative grade point average; and,
- The student has requested reinstatement in writing.

Reinstatement is not automatic. The student is responsible for making certain that the grades and credits completed have been properly posted to the academic transcript with the Office of the Registrar prior to requesting reinstatement of financial assistance.

Students are encouraged to file all financial assistance application forms by Villanova University's established deadline so that once reinstatement has been achieved, he or she can be considered for assistance as quickly as possible.

**Students Returning After a Year or More.** If a student previously left the university after failing to make satisfactory academic progress and returns to the university, the student is required to appeal his/her status. The student must submit an academic plan. If the appeal is granted, the student is placed on financial aid probation for one semester.

The student's academic status will be reviewed after the semester to determine if the student successfully made satisfactory academic progress.

#### **Return of Federal Title IV Aid.**

If a student completely withdraws from the University and has utilized Federal Title IV funds (e.g., Federal Pell Grant, Federal Supplemental Educational Opportunity Grant [SEOG], Federal Direct Loan, or Federal Direct PLUS Loan, Federal Direct Graduate PLUS Loan) during the semester in which they withdraw, the University will observe the federally mandated process in determining what amount of money, if any, must be returned to the federal program(s).

Students who intend to withdraw from the University must complete the process as outlined in the University Catalog under the Academic Policies section. In cases where a student has received federal financial assistance during that semester, the Office of Financial Assistance will determine what, if any, adjustment must be made. This determination will be based on the formula prescribed in the federal regulations for the return of Title IV funds. This determination is made on the basis of the number of calendar days completed in the semester prior to the student's notification to withdraw, divided by the total number of days in the semester. If the resulting percentage is greater than or equal to 60%, no return of federal funds will take place.

If the percentage is less than 60%, this percentage will be used to determine the portion of Title IV aid that has been "earned". The remaining amount must be returned in the following order:

- Federal Direct Unsubsidized Loan Federal Direct Subsidized Loan
- Federal Direct PLUS/Federal Direct Graduate PLUS Federal Pell Grant
- Federal SEOG Other Title IV Aid

*NOTE:* Refunds as a result of official withdrawal or leave of absence will be made in accordance with the University's refund policies which appear in the Tuition and Fees section of the Catalog.

A student who withdraws or takes a Leave of Absence from an online program will have their last date of attendance measured by their last academic related participation via their appropriate system. Academic activities include but are not limited to:

- Submitting an academic assignment
- Taking an exam, an interactive tutorial, or computer-assisted instruction
- Participating in an online discussion about academic matters
- Attending a study group that is assigned by the institution
- Initiating contact with a faculty member to ask a question about the academic subject studied in the course
- The academically related activity is NOT defined by:
- Logging into an online class without active participation
- Participating in academic counseling or advisement

For all programs offered in modules, a student is considered to have withdrawn for Title IV purposes if the student ceases attendance at any point prior to completing the module, unless the school obtains written confirmation from the student at the time of the withdrawal that he or she will attend a module that begins later in the same payment period (semester). If a school obtains a written confirmation of future attendance but the student does not return as scheduled, the student is considered to have withdrawn from the payment period (semester). A return of Title IV calculation will be processed at that time. Students are required to return written confirmation within two weeks of being contacted by the Office of Financial Assistance. If not returned, a withdrawal calculated will be conducted. If the amount of money that must be returned to Title IV programs exceeds that which exists in the students account as a result of the University's refund policy, the student will be notified as to the amount of any grant money that must be repaid. This repayment must take place in order for a student to reestablish eligibility to receive federal funds in the future. Any loan proceeds must be repaid and will become part of the normal repayment procedures for the loan program.

### **Citizens and Eligible Non-Citizens**

In order to receive federal or state financial assistance, a student must be a U.S. Citizen, a U.S. National, a U.S. permanent resident who has a Permanent Resident Card (Form I-551, since 1997) or Resident Alien Card (Form I-551, before 1997), or an otherwise eligible non-citizen with a temporary resident card (I-688); or must possess one of the following:

- A Form I-94 (Arrival-Departure Record) with an appropriate endorsement;
- A Form I-181 or I-181B that has been signed by a U.S. Citizenship and Immigration Services (USCIS) district director;
- An official statement granting asylum in the US: or
- Other proof from the U.S. Citizenship and Immigration Services (USCIS) that one is in the U.S. for other than a temporary purpose.
- Students should check with the Office of Financial Assistance at Villanova University to see what documents are required. Students in the U.S. on an F1 or F2 student visa only, or on a J1 or J2 exchange visitor visa only, may not receive federal or state student aid, nor can those who possess only a notice of approval to apply for permanent residence (I-171 or I-464A).

Limited need-based University funds are available to International Students and Undocumented students who live in the U.S. without an approved visa, or without permanent residency/citizenship. For complete application information check the International Students Services Office website.

### **Verification**

Verification is a requirement of the U.S. Department of Education and is the process of confirming information submitted for consideration of the various Federal Title IV Funds including the Federal Pell Grant, Federal SEOG and Federal Direct Loans. Applicants should be aware that this federal regulation requires them to submit tax data and other requested information to the Office of Financial Assistance before the processing of student loan applications and/or the awarding of funds. Students must submit the required information to complete the verification process no later than 45 days before the last day of the student's enrollment. Failure to comply with the verification requirements within the timeframe will result in the loss of funds.

Only students selected for verification by the U.S. Department of Education based on information on the FAFSA and determined by criteria set by the U.S. Department of Education or selected by a counselor will be verified.

Items to be verified include: adjusted gross income; U.S. income taxes paid; number of family members for whom parents provide more than half of their support; the number of children in post-secondary schools who are enrolled at least half time; dependency status; untaxed income; eligible non-citizen status and any other item for which conflicting information has been submitted to the Office of Financial Assistance. Students selected for verification will be required to submit additional documents. These additional requirements will be reflected on the student's Applicant Status page (prospective students) and on the MyNova account (enrolled students).

### **Documents/Data Required:**

(For dependent students): signed copies of custodial parents', stepparent's (if applicable) and student's U.S. or Puerto Rico income tax returns, W-2 form(s) and 1099 form(s).

Transfer of financial data from the IRS Data Retrieval Tool or submission of U.S. Tax Return Transcript (see IRS DATA Retrieval Tool for more information)

(For independent students): signed copy of the student's (and spouse's if applicable) U.S. or Puerto Rico income tax return and W-2 forms.

If the student or custodial parent or stepparent (if applicable) did not file taxes or if a foreign tax return was filed, a signed non-tax filer statement and copies of all W-2 forms or proof of earnings must be submitted. Non-taxable income verification such as VA Benefits, Social Security Benefits for all household members and Public Assistance Letters must be submitted to the Office of Financial Assistance.

CSS Profile for prospective students and all returning undergraduate students.

*The CSS Profile form is required for consideration for institutional aid only.*

## **IRS Data Retrieval Tool**

The U.S. Department of Education in conjunction with the Internal Revenue Service (IRS) uses the IRS Data Retrieval Tool, a feature that allows students and parents to import their tax information from their filed U.S. tax return directly into the FAFSA on the Web. The IRS Data Retrieval Tool may be used when filing the initial FAFSA, or the renewal FAFSA each academic year.

In order to access the tool, FAFSA site users must have a valid social security number, an active Federal Student Aid ID (FSA ID), and must have filed their federal tax returns with the IRS.

The IRS Data Retrieval Tool may be used either while completing the online FAFSA or after the online FAFSA has been submitted. If accessing the IRS Data Retrieval Tool during FAFSA completion, the user will be given the opportunity to utilize the tool during the completion of the income questions on both the student and parent FAFSA sections. If the decision to use the IRS Data Retrieval Tool is made after initial FAFSA submission, the user may then log into the FAFSA website with their FSA ID and complete the following steps:

- Click ‘Link to the IRS’ to be transferred directly to the IRS website. If you already have used the IRS Data Retrieval Tool to transfer your tax return information into your FAFSA application, click the “View Option to Link to the IRS” hyperlink
- Once on the IRS website, enter the requested user-verification information exactly as it appears on the tax return. Use the FSA ID for the person whose tax information is being transferred.

## **Choose to transfer the tax information from the IRS into the FAFSA**

If you use the IRS Data Retrieval Tool to transfer your tax return information from the IRS, the information will not display on your FAFSA. For your protection the answer to each question is replaced with “Transferred from the IRS.”

Those who are exempt from and unable to use the IRS Data Retrieval Tool include: students and parents who are married and filed separate federal income tax returns for the applicable tax year, are married and filed as Head of Household, students and parents whose marital status changed prior to the end of the applicable tax year, students and parents who filed an Amended Tax Return for the applicable tax year, and filers of foreign and Puerto Rican tax returns.

If you are not able to use the IRS Data Retrieval Tool and filed a U.S. tax return, you will need to submit a U.S. Tax Return Transcript to the Villanova University Office of Financial Assistance. Students and parents may request an official copy of their U.S. Income Tax Return Transcript from the IRS at IRS.gov. Your parent(s) should sign the Tax Return Transcript and mail or fax it to the Villanova University Office of Financial Assistance. For more complete instructions consult the Office of Financial Assistance website.

## **Online Undergraduate Programs**

Students attending an online undergraduate degree program are pursuant to the same federal financial aid policies as traditional undergraduate degree programs held on campus. Consult the Office of Financial Assistance website for specific application processes and deadlines. The information that follows includes specific information related to the disbursement of funds and the payment of funds to our third-party administrative partner, BISK (formerly known as University Alliance).

### **Disbursement of Federal Student Aid**

Federal Student Aid funds are required to pay directly to students' Villanova University accounts in equal disbursement amounts. The disbursement date is set after the drop period has ended.

Please note that students will need to be enrolled in at least 6 credits per semester to be eligible for "half-time" status and Federal Direct Loans. "Half-time" status is defined accordingly:

- MUST be enrolled in 6 credits for Session I of the semester *OR*
- MUST be enrolled in 6 credits for Session II of the semester *OR*
- MUST be enrolled in 3 credits for Session I and 3 credits for Session II for the semester\*\*

\*\*For this option, students must be enrolled in all 6 credits at the start of Session I in order to receive Federal Direct Loan disbursement. Otherwise, the Federal Direct Loan will not be awarded or disbursed.

A student may not combine credits from another semester's session or term to qualify for half-time status. For example, a student who enrolls in Summer Session II for 3 credits and then Fall Session I for 3 credits cannot combine those terms for half-time status and Federal Direct Loan eligibility. The student in this scenario would be considered less than half-time.

Once federal financial aid has disbursed at Villanova, the Office of Financial Assistance will conduct a review of the student's financial aid award. This review ensures the cost of attendance matches the student's original plan of enrollment, and that any outside sources of aid, tuition discount, or employer tuition assistance, etc. have been included as resources for the student. The Office of Financial Assistance also reviews to ensure the student is enrolled for the specific session the grant and/or loan disbursement was received.

### **Remitting payment to BISK and Refunding Loan Disbursements**

Bisk (formerly known as University Alliance) manages the billing of charges for the undergraduate online RN-BSN program. Any billing inquiries should be sent directly to Bisk. Students who receive Federal student aid funds or a private education loan will be able to view their disbursement of financial aid through the [MyNova](#) student portal; ALL financial aid disburses directly to Villanova University.

Villanova University will send the financial aid disbursement (federal and private educational loans) directly to the student who is then responsible for submitting payment to Bisk for tuition and/or book charges. In order to expedite the processing of a refund, it is highly recommended that students enroll in direct deposit through our e- Refund process. The e-

Refund enrollment form can be found in your [MyNova](#) account, in the Student's Tab under Bursar Links.

If a student still has a remaining balance with Bisk after the full financial aid disbursement has been remitted for a semester, then the student will need to seek additional payment arrangements to cover the remaining charges (such as applying for a Direct PLUS loan, a private loan etc.). Students should contact their Student Services Representative at 1-855-300-1473 or via email at [studentservices@villanovau.com](mailto:studentservices@villanovau.com).

Upon the registration of courses, students will receive an intent to Enroll form from Bisk via email detailing their tuition and/or book charges for that term. Questions about the billing process should be directed to the Student Services Representative at Bisk at 1-855-300- 1473 or via email at [studentservices@villanovau.com](mailto:studentservices@villanovau.com). Please note that if a student is not utilizing financial aid, all payment arrangements need to be made directly with Bisk.



# ACADEMIC POLICIES

The following policies and regulations, along with those of the individual colleges and programs, govern academic life at the University. In order that the programs offered reflect current advances in and additions to knowledge and changes in professional requirements, the University and each of its colleges reserves the right to change program requirements without prior notice. Unless otherwise specified, students are bound by the policies and regulations in effect when their entering class begins its first year of study. *It is the responsibility of the student to know and comply with the academic policies and regulations of the University and their respective colleges.* Students should consult the individual college sections of this Catalog and the special publications and guidelines issued by the colleges and departments.

## ACADEMIC DISMISSAL

A student who has not met the academic standards of a college (as determined by the Academic Standing Committee and Dean of that college) will be dismissed from the college. The college dean will inform that student of the dismissal as soon as possible. Typically the student will be allowed to appeal that dismissal to the dean of the college. There is no additional process of appeal beyond the college dean. In some cases (e.g., when the student has had previous warnings or been on probation), the student may, at the determination of the college, be dismissed without right of appeal.

Once a student has been dismissed from the college without right of appeal or once the appeal process has been exhausted, the student may not enroll in additional credit-bearing classes at Villanova, and may not remain in a University Residence Hall. A student who is dismissed from a college is dismissed from the University effective with the sending of the college dismissal letter. The college that dismisses the student will send a list of the dismissed students to the Office of the Provost. The Office of the Provost will compile a list of all students dismissed by the colleges and remove the names of students who are accepted to another Villanova college before sending the list of dismissed students to the Registrar, the Bursar, Residence Life and other appropriate university offices.

A student who has been dismissed from a college is eligible to apply to that college for readmission after two semesters (including the summer) have elapsed. For example, a student who is dismissed at the end of the fall semester may apply to be admitted for the following fall semester. The college reviewing the application will include a review of past discipline at Villanova University as well as whether the student has been dismissed by another College within Villanova University. A student who has been dismissed and then returns to the University will be treated as a continuing student, not a transfer student, for purposes of policies regarding courses taken elsewhere; in other words, such a student would not be permitted to transfer courses taken at a two-year institution.

If the student is already enrolled in spring semester courses when the dismissal letter is sent, the student must withdraw from those courses and leave his/her residence hall. Tuition for the spring semester will be refunded. Students enrolled in summer courses at the time the final dismissal letter is sent must also withdraw from those courses, with tuition for the

summer semester refunded. If a student has formally applied to another Villanova undergraduate college (see #5 below), a student may remain in classes and residence halls until a final decision is made.

A student who has been dismissed from Liberal Arts and Sciences, School of Business, Engineering, Nursing or the College of Professional Studies may apply at any time (either immediately or at any subsequent date) for admission to another Villanova undergraduate college. Such a student does not have to go through the University admissions' process. The request for readmission will be handled by the college to which the student has applied. The college reviewing the application will include a review of past discipline at Villanova University as well as whether the student has been dismissed by another College within Villanova University. If the student is accepted in another college immediately (normally within ten business days) after dismissal from the first college, or if the dismissed student is a science student who is accepted into the Arts division of the College of Liberal Arts and Sciences, s/he may continue to take courses and continue to live in the Residence Halls without interruption. The college into which the student is accepted must immediately notify the Registrar, the Bursar, and Residence Life that the student has now been accepted into another college.

### **ACADEMIC STANDING**

Villanova uses three related policies to define Academic Standing: Grade Point Average; Academic Progress and Academic Probation. The correct interpretation of all three policies is that all students who are making sufficient progress toward their degree and who are eligible or have been allowed to register and take academic course work at Villanova for the current term are considered in good academic standing. Students placed on "Academic Probation" are considered to be in good academic standing since they are making satisfactory progress toward a degree and are still authorized to continue studying toward their degrees. Academic Probation only serves as an academic warning that a student is in danger of not meeting minimum academic retention standards and being terminated from the University.

**Quality Point Averages.** In addition to passing all courses taken the student is also required to maintain a specified grade average leading to graduation with a college degree. The average is derived from the grades and credit hours of the courses taken and is known as the quality-point average. It is determined by multiplying the number of credits for each course attempted by the allotted quality points for the grades received and dividing the total quality points by the total credit hours attempted. Quality points for grades are as follows: A=4.00; A-=3.67; B+=3.33; B=3.00; B-=2.67; C+=2.33; C=2.00; C-=1.67; D+=1.33; D=1.00; D-=.67.

**Academic Progress.** To qualify for a Bachelor's degree, a student, in addition to completing all the studies prescribed for the degree sought, must earn a cumulative quality point average of at least 2.00. Most Full-Time students earn their Baccalaureate degree in four years. Full-Time students who do not complete the Baccalaureate degree within six years and part-time students who do not complete the Baccalaureate degree within twelve years may need to take additional courses in order to meet degree requirements. Any student who has not completed the degree within twelve years must complete a degree through the College of Professional Studies. If the degree or major pursued by the full-time student is not offered by the College of Professional Studies, then the former full-time student must choose a degree and/or major offered to the College of Professional Studies students. 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 Dean of the college in which the student is matriculated.

**Academic Probation.** The records of students whose cumulative or semester quality-point average falls below 2.00 will be reviewed by the Academic Standing Committee of their college for appropriate action. Students in business, science or engineering whose technical course quality-point average falls below 2.00 will also come before the committee. Typically, the student will either be placed on academic probation or dismissed. While on academic probation, students are limited to a schedule of courses determined by the Academic Standing Committee of their College. A student on academic probation will normally be allowed only one semester to achieve the required quality-point average.

**Honors.** At graduation students receive honors of three kinds -- summa cum laude, magna cum laude, and cum laude -- after being approved for such honors by the faculty and administration of the University. To be eligible for these honors, students must attain a minimum cumulative quality-point average of 3.90, 3.75, 3.50, respectively, and at least sixty credits of course work (not including Satisfactory/Unsatisfactory courses) must have been taken at Villanova University.

**Repeat Freshman Year.** The Academic Standing Committee may allow a freshman student to declare academic bankruptcy and repeat the semester or the year with a new start on the cumulative average (though a record of the year's work will remain on the transcript). Once a course is bankrupted the action is permanent and cannot be reversed.

## **COMPLAINTS ABOUT FACULTY AND GRADES**

Villanova University has a set of procedures for resolving student complaints about faculty performance or about grades. A student who has concerns about either of these issues should, if at all possible, discuss the problem directly with the faculty member. If this is not possible, the student should contact the faculty member's department chair or program director who will provide the student with a copy of the procedures and, if the student wishes, review the process involved. If the student is, for good reason, reluctant to contact the department chair, the student may also contact the Dean of the faculty member's college. The procedures are also online under Student Services and Information on the Provost website.

## **CLASS 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 instructor's class attendance policy must appear in the syllabus and at a minimum must allow for the University's excused absences listed below. Enforcement of such attendance policies lies with those instructors. If the instructor thinks a student has too many absences (total of excused and unexcused), then the instructor should discuss the student's attendance with the appropriate Assistant or Associate Dean of the instructor's college in order to determine if the student should withdraw or receive an incomplete.

Where possible, students should inform their instructors if they plan to be late or absent from class. In all cases, students should be prepared to provide documentation to petition for excused absences to the appropriate Assistant or Associate Dean of their college. Excused absences do not count toward a failure in the course for first year students. Absence from class does not release the student from work assigned. Students who miss an in-class obligation (exam, presentation, etc.) due to an excused absence will not be penalized - the

instructor may offer a make-up test, arrange an alternative time for a presentation, exempt a student from the assignment, or provide another arrangement.

The University's list of excused absences for all students includes the following:

- participation in NCAA athletic competitions
- participation in special academic events (e.g., conferences, field trips, project competitions)
- participation in official university business (e.g., student representatives attending meetings related to university governance)
- attendance at significant events involving the immediate family (e.g., funerals, weddings)
- religious holidays - see the University's policy on Religious Holidays
- college-approved participation in placement activities (e.g., job interviews, graduate school interviews, attending job fairs)
- legally required absence (jury duty, court appearance, short-term military service)
- documented serious illness or disability (see below how to document)

If instructors want to verify that the absence qualifies as an excused absence under the university list or verify that the student is permitted to participate in the activity, they should contact the designated Assistant or Associate Dean of the student's College.

The College of Professional Studies has separate attendance policies for FastForward courses and the online degree programs. The College of Nursing has a separate attendance policy for the online RN to BSN program. Graduate Studies in the College of Liberal Arts and Sciences has separate attendance policies for online degree programs.

### **Documenting a Serious Illness or Disability**

The Student Health Center does not provide notes to excuse absences for students missing class due to their visit to the Student Health Center, or to excuse class absences due to most common illnesses. The Student Health Center will also not provide notes to excuse absences for medical conditions that were not treated at the Student Health Center. The purpose of this policy is to eliminate unnecessary visits from students whose sole purpose is obtaining class absence notes for their professors.

Some illnesses may legitimately prevent a student from attending classes, but are not serious enough to require evaluation and treatment from the Student Health Center. Students often provide self-care, which is very appropriate for many common illnesses such as cold, viral infection, or uncomplicated flu. Students should inform their instructors if they are missing class for a common illness. Instructors have the discretion to decide if the absence due to a common illness is excused. If a student wishes to appeal the instructor's decision, the student may do so by contacting the instructor's Department Chair or Program Director, who will consult with the appropriate Assistant or Associate Dean of the instructor's college, before deciding the outcome of the appeal.

If in the judgment of the Student Health Center staff, the student will be out of class due to a serious illness or medical condition, as opposed to a common illness, the Student Health Center staff will contact the appropriate Assistant or Associate Dean, who will then contact

the instructor. The Student Health Center communication to the Assistant or Associate Dean will serve as the documentation needed by the Dean (see below). If the student is seeing an off-campus health care provider, the student will provide the documentation from that provider to the appropriate Assistant or Associate Dean, who will then contact the faculty member.

Examples of serious illnesses may include (but are not limited to):

- Mononucleosis, which may require bed rest and/or removal from campus
- Hospitalization and/or surgery
- Highly contagious diseases (e.g., chicken pox, measles)

Mental Health Concerns. The University Counseling Center will use clinical judgment as to whether there is a legitimate need for the student to miss class for reasons related to mental health. If in the judgment of the University Counseling Center staff, the student should be out of class due to a mental health condition, the Counseling Center staff will request a written release of information from the student. With a signed release, the Counseling Center staff may then contact the faculty member or the appropriate Assistant or Associate Dean, who may contact faculty accordingly. The University Counseling Center will not typically validate the legitimacy of a student having missed classes for mental health reasons retroactively, before the student has been to the Counseling Center. The fact that a student is in treatment at the Counseling Center or with an off campus mental health provider will not, in itself, justify the student missing classes. The recommendation for missing classes will occur only when the mental condition necessitates it. If the student is seeing an off-campus mental health care provider, the student will provide the documentation from that provider to the appropriate Assistant or Associate Dean, who will then contact the faculty member.

If the duration of the absence due to serious medical illness or mental health concern undermines the student's ability to complete the academic work required, the appropriate Assistant or Associate Dean will encourage the student to pursue a Medical Leave of Absence – see policy on *Medical Leaves of Absence*.

Documenting Disabilities. Students who are registered with Learning Support Services (LSS) or the Office of Disability Services (ODS) must provide accommodation letters from those offices to their instructors (in advance of absences) in order for subsequent disability-related absences to be considered excused. Students who are newly struggling should be encouraged to register with the appropriate office for any future concerns. Accommodations are not typically retroactive.

Students with learning disabilities, other neurologically-based disorders, and those disabled by chronic illnesses are encouraged to contact [Learning Support Services](#) (LSS). Students with physical disabilities, including but not limited to visual impairments, hearing loss, and mobility limitations, are encouraged to contact the [Office of Disability Services](#) (ODS). Depending on the type of disability, there are different processes for disclosing and documenting the disability with the University.

For students with learning disabilities, neurologically-based disorders, and disability due to chronic illness, these guidelines, as well as certification forms for certain specific disabilities, can be found [here](#).

For students with physical disabilities, these guidelines can be found [here](#).

## **COURSE NUMBERING**

Courses of instruction are numbered according to the following system: courses designated 1000-6999 are given for undergraduate students only; courses numbered 7000-7999 are graduate courses ordinarily open to qualified undergraduates; courses numbered 8000-9999 are graduate courses not ordinarily open to undergraduates.

If a qualified senior wishes to enroll in a graduate course, written approval must be obtained from the student's adviser and undergraduate college Dean. The College of Liberal Arts and Sciences requires, in addition, approval of the instructor and departmental chairperson of the course involved, and the Graduate Dean of Arts and Sciences.

## **CREDIT HOUR POLICY**

### **Policy**

Except as otherwise described in the "Specific Guidelines" below, all credit courses offered by the College of Engineering, College of Liberal Arts and Sciences, College of Nursing, College of Professional Studies, and School Of Business are normally expected to meet for 50 minutes per credit hour per week during a fifteen-week semester; courses scheduled in shorter sessions (e.g. Summer Sessions; Fast Forward; Graduate Business; Online programs, etc.) must meet for an equal amount of time over the shorter period. The Villanova School of Law has its own credit hour policy; however, courses offered by College of Engineering, College of Liberal Arts and Sciences, College of Nursing, College of Professional Studies, and School of Business as part of programs offered in partnership with the Villanova School of Law will comply with the University's Credit Hour Policy. Consistent with the policies of the federal government and the Middle States Commission on Higher Education, credit courses are normally expected to include approximately two hours of out-of-class student work (or the reasonable equivalent) per credit hour per week during a fifteen-week semester; with reasonably equivalent amounts of out-of-class work for shorter sessions.

Exceptions to the credit hour requirements in this Policy will be allowed for academic activities that require reasonably equivalent work and are important to learning and teaching goals. Such exceptions to the credit hour requirements in this Policy must be approved by the Dean of the college or school and the Provost. Class schedules must be approved and developed in accordance with the following specific guidelines.

### **Specific Guidelines**

- A minimum of two hours of science lab or clinical practice per week in a fifteen-week semester generally counts for one credit.
- Three-credit graduate courses and Senior Seminars normally will be expected to meet a minimum of 120 minutes per week rather than 150, because of the higher expectations for work outside of class time
- Courses offered entirely online and courses with online components may use viewing video lectures and participation in blogging, discussion boards, etc. that are relevant to the learning and teaching goals of the course to count as part of class time.
- Course meetings that are conducted as non-science labs, oral presentations, studio sessions, rehearsals or other course-based activities will generally be granted one credit for a minimum of 50 minutes of meeting time per week (or the cumulative

equivalent over a semester) as long as they are central to the course's learning and teaching goals in the syllabus.

- Exceptions to the class time requirements in this Policy will be allowed only when (i) the course requires academic activity outside class meetings sufficiently in excess of the normal expectation (two hours per credit hour per week) to compensate for the reduced time in class; and (ii) the rationale for the exception is manifest in the course syllabus and clearly shown to be materially relevant to the course's learning goals. Such courses will typically be either research-intensive (where students are undertaking an independent course of research over and above assigned reading) or have an experiential, clinical or service learning component or be an approved independent study; in any case, such courses will depend on close monitoring by the instructor of the nature, quality, and quantity of the work done outside scheduled classroom hours.
- A syllabus for each course should contain a clear description of class meeting times and any approved or required non-classroom activities.

## **Time and Day Patterns**

### **Standard Daytime Sequences**

#### **DISCIPLINE AND ACADEMIC INTEGRITY**

Academic honesty and integrity lies at the heart of the values expressed in the University's mission statement and inspired by the spirit of Saint Augustine. When one comes to Villanova, one joins an academic community founded on the search for knowledge in an atmosphere of cooperation and trust. The intellectual health of the community depends on this trust and draws nourishment from the integrity and mutual respect of each of its members.

Villanova University has a formal code of academic integrity ([provost.villanova.edu](http://provost.villanova.edu)), which discusses issues such as plagiarism and other unacceptable academic behaviors. This document is included in *The Blue Book: Villanova University Student Handbook*, which is distributed to all students. It is the responsibility of every student to be familiar with this code and to adhere to it.

Students who receive an academic integrity penalty may, if they believe that they have not committed an academic integrity violation, take their case to the Board of Academic Integrity. Detailed descriptions of the University's Academic Integrity Policy are available from department chairs, deans, and the Provost's web site.

In keeping with its nature and goals as a private, church-related institution, Villanova University regards student life on campus as an integral part of the student's educational experience. Hence it is to be understood that the student, in joining the University community, accepts the regulations promulgated in the Student Handbook. The student should also become acquainted with and understand the responsibilities set forth in the Student Handbook, especially those in the sections on Policy and Regulations. Adherence to University regulations is expected and required for successful completion of the program of studies. Enforcement within the classroom of regulations regarding smoking, proper

classroom attire, department, etc., is the responsibility of the faculty member. All other discipline problems are to be referred to the Dean of Students.

## **STUDENT RECORDS POLICY**

Villanova University, in accordance with the Family Educational Rights and Privacy Act (FERPA) of 1974, as amended, has adopted this 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.

### **I. Disclosure of Directory Information**

Information concerning the following items about individual students is designated by the University as directory information and may be released or published without the student's consent: full name; student identification number; address (local, home or electronic mail); telephone number; photograph or video; date and place of birth; major field of study; grade level; enrollment status (e.g., undergraduate or graduate, full-time or part-time); dates of attendance; degrees, honors and awards received (including Dean's List); most recent previous educational institution attended; participation in officially recognized University activities and athletics; and weight and height of members of athletic teams. Students who do not wish directory information to be released or made public must inform in writing the Office of the Registrar.

### **II. Confidentiality of Personally Identifiable Information**

All personally identifiable information contained in student records other than directory information is considered confidential information. This information includes but is not necessarily limited to: academic evaluations; general counseling and advising records; disciplinary records; financial aid records; letters of recommendation; medical or health records; clinical counseling and psychiatric records; transcripts, test scores, and other academic records; and cooperative work records. "Personally identifiable information" means that the information includes: (a) the name of the student; (b) the address of the student; (c) a personal identifier such as social security number; or (d) a list of personal characteristics or other information that would make the student's identity easily traceable.

The University will generally not disclose personally identifiable information to third parties without the written consent of the student. The signed and dated consent should specify the records to be disclosed, the purpose of the disclosure, and to whom the records are to be disclosed. However, personally identifiable information may be disclosed, without the student's consent, to the following individuals or institutions, in accordance with FERPA, including in the following circumstances:

- a. To University officials (or office personnel ancillary to the officials) who require access for legitimate educational purposes such as academic, disciplinary, health or safety matters. University officials may include, without limitation, the Board of Trustees, the President, Vice Presidents, Deans, Directors,



- Department Chairs, Faculty Members, ROTC Commanding Officer, attorneys in the Office of the Vice President and General Counsel, Judicial Officers, Counselors, Resident Advisers, Coaches and Admissions Officers. University officials also include contractors, consultants, volunteers and other outside parties, such as an attorney or auditor providing services on behalf of the University for which the University would otherwise use employees.
- b. To the party(ies) who provided or created the record(s) containing the personally identifiable information.
  - c. To officials of other educational institutions to which the student seeks or intends to enroll or where the student is already enrolled, for purposes related to the student's enrollment or transfer (on condition that the student upon request is entitled to a copy of such records).
  - d. To appropriate federal, state or local officials or authorities, consistent with federal regulations.
  - e. To the U.S. Attorney General (or designee) pursuant to an ex parte order under the U.S. Patriot Act in connection with certain investigations or prosecutions.
  - f. To organizations conducting studies for, or on behalf of, educational agencies or institutions.
  - g. To accrediting organizations to carry out their accrediting functions.
  - h. To parents of a dependent student as defined in Section 152 of the Internal Revenue Code of 1986.
  - i. To parents of a student under the age of 21, where the information pertains to violations of any federal, state or local law or of any University rule or policy governing the use or possession of alcohol or a controlled substance, and the student has committed a disciplinary violation.
  - j. In connection with the student's application for, or receipt of financial aid.
  - k. To comply with a judicial order or lawfully issued subpoena (on condition that a reasonable effort is made to notify the student of the order or subpoena, if legally permitted to do so).
  - l. In case of an emergency, to appropriate parties, including parents, to protect the health or safety of the student or other individuals, where the University determines that there is an articulable and significant threat to the student or other individuals.
  - m. The disclosure of information concerning registered sex offenders provided under state sex offender registration and campus community notification programs.
- 
- n. The outcome of a disciplinary proceeding to a victim of or alleged perpetrator of a crime of violence or non-forcible sex offense.
  - o. The outcome of a disciplinary proceeding where a student is an alleged perpetrator of a crime of violence or non-forcible sex offense and is determined to have violated the University's rules or policies.

If required under FERPA, the University will inform a party to whom a disclosure of personally identifiable information is made that it is made only on the condition that such party will not disclose the information to any other party without the prior written consent of the student.

### III. Non-Education Records

The following are not considered education records, and thus are not protected by FERPA and this policy:

- Employment records of students as University employees.
- Campus law enforcement records created and maintained by the Public Safety Office, in accordance with the requirements of FERPA.
- Records that are made or maintained by a physician, psychiatrist, psychologist, or other recognized professional or paraprofessional acting in his or her professional capacity or assisting in his or her paraprofessional capacity, and that are made, maintained, or used only in connection with treatment of the student and are disclosed only to individuals providing the treatment. These records may be reviewed, however, by a physician or other appropriate professional of the student's choice.
- Records of instructional, supervisory, and administrative personnel and educational personnel ancillary to those persons, that are in the sole possession of the maker of the record and are not accessible or revealed to any other individual except a temporary substitute for the maker.
- Records that only contain information about a person after that person was no longer a student at the University and that are not directly related to the individual's attendance as a student (e.g., information collected by the University pertaining to accomplishments of its alumni).
- Grades on peer graded papers before they are collected and recorded by a faculty member.

### IV. Inspection and Review Rights; Right to a Hearing

A currently or previously enrolled student has the right to inspect and review his or her educational records. This right does not extend to applicants, those denied admission, or those admitted who do not enroll. Offices may require that requests for access be submitted in writing, and may ask for, but not require, the reason for the request. The University will comply with requests to inspect and review a student's records that it has determined to honor within a reasonable period of time, but in no case more than forty-five days after the request was made. Records to which students are not entitled to access include:

- Confidential letters and statements of recommendation placed in a student's record before January 1, 1975, or confidential letters and statements of recommendation to which students have waived their rights of access.\*
- Financial records of the parents of the student or any information contained in those records.

- Those portions of a student's records that contain information on other students.
- Those records listed in Section III above.

A student who believes that any information contained in his or her educational records is inaccurate or misleading, or otherwise in violation of his or her privacy rights, may request that the University amend the records. The student should first discuss his or her concerns with the individual responsible for the office where the records are maintained. If the student is not satisfied with the resolution, the student should contact the individual to whom that person reports. If still not satisfied, the student may contact the appropriate vice president or designee. The final level of appeal is a formal hearing. To obtain a hearing, the student should file a written request with the Vice President for Student Life. The hearing will be conducted in accordance with the requirements of FERPA.

The substantive judgment of a faculty member about a student's work (grades or other evaluations of work assigned) is not within the scope of a FERPA hearing. A student may challenge the factual and objective elements of the content of student records, but not the qualitative and subjective elements of grading.

If as a result of a hearing the University determines that a student's challenge is without merit, the student will have the right, and will be so informed, to place in his or her records a statement setting forth any reasons for disagreeing with the University's decision.

Students have a right to file complaints concerning alleged failures by the University to comply with the requirements of FERPA and the implementing regulations. Complaints should be addressed to the Family Policy Compliance Office, U.S. Department of Education, 400 Maryland Avenue, S.W., Washington, DC 20202-5901. Students are encouraged to bring any complaints regarding the implementation of this policy to the attention of the Vice President and General Counsel.

~~\*Students may be invited but not required to waive their right of access to confidential letters of recommendation for admission, honors or awards, or employment. Failure to execute a waiver will not affect a student's admission, receipt of financial aid, or other University services. If a student signs a waiver, he/she may request a list of all persons making confidential recommendations.~~

## **FINAL EXAMINATIONS AND FINAL WEEK OF CLASSES**

Faculty members recognize their obligation to provide timely interim and final assessments of student performance in their classes. This may be done in a variety of ways, to be determined by each instructor. The assessment methodology should be spelled out clearly in the syllabus, with an explanation of the relative weight each item will contribute to the final grade.

The Registrar schedules a time for a final examination for each course. These times are available on the Registrar's website early in the semester, so students should have adequate time to make travel plans. It is permissible to omit the final examination, provided that other equivalently comprehensive assessment techniques are employed. If final examinations are given, they must be given at the time and place scheduled by the Registrar unless exemption has been authorized by the chair and dean.

In order to balance student workload during the final week of classes, the following describes prohibited times for administering examinations or other assessment instruments in undergraduate courses only.

Reading days: No exams or assessment instruments whatsoever may be administered, and no papers or other assignments may be due, on designated reading days.

Final day of class: With the exception of oral presentations or laboratory assessments, no exams or other student performance assessment instruments whatsoever may be administered, and no papers or other assignments may be due, on the final day of class. Faculty may administer the Course and Teacher Survey.

Other days of the final week of classes: No final examinations may be administered, and no take-home exams may be due, during the final week of classes. Other major examinations and tests may be administered only with the explicit written consent of the dean of the college (quizzes and minor assignments are permitted). No paper or other assignment may be due on other days of the final week of classes unless clearly scheduled for that week in the course syllabus that is distributed at the outset of the course.

The below section refers to both graduate and undergraduate courses:

\*Tests or student learning assessment mechanisms are to be employed periodically. In the interest of fairness, faculty members should take steps to avoid situations where some students have access to previous examinations while others do not. This can be done in several ways: faculty members may collect examination papers from students so that these cannot be circulated in later semesters, or faculty members may make previous examinations available to students either electronically or by other means. Copies of semester examinations are to be filed with the chair of the department and/or the dean of the college.

\*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 dean of the student's college.

\*If a student is absent from a final examination for any reason other than a conflict, he or she must contact the instructor within 24 hours of the scheduled beginning of the examination to request permission from the instructor to take a make-up examination. The instructor may, if he or she wishes, arrange a make-up examination at a mutually convenient time. If the faculty member has reservations about the legitimacy of the student's reasons for missing the examination, the faculty member may refer the student to the office of the college dean, who will evaluate the student's request for a make-up. If the office of the dean approves the request, the faculty member will arrange a make-up examination for the student or assign other work in place of the final examination. If the student does not contact the faculty member within 24 hours, the student must receive permission from both the office of the dean and the faculty member before being allowed to take a make-up examination.

\*Faculty members should attend the administration of the final examination in order to answer any questions and ensure high standards of academic integrity. When they are unable to do so, department chairs are to see that sufficient proctors are provided for each examination room. Where there is a shortage in any department, assistance should be requested from other departments.

\*Faculty members must retain in their possession all final exams and other unclaimed exams, papers, and student course projects and materials for a period of twelve months following the end of the semester in which they were used to establish grades.

## **GRADING SYSTEM**

At mid-semester and at the end of the semester grades are available to the student from the "Just For You" tab in the student's myNova account. The grade report at the end of the semester is part of the student's permanent record and transcript. Any inaccuracy on this record must be reported to the Registrar according to the following deadlines; otherwise, the record will stand as it is.

Spring Semester grade errors: Last Friday in June

Summer Semester grade errors: Last Friday in August

Fall Semester grade errors: Last Friday in January

## **Grade Definitions**

- A        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 indicates that the student works independently with unusual effectiveness and often takes the initiative in seeking new knowledge outside the formal confines of the course.

A-

B+

B

Denotes achievement considerably above acceptable standards. Good mastery of course material is 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.

B-

C+

C

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, works independently at an acceptable level and completes all requirements in the course.

C-

D+

D

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

D-

F

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 (work must be equivalent to C or better).

SP

Satisfactory Progress.

T

Transfer grade.

WX

Approved withdrawal without penalty.

W

Approved withdrawal with penalty.

U

Unsatisfactory: Assigned in Satisfactory/Unsatisfactory courses

AU

Audit.

Y

Unofficial withdrawal from course (or for freshmen, failure for excessive absences).

NG

(Or Blank): no grade reported.

## OC - Indication of Off-Campus Enrollment, effective Fall 2012

All grades are permanent, except N and NG, which are temporary grades used to indicate that the student's work in a course has not been completed. An N or NG grade must be removed and a grade substituted by the instructor according to the following schedule:

For the Fall Semester: Students must submit all work to the instructor by the last Friday in January; grade changes must be submitted to the Registrar's Office by the second Friday in February

For the Spring Semester: Students must submit all work to the instructor by the last Friday in June; grade changes must be submitted to the Registrar's Office by the second Friday in July

Students should check the academic calendar for actual dates. NOTE: if a change is not reported, the N or NG grade reverts to an NF.

Without the approval of the instructor, the department chairperson, and the Dean, no grade higher than C may replace the N.

The grade WX indicates an authorized withdrawal with the grade not considered in the calculation of the quality-point average. The grade W also indicates an authorized withdrawal, but the grade is calculated as an F in determining the quality-point average. Authorization for WX and W may be given only by the student's Dean. The grade Y is given when a student unofficially withdraws from a course. It is reflected in the average as an F.

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 an F grade was received is not a requirement for the degree. When a student who has failed in a course presents evidence of subsequently passing a like course in another institution, the University reserves the right to withhold credit for the course until the student shall have passed a qualifying examination given by the Faculty from which a degree is sought.

Students should recognize that failure in one course or more will usually make it impossible for them to graduate with the class in which they matriculated.

**Audit.** Courses may be audited with an adviser's consent. The student who has been granted audit status will not be responsible for the assignments and examinations required in the course but must attend all class and laboratory sessions. Although no credit or grade is received, the same tuition and fees are charged for an audit as for a credit course. A student must declare audit status by completing the appropriate form in the Registrar's Office by the end of the drop/add period, and no change from credit to audit status or vice versa may be made after that period.

A class taken for audit may subsequently be taken for credit, but the student will be charged normal tuition and fees for the course.

**Satisfactory/Unsatisfactory Option.** For the regulations governing students eligible for the satisfactory/unsatisfactory option in the different colleges and the courses that may be required, see the appropriate section of the catalog in which the college degree programs are listed. The following regulations apply to all colleges:

- The satisfactory/unsatisfactory grade will be shown on the transcript but will not be reflected in the quality-point average.
- The grade S is the grade C or better.
- A student must declare election of the satisfactory/unsatisfactory option by the end of the drop/add period.

### **INCOMPLETE OR IN-PROGRESS GRADES AND GRADUATION**

In the case where a student has an incomplete (N) or in progress (IP) grade for a course that is not required for degree completion in the graduation term the college who is conferring the degree must validate that the degree requirements are met without the completion of that course. Proof of completion of degree requirements should be sent to the Office of the Registrar. In addition to the completion of the courses required for graduation, the college must confirm that the student's overall GPA is at minimum a 2.0 (3.0 for graduate programs) using the grade of "F" in the incomplete/in progress non-required course in the GPA calculation. This GPA must be confirmed because all courses count towards a student's GPA which must be a minimum of 2.0 (3.0 for graduate programs) to graduate. In addition, undergraduate students in the VSB, Engineering, Nursing and the Sciences must attain a 2.0 technical GPA in order to graduate.

In the case where a student completes requirements for one degree/major, but has incomplete or in progress grades in the graduation term that impact the completion of another major, minor, or concentration, that major, minor or concentration will be added to the degree record only when the work has been completed and the college notifies the Office of the Registrar that the new requirements have been met. If the requirements have been met by the diploma date (May 31, September 1, or December 31), the additional major/minor/concentration will be posted to the same graduation term record. If the course work is completed after the dates noted above, the additional major/minor/concentration will be added to the student's record with a notation that those requirements were completed in the appropriate subsequent term.

The Office of the Registrar reserves the right to withhold the computation of graduation honors (summa cum laude, magna cum laude, cum laude) for any undergraduate student with incomplete or in progress grades- regardless of whether or not the course is needed for graduation- since the *overall* final GPA for all coursework is what determines honors designation. If the grade in the course affects honors, the Office of the Registrar may not post honors to the student record until the incomplete or in progress grade is converted to a final grade. Since graduate students do not receive honors at graduation this policy is not applicable to them.

### **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 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 those dates will graduate officially at the next commencement.

### **RESIDENCE REQUIREMENT FOR GRADUATION**

A student must complete the final 30 credit hours of an academic program at Villanova. With the permission of the College Dean, study as part of an approved International Studies program may count towards the residency requirement.

### **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 Dean.

A normal scholastic load is defined by the program set forth in this catalog. In the Villanova School of Business and the College of Liberal Arts & Sciences, students with a G.P.A. over 3.0 may sign up for an overload with registration for the sixth course possible only after the main registration period is over. No special approval would be needed.

### **POLICY ON UNDERGRADUATES ENROLLING IN GRADUATE 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, dean, chair, course instructor). The College of Nursing may exempt certain students from the “senior standing” requirement for a limited number of courses that juniors may take. Colleges are urged to compile a list of graduate courses that may and may not be taken, and this list should be available to students upon request. Colleges will ensure that proper advising is provided to undergraduate students with respect to taking graduate courses.

Undergraduates may take a maximum of two graduate courses in any semester. If an undergraduate takes a graduate class, in that semester s/he is limited to taking a maximum of 16 credit-hours of work. The deans of the individual college approval procedures may impose more restrictive limits if that is deemed necessary. In the Colleges of Nursing and Engineering, because of scheduling needs, students may, with permission, slightly exceed the 16-hour limit.

If allowed by the graduate program, up to nine hours or nine credits of graduate courses taken by undergraduates may double count – both for the bachelor’s degree and for the master’s degree, whether or not a student is formally enrolled in a five year bachelor’s-master’s program. If an undergraduate student completes additional graduate courses beyond the three, the additional course(s) will count toward the undergraduate degree

and be included in the student's undergraduate record unless the Graduate Dean in CLAS, or the appropriate Associate Dean responsible for graduate programs in the other colleges, approves the additional course(s) counting toward the graduate degree only.

All graduate courses taken by an undergraduate student will appear and remain on the undergraduate transcript and will be calculated in the undergraduate GPA. When additional graduate courses beyond the three that will double count are taken, and if the additional graduate courses are allowed to count toward a subsequent graduate degree, then the undergraduate college will need to manage the student's undergraduate degree audit so that the additional graduate course(s) is/are excluded from fulfilling undergraduate degree requirements. If/when a student becomes a graduate student, and graduate courses taken as an undergraduate student apply to that program, the Graduate Dean in CLAS, or the appropriate Associate Dean responsible for graduate programs in the other colleges, will notify the Registrar's Office of all graduate courses to be applied to graduate degree requirements, so record adjustments can be made.

### **TRANSFER OF CREDIT FROM ANOTHER UNIVERSITY**

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.

1. Four-year Institutions. Normally once a student has been matriculated at Villanova, no credits may be transferred from two-year institutions of higher education. However, new transfer students either from other four year institutions or from two year institutions may seek to transfer credits from two year institutions.
2. International Studies. Courses taken in colleges and universities in other countries will be transferred for credit, assuming that they are approved by Villanova's International Studies Office and the Dean of the student's college or his/her designee.
3. Summer courses.
  - No summer course may be taken at another institution, domestic or foreign, for transfer of credit back to Villanova without pre-approval by the Dean of the student's college or his/her designee.
  - Villanova normally does not approve transfer of credits for courses taken during the summer at other colleges and universities if the same or comparable (for purposes of filling requirements) courses are available at Villanova in a distance education mode during the summer.
4. Leave of Absence. Normally, Villanova will not pre-approve courses, or transfer credits back to Villanova, for students who will be on a University leave of absence when they enroll in such courses.
5. Withdrawals and dismissals. Students who have withdrawn from the University or who are dismissed from the University for academic reasons frequently continue their academic work at other colleges and universities. Villanova does not pre-approve courses to be taken at another University after a student has been dismissed or has

withdrawn. If these students apply for readmission to the University, courses taken at other colleges and universities will be evaluated for transfer credit by the Dean of the college to which the student is seeking readmission. Acceptance of any such credits is at the sole discretion of the Dean.

6. Suspension. Normally, Villanova will not pre-approve courses, or transfer credits back to Villanova, for students who have been suspended for violations of the Student Code of Conduct when they enroll in such courses.

### **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.

Each college has different requirements, which may be found in each college's section of the University Catalog. Note that withdrawals without permission will receive a "W" grade, which is calculated as an "F" in computing one's quality point average.

### **WITHDRAWAL FROM THE UNIVERSITY; LEAVE OF ABSENCE**

Students occasionally leave the University either on a temporary or on a full time basis; the following policies apply:

- **Leave of absence.** Full-Time undergraduate students who plan to leave the University on a temporary basis should request a Leave of Absence. Official leave of absence from the University must be authorized by the Dean of the appropriate college. In order to affect a leave of absence, a student must submit to the Dean a formal letter, or the appropriate college form, and should then have an interview with the Dean. The request for a leave of absence may be countersigned by the student's parents or legal guardian. The parents or guardians may, if they wish and if authorized by the student, submit the official request for a leave of absence. In consultation with the student, the parents, and other campus offices as applicable, the Dean will determine what issues should be addressed during the period of the leave. Leave of absence should normally be for no more than a year. When the student feels that he or she is ready to return to the University, the student should request an interview (which may be by telephone) with the college Dean. To guarantee the student's success, the Dean will determine whether the issues that occasioned the request for leave have been addressed. Assuming that the issues have been resolved, the student will then be returned to active status. If the student does not return to the University within the time originally requested (normally no longer than a year), the student will be considered as having withdrawn from the University.
- **Voluntary Medical Leave of Absence (MLOA).** 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. The University has an interest in students receiving appropriate care not only for their own well-being, but also for the wellbeing of the larger community with whom the student interacts. When a student initiates a MLOA, Villanova University may establish criteria regarding the student's eligibility for returning to the campus community. The criteria include, but are not limited to, compelling evidence that the condition that precipitated the need for the MLOA has been sufficiently treated or ameliorated to the point where it will no longer adversely affect the student's or the community's safety or functioning.

### **Criteria for Approval of a MLOA**

Three steps are required for approval of a MLOA.

- The student must schedule an appointment with the Student Health Center or the University Counseling Center for a MLOA evaluation.
- The student must schedule an appointment with the Dean of Students or appropriate academic Dean in the student's college to discuss and review the MLOA request.
- The student must complete the MLOA Request Form and submit one copy to the Dean of Students or the appropriate academic Dean.

The MLOA request may be made at any time during the semester, but must be completed no later than the last day of classes in a semester, including the requisite evaluation and any related paperwork for the Dean's office. Requests not completed by the last day of classes will be considered late requests and will be considered for the following semester barring exceptional circumstances.

The Dean of Students or the academic Dean's office will make the final determination whether the MLOA will be granted, in consultation with University's health professionals. The Dean's office granting the leave will specify the terms of the MLOA including conditions for return to the University following the leave. At a minimum, a MLOA will be for one semester and, depending on the timing of the request and the nature of the circumstances, the MLOA may involve additional semesters to allow sufficient time for full recovery, a sustained period of stability, and to increase the student's opportunity for success upon his/her return to the University. When the student seeks to return to the University, the Dean's office granting the leave will determine whether the student has satisfied the conditions and is permitted to return.

**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 Dean of the appropriate college. In order to affect an official withdrawal, a student must submit to the Dean a formal letter, or the appropriate college form, and then have an interview with the Dean. The letter of withdrawal may be countersigned by the student's parents or legal guardian. The parents or guardians may, if they wish and if authorized by the student, submit the official letter of withdrawal. 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 (see policy above

on Refunds). 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).

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.

# COLLEGE OF LIBERAL ARTS AND SCIENCES

**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  
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*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.

## **ACADEMIC GOALS**

The academic mission of the College is intimately connected with its Core Curriculum. The courses in the Core Curriculum treat a broad range of disciplines from a variety of approaches; at the same time, the Core strives to ensure depth of study and intellectual sophistication while recognizing that learning implies different modes of inquiry. The goals of the Core are to:

Achieve a synthesis of knowledge that provides a basis for informed judgment, not simply "fact finding." This includes learning to think and process information in a critical manner.

Promote literacy as a foundation for intelligent discourse and the articulation of informed views. This goal acknowledges that literacy spans all disciplines, and undergraduates should demonstrate an ability to understand and utilize a wide variety of information (e.g., scientific, quantitative, cross-cultural, etc.) to articulate said views.

Define culture in a broad sense, educating 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. Students should develop an understanding and appreciation of the diversity of cultures and experiences as well as the development of a multicultural and international perspective.

Acknowledge that our world is vibrant and continuously redefined, not simply a static version of the past. Thus, we challenge students to understand that the present is recognizably formed from past influences. In order to assess the present and arrive at a view of its future, students must be educated to scrutinize and bring into perspective the relationship of the present day with that of the past.

Prepare students to become active and responsible participants within society, developing an understanding of ethical responsibilities and valuing communal responsibilities.

Encourage personal development in preparing students to regard themselves as citizens living in society, who have respect for the individual as well as the feeling of belonging to a world community.

The College of Liberal Arts and Sciences is committed to sustaining, improving, and monitoring the effectiveness of our academic programs, guided by a comprehensive assessment plan focused on student learning outcomes. Each academic department has developed their own assessment plan for evaluating your learning experience. Please see your department/program chair or contact Dr. Seth Matthew Fishman (Office of the Dean, SAC 105) for more information.

## **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

*explore. experience. evolve.*

Office: 107 St. Augustine Center for the Liberal Arts

Telephone: 610-519-3900

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

**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 of Academic Advising  
**Andy Bove, M.A.**, Associate Director of Academic Advising  
**Charles Francisco**, Outreach Specialist  
**Russell Gardner, Ph.D.**, Director for Science Advising  
**Charlotte Holmes**, Coordinator for Professional Development  
**Kathleen Matkowski**, Administrative Coordinator  
**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

## 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.

## ACADEMIC 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**

Russell Gardner, Ph.D., Director of Science Advising

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.

### **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**

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 courses taken in addition to the Core Requirements and courses within a student's major. Free electives are required for all students in the College of Liberal Arts and Sciences and may include courses of an exploratory nature that students use to pursue their interests, as well as courses that students take to fulfill the requirements of a minor or concentration. Core Requirements may also be counted toward fulfilling a minor or concentration.

The courses in the Core Curriculum treat a broad range of disciplines from a variety of approaches; at the same time, the Core strives to ensure depth of study and intellectual sophistication while recognizing that learning implies different modes of inquiry. An essential component of the Core as well as each major is a focus on writing; within their courses of study students take a number of courses in which writing requirements play a central role, from the Foundation Courses (especially the Augustine and Culture Seminars) and the Core Ethics course to the Core Literature and Writing Seminar and courses within each major. These major courses include a Research Requirement course, which is 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 particular courses that fulfill these requirements are determined by each academic major; students should contact individual departments or visit their webpages for additional information.)

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 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)
- IV. Foreign Languages (Proficiency)
  - V. Mathematics or Statistics (1 course)
  - VI. Natural Sciences (2 courses w/labs)
  - VII. Literature and Writing Seminar \* (1 course)
  - VIII. History (1 course)
  - IX. Social Sciences (2 courses)
  - X. Fine Arts (1 course)
  - XI. Theology and Religious Studies – Upper Division (1 course)

### **Diversity Requirement**

All students must complete two diversity courses. Core History courses do not count toward fulfilling the diversity requirement.

\*These courses will not be accepted for transfer credit once a student has matriculated into the College of Liberal Arts and Sciences.

### **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. For more information about ACS, [visit this webpage](#).

#### **Theology and Religious Studies: THL 1000 (1 course)**

THL 1000 (Faith, Reason, and Culture) studies Christianity with a particular focus on Roman Catholicism. Animated by Augustine’s concern to relate Christian faith, reason and human culture, this foundation course in the Core Curriculum is organized around the fundamental question, “What do I believe?” Students embark on a journey that engages them in the quest of faith seeking understanding in the context of contemporary global religious, theological, and cultural pluralism. Students explore the faith-reason-culture relations through the academic lenses of theological and religious studies disciplines.

**Philosophy (1 course)**

PHL 1000 Knowledge, Reality, Self-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)**

ETH 2050 The Good Life: Ethics and Contemporary Moral Problems 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 final piece of the foundation courses. Normally students should take ETH 2050 by the end of their junior year, after taking the other four foundation courses.

**Foreign Language Requirement**

Language proficiency is required at Villanova 1) through the intermediate level in French, Italian and Spanish; or 2) at the introductory level in ancient Greek, Arabic, Chinese, Irish, Japanese and Russian. Students who are already proficient in other foreign 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:

- Advanced Placement Examination
- Comprehensive Examination (Proficiency Exam)
- Credit by Exam
- Romance Languages And Latin
- Irish and Critical Languages
- Petition for Exemption Due to Documented Language Proficiency

*Option A: Advanced Placement Examination*

Students may satisfy the Core Curriculum language 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 in the Advanced Placement table in Part III of this manual.

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 language requirement with AP Exams in languages not offered at Villanova must take two additional free electives to assure that they will have enough courses to fulfill graduation requirements.

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 Core Curriculum language 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 at the website



address below. The deadline to register for a proficiency exam is noon the day before the exam. Students deemed proficient by achieving a grade of C or better on the proficiency examination must instead take two additional free electives to assure that they will have enough courses to fulfill graduation requirements.

Comprehensive proficiency examinations may be scheduled online [at this linked website location](#). Registration requires a Villanova username and password.

#### 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 for the Credit by Exam program. There is a fee of \$130.00 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 The Guide to CLAS Programs and Policies.

#### Option D: Romance Languages and Latin

Students selecting this option must pass the Intermediate II course, as well as any necessary previous courses, for the language they have chosen and are not required to go further in that language. Students who studied French, Italian or Spanish in high school must complete an online language placement test to be placed into the appropriate level course sequence. Students who studied Latin in high school must complete the online Latin placement questionnaire to be placed into the appropriate level course sequence. Students interested in one of these languages who have no prior experience in the language are required to take the two-semester introductory course sequence before they may register for the intermediate level courses that fulfill the Core Curriculum language requirement. Because placement tests provide only a rough indicator of a student's level, students who are placed into a course higher than Intermediate II must complete the course to fulfill the requirement. (A student wishing to demonstrate proficiency via a test must take one of the tests listed above under Options A, B, and C.) Students who are placed directly into an Intermediate II or higher course must take one additional free elective to assure that they will have enough courses to fulfill graduation requirements.

For additional information on online placement exams or to take the online test, [please visit this webpage](#).

For additional information on Latin or to complete the Latin placement questionnaire, [please visit the Classical Studies webpage](#).

#### Option E: Irish And Critical Languages (Ancient Greek, Arabic, Chinese, Japanese, Russian)

Students selecting this option must pass the Introductory II course for the language they have chosen and are not required to go further in that language. These courses are typically four to six credits and meet four to five days per week, depending on the language. Critical language professors will meet with students who have requested placement into these courses during New Student Orientation to determine the appropriate course level. 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 a course higher than Introductory II must complete the course to fulfill the requirement. (A student wishing to demonstrate proficiency via a test must take one of the tests listed above under Options A, B, and C.). Students who are placed directly into an Introductory II course must take one additional free elective to assure that they will have enough courses to fulfill graduation requirements.

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

Students who are fluent in languages for which no comprehensive exam is offered through the College of Liberal Arts and Sciences may petition for an exemption from the Core Curriculum language requirement by submitting a written request for exemption 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 foreign language proficiency for the purposes of the petition process. Students deemed proficient through the petition process must instead take two additional free electives to assure that they will have enough courses to fulfill graduation requirements. Petitions and supporting documentation should be submitted to the Office for Undergraduate Students in SAC 107.

#### **Notes:**

Language courses vary from three to six credits; regardless of the number of credits, an individual language course counts as one course for purposes of graduation.

Placement tests are used to place students only; they 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 the Falvey Learning Commons, Suite 212, or by phone at (610) 519-5176.

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 requirement, although the department offers courses every semester specifically designed for the Core Curriculum. These specifically designed courses, along with courses offered from other departments designated by the appropriate attribute, fulfill the core requirement.

#### **Science (2 semesters with laboratory)**

Non-science majors meet the Core Curriculum Science requirement by taking two semesters of Mendel Science Experience (MSE 2000 or MSE 2001), thematically-based lecture/laboratory courses or two semesters of science courses with a laboratory component designed for science majors.

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

Mendel Science Experience courses are unique to Villanova and will not be accepted for transfer into the College of Liberal Arts and Sciences.

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

All students take a thematic literature and writing seminar course by the end of their sophomore year. These courses are designated by the LWS attribute.

**History (1 course)**

Any history course specifically designated for the Core Curriculum fulfills the Core requirement. These specifically designed courses, along with courses offered from other departments designated by the appropriate attribute, fulfill the Core History requirement.

**Social Sciences (2 courses)**

Students will satisfy the Social Sciences requirement by taking two courses typically offered through the Departments of Economics, Gender and Women's Studies, Geography and the Environment, Global Interdisciplinary Studies, Political Science, Psychological and Brain Sciences, Public Administration, or Sociology and Criminology. These courses are designated by the Social Science attribute.

**Fine Arts (1 course)**

The Fine Arts requirement is met through courses that foster and develop an understanding and appreciation of artistic creativity. While some courses may focus on the creative processes that go into making a work of art, others may focus on analysis and interpretation of the products of that artistic creativity. Special designated courses in Theater, Studio Art, Art History, English, and Communication (e.g., Rhetoric/ Performance and Media/Film Studies), designated with the appropriate attribute, fulfill the core requirement. Please note that not all Studio Art courses meet the Fine Arts requirement.

**Theology and Religious Studies: Upper Level Theology (1 course)**

The second TRS course in the Core Curriculum develops the theme of faith seeking understanding, engaging culture from a specific disciplinary perspective: biblical studies, systematic or fundamental theology, Christian ethics, historical theology and Augustinian Studies, spirituality, pastoral studies, or world religions. Students must have taken THL 1000 or its HON equivalent before taking this upper level course. Christian students gain deeper insight into their faith, students from other religions achieve a better understanding of the uniqueness of their own tradition, and all undergraduates acquire that advanced knowledge of the faith-culture-reason relations that are a vital part of the Villanova experience and a necessity for the educated person.

**Core Curriculum 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.

The objectives of completing core diversity courses ideally include all of the following:

- Expand student knowledge of unfamiliar cultures;

- Expose students to the complexity of power relations across and within varying cultures;
- Provide students the knowledge-base to develop skills for engaging across cultural contexts.

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 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 this requirement, provided they include a significant reflective component, just as traditional diversity courses do, 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 courses at Villanova.

A student may not use a single course to fulfill more than one category of the diversity requirement.

The diversity requirement cannot be fulfilled by independent study or a senior thesis.

Language courses cannot fulfill the requirement, although literature courses in a foreign language can fulfill the requirement provided they focus on appropriate material.

A student may take 1-credit workshops provided they meet the above stated requirements of a total of 3 credits in one of the Diversity categories.

The spirit of the diversity requirement calls for students to select courses that will broaden their education. The Core Diversity Committee believes it is ultimately the student's responsibility to select courses to achieve this goal.

#### **Fulfilling Core Curriculum Course Requirements**

Courses or sections of courses that are specifically designed to fulfill Core requirements are designated as such in the Master Schedule, which is available online through MyNOVA.

With the exception of Diversity courses, a course that is fulfilling a Core requirement for a student cannot also be applied toward that student's major, unless explicitly included in the required course program for the major.

With the exception of the Foreign Language Requirement, Advanced Placement (AP) credit does not count toward the fulfillment of requirements in the Core Curriculum. AP credits

may count toward the fulfillment of major course requirements or as free elective credit. Please discuss this option with your faculty advisor.

A course that a student has already taken cannot be retroactively approved to fulfill a Core requirement.

## **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 following policies 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 that do not ordinarily apply to their new curriculum. Before a student may request bankruptcy for specific courses, he or she must have successfully completed two consecutive semesters in the CLAS and attained a minimum GPA of 2.50 in each semester. 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 for the exclusion (Susan Jacobs in OUS, SAC 107).

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**

A student who has not met the academic standards of the College (as determined by the Academic Standing Committee and described below) will be dismissed from the College of Liberal Arts and Sciences after two consecutive semesters below a 2.0 cumulative grade point average and/or failure to make academic progress (successful completion of at least 12 credits a semester). Additionally, students on probation who have any of the following grades "N", "Y", "F", "NF", "U", or "W" are subject to dismissal from the College. The Assistant Dean for Undergraduate Students (Susan Jacobs in OUS, SAC 107) will inform the student of the dismissal as soon as possible. Typically, the student will be allowed to appeal that dismissal to the Academic Standing Committee and the Assistant Dean for Undergraduate Students. There is no additional process of appeal beyond the Assistant Dean. In some cases (e.g., when the student has had previous warnings or been on probation), the student may, at the determination of the College, be dismissed without right of appeal.

## **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**

A student on academic probation will normally be allowed only one semester to raise his or her grade point average to the required minimum. Once a student has been notified of their probationary status, the student is required to contact their faculty advisor immediately to discuss their probationary status and develop an academic plan for success. While on academic probation, a student may be limited to 13 credits (4 courses), is required to pass all courses of three or more credits, and earn a C (2.00) or higher in those courses. Additionally, students on probation must complete all coursework on time and are not eligible for "N" (incomplete) grades and any "Y", "F", "NF", "U", or "W" grades may subject them to dismissal from the College.

## **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). 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 (Susan Jacobs in OUS, SAC 107). 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**

The record of any student whose cumulative or semester grade point average falls below 2.00 will be reviewed by the Academic Standing Committee for appropriate action. Students in science programs whose area grade point average falls below 2.00 will also come before the committee. Typically, the student will either be placed on academic probation or dismissed from the College.

## **Advanced Placement and International Baccalaureate Credit**

Students should request that the College Board send Advanced Placement (AP) scores to Villanova University (our code is 2959). AP scores are received in the Registrar's Office and forwarded to our Office for Undergraduate Students, where the determination on credit is made. Most AP scores for incoming freshmen reach Villanova by mid-July. If the scores are received before freshmen classes begin, a representative of the Assistant Dean for

Undergraduate Students' Office will communicate with the student and authorize the Registrar's Office to post the appropriate credit to the academic record. For scores received after classes begin, this representative will simply direct the Registrar to add any credit they approve. All AP/IB scores must be accepted and approved before the completion of two semesters at Villanova in order to be considered for credit. AP credits appear in the "Transfer Credit" area of the student record.

Incoming students who have taken AP or International Baccalaureate Higher Level (IB) exams should inform their Faculty Advisor and should check with the Office for Undergraduate Students during the first week of classes to verify Villanova's receipt of the official scores and to ensure that proper adjustments have been made to their academic record. In some instances, scores are sent to the Villanova Registrar after courses have been assigned based on the student's response to the Incoming Students Questionnaire.

AP and IB credit cannot be used to fulfill any core requirements, with the exception of foreign language, but may fulfill requirements for majors, minors, concentrations and certificates. AP/IB credits will be treated as transfer credits in these cases and all transfer credit policies will apply. The following is the list of tests and scores and their application to the baccalaureate degree. The first table is a list of Higher Level IB tests and scores; the second is a list of AP tests.

<b>International Baccalaureate Credit and Course Equivalence</b>				
<b>Note: Credit is Only Given for Higher Level Exams</b>				
<b>Subject</b>	<b>Score of 5</b>	<b>Credit</b>	<b>Score of 6 or 7</b>	<b>Credit</b>
Anthropology			SOC 2100	3
Biology			BIO 2105 BIO 2106	4 4
Chemistry			CHM 1103 CHM 1104 CHM 1151 CHM 1152	1 1 4 4
Computer Science HL	CSC 1051	4	CSC 1051	4
Information Technology	CSC 1930	3	CSC 1930	3
Economics	ECO 1001 ECO 1002	3 3	ECO 1001 ECO 1002	3 3
English	ENG 1050	3	ENG 1050	3
French A2 or B		0	FFS 1121 FFS 1122	3 3
Geography	GEV 1002	3	GEV 1002	3
History Americas			HIS 4495	3
History Europe			HIS 1021	3
Italian A2 or B		0	ITA 1121 ITA 1122	3 3
Latin	Placement	0	LAT 1121 LAT 1122	3 3

Mathematics			MAT 1500	4
Math Further	MAT 1500	4	MAT 1500 MAT 1505	4 4
Music			SAR 3030	3
Philosophy			PHI 2990	3
Physics			PHY 2410/11 PHY 2412/13	4 4
Psychology			PSY 1000	3
Spanish A2 or B		0	SPA 1121 SPA 1122	3 3

\* Sample of lab work needed

#### Advanced Placement Equivalency Chart

Advanced Placement Subject-Test Number	Score of 3		Score of 4 or 5	
	Courses	Credits	Courses	Credits
Art History- (13)			AAH 1101 or AAH 1102	3
Biology- (20)			BIO 2105	4
			BIO 2106	4
Calculus AB- (66) or Calculus Subgrade- (69)			MAT 1500	4
Calculus BC- (68)			MAT 1500	4
			MAT 1505	4
Chemistry- (25)			CHM 1103	1
			CHM 1104	1
			CHM 1151	4
			CHM 1152	4
Chinese Language & Culture- (28)			CHI 1111	6
			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) or English Literature & Composition- (37)			ENG 1050	3
Environmental Science (40)			GEV 1052	3
French Language & Culture- (48)			FFS 1121	3
			FFS 1122	3
Government and Politics: Comp- (58)			PSC 1300	3
Government and Politics: US- (57)			PSC 1100	3



History, European- (43)			HIS 1021	3
History, U.S.- (07)			HIS 1002 <b>or</b> HIS 1003	3
History, World- (93)			HIS 1040 <b>or</b> HIS 1050	3
Human Geography- (53)			GEV 1002	3
Italian Language & Culture- (62)			ITA 1121 ITA 1122	3 3
Japanese Language & Culture- (64)			JPN 1111 JPN 1112	6 6
Latin- (60)	Placement Only		LAT 1121 LAT 1122	3 3
Physics C: Mechanics- (80)			PHY 1100 PHY 1101	3 1
Physics C: Electricity and Magnetism- (82)			PHY 1102 PHY 1103	3 1
Psychology- (85)			PSY 1000	3
Spanish Language- (87) <b>or</b> Spanish Literature & Culture- (89)			SPA 1121 SPA 1122	3 3
Statistics- (90)			MAT 1230 <b>or</b> CSC 2300	3

### Apply for Re-Admission

Students applying for re-admission should complete the “Application for Re-Admission to the College of Liberal Arts & Sciences” form. 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

### 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 in the Office for Undergraduate Students.

### **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 Sections**

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, 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 (Tolentine 202) 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:

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;

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;

A student cannot use this program to pass a course for which the student has failed, either at Villanova or any institution;

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:

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.

A fee of \$130 per credit hour will be levied

Credit granted will not exceed that assigned to the course as listed in the University Catalog

The maximum credit allowed the student through this program is 30 hours

Credit for no more than three courses may be applied to a student's major

A passing grade of "CE" will appear on the student's transcript; a failing grade will not be recorded

The test dates, determined by the Director, 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**

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.

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.

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.

Notification of students of time and place of the exam, and other arrangements, are the responsibility of the Director.

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.

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 this form 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 and sciences students. Students that fall under this category do not need to fill out a form.

### **Cross College Majors**

Students in the Colleges of Engineering and 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" and submit it to the department of the major. The department will then 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 CLAS, complete the "Application to Add or Remove a CLAS Minor or Concentration" and submit it to the desired concentration/minor department/program. 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:

A minimum of 122 credit hours;

- The successful completion of the Core Curriculum, academic major requirements, and free electives\*;
- A cumulative GPA of at least 2.00. (Science students must also have a minimum technical grade point average of at least 2.00);

- A minimum of half of the Core Curriculum requirements must be fulfilled at Villanova University;
- A minimum of half of the requirements for the major must be fulfilled at Villanova University;
- The final 30 credits of the degree program must be earned at Villanova University or a Villanova University approved program;
- 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 students free-elective area. Lab courses are not eligible to count toward free electives. Further restrictions regarding subject of these courses apply.

See the Part-time Studies Catalog for information on the Bachelor of Interdisciplinary Studies Degree (BIS), the Bachelor of Arts in General Arts, and the Associate Degrees.

### **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**

Applications to request a double major are available in the Office for Undergraduate Students (OUS). The completed form must be approved by the Department Chair of the second major and submitted to OUS. Students may not double major in both Comprehensive Science and in another science OR Liberal Arts and another major. A student may not declare a secondary major without first declaring their primary 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 withdraw from courses but may not add a course.

### **Dual Degree Policy**

Normally, a student may receive only ONE degree, regardless of how many majors s/he 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 v. 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 sign up for an 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).

### 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 (expect 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.

#### 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 <http://villanova.edu/vpaa/office/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:

Summa cum laude.....minimum cumulative GPA of 3.90

Magna cum laude.....minimum cumulative GPA of 3.75

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 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.

## **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 Leave of Absence. Official leave of absence from the University must be authorized by the Assistant Dean for Undergraduate Students. Students interested in pursuing a Leave of Absence should contact the Office for Undergraduate Students to review the process and make an appointment with the Assistant Dean for Undergraduate Students (Susan Jacobs, SAC 107).

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 the Assistant Dean for Undergraduate Students (Susan Jacobs, SAC 107) .

### **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 a higher number 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 registering online.

### **Phi Beta Kappa (ΦBK)**

Phi Beta Kappa (ΦBK) 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.

Candidates must have a GPA of at least 3.50 (3.80 to be elected as a junior).

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

Lynne Hartnett, Ph.D. (History) Associate Professor

Vice President and President-elect

TBD

Secretary/Treasurer

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

### Refunds

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.

### Removal of AP Course Credit

Students requesting to remove credit for AP courses should complete [this form](#) when 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:

The previous course will still be listed on the official transcript; repeating a course does not eliminate the previous attempt taken.

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.

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.

No course can be taken a third time; a student may only repeat a course once.

Forms to request to repeat a course are available in the Office for Undergraduate Students.

### 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.

<b>For Arts Curricula:</b>			
English	4	Mathematics	3
Foreign Language	2	Science	1
History or Social Science	2	Electives	3
<b>For Science and Mathematics Curricula:</b>			
English	4	Foreign Language	2
Chemistry	1	Physics	1

Mathematics	4	Electives	4
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### **Residency Requirement for Graduation**

A student must complete the final 30 credit hours of an academic program at Villanova.

### **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 (S) grades are included in credits earned. Students must opt for S/U by the end of the drop/ add period by using the paper form available in the Office for Undergraduate Students and in the Office of the Registrar. Unsatisfactory (U) grades need not be repeated. Any withdrawal from a S/U course must be submitted to the Office for Undergraduate Students by the authorized Withdrawal (WX) deadline for that semester. A course taken as S/U is counted as a course for course overload purposes.

### **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 above). 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 the required 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 only if the courses were taken prior to a student's matriculation at Villanova.
- 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:

- an official letter from the high school principal, secondary school counselor or other educational professional describing the college-level program of study.
- 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;
- a course syllabus; and
- 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" 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 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 s/he 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](#).

## **University Withdrawal**

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 for Undergraduate Students. In order to affect an official withdrawal, students should contact the Office for Undergraduate Students to review the process and make an appointment with the Assistant Dean for Undergraduate Students (Susan Jacobs, SAC 107). 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.

## **ACADEMIC PROGRAMS**

The following information is designed to give students a brief overview of the various degree programs in the College of Liberal Arts and Sciences. Please contact individual departments or visit their webpages for additional information about a particular program.

### **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.

### **Africana Studies (GIS)**

Program Director: Vincent Lloyd, Ph.D.

Office Location: SAC 228

Email: [vincent.lloyd@villanova.edu](mailto:vincent.lloyd@villanova.edu)

[Website](#)

#### **About**

The Africana Studies Program of Villanova University, initiated in 1993, is open to all students of the University. It offers a rich, deep, dense, innovative, and integrative interdisciplinary intellectual fare from most of the major disciplines of the College of Liberal Arts and Sciences and its programs.

Africana Studies engages Africa and peoples of African descent wherever and whenever they might be found. Its fundamental premise is quite straightforward: Africa and its Diasporas are global phenomena. Their presence, intellectually, conceptually, and physical can be found throughout the world from the beginning of time to the present. That presence alone merits intellectual inquiry, and in our current age, the intellectual space that Africana Studies opens for us is nothing short of astounding for the "inquiring mind."

### **MAJOR (34 Credits)**

The Department of Global Interdisciplinary Studies (GIS) offers a major with a specialization in Africana Studies. Please see that page for detailed requirements of the major.

### **MINOR (15 credits)**

The Africana Studies program consists of 15 credits. To apply for a minor, students should fill out the declaration of minor form available on the website for the Office for Undergraduate Students.

Required courses:

- AFR 3000: Constructs of Blackness (3 cr)
- One course in Africana History or Africana Literature (3 cr)
- Three elective courses carrying the AFR attribute (9 cr)

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.

### **Arab and Islamic Studies (GIS)**

Program Director: Catherine Warrick, Ph.D.

Office Location: 254 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.

### **MAJOR (31 credits)**

The Department of Global Interdisciplinary Studies (GIS) offers a major with a specialization in Arab and Islamic Studies. Please see that page for detailed requirements of the major.

### **MINOR (15 credits)**

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

Required Courses:

- One capstone course with an AIS attribute (3 cr)
- Two AIS attribute courses in history, political science, or theology (6 cr)
- Two additional courses with the AIS attribute from any subject (6 cr)

## **Arabic Language and Cultural Studies**

Coordinator: Barbara Romaine, M.A.

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.

### **MINOR (28 credits)**

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

Required Courses:

- ARB 1111: Basic Arabic I (6 cr)
- ARB 1112: Basic Arabic II (6 cr)
- ARB 1121: Intermediate Arabic I (5 cr)
- ARB 1122: Intermediate Arabic II (5 cr)
- Two 3-credit courses in Arab cultural studies. Choose from:
  - ARB 2142: Arab Culture through Film and Text (3 cr)
  - ARB 2143: Arab Culinary Culture (3 cr)
  - ARB 3412: Special Topics (3 cr)
  - ARB 5900: Independent Study (3 cr)
- Other culture-based courses with the AIS attribute.

### **Art History**

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.

### **MAJOR (33 credits)**

The Art History major consists of 33 credits.

#### Required Major Courses:

- AAH 1101: Ancient to Medieval Survey (3 cr)
- AAH 1102: Renaissance to Modern Survey (3 cr)
- Three courses pre-1700. Choose from:
  - AAH 2000: Ancient Art (3 cr)
  - AAH 2001: Medieval Art (3 cr)
  - AAH 2002: Early Renaissance Art in Italy (3 cr)
  - AAH 2003: Age of Rembrandt & Bernini (3 cr)
  - AAH 2012: High Renaissance Art in Italy (3 cr)
  - AAH 3007: The Art of Ireland (3 cr)
  - AAH 4004: Special Topics Ren Baroque (3 cr)
- Two courses post-1700. Choose from:
  - AAH 1103: Visual Arts in US 1607-1876 (3 cr)
  - AAH 1104: Visual Arts in US 1877-Present (3 cr)
  - AAH 2004: Modern Art (3 cr)
  - AAH 2005: Modern Architecture (3 cr)
  - AAH 2007: History of Western Architecture (3 cr)
  - AAH 2009: Contemporary Art (3 cr)
  - AAH 3001: Women in Art (3 cr)
  - AAH 3002: Art of Philadelphia (3 cr)
  - AAH 3003: Romantic to Post-Impressionistic Art (3 cr)
  - AAH 3005: Gender, Sexuality, and Visual Culture (3 cr)
  - AAH 4005: Picasso & Friends (3 cr)
  - AAH 4010: Interpreting Art (3 cr)
  - AAH 5010: Senior Research Seminar (3 cr)
- One course related to art history in another discipline. Choose from:
  - A studio art course from among: SAR 2010, 2020, 2021, 2022, 2023, 2150, 2151, 3031, 4007, 5004 (3 cr)
  - HIS 2309: Artifacts in History (3 cr)
  - MSE 2303 CHM: The Science of Art (4 cr)
  - PHL 2750: Philosophy of Art (3 cr)
  - Or, alternatively, 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.
- AAH 4010: Interpreting Art (3 cr)
- AAH 5010: Senior Research Seminar (3 cr)
- One upper-level Art History Elective from AAH 2000 to AAH 4999 (3 cr)

## **Asian Studies (GIS)**

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.”

### **MAJOR (31 credits)**

The Department of Global Interdisciplinary Studies (GIS) offers a major with a specialization in Asian Studies. Please see that page for detailed requirements of the major.

### **MINOR (15 credits)**

Required Courses:

- Five Asia related courses including:
  - Three Chinese, Japanese, or other Asian language courses at the intermediate level or above
  - Two non-language lecture courses

Program Notes:

Courses taken as part of a Study Abroad program and one internship done abroad may count towards the minor.

Coursework must be done on more than one country in Asia (e.g. China, Japan, Korea, India, etc.); and in more than one discipline or department (e.g., Political Science, History, Religion, Psychology, Marketing, Economics, Global Interdisciplinary Studies, etc.).

## **Astrophysics and Planetary Science**

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.

### **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 Courses:

- AST 2120: Sun and Stars (3 cr)
- AST 2121: Solar System Anatomy (3 cr)
- AST 2122: Understanding Our Universe (3 cr)
- AST 2123: Astrodynamics – Kepler & Beyond (3 cr)
- AST 2133: Observational Lab I (2 cr)
- AST 2134: Observational Lab II (2 cr)
- AST 3141: Galactic Astronomy (3 cr)
- AST 3142: Intro to Astrophysics (3 cr)
- AST 3143: Astrobiology, Planets, & Life (3cr)
- AST 3148: The Principles of Scientific Modeling (3 cr)
- AST 4121: Undergraduate Research I (3 cr)
- AST 4122: Undergraduate Research II (3 cr)
- CSC 4630: Computer Graphics (3 cr)
- MAT 1500: Calculus I (4 cr)
- MAT 1505: Calculus II (4 cr)
- MAT 2500: Calculus III (4 cr)

- MAT 2705: Differential Equation with Linear Algebra (4 cr)
- PHY 2410 & 2411: University Physics - Mechanics (3 cr) & Lab (1cr)
- PHY 2412 & 2413: University Physics – Elec & Magnetism (3 cr) & Lab (1 cr)
- PHY 2414 & 2415: University Physics: Thermo (3 cr) & Lab (1 cr)
- PHY 2416 & 2417: Modern Physics (3 cr) & Lab (1 cr)
- PHY 2601: Computational Physics Lab I (1 cr)
- PHY 2603: Computational Physics Lab II (1 cr)
- PHY 4100: Mechanics I (3 cr)
- PHY 4200: Mathematical Physics I (3 cr)
- Three additional PHY courses numbered above 3000 (9 cr)

### **MINOR (24 credits)**

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

Required Courses:

- AST 2120: Sun and Stars (3 cr)
- AST 2121: Solar System Anatomy (3 cr)
- AST 2122: Understanding Our Universe (3 cr)
- MAT 1500 & 1505: Calculus I (4 cr) & Calculus II (4 cr)
- One physics course. Choose from:
  - PHY 1100: General Physics I (3 cr)
  - PHY 2400: Physics I (3 cr)
  - PHY 2402: Physics II (3 cr)
- Two additional courses. Choose from:
  - AST 2123: Astrodynamics – Kepler & Beyond (3 cr)
  - AST 2133: Observational Lab I (2 cr)
  - AST 2134: Observational Lab II (2 cr)
  - AST 3141: Galactic Astronomy (3 cr)
  - AST 3142: Intro to Astrophysics (3 cr)
  - AST 3143: Astrobiology, Planets, & Life (3cr)
  - AST 3148: The Principles of Scientific Modeling (3 cr)

### **Biochemistry**

Program Directors: Jennifer Palenchar, PhD., Dennis Wykoff, 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.

### **MAJOR (72 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:

- CHM 1000: 1000 Professional Development Seminar (1 cr)
- CHM 1151 & 1103: General Chemistry I (4 cr) & Lab (1 cr)
- CHM 1152 & 1104: General Chemistry II (4 cr) & Lab (1 cr)
- CHM 2211 & 2201: Organic Chemistry I (3 cr) & Lab (1 cr) or CHM 3211 & 3201: Organic Chemistry I (3 cr) & Lab (2 cr)
- CHM 2212 & 2202: Organic Chemistry II (3 cr) & Lab (1 cr) or CHM 3212 & 3202: Organic Chemistry II (3 cr) & Lab (2 cr)
- CHM 3417: Biophysical Chemistry (3 cr)
- CHM 3514 & 3503: Bioanalytical Chemistry (3 cr) & Lab (1 cr)
- CHM 4603: Biochem Tech. and Pract (1 cr)
- CHM 4604: Biochem Tech. and Pract II (1 cr)
- CHM 4621: Biochemistry I: Structure (3 cr)
- CHM 4622: Biochemistry II: Metabolism (3 cr)
- CHM 4623: Biochemistry III (3 cr)
- BIO 2105: General Biology I (4 cr)
- BIO 3351: Genetics (4 cr)
- BIO 4505: Molecular Biology (4 cr)
- MAT 1500 & 1505: Calculus I (4 cr) & Calculus II (4 cr)
- PHY 2410 & 2411: University Physics - Mechanics (3 cr) & Lab (1cr) or PHY 1100 & 1101: General Physics I (3 cr) & Lab (1 cr)
- PHY 2412 & 2413: University Physics – Elec & Magnetism (3 cr) & Lab (1 cr) or PHY 1102 & PHY 1103: General Physics II (3 cr) & Lab (1 cr)
- One chemistry elective from the approved list (3 cr)
- One biology elective from the approved list (3 cr)

#### **MINOR (23 credits)**

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

#### Required Courses:

- BIO 2105: General Biology I (4 cr)
- BIO 3351: Genetics (4 cr)
- BIO 4505: Molecular Biology (4 cr)
- CHM 4603: Biochem Tech. and Pract. (1 cr)
- CHM 4604: Biochem Tech. and Pract II (1 cr)
- CHM 4621: Biochemistry I: Structure (3 cr)
- CHM 4622: Biochemistry II: Metabolism (3 cr)
- CHM 4623: Biochemistry III (3 cr)

#### 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.

## **Biology**

Chair: John M. Olson, Ph.D.

Office Location: 147 Mendel Science Center

Telephone: 610-519-4832

[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.

### **MAJOR (70 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.

#### Required Major Courses:

- BIO 2105: General Biology I (4 cr)
- BIO 2106: General Biology II (4 cr)
- BIO 3351: Genetics (4 cr)
- BIO 5300: Biology Capstone (3 cr)
- One BIO laboratory course above the 3000 level in Organismal Biology (4 cr)
- One BIO laboratory course above the 3000 level in Ecology/Evolutionary/Population Biology (4 cr)
- One BIO laboratory course above the 3000 level in Cellular/Molecular Biology (4 cr)
- Two additional BIO laboratory courses above the 3000 level (8 cr)
- Two additional credits fulfilled either through a research experience or another approved course. \* (2 cr)

#### Required Cognate Courses:

- CHM 1151 & 1103: General Chemistry I (4 cr) & Lab (1 cr)
- CHM 1152 & 1104: General Chemistry II (4 cr) & Lab (1 cr)
- CHM 2211 & 2201: Organic Chemistry I (3 cr) & Lab (1 cr)
- CHM 2212 & 2202: Organic Chemistry II (3 cr) & Lab (1 cr)
- MAT 1312: Biocalculus (4 cr)
- One additional MAT course. Choose from:
  - MAT 1313: Statistics for Life Sciences (3 cr)
  - MAT 1314: Modeling for the Life Sciences (3 cr)
  - MAT 1505: Calculus II (4 cr)
  - MAT 4310: Stat Methods (3 cr)
- PHY 1100 & 1101: General Physics I & Lab (4 cr)

- PHY 1102 & 1103: General Physics II & Lab (4 cr)

#### 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.

\*Refer to the University course catalog for specific courses.

#### **MINOR (23 credits)**

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

#### Required Courses:

- BIO 2105: General Biology I (4 cr)
- BIO 2106: General Biology II (4 cr)
- Three BIO laboratory courses above the 3000 level (12 cr)
- Additional Biology elective course numbered 3000 or above (3 or 4 cr)

#### **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, on-campus 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)

## **Chemistry**

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.

### **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:**

- CHM 1000: Professional Development Seminar (1 cr) [Taken twice]
- CHM 1311 & 1301: Inorganic Chemistry I (3 cr) & Lab (2 cr)
- CHM 1512 & 1502: Quantitative Analysis (3 cr) & Lab (2 cr)
- CHM 3211 & 3201: Organic Chemistry I (3 cr) & Lab (2 cr)
- CHM 3212 & 3202: Organic Chemistry II (3 cr) & Lab (2 cr)
- CHM 3311 & 3301: Inorganic Chemistry II (3 cr) & Lab (2 cr)
- CHM 3411 & 3403: Physical Chemistry I (3 cr) & Lab (2 cr)
- CHM 3412 & 3404: Physical Chemistry II (3 cr) & Lab (2 cr)
- CHM 3511 & 3501: Instrumental Analysis (3 cr) & Lab (2 cr)
- CHM 4611 or 4610: Biochemistry (3 cr)
- MAT 1500: Calculus I (4 cr)
- MAT 1505: Calculus II (4 cr)
- PHY 2410 & 2411: University Phy: Mechanics (3 cr) & Lab (1 cr)
- PHY 2412 & 2413: Univ Physics: Elec & Mag (3 cr) & Lab (1 cr)
- Two Chemistry electives (6 cr)
- One Chemistry lab elective (1 cr)

## MINOR (31 credits)

To receive the minor, students must complete a written application. Applications for the minor can be obtained from the Administrative Assistant in the Chemistry Office (Mendel 215A). To complete the requirements for a Minor in Chemistry, students must complete all three of the conditions outlined on [this website](#).

### Required Courses:

- One year of general chemistry (6 cr) & Lab ( $\geq 2$  cr)
- CHM 2211 & 2201: Organic Chemistry I (3 cr) & Lab (1 cr)
- CHM 2212 & 2202: Organic Chemistry II (3 cr) & II Lab (1 cr)
- Two elective chemistry courses with associated laboratories (8 cr)
- One chemistry elective course (3 cr)

### Program Notes:

All course prerequisites and corequisites apply.

Biochemistry majors need to complete two 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.

## Chinese Language and Cultural Studies

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.

## MINOR (28 credits)

The Chinese Language and Cultural Studies minor is open to all students and requires 6 courses and 28 credits.

### Required Courses:

- CHI 1111: Basic Chinese I (6 cr)
- CHI 1112: Basic Chinese II (6 cr)
- CHI 1121: Intermediate Chinese I (5 cr)
- CHI 1122: Intermediate Chinese II (5 cr)
- Two 3-credit courses in Chinese cultural studies\*. Choose from:
  - CHI 1131: Advanced Chinese I (3 cr)
  - CHI 1132: Advanced Chinese II (3 cr)
  - CHI 1133: Advanced Chinese III (3 cr)
  - CHI 1134: Advanced Chinese IV (3 cr)
  - CHI 3412: Chinese Special Topics (3 cr)

- CHI 3413: Chinese Calligraphy (3 cr)
- GIS 4281: The Tale of Shanghai and Tokyo (3 cr)
- GIS 4675-001: East Asian Comparative Studies (3 cr)

Program Notes:

\*Other culture-based courses with ASN attribute found across disciplines also qualify.

### **Classical Studies**

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.

#### **MAJOR (30 credits)**

The major requires 10 courses and at least 30 credits.

#### Required Courses:

- A minimum of one GRK or LAT course, or CLA 2021 (3 cr)
- CLA 6001: Senior Classics Capstone (3 cr)
- Eight additional courses in any combination of courses in the classical languages and/or courses taught in English on classical civilization (24 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.

#### **MINOR (18 credits)**

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

#### Required Courses:

Six courses in any combination of courses in the classical languages and/or courses taught in English on classical civilization. (18 cr)

### **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.

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.

## **MAJOR (65 credits)**

### Required Major Courses:

- CHM 1151 & 1103: General Chemistry I (4 cr) & General Chemistry I Lab (1 cr)
- CHM 1152 & 1104: General Chemistry II (4 cr) & General Chemistry II Lab (1 cr)
- BIO 2105: General Biology I (4 cr)
- BIO 2106: General Biology II (4 cr)
- BIO 3351: Genetics (4 cr)
- MAT 1312: Biocalculus (4 cr) or MAT 1500: Calculus I (4 cr)
- MAT 1314: Modeling for the Life Sciences (3 cr) or MAT 1505: Calculus II (4 cr)
- PSY 1000: General Psychology (3 cr) or PSY 1001: Intro to Brain and Behavior (3 cr)
- PSY 2000: Intro Statistics (3 cr)
- PSY 2050: Research Methods in Psychology (3 cr)
- PSY 4200: Biopsychology (3 cr)
- PSY 4500: Cognitive Psychology (3 cr)
- CBN 4000: Cell & Behavioral Neuroscience (3 cr)
- CBN 4100: Cognitive Neuroscience (3 cr)
- CBN 5000: Advanced Lab in Neuroscience (3 cr)
- Four additional CBN approved electives of three credits or more that include courses in Psychological Science, Biological/Life Science, Cognitive Science, or Neuroscience. (12 cr)

## **Cognitive Science**

Program Director: Charles L. Folk, Ph.D.

Office Location: Tolentine Hall Rm 252

Telephone: (610) 579-7464

[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.

### **CONCENTRATION (21 credits)**

Required Courses:

- CSC 1051: Algorithms & Data Structures I (4 cr)
- CSC 4500: Artificial Intelligence (3 cr) or CSC 4510: Machine Learning (3 cr) or MSE 2400: Evolution and Learning in Computational and Robotic Agents (4 cr)
- PHI 4610: Philosophy of Mind (3 cr)
- PSY 4500: Cognitive Psychology (3 cr)
- CGS 5900: Cognitive Science Seminar (3 cr)
- Two Cognitive Science approved elective courses of three or more credits (6 cr)

### **MINOR (15 credits)**

Required Courses:

- Two of the following three options:
  - CSC 4500: Artificial Intelligence (3 cr) or CSC 4510: Machine Learning (3 cr) or MSE 2400: Evolution and Learning in Computational and Robotic Agents (4 cr)
  - PHI 4610: Philosophy of Mind (3 cr)
  - PSY 4500: Cognitive Psychology (3 cr)
- Three Cognitive Science approved elective courses of three or more credits (9 cr)

Program Notes:

The five courses used to fulfill the Minor must span at least three different disciplines.

### **Communication**

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.

### **MAJOR (36 credits)**

To Declare the Major: Enrollment in COM 1000 and COM 1100, and a minimum 2.5 GPA.

#### Required Major Courses:

- COM 1000: Survey of Communication Studies (3 cr) [Recommended freshman or sophomore year]
- COM 1100: Public Speaking (3 cr) [Recommended freshman or sophomore year]
- Two 2000-level theories courses [Prerequisites for 3000-level courses]
- Six 3000-level advanced topics courses in at least three different areas [Taken after completing at least one 2000-level, according to interest and/or specialization]
- One COM Research Methods course: Either COM 4001: Qualitative Research in Com (3 cr) OR COM 4002: Quantitative Research in Com (3 cr) [Recommended junior year or prior to taking COM 5050]
- One Capstone: Either COM 5050 Senior Project (3 cr) OR COM 3464 Public Relations Campaigns (for students specializing in PR & Advertising) [Taken during senior year]

#### 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 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.

### **MINOR (15 credits)**

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

#### Required Courses:

- COM 1000: Survey of Communication Studies (3 cr)
- One 2000-level course (3 cr) [Must be taken before taking 3000-level courses]
- One 3000-level course (3 cr)
- Two additional COM courses\*



## Program Notes:

\*A 3-credit internship focused on communication could satisfy one of these courses.

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. For initial information, [visit this website](#).

## Comprehensive Science

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.

## MAJOR (65 credits)

### Required Major Courses:

- BIO 2105: General Biology I (4 cr)
- BIO 2106: General Biology II (4 cr)
- CHM 1151 & 1103: General Chemistry I (4 cr) & Lab (1 cr)
- CHM 1152 & 1104: General Chemistry II (4 cr) & General Chemistry II Lab (1 cr)
- CSC 1051: Algorithms & Data Structures I (4 cr)
- MAT 1500: Calculus I (4 cr)
- MAT 1505: Calculus II (4 cr)
- Two semesters of an approved (science major level) physics with labs (8 cr)
- One semester of a science major level statistics (3 cr)
- One additional approved Mathematics or Computing course (3 cr)
- One science major level capstone course or approved equivalent (3 cr)
- Six approved science electives chosen in consultation with the student's advisor or the program director (18 cr)

## **Computing Sciences (Computer Science)**

Chair: Daniel Joyce, Ph.D.

Office Location: Mendel Science Center Rm. 161

Telephone: (610) 519-7307

[Website](#)

### About

The Department of Computing Sciences provides a solid technical education enhanced by the benefits of a liberal arts education. 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. 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.

### **MAJOR (54 credits)**

The major consists of 54 credits (18 courses) in computer science, plus additional mathematics, science and philosophy (ethics) requirements. Required courses include program design using Java and C, computer systems, analysis of algorithms, theory of computability, database principles, organization of programming languages, software engineering, computing ethics, and a senior project. Students select four computer science electives and have five free electives.

### Required Courses:

- CSC 1990: Enrichment Seminar in Computing (1 cr)
- CSC 1051: Algorithms & Data Structures I (4 cr)
- CSC 1052: Algorithms & Data Structures II (4 cr)
- CSC 1300: Discrete Structures (3 cr)
- CSC 1700: Analysis of Algorithms (3 cr)
- CSC 1800: Organization of Programming Languages (3 cr)
- CSC 2053: Platform Based Computing (3 cr)
- CSC 2300: Statistics for Computing (3 cr)
- CSC 2400: Computer Systems I (3 cr)
- CSC 2405: Computer Systems II (3 cr)
- CSC 4170: Theory of Computation (3 cr)
- CSC 4480: Principles of Database Systems (3 cr)
- CSC 4700: Software Engineering (3 cr)
- CSC 4790: Senior Projects (3 cr)
- PHI 2180: Computer Ethics (3 cr)
- MAT 1500: Calculus I (4 cr)
- MAT 1505 Calculus II (4 cr) or CSC 3300 Linear Algebra for Computing (4 cr)
- Two Natural Science Courses with lab (8 cr)
- Four approved CSC elective courses (12 cr)

### **MINOR: Computer Science (26 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:

- CSC 1051: Algorithms & Data Structures I (4 cr)
- CSC 1052: Algorithms & Data Structures II (4 cr)
- CSC 1300: Discrete Structures (3 cr)
- CSC 1700: Analysis of Algorithms (3 cr)
- CSC 2400: Computer Systems I (3 cr)
- CSC 4480: Principles of Database Systems (3 cr)
- Two approved CSC elective courses (6 cr)

**MINOR: Cybersecurity (26 credits)**

Offered jointly through the Department of Computing Sciences and the Electrical and Computer Engineering Department in the College of Engineering, the Cybersecurity Minor provides students with a solid foundation in the principles of cybersecurity. There are multiple paths to the Minor, but all require at least two courses of computer programming, one course of discrete structures, four courses related to information security, and a capstone project course.

**Criminology**

Program Director: Thomas M. Arvanites, Ph.D.

Office Location: 204 Saint Augustine Center

Telephone: (610) 519-4774

[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.

## **MAJOR (33 credits)**

To declare the Major, a student must have completed Introduction to Criminology (CRM 1001), with a “C+” or higher or have a minimum GPA of 3.0. 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.

### Required Major Courses:

- CRM 1001: Introduction to Criminology (3 cr)
- CRM 5100: Criminological Theory (3 cr) [prerequisite: CRM 1001]
- SOC 5300: Data Analysis for Social Scientists (3 cr)
- SOC 5400: Applied Research Methods in Sociology (3 cr)
- CRM 6500: Senior Seminar (3 cr) [prerequisites: CRM 5100, SOC 5300 and SOC 5400]
- Five criminology electives (15 cr)
- One sociology elective (3 cr)

### 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.

## **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. Students wishing to earn a Minor in Criminology must fill out an application form available in the office.

### Required Courses:

- CRM 1001: Introduction to Criminology (3 cr)
- Four criminology elective courses (12 cr)

### Program Notes:

Only one course may be transferred from another university.

## **Economics**

Chair: Peter Zaleski, 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.

### **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.

#### Required Major Courses:

- MAT 1430: Business Statistics (4 cr) or MAT 1235: Intro to Statistics II (3 cr)
- ECO 1001: Intro to Microeconomics (3 cr)
- ECO 1002: Intro to Macroeconomics (3 cr)
- ECO 2101: Macro-Economic Theory (3 cr)
- ECO 2102: Micro-Economic Theory (3 cr)
- ECO 3137: Intro to Econometrics (3 cr)
- ECO 4132: Seminar in Economics (3 cr)
- Four courses numbered ECO 3000 or higher (12 cr)

#### Program Notes:

A minimum GPA of 2.5 and 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.

### **MINOR (18 credits)**

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

#### Required Courses:

- ECO 1001: Intro to Microeconomics (3 cr)
- ECO 1002: Intro to Macroeconomics (3 cr)
- ECO 2101: Macro-Economic Theory (3 cr)
- ECO 2102: Micro-Economic Theory (3 cr)
- Two courses numbered ECO 3000 or higher (6 cr)

#### Program Notes:

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

### **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.

## MAJOR (37 credits)

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.

### Required Courses:

- EDU 2201 or 2202: Social Foundations (3 cr)
- EDU 2300: Research Seminar (3 cr)
- EDU 3000: Professional Development in Education (1 cr)
- EDU 3251: Psychology of Learning and Teaching (3 cr)
- EDU 3263: Diversity & Inclusion (3 cr)
- EDU 3264: Introduction to Disability Studies (3 cr)
- EDU 4245: Literacy and English Language Learning (3 cr)
- EDU 4290: Philosophy of Education (3 cr)
- EDU 4291: Student Teaching (9 cr)
- EDU 4292: Seminar (3 cr)

One of the following methods is required depending on concentration:

- EDU 4281: Methods of Teaching English (3 cr)
- EDU 4282: Methods of Teaching Language (3 cr)
- EDU 4283: Methods of Teaching Mathematics (3 cr)
- EDU 4284: Methods of Teaching Science (3 cr)
- EDU 4285: Methods of Teaching Social Studies (3 cr)

### Program Notes:

**To be accepted into the major, students must have a 3.0 GPA, 6 credits in English and 6 credits in math.**

Candidates for the major should apply as soon as possible and no later than sophomore year.

## EDUCATION MINOR (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.

Required Courses:

- EDU 2201 or EDU 2202: Social Foundations of Education I/II (3 cr)
- EDU 3251: Psychology of Teaching and Learning (3 cr)
- EDU 3263: Diversity and Inclusion in Education (3 cr)
- EDU 4290: Philosophy of Education (3 cr)
- One elective course\* selected from the following list:
  - EDU 2300: Research Seminar in Education (3 cr)
  - EDU 3258: Education and Society in the 1960's (3 cr)
  - EDU 3260: Education and Society in World War II (3 cr)
  - EDU 3262: Education Pearl Harbor to Sputnik (3 cr)
  - EDU 3264: Introduction to Disability Studies (3 cr)
  - EDU 4245: Literacy and English Language Learning (3 cr)
  - EDU 8400\*: Critical Perspectives in Special Education (3 cr)
  - EDU 8610: Current Issues in American Education (3 cr)
  - EDU 8654: Policy Analysis (3 cr)
  - EDU 8656: School Law (3 cr)
  - EDU 8664: Politics of Education (3 cr)
  - EDU 8669: Comparative Education (3 cr)
  - EDU 8679: Standards Aligned Systems & Curriculum (3 cr)

Program Notes:

\*Others by approval of Chairperson. Please contact [Rita Siciliano](#) for more information on electives and registering for graduate level courses.

**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.

Required Courses:

- EDU 3264: Introduction to Disability Studies (3 cr)
- EDU 3277: Urban Education (3 cr) OR 3263: Diversity and Inclusion (3 cr)
- EDU 3253 OR 8654\*: Policy Analysis (3 cr)
- Elective courses\* including six (6) credits from the following list:
  - EDU 2201 OR EDU 2202: Social Foundations of Education I/II (3 cr)
  - EDU 2300: Research Seminar in Education (3 cr)
  - EDU 3251: Psychology of Teaching and Learning (3 cr)
  - EDU 4290: Philosophy of Education (3 cr)
  - EDU 4245: Literacy and English Language Learning (3 cr)
  - EDU 8610: Current Issues in American Education (3 cr)
  - EDU 8656: School Law (3 cr)
  - EDU 8664: Politics of Education (3 cr)
  - EDU 8669: Comparative Education (3 cr)

- EDU 8679: Standards Aligned Systems & Curriculum (3 cr)

Program Notes:

\*Others by approval of Chairperson. Please contact [Rita Siciliano](#) for more information on electives and registering for graduate level courses.

### **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.

Required Courses:

- COU 2000: Introduction to Counseling (3 cr)
- COU 3000: Counseling Theory & Skills (3 cr)
- COU 3500: Developmental Perspective to Diagnosis (3 cr)
- COU 3100: Group Counseling OR COU 3700: Family & Couples Counseling (3 cr)
- COU 2500: Counseling Women OR COU 3400: Culturally Competent Counseling (3 cr)

Program Notes:

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

### **English**

Chair: Heather Hicks, Ph.D.

Office Location: 402 Saint Augustine Center

Telephone: 610-519-4630

[\[Website\]](#)

About

The English department believes that skillful, self-conscious 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.

### **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.

#### Required Courses:

- Two courses in British/Irish literature before 1800, in two different areas (6 cr)
  - Medieval: ENG 2450, 3000, 3101, 3150, 3190/91/92, 3200
  - Renaissance: ENG 3201, 3230, 3250, 3290/91/92, 3300, 3350
  - Restoration & 18<sup>th</sup> Century: English 3350, 3420, 3430, 3450, 3490/91/92
- Two courses in literature primarily after 1800. One course must be British/Irish and the other American. One course must be 19<sup>th</sup> Century literature and one must be literature after 1900 (6 cr)
  - British/Irish 19<sup>th</sup> Century: ENG 3501, 3502, 3504, 3505, 3506, 3520, 3525, 3590/91/92
  - British/Irish After 1900: ENG 2460, 2470, 2500, 3610, 3615, 3616, 3620, 3621, 3630, 3690/91/92
  - American to 1900: ENG 2501, 2710, 4001, 4501, 4505, 4510, 4520, 4530, 4540, 4590/91/92, 4500, 4515
  - American after 1900: ENG: 2301, 2502, 2505, 2510, 2515, 2520, 2530, 2720, 4002, 4040, 4500, 4515, 4605, 4615, 4619, 4620, 4621, 4630, 4631, 4635, 4636, 4640, 4645, 4646, 4650, 4690/91/92
- ENG 2250: Junior Research Seminar (3 cr)
- ENG 5000: Senior Seminar (3cr)
- Five elective courses numbered 1800 and above, with the exception of 1975, which cannot be counted, and with the partial exception of the British Literary Tradition and American Literary Tradition courses (2101, 2102, 2103, 2104); a student may count only two of those courses towards the major. (15 cr)

#### Program Notes:

**There is no prerequisite to the major, but we strongly recommend that you take English 2101 (The British Literary Tradition I) early, since it will introduce you to writers, texts, and issues that are crucial to most subsequent courses.**

#### **ENGLISH MINOR (15 credits)**

To complete an English Minor, you take five English courses (15 credits) numbered 2000 or higher.

#### Required Courses:

- At least one course must come from the British/Irish literature offerings. All 3000-level courses count, as well as ENG 2101 and 2102 [The British Literary Tradition I and II] (3 cr)
- At least one course must come from the American literature offerings. All 4000-level courses count, as well as ENG 2103 and 2104 [The American Literary Tradition I and II] (3 cr)
- The other three courses may be literature courses (ENG 2100-5000), courses that focus primarily on writing and rhetoric (ENG 2000-2099), or both (9 cr)

#### Program Notes:

At least three of these courses must be taken at Villanova.

## **Environmental Science**

Chair: Nathaniel Weston, Ph.D.

Program Director: Steven Goldsmith, Ph.D.

Office Location: Suite G67, 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.

### **MAJOR (69 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.

### Required Major Courses:

- GEV 1050 and 1051: Environmental Science I & II w/ Laboratory (8 cr)
- GEV 1750: Introduction to Geo-Techniques w/ Laboratory (4 cr)
- GEV 2310: Environmental Chemistry w/ Laboratory (4 cr)
- GEV 3300: Statistics for Environmental Science (3 cr) [BIO 3105 or MAT 4310 may fulfill this requirement]
- GEV 4700: Geographic Information Systems w/ Laboratory (4 cr)
- GEV 4310: Environmental Issues Seminar (3 cr)
- CHM 1151 & 1103: General Chemistry I (4 cr) & Lab (1 cr)
- PHY 1100/1101: Physics I w/ Laboratory (4 cr)
- MAT 1500: Calculus I (4 cr)
- GEV 6005: Senior Research Seminar (1 cr)
- GEV 6006: Environmental Colloquium (0 cr) [Must be taken total of three times prior to graduation]
- 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)

- Two Environmental Science Lab Courses from the following: GEV 4320, 4321, 4322, 4323, 4324, 4325, 4326, 4327, 4328, 4329 (8 cr) [BIO or CHM lab courses >2000 may fulfill this requirement]

Additionally, the major requires:

- Four science and technology electives (may include appropriate courses in other departments) (12 cr)
- Two policy and management electives (6 cr)

Program Notes:

Consider course offerings with environmental content when selecting the ten free electives.

## **Environmental Studies**

Chair: Nathaniel Weston, Ph.D.

Program Director: Steven Goldsmith, Ph.D.

Office Location: Suite G67, 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.

## **MAJOR (56 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.

Required Major Courses:

- GEV 1050 and 1051: Environmental Science I & II w/ Laboratory (8 cr)
- GEV 1750: Introduction to Geo-Techniques w/ Laboratory (4 cr)
- GEV 2310: Environmental Chemistry w/ Laboratory (4 cr)
- GEV 3300: Statistics for Environmental Science (3 cr) [BIO 3105 or MAT 4310 may fulfill this requirement]

- GEV 4700: Geographic Information Systems (4 cr)
- GEV 4310: Environmental Issues Seminar (3 cr)
- CHM 1151/1103: General Chemistry I (4 cr) & Lab (1 cr)
- PHI 2121: Environmental Ethics (3 cr)
- GEV 6005: Senior Research Seminar (1 cr)
- GEV 6006: Environmental Colloquium (0 cr) [Must be taken total of three times prior to graduation]
- 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)
- Additionally, the major requires:
  - Four science and technology electives [may include appropriate courses in other departments] (12 cr)
  - Two policy and management electives (6 cr)
  - Two environmentally-related social science and humanities electives [fulfills two course core curriculum requirement]

#### Program Notes:

Consider course offerings with environmental content when selecting the twelve free electives.

#### **Ethics**

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

The Ethics Program provides both a concentration and a minor that is available to students in all of the University's undergraduate colleges. These offer students opportunities to pursue in depth an intellectual discipline that studies human character and conduct – whom we ought to be and what we ought to do. Both the concentration and the minor promote a greater understanding of ethics as a discipline from the theological and philosophical perspectives, and both contribute to Villanova's character as a Catholic, Augustinian university.

#### **MINOR (18 credits) (Beginning with Class of 2023)**

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.

### Required Minor Courses

- ETH 2050: The Good Life: Eth & Cont Prob (3 cr) – Grade of B or better
- ETH 30xx: Ideally in one’s focus area (3cr)
- Two required courses in the focus area (6 cr)
- Two elective courses in the focus area (6 cr)
- An e-portfolio that highlights the work they have done in Ethics (including ETH 2050)

### Program Notes

- Students choose a focus of study and pursue courses listed below, in consultation with their Ethics faculty advisor
- 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.

### Focus One: Business

#### Required

- ETH 3xxx: [an Ethics elective, ideally related to one’s focus of study] (3 cr)
- PHI 2500: Philosophy of Exchange (3 cr)
- THL 4320: Markets & Morality (3 cr)

#### Electives (select 2)

- PHI 2450: Catholic Social Teaching (3 cr)
- ECO 3108: Global Political Economy (3 cr)
- HON 3150: The Goods and the Good Life (3 cr)

### Focus Two: Bioethics

#### Required

- ETH 3xxx: [an Ethics elective, ideally related to one’s focus of study] (3 cr)
- PHI 2115: Ethics for Health Care Professionals (3 cr)
- THL 4200: Ethics of Life & Death (3 cr)

#### Electives (select 2)

- PHI 2117: The Good Doctor (3 cr)
- SOC 3400: Medical Sociology (3 cr)

- HIS 4527: History of Disease (3 cr)
- BIO 3351: Genetics (4 cr)

### Focus Three: Politics and Identity

#### Required

- ETH 3xxx: [an Ethics elective, ideally related to one's focus of study] (3 cr)
- PJ 2800: Race, Class & Gender (3 cr)
- ETH 3050: Politics and Religion (3 cr)

#### Electives (select 2)

- Three Intergroup Relations Seminars (3 one credit courses)
- PHI 2400: Social & Political Philosophy (3 cr)
- PHI 2420 Philosophy of Women (3 cr)
- PHI 2450 Catholic Social Thought (3 cr)
- THL 3740 Liberation Theologies (3 cr)

### Focus Four: War & Peace

#### Required

- ETH 3xxx: [an Ethics elective, ideally related to one's focus of study] (3 cr)
- PHI 2160: Ethics of War (3 cr)
- PJ 2700: Peace & Peacemakers (3 cr)

#### Electives (select 2)

- ROTC Military Science course on ethics (3 cr)
- PSC 2260: War & Conflict (3 cr)
- PHI 2450: Catholic Social Thought (3 cr)
- PHI 2400: Social & Political Philosophy (3 cr)

### Focus Five: Environment

#### Required

- ETH 3xxx: [an Ethics elective, ideally related to one's focus of study] (3 cr)
- PHI 2121: Environmental Ethics (3 cr) **OR**
- THL 4330: Christian Environmental Ethics (3 cr)
- PJ 2200: Caring for the Earth (3 cr) **OR**
- PJ 5000: Growing Into Justice through Agriculture (3 cr)

#### Electives (select 2)

- GEV 2525: Population Geography (3 cr)
- GEV 2500: Global Change in Local Places (3 cr)
- HIS 2276: American Environmental History (3 cr)

### Focus Six: Science & Technology

#### Required

- ETH 3xxx: [an Ethics elective, ideally related to one's focus of study] (3 cr)
- PHI 2180: Computer Ethics (3 cr) **OR**
- PHI 2170: Media Ethics (3 cr)

- PHI 2155: Engineering Ethics (3 cr)

Electives (select two)

- PHI 2550: Technology & Society (3 cr)
- PHI 2700: Philosophy of Science (3 cr)
- PHI 2121: Environmental Ethics (3 cr)

### **French and Francophone Studies**

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.

#### **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.

#### Required Major Courses:

- FFS 1138: Advanced Grammar **OR** FFS 1140: Writing and Stylistics (3 cr)
- FFS 2220: Literature and Culture of France **OR** FFS 2221: Literature and Culture of the Francophone World (3 cr)
- FFS 3971: Directed Research in FFS (1 cr) [Taken in conjunction with any 3000-level course]
- Twenty-Four credits in FFS courses above the intermediate level (FFS 1122). (24 cr)

#### Program Notes:

One RLL course taught in English with FFS attribute may be accepted for the major.

#### **MINOR (12 credits)**

A minor is open to all students and requires 4 courses above intermediate level (FFS 1122).

#### Required Courses:

- FFS 1131: Conversation and Composition I (3 cr)
- FFS 1132: Conversation and Composition II (3 cr)
- Two FFS electives above the Conversation and Composition level (6 cr)

**Program Notes:**

No course in English may count for the minor.

**Gender and Women’s Studies**

Co-Directors: Travis Foster, Ph.D. and Shauna MacDonald, Ph.D.

Office Location: 488 Saint Augustine Center

Telephone: 610-519-450

[\[Website\]](#)

**About**

Gender and Women’s Studies offers a major and a minor under the Department of Global Interdisciplinary Studies. It is an interdisciplinary field that continually asks us to rethink history, culture, and identity. In the twenty-first century it continues to transform scholarship and fundamental assumptions in all areas of the humanities, social and natural sciences, and the professions. Because gender and sexuality are fundamental to the ways men and women understand themselves, a major and minor in GWS can substantially enhance practically any other field of study, and helps its graduates navigate the work force they are preparing to enter.

**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:**

- GIS 2000: Introduction to Global Interdisciplinary Studies (3 cr)
- GWS 2050: Introduction to Gender Studies (3 cr)
- GWS 3000: Research Seminar in Feminist Theory (3 cr)
- GWS 5000: Integrating Seminar (3 cr)
- Six Electives with the GWS attribute [one of which should be a GIS-GWS team-taught Select Course] (18 cr)

**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 Courses:**



- GIS 2050: Introduction to Gender Studies (3 cr)
- GIS 5000: Integrating Seminar (3 cr)
- Four courses with the GWS-attribute (12 cr)

## Geography

Chair: Nathaniel Weston, Ph.D.

Program Director: Stephen Strader, Ph.D.

Office Location: Suite G67, 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.

### MAJOR (36 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.

### Required Major Courses:

- GEV 1002: Geography of a Globalizing World (3 cr)
- GEV 1003: Geography of Earth's Environments (3 cr)
- A 1000-level topics course may substitute for either GEV 1002 or 1003
- GEV 1750: Introduction to Geo-Techniques w/ Laboratory (4 cr)
- GEV 2500: Global Change in Local Places (3 cr)
- GEV 4700: Geographic Information Systems w/ Laboratory (4 cr)
- GEV 6005: Senior Research Seminar (1 cr)
- 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]
- One Regional Perspectives course from among the following:

- GEV 3500: Geography of North America (3 cr)
- GEV 3510: Geography of Europe and the European Union (3 cr)
- GEV 3515: Geography of Africa (3 cr)
- GEV 3520: Geography of the Middle East (3 cr)
- GEV 3525: Geography of Asia (3 cr)
- One Geospatial Technology course from among the following:
  - GEV 3521: GIS for Urban Sustainability (3 cr)
  - GEV 3750: Remote Sensing (3 cr)
- Three Geography Electives above 2000 (9 cr)

### **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:

- GEV 1002: Geography of a Globalizing World (3 cr) **OR** GEV 1003: Geography of Earth's Environments (3 cr)
- GEV 4700: Geographic Information Systems w/ Laboratory (4 cr)
- One Regional Perspectives course from among the following:
  - GEV 3500: Geography of North America (3 cr)
  - GEV 3510: Geography of Europe and the European Union (3 cr)
  - GEV 3515: Geography of Africa (3 cr)
  - GEV 3520: Geography of the Middle East (3 cr)
  - GEV 3525: Geography of Asia (3 cr)
- Two Geography Electives above 2000 (6 cr)

### **Global Interdisciplinary Studies (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.

#### **MAJOR (31-34 credits)**

The central dynamic of the GIS major is the emphasis on the interdisciplinary and the global through a specialization in one of the following areas and thematic studies, namely: Africana Studies, Arab & Islamic Studies, Asian Studies, Cultural Studies, Irish Studies, Latin American Studies, and Russian Area Studies. A student may also consider an Individually Designed Specialization after meeting some requirements, including meeting with the Chair

of the department. Each specialization emphasizes the core tenets of the major: Interdisciplinary research, global impact through the local, and the application of knowledge to world affairs.

**Required Major Courses:**

- GIS 2000: Introduction to Global Interdisciplinary Studies (3 cr)
- GIS 5011: Team-taught Topics Student takes two different topics, the first of which counts as the Junior Research Seminar for the Major (6 cr)
- GIS 6500: Senior Capstone 1: Research (3 cr)
- GIS 6600: Senior Capstone 2: Thesis (3 cr)
- GIS 5000: Special Topics (1 cr)
- One semester of Study Abroad
- One specialization from those listed below (15-18 cr)

**Program Notes:**

**Seven Area Specializations:**

GIS offers seven specializations in interdisciplinary areas of study – Africana Studies, Arab and Islamic Studies, Asian Studies, Cultural Studies, Irish Studies, Latin American Studies, and Russian Area Studies. The additional requirements of each specialization are listed below. Students must indicate their specialization at the time of declaring the GIS major.

**Individually Designed Specialization:**

A student may opt to design a 15-credit specialization of their choosing. This specialization must be proposed at the declaration of the major, with a clear rationalization for all selected courses. The proposal must be approved by a faculty mentor and the Department Chair and include at least three courses regularly offered at Villanova University.

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: Africana Studies (18 credits) (GAFR)**

Six courses with the AFR attribute for a minimum of 18 credits, of which the following must be included:

**Required Courses:**

- AFR 3000: Constructs of Blackness (3 cr)
- One course in either Africana History or Literature: HIS 2292, 2293, ENG 2501, 2502, 2530, 3690 (3 cr)
- Four additional courses with the AFR attribute (12 cr)

**Program Notes:**

Students may also combine three 1-credit IGR courses to count as one of the undesignated Africana courses.

Courses taken as part of a study abroad program may be counted.

A GIS 5011 with AFR attribute may be counted among the six courses, as long as the two required GIS 5011 courses for the GIS major have been fulfilled.

**GIS: Arab and Islamic Studies (15 credits) (GAIS)**

Five courses with the AIS attribute for a minimum of 15 credits, of which the following must be included:

**Required Courses:**

- Two courses of Arabic at the intermediate or above level (6-10 cr)
- One Political Science course with an AIS attribute (3 cr)
- One History course with an AIS attribute (3 cr)
- One Theology course with an AIS attribute (3 cr)

**Program Notes:**

Courses taken as part of a study abroad may be counted.

**GIS: Asian Studies (15 credits) (GASN)**

Five courses with the ASN attribute for a minimum of 15 credits, of which the following must be included:

**Required Courses:**

- Three Chinese, Japanese, or other Asian language courses at the intermediate level or above (9 cr)
- Two non-language courses with the ASN attribute (6 cr)

**Program Notes:**

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.

**GIS: Cultural Studies (18 credits) (GCST)**

Six courses with the CST attribute for a minimum of 18 credits, of which the following must be included:

**Required Courses:**

- CST 2100: Introduction to Cultural Studies (3 cr)
- Three Core Courses, one from each of the following three categories (9 cr):

**Representation:**

- CST 4100: US and Global Pop Culture (3 cr)
- PHI 2750: Philosophy of Art (3 cr)
- PHI 2170: Mass Media Ethics (3 cr)
- PHI 2760: Philosophy of Literature (3 cr)
- PHI 4140: Philosophy of Contemporary Music (3 cr)
- PHI 4150: Philosophy of Film (3 cr)

**Gender:**

- PHI 2410: Philosophy of Sex and Love (3 cr)
- PHI 2420: Philosophy of Women (3 cr)
- PHI 2430: Eco-Feminism (3 cr)

- PHI 4900: Feminist Theories (3 cr)

**Race:**

- PJ/PHI: Gender, Race, and Class (3 cr)
- PHI 3160: History of Islamic Philosophy (3 cr)
- PHI 2140: Philosophy of Criminal Justice (3 cr)
- ENG 4646: Race & Ethnicity: American Novel (3 cr)
- Two additional courses with the CST attribute (6 cr)

Program Notes:

Courses taken as part of a study abroad may be counted.

One internship course may be counted.

**GIS: Irish Studies (15 credits) (GIST)**

Five courses with the IS attribute for a minimum of 15 credits, of which the following must be included:

Required Courses:

- One course of Irish language at the intermediate level or above (IS 1121 or 2222) (3 cr)
- One literature survey (ENG 2450 or 2500) (3 cr)
- One history survey (HIS 3216 or 2286) (3 cr)
- Two electives with IS attribute (6 cr)

Program Notes:

Courses taken as part of a study abroad may be counted.

One internship course may be counted.

**GIS: Russian Area Studies (18 credits) (GRAS)**

Six courses for a minimum of 18 credits, of which the following must be included:

Required Courses:

- Two Russian language courses at the intermediate (6 cr)
- Four Courses with the RAS attribute for a minimum of 12 credits (12 cr)

Program Notes:

Up to two courses taken as part of a study abroad program may be counted.

**GIS: Latin American Studies (18 credits) (GLAS)**

Six courses with a minimum of 18 credits, of which the following must be included:

Required Courses:

- Four courses with the LAS attribute (12 cr)
- Two advanced Spanish courses above SPA 1122 (6 cr)

Program Notes:

Courses taken as part of a study abroad may be counted.

One internship course may be counted.

**History**

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.

### **MAJOR (33 credits)**

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.

### Required Major Courses:

- One of the specially designated core history courses (HIS 1060 through HIS 1250) (3 cr)
- HIS 2000: U.S. History I **OR** HIS 2001: Investigating U.S. History II (3 cr)
- HIS 5001: Junior Research Seminar [at least one] (3 cr)
- HIS 5501: Seminar in Historical Methodology **OR** HIS 5515: Independent Research (3 cr)
- At least six additional history courses of the student's choice (18 cr)
- One art history course in an area that compliments one of the ten history courses\* (3 cr)

### 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.

\* This course does not fulfill the core Fine Arts requirement.

### **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.

One of the following courses may also be taken for credit towards the History Minor:

- AAH 1101: History of Art: Beginnings to Renaissance (3 cr)
- AAH 1102: History of Art: Renaissance to Contemporary World (3 cr)

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

Director: Thomas W. Smith, Ph.D.

Office Location: 106 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)

#### 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.

#### 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.

### 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.

### Honors Minor in Politics, Philosophy, and Economics (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.

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):

### 3 Honors Cohort Classes

- Honors ACS I: PPE Cohort (3 cr)
- Honors ACS II: PPE Cohort (3 cr)
- HON 5700: Justice Seminar (3 cr)

### 1 Honors course in Ethics

- Ethics 2050: Business and Society (3 cr)
- Students may also count a course in Ethics taken during their study abroad semester in Cambridge with permission from the Honors Director.

### 1 Honors Economics courses

- Macro, Micro, International, e.g.
- Students may also count an economics course taken during their study abroad semester in Cambridge with permission from the Honors Director.

### 1 upper level Elective (Can be contracted)

- PHI 2300: Philosophy of Law (3 cr)
- PHI 2450: Catholic Social Thought (3 cr)
- PSC 2200: International Law (3 cr)
- PSC 2240: International Policy Economy (3 cr)
- ECO 3108: Global Political Economy (3 cr)
- ECO 3115: Comparative Economic Systems (3 cr)
- ECO 3126: American Economic Development (3 cr)
- HUM 2100: Goods and the Good Life (3 cr)
- HUM 5950: Citizenship and Globalization (3 cr)

## **Honors Minor in Medical Humanities (15 credits)**

An interdisciplinary minor offered through the University Honors Program focusing on the intersection of the humanities, medical care, medical ethics, and a 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.

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):

### 2 Honors liberal arts courses, taken from the following (6 cr):

- ACS I-II Good, True (3 cr)
- Honors Core Seminar: Beauty (3 cr)
- Any Interdisciplinary Course (3 cr)
- THL 1500: Spirituality and the Healing Arts (3 cr)



- THL 3450: Pastoral Care of the Sick (3 cr)
- 1 Honors Ethics course focusing on medical ethics (3 cr)
- ETH 2050: Medical Ethics (3 cr)
  - PHI 4125: Bioethics (3 cr)
  - THL 4200: Ethics and Life and Death (3 cr)
- 1 Upper level Honors elective/Junior Experience course (3 cr)
- PHI 2117: Good Doctor (3 cr)
  - SOC 3400: Medical Sociology (3 cr)
- Senior Capstone

## **Humanities**

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.

### **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 then take five free electives, three of which must be taken within the Department of Humanities.

#### Required Major Courses:

- HUM 2001: God (3 cr)
- HUM 2002: Human Person (3 cr)
- HUM 2003: World (3 cr)
- HUM 2004: Society (3 cr)
- HUM 6500: Senior Symposium (3cr)
- 5 free electives, 3 within the Department of Humanities (15 cr)

### **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.

#### Required courses:

- Select two courses from the following:

- HUM 2001: God (3 cr) **OR**
- HUM 2002: Human Person (3 cr) **OR**
- HUM 2003: World (3 cr) **OR**
- HUM 2004: Society (3 cr)
- 3 free electives, 2 within the Department of Humanities (9 cr)

### **Individually Designed Major**

Program Director: Joseph Lennon, Ph.D.

Office Location: 105E Saint Augustine Center

Telephone: 610-519-4647

[\[Website\]](#)

#### About

Requires an intensive proposal and approval process; admission to this major requires you to file your proposal no later than the end of your first semester of your 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.

### **Center for Irish Studies**

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.

### **MAJOR (21 Credits 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.

### **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 Courses:

- ENG 2450: Irish Epics, Visions & Hauntings (3 cr) or ENG 2500: Irish Revival (3 cr)
- HIS 2286: Irish-American Saga (3 cr) or HIS 3216: Ireland Since 1800 (3 cr)
- Three additional courses with an IS attribute

### **Italian**

Program Coordinator: Luca Cottini, Ph.D.

Office Location: 339 Saint Augustine Center

Telephone: 610-519-3763

[\[Website\]](#)

### **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.

### **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.

Required Major Courses:

- Nine courses above the intermediate level taught in Italian including:
  - ITA 1138: Advanced Grammar **OR** ITA 1140: Writing and Stylistics (3 cr)
  - ITA 2220: Literature and Culture I **OR** ITA 2221: Literature and Culture II (3 cr)
- One course taught in English:

- RLL 3413: Italy and Beauty (3 cr) or RLL 3412 (Dante's Comedy) (3 cr)
- ITA 3971: Directed Research in ITA (1 cr)

**Program Notes:**

Majors and minors can earn some of their credits by studying in Italy either through the affiliated summer programs in Perugia, Rome, and Milan.

**MINOR (15 credits)**

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

**Required Minor Courses:**

- ITA 1131: Conversation and Composition I (3 cr)
- RLL 3413: Italy and Beauty (3 cr)
- Three additional upper level courses taught in Italian (6 cr)

**Program Notes:**

Once a sequence of courses has begun, a student may not revert to a lower-level course.

**Japanese Language and Cultural Studies**

Coordinator: Masako Hamada, Ph.D.

Office Location: 36 Garey Hall

Telephone: 610-519-6302

[\[Website\]](#)

**About**

The Japanese Language and Cultural Studies program offers a variety of courses that cover everything from language study to all aspects of Japan — traditional and pop culture, society, history, literature, films, culinary culture and women's studies. The program represents a cutting-edge intellectual experience that provides its minors with a real advantage in critiquing, understanding, and navigating the global landscape.

**MINOR (28 credits)**

A minor is open to all students and requires 6 courses for 28 credits.

**Required Minor Courses:**

- JPN 1111: Basic Japanese I (6 cr)
- JPN 1112: Basic Japanese II (6 cr)
- JPN 1121: Intermediate Japanese I (5 cr)
- JPN 1122: Intermediate Japanese II (5 cr)
- Two JPN electives (6 cr)

**Latin American Studies**

Program Director: Cristina Soriano, Ph.D.

Office Location: 446 Saint Augustine Center

Telephone: 610-519-3290

[\[Website\]](#)

## 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.

## **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.

## **MINOR (18 credits)**

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

### Required Minor Courses:

- Four Latin America elective courses with the LAS attribute (12 cr)
- Two Spanish courses above 1122 (6 cr)

## **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.

## **Mathematics and Statistics**

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.

### **MAJOR (58 credits)**

The program leading to the degree of Bachelor of Science in Mathematics & Statistics 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 for a career in actuarial science, operations research, computer science, statistics, biostatistics, mathematical physics or any of many other areas which use mathematics.

#### **Required Major Courses:**

- MAT 1500: Calculus I (4 cr)
- MAT 1505: Calculus II (4 cr)
- MAT 2500: Calculus III (4 cr)
- MAT 2600: Foundations of Math I (3cr)
- MAT 2705: Diff Equation with Linear Alg (4 cr)
- MAT 3300: Advanced Calculus (3 cr)
- MAT 3400: Linear Algebra I (3 cr)
- MAT 3500: Modern Algebra I (3 cr)
- MAT 5900: Seminar in Mathematics (3 cr)
- One approved upper level analysis course (e.g. MAT 4270 or MAT 5400) (3cr)
- Four other mathematics courses numbered 3000 or above (12 cr)
- One two-semester sequence of natural science courses with lab at the science-major level (8 cr)
- One additional science course at the science-major level with lab if appropriate (4 cr)

### **MINOR: Mathematics (27 credits)**

To receive a math minor certificate, the student must see Dr. Paul Pasles in person prior to the course registration for their final semester. Students may consult Dr. Pasles at any time for information and advice. If all requirements are satisfied, the certificate will be issued about two weeks after graduation and it will also appear on the student's transcript.

#### **Required Minor Courses:**

The analysis sequence:

- MAT 1500: Calculus I (4 cr)
- MAT 1505: Calculus II (4 cr)
- MAT 2500: Calculus III (4 cr)
- Five elective courses: MAT 2600, MAT 2705, or MAT courses numbered 3000 or higher.

Program Notes:

A student may petition to substitute no more than one of the five math minor electives with an upper division course in their own major. The proposed substitutions must contain substantial mathematical content and not overlap with any math minor elective courses.

### **MINOR: Statistics (27 credits)**

To receive a statistics minor certificate, the student must see Dr. Zhang in person prior to course registration for his/her final semester. Students may consult Dr. Zhang 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.

#### **Required Minor Courses:**

- The calculus sequence:
  - MAT 1500: Calculus I (4 cr)
  - MAT 1505: Calculus II (4 cr)
  - MAT 2500: Calculus III (4 cr)
- Three required statistics courses:
  - MAT 4310: Stat Methods (3 cr)
  - MAT 4315: Applied Statistical Models (3 cr)
  - MAT 5700: Math Statistics I (3 cr)
- Two elective statistics courses (6 cr)

#### **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.

To receive a statistics minor certificate, the student must see Dr. Bernhardt in person prior to course registration for his/her final semester.

For mathematics majors, four courses may be counted towards both the mathematics major and the statistics minor: MAT1500, 1505, 2500 and either 4310 or 5700. No other courses count towards both. Thus, obtaining the statistics minor requires taking four additional courses beyond those required for the mathematics major.

### **Military Science (Army ROTC)**

Program offered through Widener University's Department of Military Science.

#### **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.

## **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.

## **Center for Peace and Justice Education**

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.

## **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.

### **Required Major Courses:**

- GIS 2000: Intro to Global Interdisciplinary Studies (3 cr)
- PJ 2800: Race, Class, and Gender (3 cr)
- PJ 2993: Internship (3 cr)
- GIS 6500: Senior Capstone I: Research (3 cr)
- GIS 6600: Senior Capstone II: Thesis (3 cr)



- Five Electives with a Peace and Justice attribute (15 cr)

**Program Notes:**

Electives should be determined in consultation with the program director and tailored to the student's field(s) of interest.

Three 1-credit courses with the PJ attribute can be bundled to count as one elective.

**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.

**Required Minor Courses:**

- One Peace and Justice foundational course: (3 cr)
  - PJ 2250: Violence and Justice in the World (3 cr)
  - PHI 2450: Catholic Social Thought (3 cr)
  - PJ 2700: Peacemakers and Peacemaking (3 cr)
  - PJ 2800: Race, Class, and Gender (3 cr)
  - PJ 2900: Ethical Issues in Peace and Justice (3 cr)
- Five Electives with a Peace and Justice attribute (15 cr)

**Program Notes:**

PJ ePortfolio (three pieces of work and a short reflection)

No more than three foundational courses may receive credit for the minor.

Three 1-credit courses with the PJ attribute can be bundled to count as one elective.

**Philosophy**

Chair: Sally Scholz, 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.

**MAJOR (30 Credits)**

The philosophy major consists of 10 courses and 30 credits.

**Required Courses:**

- PHI 1000: Knowledge, Reality, Self (3 cr)
- One course in ancient philosophy [PHI 3020, PHI 4100, or an approved Topics course] (3 cr)
- One course in medieval philosophy [PHI 3030, PHI 3100, PHI 3120, PHI 3160, PHI 3410, or an approved Topics course] (3 cr)

- One course in modern philosophy [through the 19<sup>th</sup> century] (3 cr) [PHI 3040, PHI 3050, PHI 3720 or an approved Topics course]
- PHI 5000: Advanced Seminar for Philosophy Majors [Capstone] (3 cr) or PHI 6000: Research Seminar [Thesis] (3 cr)
- Five additional PHI electives

#### Program Notes:

Students who are majoring in philosophy may pursue a specific area of philosophy by taking one of the department's thematic clusters or devising one of their own (see the website for more information about the thematic clusters)

Philosophy majors may work with an individual faculty member to write a thesis, which substitutes for the capstone course.

#### 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.

#### **MINOR (5 courses)**

Philosophy minors take any five courses in the philosophy department.

#### **Physics**

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.

#### **MAJOR (B.S.) (85 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 Major Courses:

- PHY 2410/2411: Univ. Physics: Mechanics (3 cr) & Lab (1 cr)
- PHY 2412/2413: Univ. Physics: Electricity & Magnetism (3 cr) & Lab (1 cr)

- PHY 2601: Computational Physics Lab I (1 cr)
- PHY 2603: Computational Physics Lab II (1 cr)
- MAT 1500: Calculus I (4 cr)
- MAT 1505: Calculus II (4 cr)
- PHY 2414-2415: Univ. Physics: Thermodynamics (3 cr) & Lab (1 cr)
- PHY 2416-2417: Modern Physics (3 cr) & Lab (1 cr)
- PHY 3310-3311: Electronics (3 cr) & Lab (1 cr)
- PHY 4200: Mathematical Physics I (3 cr)
- MAT 2500: Calculus III (4 cr)
- MAT 2705: Diff Equations (4 cr)
- CHM 1151 & 1103: General Chemistry I (4 cr) & Lab (1 cr)
- CHM 1152: General Chemistry II (4 cr)
- PHY 4100: Mechanics I (3 cr)
- PHY 4102: Mechanics II (3 cr)
- PHY 4301: Experimental Methods I (2 cr)
- PHY 4000 & 4001: E&M I (3 cr) & Lab (1 cr)
- PHY 4002 & 4003: E&M II (3 cr) & Lab (1 cr)
- PHY 4202: Math Phy II (3 cr)
- PHY 5100: Quantum Mechanics (3 cr)
- PHY 5200: Thermo/Stat Mech (3 cr)
- PHY 5300: Subatomic Physics (3 cr)
- PHY Elective (3 cr)
- Science Elective (4 cr)

### **MAJOR (B.A.) (79 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.

#### Required Major Courses:

- PHY 2410/2411: Univ. Physics: Mechanics w/Lab (4 cr)
- PHY 2412/2413: Univ. Physics: Electricity & Magnetism w/Lab (4)
- PHY 2601: Computational Physics Lab I (1 cr)
- PHY 2603: Computational Physics Lab II (1 cr)
- MAT 1500: Calculus I (4 cr)
- MAT 1505: Calculus II (4 cr)
- PHY 2414-2415: Univ. Physics: Thermodynamics w/Lab (4 cr)
- PHY 2416-2417: Modern Physics w/Lab (4 cr)
- PHY 3310-3311: Electronics w/Lab (4 cr)
- PHY 4200: Mathematical Physics I (3 cr)
- MAT 2500: Calculus III (4 cr)
- MAT 2705: Diff Equations (4 cr)
- CHM 1151 & 1103: General Chemistry I (4 cr) & Lab (1 cr)

- CHM 1152: General Chemistry II (4 cr)
- PHY 4100: Mechanics I (3 cr)
- PHY 4301: Experimental Methods I (2 cr)
- PHY 4303: Experimental Methods II (2)
- PHY 4000-40001: E&M I w/Lab (4 cr)
- PHY 5100: Quantum Mechanics (3 cr)
- PHY Elective (3 cr)\*
- Minor/Concentration (12 cr)\*

Program Notes:

\*Or technical elective. Approval of the Physics chairperson required.

### **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.

Required Minor Courses:

- Sixteen credits in the University Physics sequence PHY 2410-2417 (16 cr)
- Fifteen additional credits of upper level physics electives.

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

### **Political Science**

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.

## **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.

### Required Major Courses:

- PSC 1100: American Government (3 cr)
- PSC 1200: International Relations (3 cr)
- PSC 1300: Comparative Politics (3 cr)
- PSC 1400: Political Theory (3 cr)
- PSC 1900: Research Seminar (3 cr)
- PSC 6900: Senior Seminar (3 cr)
- Five PSC Electives chosen from the upper division courses (2000-3000) from the four major subfields (American Government, International Relations, Comparative Politics, Political Theory) in any combination. (15 cr)

### 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.

## **MINOR (18 credits)**

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

### Required Minor Courses:

- At least two foundational courses: (6 cr)
  - PSC 1100: American Government (3 cr)
  - PSC 1200: International Relations (3 cr)
  - PSC 1300: Comparative Politics (3 cr)
  - PSC 1400: Political Theory (3 cr)
- Four PSC Electives chosen from the upper division courses (2000-3000) from the four major subfields (American Government, International Relations, Comparative Politics, Political Theory) in any combination. (12 cr)

### 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.

## **Psychology**

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.

### **MAJORS (B.S.) (53 credits) & (B.A.) (31 credits)**

#### Required Major Courses for B.S.:

- PSY 1000: General Psychology **OR** PSY 1001: Intro to Brain and Behavior (3 cr)
- PSY 2000: Introductory Statistics (3 cr)
- PSY 2050: Research Methods in Psychology (3 cr)
- PSY 2100: Seminar in Professional Development (1 cr)
- PSY 5150: Foundations of Modern Psychology **OR** PSY 5250: Contemporary Issues in Psychology (3 cr)
- PSY 4200: Biopsychology (3 cr)
- PSY 4500: Cognitive Psychology (3 cr)
- Three PSY 3000-level courses (9 cr)
- Any two additional PSY courses (6 cr)
- BIO 2105: General Biology I (4 cr)
- BIO 2106: General Biology II (4 cr)
- CSC 1051: Algorithms & Data Structures I (4 cr)
- MAT 1500: Calculus I & MAT 1505: Calculus II (8cr) **OR** MAT 1312: Biocalculus & MAT 1314: Modeling (7cr)

#### Required Major Courses for B.A.:

- PSY 1000: General Psychology **OR** PSY 1001: Intro to Brain and Behavior (3 cr)
- PSY 2000: Introductory Statistics (3 cr)
- PSY 2050: Research Methods in Psychology (3 cr)
- PSY 2100: Seminar in Professional Development (1 cr)
- PSY 5150: Foundations of Modern Psychology **OR** PSY 5250: Contemporary Issues in Psychology (3 cr)
- Three PSY 3000-level courses (9 cr)
- PSY 4200: Biopsychology (3 cr) **OR** PSY 4500: Cognitive Psychology (3 cr)
- Any two additional PSY courses (6 cr)

#### 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.

## **MINOR (15 credits)**

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

Required Minor Courses:

- PSY 1000: General Psychology (3 cr)
- Four additional 3-credit PSY courses (12 cr)

Program Notes:

Courses taken on a satisfactory/unsatisfactory basis cannot be used to satisfy requirements for the minor.

Students wishing to be awarded the minor must also submit a declaration form to the Department of Psychological and Brian Sciences.

## **Public Administration**

Chair: Catherine E. Wilson, Ph.D.

Office Location: 484 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.

## **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.

Required Minor Courses:

- PA 1050: Public Administration (3 cr)
- PA 2000: Public Policy (3 cr) **OR** PA 6000: The Vocation of Public Service (3 cr)
- Four electives from among the following: (12 cr)
  - PA 2000: Public Policy (3 cr)
  - PA 2100: City and Suburb (3 cr)
  - PA 3000: Overview of the Nonprofit Sector (3 cr)

- PA 5000: Special Topics (3 cr)
- PA 5100: Independent Study (3 cr)
- PA 6000: The Vocation of Public Service (3 cr)
- PA 6100: PSA Internship (3 cr)
- VIA 3020: Creating Social Impact (3 cr)

**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.

**Russian Area Studies Concentration (RASCON)**

Chair: 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.

**MAJOR (34 credits)**

The Department of Global Interdisciplinary Studies (GIS) offers a major with a specialization in Russian Area Studies, please see that page for detailed listing of requirements.

**CONCENTRATION (RASCON) (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.

**Required Concentration Courses:**

- Two semesters of Russian at the intermediate level **OR** demonstrated proficiency at an equivalent level.
- Four courses from among the following (12 cr):
  - HIS 1070: Land of the Tsars and Commissars (3 cr)
  - HIS 1165: HON-Suffering&Progress (3 cr)
  - HIS 3242: Russia from Stalin to Putin (3 cr)



- HUM 6000: Brothers Karamazov (3 cr)
- PSC 3320: Russian Politics (3 cr)
- RUS 1131: Advanced Russian Composition and Conversation 1 (3 cr)
- RUS 1132: Advanced Russian Composition and Conversation 2 (3 cr)
- RUS 3412: Special Topics-Russian Culture in Context Study Abroad (3 cr)
- RUS 4110: Russian Film (3 cr)
- RUS 4120: The Russian Short Story (3 cr)
- RUS 4130: The Russian Novel (3 cr)
- SAR 4007: Paintings of Icons (3 cr)
- THL 5200: Religion in Russia (3 cr)

**Program Notes:**

Other appropriate special topics courses in Economics and History may count towards electives as approved by the director.

**Russian Language and Cultural Studies**

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.

**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.

**Required Courses:**

- RUS 1111: Basic Russian I (6 cr)
- RUS 1112: Basic Russian II (6 cr)
- RUS 1123: Intermediate Russian I (3 cr)
- RUS 1124: Intermediate Russian II (3 cr)
- Two 3-credit courses with the RUS attribute (6 cr)

**Program Notes:**

Other culture-based courses with RAS attribute found across disciplines also qualify.

**Sociology**

Chair: Robert DeFina, 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.

### **MAJOR (33 credits)**

To declare the Major, a student must have completed Introduction to Sociology (SOC 1000), with a "C+" or higher or have a minimum GPA of 3.0. 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.

#### Required Major Courses:

- SOC 1000: Introduction to Sociology (3 cr)
- SOC 5300: Data Analysis for Social Scientists (3 cr)
- SOC 5400: Applied Research Methods in Sociology (3 cr)
- SOC 6500: Senior Seminar (3 cr; prerequisites: one Theory course, SOC 5300 and SOC 5400)
- One of the following Theory courses (3 cr) [prerequisite: SOC 1000]
  - SOC 5000: Nature and History of Sociological Theory (3 cr)
  - SOC 5050: Sociological Theory and Research (3 cr)
  - SOC 5100: Contemporary Theory and Research (3 cr)
- Five sociology electives (15 cr)
- One criminology elective (3 cr)

#### 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.

### **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. Students wishing to earn a Minor in Sociology must fill out an application form available in the office.

#### Required Courses:

- SOC 1000: Introduction to Sociology (3 cr)
- Four sociology elective courses (12 cr)

#### Program Notes:

Only one course may be transferred from another university.

### **Spanish Studies**

Chairperson: Carmen Peraita, Ph.D.

Office Location: 303 Saint Augustine Center

Telephone: 610-519-7478

[\[Website\]](#)

#### 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.

### **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.

#### Required Major Courses:

- SPA 1138: Advanced Grammar (3 cr) **OR** SPA 1140: Writing and Stylistics in Spanish (3 cr)
- SPA 2220: Literature and Culture of Spain (3 cr) **OR** SPA 2221: Literature and Cultural Experience of Latin America (3 cr)
- SPA 3970: Research Seminar (3 cr)
- Seven additional SPA courses above Intermediate (1122) level. (21 cr)

#### Program Notes:

Of the 10 Major courses at least 3 must be at the 3000 level (including SPA 3970), two of which must be taken at Villanova.

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.

## **MINOR (12 credits)**

The department encourages students to obtain a minor in Spanish if their schedule does not permit them to complete a major. In order to do so, students may come to the Department main office, located in SAC 303 and fill out a form. 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.

Required Minor Courses:

- Four courses above the Intermediate (1122) level

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.

## **Sustainability Studies**

Chair: Nathaniel Weston, Ph.D.

Program Director: Steven Goldsmith, Ph.D.

Office Location: Suite G67, 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.

## **MINOR (18 credits)**

The sustainability minor is open to all students and requires 6 courses and 18 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.

Required Minor Courses:

Select two courses from each Stem:

### **Humanities Stem:**

- HIS 1065: Global Env. History (3 cr)
- HIS 2276: American Env. History (3cr)

- HIS 4499: Global Env. History (3 cr)
- PHI 2121: Environmental Ethics (3 cr)
- PHI 2430: Eco Feminism (3 cr)
- PHI 4210: Environmental Philosophy (3 cr)
- PJ 3000: Selected Topics\* (3 cr)
- PJ 5000: Selected Topics\* (3 cr)
- THL 4330: Christian Environmental Ethics (3 cr)
- THL 4250: Global Poverty and Justice (3 cr)
- GEV 3001: Intro to Sustainability Studies (3 cr)

#### **Policy Stem:**

- ECO 3108: Global Political Economy (3cr)
- ECO 4200: Topics in Economics\* (3 cr)
- GEV 2500: Global Change in Local Places (3 cr)
- GEV 2520: Urban Geography (3 cr)
- GEV 2525: Population Geography (3 cr)
- GEV 3000: Selected Topics in Geo and the Env\* (3 cr)
- GEV 3002: Ecosystem Services (3 cr)
- GEV 3007: Urban Ecosystems (3 cr)
- GEV 3570: Land Use Planning (3 cr)
- GEV 3580: Natural Resources and Conservation (3 cr)
- GEV 4330: Selected Topics in Env. Policy\* (3 cr)
- GEV 4331: Env. Policy and Management (3 cr)
- GEV 4332: Water Resource Planning (3 cr)
- GEV 4333: Environmental Law (3 cr)
- GEV 4335: Energy Policy (3 cr)
- GEV 4340: Selected Topics in Env. Issues\* (3 cr)
- GEV 4510: Special Topics in Geography\* (3 cr)
- GEV 4517: Sustainable Development (3 cr)
- MGT 2208: Global Corporate Responsibility (3 cr)
- MGT 2352: Business in Emerging Markets (3 cr)
- PA 2000: Public Policy (3 cr)
- PSC 4275: Special Topics\* (3 cr)
- GEV 3001: Intro to Sustainability Studies (3 cr)

#### **Science and Technology Stem:**

- BIO 3255: Evolutionary Ecology (4 cr)
- BIO 3385: Global Change Ecology (4 cr)
- BIO 4451/52: Field Ecology and Evolution^ (4 cr)
- BIO 4801: Conservation Biology (3 cr)
- CEE 2211: Transportation Engineering (3 cr)
- CEE 4608: Project & Construction Management (3 cr)
- CEE 4612: CEE Undergrad Research\* (3 cr)
- CEE 7829: Sustainability Man Indust (3 cr)
- CEE 4607: Special Topics (3 cr)
- CHE 5715: Alternative Energy (3 cr)

- CHE 5001: Industrial Liquid and Solid Waste (3 cr)
- CHE 4831/32: Chem. Eng. Research\*^ (4 cr)
- CHM 1311/01: Inorganic Chemistry^ (5 cr)
- EGR 7110: Climate Change/Sustainability (3 cr)
- EGR 7111: Life Cycle/Impact Assessment (3 cr)
- EGR 7112: Econ/Social Equity Integ. (3 cr)
- EGR 7113: Sustainable Materials (3 cr)
- GEV 1050: Environmental Science I^ (4 cr)
- GEV 1051: Environmental Science II^ (4cr)
- GEV 1052: Environmental Studies I (3 cr)
- GEV 1053: Environmental Studies II (3 cr)
- GEV 3301: Fisheries (3 cr)
- GEV 3302: Agriculture Sciences (3 cr)
- GEV 3003: Environmental Geology (3 cr)
- GEV 3303: Soil Science (3 cr)
- GEV 3305: Energy Systems (3 cr)
- GEV 3306: Alternative Energy (3 cr)
- GEV 3308: Environmental Health (3 cr)
- GEV 432X: Lab Science Courses^ (4cr)
- GEV 4328: Climatology (4 cr)
- GEV 4329: Global Change Research (4 cr)
- GEV 4350: Spec Topics in Env Sci (3 cr)
- GEV 4353: Green Science (3 cr)
- GEV 4354: Biomimicry (3 cr)
- GEV 4355: Tropical Ecology (3 cr)
- GEV 4359: Ecosystem Ecology (3 cr)
- GEV 4512: Medical Geology (3 cr)
- GEV 4515: Terrestrial Ecosystems (3 cr)
- MSE 20XX: Mendel Science Experience\*^ (4 cr)
- ME 5130: Intro to Sustainable Energy (3 cr)
- ME 5140: Design of Gravity Water Ntwrks (3 cr)
- MET 1222: Climate Change: Past and Present (3 cr)

**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

\* Permission of program director required

^ Associated Lab Required, see advisor

**Teaching Certification**

Chair: Christopher Schmidt, Ph.D., Department of Education and Counseling

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, German, Italian, Latin, Mathematics, Physics, Spanish, 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.

## Theatre

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.

## 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.

### Required Minor Courses:

- THE 2029: Fundamental Principles of Acting (3 cr)
- THE 3030: TOP: Scene Study (3 cr)
- Three courses from:
  - THE 2019: The Theatrical Experience (3cr)
  - THE 2030: Advanced Principles of Acting (3 cr)
  - THE 2032: Elements of Dance (3 cr)
  - THE 2033: Advanced Elements of Dance (3 cr)
  - THE 2034: Musical Theatre (3 cr)
  - THE 2051: Creativity (3 cr)
  - THE 3006: Shakespeare on Stage (3 cr)
  - THE 3007: Playwriting (3 cr)
  - THE 4011: Directing the Play (3 cr)
- THE 2040: Theatre Practicum (0 cr)

### Program Notes:

To fulfill the theatre practicum, contact program coordinator [Kevin Esmond](#).

## Theology and Religious Studies

Chairperson: Peter Spitaler, Ph.D.

Program Director: Mark Graham, Ph.D.

Office Location: 243 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.

### 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).

### Required Major Courses:

- THL 1000: Faith, Reason and Culture (3 cr)
- THL 6300: Senior Capstone I (3 cr)
- THL 6500: Senior Capstone II (3 cr)



- Seven Elective Courses in theological and religious studies (21 cr)\*

Program Notes:

\* Nine elective credits may be taken from among the approved extra-departmental courses listed on the department's website under the section for this major. 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 nine credit hours)

**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.

Required Major Courses:

- THL 1000: Faith, Reason and Culture (3 cr)
- THL 6300: Senior Capstone I (3 cr)
- THL 6500: Senior Capstone II (3 cr)
- Five Elective Courses in theological and religious studies (15 cr)\*

Program Notes:

\* Six elective credits may be taken from among the approved extra-departmental courses listed on the department's website under the section for this major. 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 six credit hours)

**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.

Required Courses:

- THL 1000: Faith, Reason and Culture (3 cr)
- Four Elective Courses in theological and religious studies (12 cr)\*

Program Notes:

\* Three elective credits may be taken from among the approved extra-departmental courses listed on the department's website under the section for this major. 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)

## **Writing and Rhetoric**

Director: Dr. Ellen Bonds, Teaching Professor, English

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.

### **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.

### **Required Concentration Courses:**

- Three Courses primarily in writing practice at the intermediate or advanced level:
  - ENG 2000: Adv Expository Writing (3cr)
  - ENG 2003: Intro to Creative Writing (3 cr)
  - ENG 2005: Writing of Short Story (3 cr)
  - ENG 2006: Writing of Poetry (3cr)
  - ENG 2007: The Writing of Screenplays (3 cr)
  - ENG 2009: Writing the Traditional Novel (3 cr)
  - ENG 2010: Technical Writing (3 cr)
  - ENG 2011: Writing the Experimental Novel (3 cr)
  - ENG 2012: Advanced Creative Writing (3 cr)
  - ENG 2015: Business Communication (3 cr)
  - ENG 2020: Journalism (3 cr)
  - ENG 2041: Travel Writing (3 cr)
  - ENG 2045: Sp Top in Writing & Rhetoric- Graphic Novels (3 cr) (when these courses are focused on critical theory)

- ENG 2045: Wp Top in Writing & Rhetoric – The Craft of the Popular Essay (3 cr)
- ENG 2045: Sp Top in Writing & Rhetoric – Professional Writing
- ENG 2050: Writing for Magazines (3 cr)
- ENG 2060: Desktop Publishing (3 cr)
- ENG 2070: Legal Writing and Analysis (3cr)
- COM 3303: Screenwriting (3 cr)
- COM 3341: Gender & Film (3 cr)
- COM 3341: Media & Society
- COM 3352: Media & Technology (3 cr)
- COM 3353: Media & Politics (3 cr)
- COM 3354: Media Criticism (3 cr)
- COM 3360: Introduction to Journalism (3 cr)
- COM 3361: Journalism Practices (3 cr)
- COM 3363: Broadcast Journalism (3 cr)
- COM 3365: Sports Journalism (3 cr)
- COM 3366: Multimedia Journalism (3 cr)
- COM 3367: Journalism Topics (3 cr)
- COM 3390: Spec Top in Media & Film (3 cr)
- COM 3403: Intercultural Communication (3 cr)
- COM 3406: Gender & Communication (3 cr)
- COM 3462: Public Relations Writing (3 cr)
- COM 3464: Public Relations Campaigns (3 cr)
- COM 4001: Qualitative Research Methods (3 cr)
- Two courses in composition theory, rhetorical theory, critical theory or history of language/cultural texts:
  - ENG 2042: Web Writing Theory & Practice (3 cr)
  - ENG 2043: Writing About US Pop Culture (3 cr)
  - ENG 2045: Sp Top in Writing & Rhetoric (3 cr) (when these courses are focused on critical theory)
  - ENG 2050: SP Top in Writing & Rhetoric (3 cr)
  - COM 2240: Theories of Performance Studies (3 cr)
  - ENG 2250: Ways of Reading: Lit Analysis (3cr)
  - COM 2280: Theories of Persuasion (3 cr)
  - COM 2300: Theories of Mass Communication (3 cr)
  - COM 2340: Theories of Visual Communication (3 cr)
  - COM 2200: Theories of Rhetoric (3 cr)
  - COM 3201: Rhetoric & Social Justice (3 cr)
  - COM 3202: Rhetoric, Identity & Conflict (3 cr)
  - COM 3203: Communication Law & Policy (3 cr)
  - COM 3204: Rhetoric and Democracy (3 cr)
  - COM 3205: Advanced Speechwriting (3 cr)
  - COM 3206: Argumentation & Advocacy (3 cr)
  - COM 3207: African American Rhetoric (3 cr)
  - COM 3208: Rhetoric & Myth (3 cr)
  - COM 3290: Special Topics in Rhetoric (3 cr)
  - CST 2100: Intro. To Cultural Studies (3 cr)

- PHI 2010: Logic & Critical Thinking (3 cr)
- PHI 2170: Mass Media Ethics (3 cr)
- PHI 2180: Computer Ethics (3 cr)
- PHI 2710: Theories of Knowledge (3 cr)
- PHI 2750: Philosophy of Art (3 cr)
- PHI 2760: Philosophy & Literature (3 cr)
- PHI 3020: History of Ancient Philosophy (3 cr)
- PHI 4140: Phil of Contemporary Music (3cr)
- PHI 4150: Philosophy & Film (3 cr)
- PHI 4200: Philosophy of Language (3 cr)
- One practicum course:
  - ENG 2030: Tutoring Writers – Theory and Practice (3 cr)
  - ENG 2060: Desktop Publishing (3 cr)
  - ENG 2993 **OR** ENG 2996: Internship (in a related area) (3 cr)
  - COM 2933 **OR** COM 2996: Communication Internship (3 cr)
  - PJ 4650: Service Learning Practicum (When the practicum involves a good deal of writing) (3 cr)
- Two upper level English literature courses (6 cr)

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.

**MINOR (18 credits)**

Students must complete 18 credit hours, comprising 6 advanced courses numbered 2000 and above.

Required Minor Courses:

- Three courses in writing practice (9 cr)
- Two courses in theory of composition, history of the language, rhetorical theory or critical theory. (6 cr)
- One upper-level English literature course (3 cr)
- Grammar, Style and Punctuation Exam\*

Program Notes:

\* 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.

# VILLANOVA SCHOOL OF BUSINESS

**Joyce Russell**, PhD, The Helen and William O'Toole Dean

**Jonathan Doh**, PhD, Associate Dean of Research

**Melinda German**, M.B.A, Associate Dean, Undergraduate Business Programs

**Wen Mao**, PhD, Associate Dean of Faculty

**Julie Pirsch**, PhD, Associate Dean of Teaching & Learning

**Office:** Bartley Hall 1045, Tel. 610-519-5424

**Website:** [www.business.villanova.edu/](http://www.business.villanova.edu/)

*Always be dissatisfied with what you are, if you  
want to arrive at what you are not yet. Always add some more.*

*Always keep on walking. ALWAYS FORGE AHEAD!*

St. Augustine, SERMON 169, 18

## HISTORY

The original College of Commerce and Finance was founded in 1922 by Rev. Joseph C. Bartley, OSA. Father Bartley served as dean until his death in 1962. The school was reorganized in 1964 to meet the exigencies of the ever-changing business community. Since that time, it has attracted outstanding undergraduate and graduate students from across the nation and the world. In 2006 the school name was changed to the Villanova School of Business (VSB). Today it offers the Bachelor of Business Administration degree with majors in Accountancy, Economics, Finance, Management, Management Information Systems, Marketing, and Real Estate. Co-majors in Business Analytic and International Business are also available and must be taken in conjunction with another business major. In addition, the Bachelor of Business Administration, Honors degree is also available for qualified students. Graduate programs include the Executive MBA, MBA - Flex Track, MBA – Fast Track, MBA – Online Track, Master of Accounting with Data Analytics, Master of Science in Finance, Master of Science in Church Management, Master of Science in Analytics – Online and a Master of Taxation and a JD/MBA offered jointly with the Villanova University Charles Widger School of Law.

The undergraduate and graduate business programs of VSB are fully accredited by AACSB International - the Association to Advance Collegiate Schools of Business. In addition, the accounting program is separately accredited by the AACSB and, as such, is among a select number of accounting programs so designated.

VSB faculty consists over 110 full-time professors, with about eighty-two percent holding the terminal degree in their area of expertise. Adjunct professors are experts drawn from industry. The faculty is widely recognized for its excellence in teaching, research and professional service.

The School is also home to prestigious business research institutes and centers including the Daniel M. DiLella Center for Real Estate, the Center for Business Analytics, the Elenore and Robert F. Moran Sr. Center for Global Leadership, Center for Marketing and Consumer Insights, and Center for Church Management.

## **ACADEMIC MISSION**

The Villanova School of Business (VSB) is a leader among business schools in fostering a learning environment that enables students and other members of our community to develop the knowledge, experience, values, and capabilities needed for a lifetime of learning. Strengthened by our Catholic and Augustinian traditions and liberal arts foundation, we strive to collaborate with the business and academic communities—and all relevant stakeholders—to create, share, and apply knowledge that connects theory to practice. VSB’s holistic approach encourages students to explore the interconnected nature of business disciplines and to shape innovative and strategic solutions that address contemporary business problems. The VSB community will maintain and enhance its commitment to an environment of mutual respect, professional development and continuous improvement.

## **VISION**

We strive to create a learning environment unprecedented in the world of business education – one that transforms lives, positively impacts society, nurtures creativity, assures an analytical approach, provides a global perspective and develops ethical leaders. We develop business leaders for a better world.

## **THE CLAY CENTER AT VSB THE O'DONNELL CENTER FOR PROFESSIONAL DEVELOPMENT**

Bartley Hall, Room # 1054  
610-519-5532

The Clay Center at VSB, named in honor of VSB alumnus, faculty member and Dean Emeritus Alvin A. Clay, is a “one-stop-shop” resource where all academic support and

informational resources are available to help undergraduate business students reach their goals. These resources help business students to explore and develop their educational and career goals, and to successfully apply their unique talents and knowledge to become a lifelong learner and socially-responsible member of the global business community.

### **THE CLAY CENTER MISSION**

The Clay Center is dedicated to facilitating the intellectual, professional, and personal growth of undergraduate business students by providing:

- educational planning and academic advising,
- experiential learning opportunities (internships and CoOps), and
- professional development programs and resources.

### **THE CLAY CENTER GUIDING PRINCIPLES**

The Clay Center is committed to:

- guiding students as they determine their educational, professional, and personal goals;
- assisting students as they evaluate opportunities to achieve their goals;
- creating a culture that promotes student responsibility and accountability;
- fostering an environment based on ethics and mutual respect that promotes integrity in the educational process;
- partnering with the university community to meet the needs of VSB students;
- continuously assessing the needs and interests of VSB students and the business community and adapting Clay Center services accordingly.

### **ACADEMIC ADVISING**

#### **Julie Freedman, M.S., Director**

VSB employs a four-year, integrative advising program. The VSB advising team consisting of Academic Advisors, Peer Advisors, and Faculty Mentors, facilitates the exploration and development of academic and career goals, and empowers students to be responsible decision-makers and active participants in defining their futures. The advising team is a support system – from orientation to graduation – that provides exemplary academic resources enabling students to be active members of the Villanova student body and to successfully apply their unique talents and knowledge to become socially responsible members of the global community.

Each incoming first-year student is connected with an Academic Advisor and a Peer Advisor who are available to their advisees throughout their VSB experience. During first-year, advisors support students in their transition from high school to college and assist in curricular planning and development of educational goals. More specifically, advisors provide guidance regarding course selection, registration, and study abroad opportunities as well as support students as they explore experiential education and service opportunities, choice of major options, and post graduating planning.

Faculty Mentors have a breadth of knowledge to share regarding why a student would want to declare a major/minor in a specific field. They are available to all students to offer guidance regarding opportunities and career paths and to suggest elective courses as well as secondary majors and minors where appropriate to further support students' interests and deepen their knowledge. Faculty Mentors are available to all VSB undergraduate students throughout their four years.

First-year students must meet with either their Peer Advisor or Academic Advisor each semester during the course registration period to discuss scheduling and to receive their registration PIN. These meetings are critical to ensure that students' progress successfully through their degree program. All students are encouraged to meet with their Peer Advisor, Academic Advisor, and Faculty Mentor at any time throughout the year.

## **THE O'DONNELL CENTER FOR PROFESSIONAL DEVELOPMENT**

### **Brenda Stover, M.S., Assistant Dean**

The Clay Center at VSB is home to the Charlotte and James V. O'Donnell '63 Center for Professional Development. The O'Donnell Center coordinates VSB internships and CoOps and works closely with the University Career Center to offer professional development programs that help students explore areas of interest and prepare for the corporate world. Every undergraduate is encouraged to participate in externship/leadership programs and complete at least one business internship or CoOp experience as a means of gaining real-world experience. The O'Donnell Center also sponsors/co-sponsors over 100 professional development programs each academic year. Students have the opportunity to participate in a wide variety of events, ranging from skill building workshops, career information sessions, employer networking events, to corporate site visits.

Professional development is also incorporated in the curriculum through our unique Backpack-to-Briefcase program starting in first-year. The program combines class sessions and out of class activities that focus on career exploration, job search skills and development of soft skills. In first-year, Backpack-to-Briefcase is embedded in the freshman Business Dynamics course; during sophomore and junior year, students enroll in a one-credit course each year.

The VSB Mentor Program brings VSB students and alumni volunteers together in one-to-one relationships to support the student's career and professional development goals. Students will be invited to participate in the Mentor Program during spring of sophomore year. All student mentees and alumni mentors opt in and are paired based on the student's primary field of interest, desired work location, and mutual areas of interest. Mentors share their knowledge and experience to support mentee's goals and professional development, building a bridge between the classroom and professional world.

The O'Donnell Center also works with twenty plus (20+) student business societies and VSB senators to establish goals as well as develop and implement programs and events.



## DEGREE PROGRAM

### Undergraduate Degree Offered

The Villanova School of Business offers the **Bachelor of Business Administration** degree with majors in Accountancy, Economics, Finance, Management, Management Information Systems, Marketing and Real Estate. In addition, a Business Analytics co-major, and International Business co-major are also available and must be taken in conjunction with another business major. The Bachelor of Business Administration, Honors degree is also available for qualified students.

### Baccalaureate Degree Requirements

- The requirements for the Bachelor of Business Administration (BBA) degree are:
- Completion of all *core curriculum* requirements, *academic major course* requirements, and *elective* requirements for the degree with an overall cumulative quality point average (QPA) of not less than 2.00 and a cumulative technical quality point average of not less than 2.00.
- For transfer students, no more than 60 credits (20 courses) may be transferred into a program including AP, transfer, and study abroad. At least 50% of the business core credit hours required for the BBA degree must be completed at Villanova University.
- With permission of the Associate Dean, a student may study abroad during the first semester of senior year.
- Discharge of all financial obligations to Villanova University.

Students are responsible for the degree requirements in effect at the time of their initial enrollment. If they are formally readmitted to VSB, they must meet the requirements of their new graduating class. Transfer students' degree requirements are determined at time of transfer.

A student's eligibility for graduation is determined by the Dean. NOTE: it is the personal responsibility of the student to ensure that all requirements for graduation are met.

Students accepted to the Honors Program may earn the **Bachelor of Business Administration, Honors** degree by successfully completing the following degree requirements:

- Complete ten (10) 3 cr. Honors courses plus VSB 2121 (1 cr.). At least four (4) of ten (10) 3 cr. Honors courses must be a VSB Honors course:
  - VSB 1015 Business Dynamics
  - At least one of the following three required VSB courses must be an Honors course.
    - VSB 2004 Financial Accounting
    - VSB 2007 Corporate Responsibility & Regulation
    - VSB 2009 Principles of Finance
    - VSB 3900 Innovation and Design
    - VSB 4002 Strategic Thinking and Implementation
- Complete all major courses, core requirements, and elective requirements, and earn at least of 126 credit hours.
- Must achieve a minimum of 3.33 cumulative GPA and meet the minimum required

technical GPA requirement.

Upon successful completion of VSB 2121, students will have an opportunity to serve as a research associate with a VSB professor for up to three years.

In addition to the course requirements, students will be presented with opportunities to engage with faculty, staff, corporate partners and alumni through a range of personal and professional development offerings. The goal is to provide Honors students with opportunities and challenging intellectual engagement across three areas at VSB:

- VSB Honors Classes
- Intellectual Engagement (research and other faculty engagement)
- Targeted Professional Development Opportunities

VSB students who are interested in participating in the Honors Program should contact the Honors Program Office located in Garey Hall 106, 610-519-4650 or visit:

<https://www1.villanova.edu/content/villanova/provost/honors/html>.

## **BASIC CURRICULUM**

The curriculum outlined below provides a suggested sequence to complete the baccalaureate degree requirements. However, this suggested sequence should not be viewed as limiting since individual adjustments are made to meet desired educational objectives.

### **FRESHMAN YEAR**

### **CREDITS**

- |              |                                      |   |
|--------------|--------------------------------------|---|
| • ACS 1000   | Ancients                             | 3 |
| • ACS 1001   | Moderns                              | 3 |
| • ECO 1001*1 | Intro to Microeconomics              | 3 |
| • ECO 1002*1 | Intro to Macroeconomics              | 3 |
| • ENG 1050*2 | The Literary Experience              | 3 |
| • MAT 1400   | Business Calculus                    | 4 |
| • MAT 1430   | Business Statistics                  | 4 |
| • PHI 1000*3 | Knowledge, Reality, and Self         | 3 |
| • VSB 0099   | Backpack-to-Briefcase: FR Experience | 0 |
| • VSB 1015   | Business Dynamics                    | 3 |
| • VSB 2004   | Financial Accounting                 | 3 |

<b>SOPHOMORE YEAR</b>		<b>CREDITS</b>
• Behavioral Science*3		3
• HIS XXXX	History Elective	3
• Humanities*4		3
• THL 1000*2	Faith, Reason, and Culture	3
• VSB 2000	Backpack-to-Briefcase: SO Seminar	1
• VSB 2006	Strategic Information Technology	3
• VSB 2007	Corporate Responsibility & Regulation	3
• VSB 2008	Business Analytics	3
• VSB 2009	Principles of Finance	3
• VSB 2020	Competitive Effectiveness	6

<b>JUNIOR YEAR</b>		<b>CREDITS</b>
• ECO 3108*1	Global Political Economy	3
• ETH 2050*2	The Good Life: Ethics & Contemporary Problems	3
• Major Elective	Three Major Courses	9
• Computer Science*5		3
• Natural Science*6		
• Computer Science*5 or Natural Science*6 or Social Science *7		3
• Non-Business		3
• VSB 3000	Backpack-to-Briefcase: JR Seminar 1	
• VSB 3006	Principles of Managerial Accounting	3
• VSB 3008	Operations Management	3

## SENIOR YEAR

## CREDITS

- Major Electives Three Major Courses 9
- THL XXXX\*8 Theology Elective 3
- VSB 4002 Strategic Thinking & Implementation 3
- Free Electives\*9 Five Free Electives 15

1. **ECO 1001, ECO 1002, and ECO 3108:** are not included in the technical GPA calculation.
2. **ENG 1050, ETH 2050, PHI 1000, THL 1000,** and all **business courses** must be taken at Villanova.
3. **Behavioral Science:** choose from any PSY or any SOC.
4. **Humanities:** choose from Art & Art History, Classical Study, English, Humanities, Languages\*, Philosophy, Studio Art & Music, or Theater. \*If a student completed 2 years of a language (*except Arabic, Chinese, Hebrew, Hindustani, Japanese, or Russian*) in high school, credit for introductory courses in that language taken at the college level will not satisfy degree requirements, including electives.
5. **Computer Science:** choose from CSC 1010, CSC 1035, CSC 1051, CSC 1052, or CAC 1300.
6. **Natural Science:** choose from Astronomy & Astrophysics, Biology, Chemistry, Meteorology, Physics, Geography and the Environment (GEV 1050, GEV 1051, or GEV 1052 only). A science lab is not required.
7. **Social Science:** choose from Criminology, Geography and the Environment, History, Political Science, Psychology, Public Administration, Sociology, or Social Science.
8. **THL XXXX:** choose any core Theology elective.
9. **BL 2185** is recommended for ACC majors who want to sit for CPA certification.

### MINORS FOR BUSINESS MAJORS:

VSB students may pursue a minor in various business disciplines. See course requirements listed under *Academic Programs* for more detailed information.

### NON-BUSINESS MINORS FOR BUSINESS MAJORS:

Students enrolled in VSB may pursue minors in programs offered by other colleges of the University, including the Honors Program. Detailed information on the process for approval may be obtained in the department of the discipline of the minor.

## HONORS AND AWARDS

Awards for distinguished scholarship in VSB are made annually at the Beta Gamma Sigma dinner when the top 10% of the senior class and the top 10% of the junior class are honored. Beta Gamma Sigma is the national scholastic honor society in the field of business administration. Villanova's chapter is one of 157 from among 700 institutions offering undergraduate degrees in business. VSB awards the Bartley Medallion for distinguished scholarship and service each year **at the VSB Graduation Recognition Ceremony, held on the Saturday of Commencement weekend**. Other awards by professional organizations and departments are distributed on a regular basis at appropriate times.

### **INTERNATIONAL STUDY**

VSB encourages all students to study abroad. Alliances have been developed between Villanova and numerous institutions abroad. The Office of Education Abroad (Middleton Hall, 2nd floor, telephone 610-519-6412) provides assistance to students desiring to study in a foreign country through a variety of one semester, full academic year, and summer programs. The courses must be approved in advance as to content and rigor.

### **STUDENT BUSINESS SOCIETIES**

Student business societies are under the jurisdiction of the Dean of Students, the Dean's staff, and the Faculty Advisor of the individual society. VSB sponsors the following:

#### **Accounting**

##### **Accounting Society**

Dr. Stephen Liedtka, Advisor

[stephen.liedtka@villanova.edu](mailto:stephen.liedtka@villanova.edu)

Dr. Robert West, Advisor

[robert.west@villanova.edu](mailto:robert.west@villanova.edu)

#### **National Association of Black Accountants**

Dr. Stephen Liedtka, Advisor

[Stephen.liedtka@villanova.edu](mailto:Stephen.liedtka@villanova.edu)

Analytics/Technology

##### **Business Analytics Society**

Dr. Alicia Strandberg, Advisor

[alicia.strandberg@villanova.edu](mailto:alicia.strandberg@villanova.edu)

#### **Management Information Systems Society**

Sue Metzger, Advisor

[sue.metzger@villanova.edu](mailto:sue.metzger@villanova.edu)

#### **Blockchain/Cryptocurrency Sub-Group of MIS Society**

Keith Wright, Advisor

[keith.wright@villanova.edu](mailto:keith.wright@villanova.edu)

## **Economics**

### **Economics Society**

Rev. Craig McMahon, Advisor

[craig.mcmahon@villanova.edu](mailto:craig.mcmahon@villanova.edu)

## **Finance**

### **Alternative Investments Society**

Stephen Padovano, Advisor

[stephen.padovano@villanova.edu](mailto:stephen.padovano@villanova.edu)

### **Corporate Finance Society**

Dr. John Sedunov, Advisor

[john.sedunov@villanova.edu](mailto:john.sedunov@villanova.edu)

### **Equity Society**

Stephen Padovano, Advisor

[stephen.padovano@villanova.edu](mailto:stephen.padovano@villanova.edu)

### **Mergers & Acquisitions Society**

Dr. Meg Luo, Advisor

[mi.luo@villanova.edu](mailto:mi.luo@villanova.edu)

### **Society of Women in Financial Training (SWIFT)**

Dr. Caitlin Dannhauser, Advisor

[caitlin.dannhauser@villanova.edu](mailto:caitlin.dannhauser@villanova.edu)

Dr. Shelly Howton, Advisor

[shelly.howton@villanova.edu](mailto:shelly.howton@villanova.edu)

### **Wall Street Society**

Dr. Gunita Grover, Advisor

[gunita.grover@villanova.edu](mailto:gunita.grover@villanova.edu)

## **Management**

### **Villanova Consulting Group**

Stephen Kelly, Advisor

[stephen.kelly@villanova.edu](mailto:stephen.kelly@villanova.edu)

## **Marketing**

### **Villanova Marketing Group**

Bud Drago, Advisor

[rosario.drago@villanova.edu](mailto:rosario.drago@villanova.edu)

## **Real Estate**

**Real Estate Society**

Charlie Davidson, Advisor  
[charles.davidson@villanova.edu](mailto:charles.davidson@villanova.edu)

**SPECIAL INTERESTS**

**Association of Latino Professionals for America**  
TBD

**Business in Entertainment Society**

David Fiorenza, Advisor  
[david.fiorenza@villanova.edu](mailto:david.fiorenza@villanova.edu)

**Business in Fashion Society**

Brenda Stover, Advisor  
[brenda.stover@villanova.edu](mailto:brenda.stover@villanova.edu)

**Business and Leadership Society**

Dr. Mary Kelly, Advisor  
[mary.kelly@villanova.edu](mailto:mary.kelly@villanova.edu)

**Business Without Borders**

Dr. Debra Arvanites, Advisor  
[debra.arvanites@villanova.edu](mailto:debra.arvanites@villanova.edu)

**International Business Society**

Kimberly Cahill, Advisor  
[kimberly.cahill@villanova.edu](mailto:kimberly.cahill@villanova.edu)

**Multicultural Business Society**

TBD

**Villanova Entrepreneurship Society**

Dr. Pankaj Patel, Advisor  
[pankaj.patel@villanova.edu](mailto:pankaj.patel@villanova.edu)

**Villanova Women in Business Society**

Dr. Mary Kelly, Advisor  
[mary.kelly@villanova.edu](mailto:mary.kelly@villanova.edu)

**Villanova Instructional Golf Society**

Lindsay Abrahams  
[labraha2@villanova.edu](mailto:labraha2@villanova.edu)  
Jeffrey Brown, Advisor  
[jeffrey.brown@villanova.edu](mailto:jeffrey.brown@villanova.edu)

**HONORS SOCIETIES**

Beta Alpha Psi Honor Society

Dr. Wayne Bremser, Advisor  
[wayne.bremser@villanova.edu](mailto:wayne.bremser@villanova.edu)

### **Beta Gamma Sigma Honor Society**

Dr. Beth Vallen, Advisor  
[beth.vallen@villanova.edu](mailto:beth.vallen@villanova.edu)

### **Omicron Delta Epsilon International Economics Honor Society**

Dr. Suzanne Clain, Advisor  
[suzanne.clain@villanova.edu](mailto:suzanne.clain@villanova.edu)

## **ACADEMIC POLICIES AND INFORMATION**

Unless otherwise noted, VSB follows the general university academic policies and regulations listed in the University section of this catalog. The specific VSB policies are listed in the VSB Undergraduate Handbook, which is available from The Clay Center at VSB. It is the responsibility of the student to know and comply with all academic policies and regulations of the University and the Villanova School of Business. Such policies are subject to change without prior notice.

## **ACADEMIC PROGRAMS**

Except for co-majors, each VSB major requires six (6) unique courses to fulfill the major requirements.

### **Accountancy**

Chair: Michael Peters, PhD., Alvin A Clay Professor of Accountancy

Associate Chair: James Emig, PhD.

Office: 3019 Bartley Hall, tel. 610-519-4340

Website: <https://www1.villanova.edu/villanova/business/departments/accounting.html>

### **COURSE REQUIREMENTS FOR ACCOUNTANCY MAJOR:**

- ACC 2310 Intermediate Accounting I
- ACC 2320 Intermediate Accounting II
- ACC 2360 Federal Income Tax
- ACC 2430 Auditing

**Plus** two (2) **Accounting** elective courses

**Please Note:** ACC 3430, ACC 3460 (6 cr.), ACC 3470 (6 cr.), and ACC 3500 **do not count** toward **Accounting** elective courses.

Many students are interested in a career in public accounting. Currently, all 50 states and the vast majority of U.S. jurisdictions have adopted the **150 credit** hour requirement. This requirement means that students will need to earn 150 credit hours to become a licensed CPA.

There are two approaches to complete 150 credit hours:



- Complete the 150 credit hours as part of an undergraduate curriculum: This approach will require students to overload during the fall and spring semesters and/or take summer classes.
- Complete the 150 credit hours with a master's degree: Villanova offers a Master of Accounting. For some VSB students, it may be possible to earn both a Bachelor of Business Administration (BBA) and a Master of Accounting (MAC) in less than 5 years.

**Please discuss these options with your academic advisor.**

#### **COURSE REQUIREMENTS FOR ACCOUNTANCY MINOR:**

- ACC 2310 Intermediate Accounting I
- ACC 2320 Intermediate Accounting II

**Plus one (1) Accounting** elective course from the following:

- ACC 2340 Accounting Information Systems
- ACC 2360 Federal Income Tax
- ACC 2410 Accounting for Real Estate
- ACC 2420 International Accounting
- ACC 2430 Auditing
- ACC 2435 Advanced Auditing
- ACC 2450 Advanced Accounting
- ACC 2470 Cost Accounting
- ACC 2480 Advanced Taxes
- ACC 3350 Fraud Examination

#### **Business Analytics**

Chair: Kevin Clark PhD.

Associate Chair: Ward Utter, M.B.A.

Office: 2083 Bartley Hall, tel. 610-519-6924

Website: [https://www1.villanova.edu/villanova/business/departments/management\\_operations.html](https://www1.villanova.edu/villanova/business/departments/management_operations.html)

The Business Analytics co-major must be taken in conjunction with a major in Accountancy, Economics, Finance, Management, Management Information Systems, Marketing, or Real Estate.

#### **COURSE REQUIREMENTS FOR BUSINESS ANALYTICS CO-MAJOR:**

- MGT 3170 Data Mining
- MGT 4170 Advanced Analytics
- MIS 3060 Business Intelligence and Performance Measurement

**Plus two (2) Business Analytics** elective course from the following:

- ECO 3137 Intro to Econometrics
- MKT 2240 Marketing Analytics
- Either MIS 3050 CRM & Data Analytics **OR** MIS 2030 Database Management

**Please Note: Only one course may “double dip” to also fulfill another VSB major or minor requirement.**

### **COURSE REQUIREMENTS FOR BUSINESS ANALYTICS MINOR:**

- MGT 3170 Data Mining

**Plus** one (1) course from the following:

- MIS 3050 CRM & Data Analytics
- MIS 3060 Business Intelligence and Performance Measurement

**Plus** one (1) **Business Analytics** elective course choosing from:

- ECO 3137 Intro to Econometrics
- MGT 4170 Advanced Analytics
- MIS 2030 Database Management
- MKT 2240 Marketing Analytics

**Please note: Only one course may “double dip” to also fulfill another VSB major or minor requirement.**

### **Business Law**

Chair: Matthew Sarkees, PhD.

Associate Chair: Aronte Bennett, PhD.

Office: 3015 Bartley Hall, tel. 610-519-4350

Website: [https://www1.villanova.edu/villanova/business/departments/marketing\\_buslaw.html](https://www1.villanova.edu/villanova/business/departments/marketing_buslaw.html)

### **COURSE REQUIREMENTS FOR BUSINESS LAW & CORPORATE GOVERNANCE MINOR:**

Three (3) courses listed below; **two** must be **Business Law (BL)** courses, one of which must be either BL 2135 or BL 2185.

- BL 2135 The Business Entity: Law, Governance, & Ethics
- BL 2150 Real Estate Principles & Practices
- BL 2160 International Business Law
- BL 2185 The Law of Contracts and Commercial Transactions
- MGT 2212 Leadership
- MGT 2250 Global Corporate Social Responsibility
- MGT 2360 Global Leadership
- MGT 2370 Global Business Ethics

### **Economics**

Chair: Peter Zaleski, PhD.

Associate Chair: Mary Kelly, PhD.

Office: 2015 Bartley Hall, tel 610-519-4370

Website: [https://www1.villanova.edu/villanova/business/departments/economics\\_statistics.html](https://www1.villanova.edu/villanova/business/departments/economics_statistics.html)

### **COURSE REQUIREMENTS FOR ECONOMICS (ECC) MAJOR:**

- ECO 2101 Macro-Economic Theory
- ECO 2102 Micro-Economic Theory
- ECO 3137 Intro to Econometrics

**Plus** three (3) **Economics** elective courses with course number of 3000 or above (except ECO 3108, ECO 3120 and ECO 3130)

**BACHELOR OF ARTS, ECONOMICS (ECA) MAJOR:** Students in the College of Liberal Arts and Sciences who major in Economics (ECA) earn the degree of Bachelor of Arts in Economics. Students must successfully complete: ECO 1001, ECO 1002, ECO 2101, ECO 2102, MAT 1430 (or equivalent), ECO 3137, ECO 4132, and 12 elective Economics credits numbered above 3000.

### **COURSE REQUIREMENTS FOR ECONOMICS MINOR:**

- ECO 1001 Intro to Microeconomics
- ECO 1002 Intro to Macroeconomics
- ECO 2101 Macro Economic Theory
- ECO 2102 Micro Economic Theory

**Plus** one (1) **Economics** elective course above 3000 (except ECO 3108, ECO 3120, and ECO 3130) for VSB students **OR** two (2) **Economics** elective courses above ECO 3000 for non-VSB students.

### **Entrepreneurship**

Chair: Kevin Clark, PhD.

Associate Chair: Ward Utter, M.B.A.

Office: 2083 Bartley Hall, tel 610-519-6924

Website: [https://www1.villanova.edu/villanova/business/departments/management\\_operations.html](https://www1.villanova.edu/villanova/business/departments/management_operations.html)

### **COURSE REQUIREMENTS FOR ENTREPRENEURSHIP MINOR:**

- ENT 200 Intro to Entrepreneurship\*
- ENT 201 Entrepreneurship Marketing \*\*
- ENT 202 Entrepreneurship Finance \*\*\*
- ENT 203 Entrepreneurship Practicum \*\*\*

**Note:** \*fulfills MGT elective or a free elective, \*\*may fulfill MKT elective or a free elective, \*\*\*fulfills a free elective

### **Finance**

Chair: Shelly Howton, PhD.  
Associate Chair: Benjamin Scheick, PhD.  
Office: 2019 Bartley Hall, tel. 610-519-7395

**Website:** <https://www1.villanova.edu/villanova/business/departments/finance.html>

### **COURSE REQUIREMENTS FOR FINANCE MAJOR:**

- FIN 2114 Intermediate Corporate Finance
- FIN 2227 Fixed Income  
Markets and Valuation
- FIN 2323 Equity Markets and Valuation

**Plus** three (3) **Finance** elective courses

**Please note:** FIN 2343, FIN 3350, FIN 3360, and FIN 3470 (6 cr.) do not count toward Finance elective requirements.

### **Applied Quantitative Finance Concentration (AQF)**

Students intending to major in Finance, may apply to pursue the AQF concentration. All interested students should apply to the AQF program director, Stephen Padovano ([stephen.padovano@villanova.edu](mailto:stephen.padovano@villanova.edu)) by August 1 prior to the start of sophomore year.

- **Math Requirements (11 to 12 cr.):**

MAT 1500	Calculus I (4 cr.)
MAT 1505	Calculus II (4 cr.)
MAT 2705	Differential Equation with Linear Algebra (4 cr.)

**Note:** If students receive AP credits for MAT 1505, they must take one of the following courses:

MAT 4550	Math of Financial Derivatives
MAT 4610	Stochastic Operations Research

Curated stats topic class – such as Time Series or Data Science (pre-approved by chair).  
Curated CSC topic class- such as Machine Learning (pre-approved by chair).

- **Statistics Requirements (10 cr.):**

MAT 1430	Business Statistics (4 cr.) – minimum grade of “B” is required
MAT 4315	Applied Statistical Models
MAT 5700	Math Statistics I - Before taking MAT 5700, students must pass a challenge exam on Double Integrals. (Double Integrals are covered in MAT 2500 – Calculus III).

- **Computer Science/Analytics (7 cr.):**

MIS 2020	Programming for Adaptive Problem Solving <b>OR</b> CSC 1010 – Programming for All.
ECO 2130	Intro to R Programing for Economics & Finance (1cr.)
MGT 3170	Data Mining

- **Economics Requirement**  
ECO 3137      Intro to Econometrics
  
- **Specific FIN electives for Quant Finance concentration (9 cr.):**
  - FIN 2325      Introduction to Derivatives
  - FIN EL OPT:    3 cr. Option course choosing from:
    - FIN 2330 Risk Management of Financial Institutions
    - FIN 2324 Portfolio Management
    - FIN 2326 Market Structure, Trading & Liquidity
    - FIN 2333 Financial Modeling & Valuation
  - FIN XXXX      Quantitative Finance Capstone Course

**COURSE REQUIREMENTS FOR FINANCE MINOR:**

- FIN 2114      Intermediate Corporate Finance
- FIN 2227      Fixed Income Markets and Valuation
- FIN 2323      Equity Markets and Valuation

**International Business**

Chair:              Kevin Clark, PhD.

Associate Chair: Ward Utter, M.B.A.

Office:             2083 Bartley Hall, tel 610-519-6924

Website: [https://www1.villanova.edu/villanova/business/departments/management\\_operations.html](https://www1.villanova.edu/villanova/business/departments/management_operations.html)

The International Business co-major must be taken in conjunction with a major in Accountancy, Economics, Finance, Management, Management Information Systems, Marketing or Real Estate.

**COURSE REQUIREMENTS FOR INTERNATIONAL BUSINESS CO- MAJOR:**

MGT 2350      Global Business Management

**Plus three (3) International Business elective courses (must be from two different disciplines):**

- ACC 2420      International Accounting
- BL 2160        International Business Law
- ECO 3109      International Economics
- ECO 3115      Comparative Economic Systems
- ECO 3127      Economics of Underdeveloped Areas
- ECO 4203      Political Economics of Development Aid
- ECO 4204      Economics of Latin America & the Caribbean
- FIN 2335      International Financial Management
- MGT 2208      Special Topics in International Management
- MGT 2250      Global Corporate Social Responsibility
- MGT 2352      Business in Emerging Markets
- MGT 2360      Global Leadership

- MGT 2370 Global Business Ethics
- MKT 2280 Global Marketing
- Or other approved IB electives

**Please note:** IB co-majors **are required** to take an international course in their major discipline if such course is offered. An international course in each major is required if a student has more than one major. This course will also satisfy a major elective requirement. Also, ECO 3108 (Global Political Economy) is a core requirement and does not fulfill a major elective requirement for IB co-major.

**Plus** One (1) international-related History or international-related Social Science selected from Geography and the Environment, History, Psychology, Political Science, or Sociology.

**Plus** competency in a foreign language fulfilled by one of the following:

Successful completion of Intermediate I and Intermediate II if French, Greek, Italian, Latin, Portuguese, or Spanish is chosen.

**OR** Placement beyond the intermediate levels on language placement exam administered by the Classical & Modern Languages department.

**OR** Successful completion of two semesters of Arabic, Chinese, Hebrew, Hindustani, Japanese, or Russian at any level.

If a student completed 2 years of a language (except Arabic, Chinese, Hebrew, Hindustani, Japanese, or Russian) in high school, credit for introductory courses in that language taken at the college level will not satisfy degree requirements, including electives.

Language requirements are waived for all international students whose first language is not English. International experience is waived for all international students.

**Plus** approved international experience

## **COURSE REQUIREMENTS FOR INTERNATIONAL BUSINESS MINOR:**

MGT 2350 Global Business Management

**Plus** two (2) **International Business** elective courses (**must be from two different disciplines**)

- ACC 2420 International Accounting
- BL 2160 International Business Law
- ECO 3109 International Economics
- ECO 3115 Comparative Economic Systems
- ECO 3127 Economics of Underdeveloped Areas
- ECO 4203 Political Economics of Development Aid
- ECO 4204 Economics of Latin America & Caribbean

- FIN 2335 International Financial Management
- MGT 2208 Special Topics in International Management
- MGT 2250 Global Corporate Social Responsibility
- MGT 2352 Business in Emerging Markets
- MGT 2360 Global Leadership
- MGT 2370 Global Business Ethics
- MKT 2280 Global Marketing
- Or other Approved IB Electives

**Please note:** IB minors are required to take an international course in their major discipline if such course is offered. An international course in each major is required if a student has more than one major. This course will also satisfy a major elective requirement. Also, ECO 3108 (Global Political Economy) is a core requirement and does not fulfill an IB minor requirement.

**Plus One** (1) international-related History or international-related Social Science selected from Geography and the Environment, History, Psychology, Political Science, or Sociology.

Language: If students have two years of a foreign language in high school, the language requirement is waived; otherwise, students are required to take two semesters of a foreign language (minimum 6 credits) at or above the introductory level.

International study experience is OPTIONAL.

### **Management**

Chair: Kevin Clark, PhD.

Associate Chair: Ward Utter, M.B.A.

Office: 2083 Bartley Hall, tel 610-519-6924

Website: [https://www1.villanova.edu/villanova/business/departments/management\\_operations.html](https://www1.villanova.edu/villanova/business/departments/management_operations.html)

### **COURSE REQUIREMENTS FOR MANAGEMENT MAJOR:**

- MGT 2155 Organizational Behavior
- MGT 2350 Global Business Management
- VSB 3900 Innovation & Design Practicum

**Plus** three (3) **Management** elective courses

**Please note:** ENT 2020, Intro to Entrepreneurship, also fulfills a **Management** major elective course.

### **MANAGEMENT CONSULTING CONCENTRATION FOR MGT MAJOR:**

VSB 3500 Top: Consulting Best Practices

## Management Information Systems

Chair: Michael Peters, PhD., Alvin A. Clay Professor of Accountancy

Associate Chair: William Wagner, PhD.

Office: 3019 Bartley Hall, tel 610-519-4340

Website: <https://www1.villanova.edu/villanova/business/departments/accounting.html>

### COURSE REQUIREMENTS FOR MANAGEMENT INFORMATION SYSTEMS MAJOR:

Choose two of the following:

- MIS 2020 Programming for Adaptive Problem Solving
- MIS 2030 Database Management
- MIS 2040 Systems Analysis and Design

**Plus** any four (4) **MIS** elective courses from the following:

- MIS 3010 Business Data Communications
- MIS 3020 Enterprise Systems and Applications
- MIS 3030 Enabling Technologies in E-Business
- MIS 3040 MIS Seminar
- MIS 3050 CRM & Data Analytics
- MIS 3060 Business Intelligence and Performance Measurement
- MIS 3070 Emerging Business Technologies
- MIS 3090 Special Topics in MIS

#### **Please note:**

- One MIS elective course can also include MIS 2020, MIS 2030, or MIS 2040.
- CSC 1052: may satisfy MIS 2020 if this course is not fulfilling the core Arts and Science requirement.
- ACC 2340 - Accounting Information Systems may fulfill an MIS elective only if this course is not also fulfilling an ACC major requirement.

### COURSE REQUIREMENTS FOR MANAGEMENT INFORMATION SYSTEMS MINOR:

Choose two of the following:

- MIS 2020 Programming for Adaptive Problem Solving
- MIS 2030 Database Management
- MIS 2040 Systems Analysis and Design



**Plus one (1) elective course choosing from the following:**

- ACC 2340 Accounting Information Systems
- MIS 3010 Business Data Communications
- MIS 3020 Enterprise Systems and Applications
- MIS 3030 Enabling Technologies in E-Business
- MIS 3040 MIS Seminar
- MIS 3050 CRM & Data Analytics
- MIS 3060 Business Intelligence and Performance Measurement
- MIS 3070 Emerging Business Technologies
- MIS 3090 Special Topics in MIS

**Please note:**

- One MIS elective course can also include MIS 2020, MIS 2030, or MIS 2040.
- CSC 1052: may satisfy MIS 2020 if this course is not fulfilling the core Arts and Sciences requirement.

### **Marketing**

Chair: Matthew Sarkees, PhD.

Associate Chair: Aronte Bennett, PhD.

Office: 3015 Bartley Hall, tel. 610-519-4350

Website: [https://www1.villanova.edu/villanova/business/departments/marketing\\_buslaw.html](https://www1.villanova.edu/villanova/business/departments/marketing_buslaw.html)

### **COURSE REQUIREMENTS FOR MARKETING MAJOR:**

- MKT 2197 Marketing Research
- MKT 2375 Marketing Management

Plus four (4) additional Marketing elective courses from the following list:

- MKT 2120 Buyer Behavior
- MKT 2220 Integrated Marketing Communication
- MKT 2224 Professional Selling
- MKT 2225 Business Development Leadership
- MKT 2230 Marketing of Services
- MKT 2235 Sports Marketing
- MKT 2240 Marketing Analytics
- MKT 2280 Global Marketing
- MKT 2285 Social Media Marketing
- MKT 2290 Digital Marketing
- MKT 2349 Contemporary Topics in Marketing
- MKT 4132 Seminar in Marketing

In addition, one (1) of the following will also fulfill a Marketing course:

- CHE 2900 Global Pharmaceutical Industry

- ENT 2021 Entrepreneurial Marketing

### **BUSINESS DEVELOPMENT CONCENTRATION FOR MARKETING MAJOR:**

- MKT 2224 Professional Selling
- MKT 2225 Business Development Leadership
- **Either MKT 2120** Buyer Behavior
- **OR MKT 2349** Top: Sales for Social Impact

### **DIGITAL MARKETING CONCENTRATION FOR MARKETING MAJOR:**

- MKT 2240 Marketing Analytics
- MKT 2290 Digital Marketing
- MKT 2285 Social Media Marketing
- **OR MKT 2349** Top: Advanced Digital Marketing

### **COURSE REQUIREMENTS FOR MARKETING MINOR:**

Three (3) **Marketing** elective courses, one must be:  
MKT 2120 Buyer Behavior **OR** MKT 2197 Marketing Research

In addition, **one** (1) of the following will also fulfill a marketing elective requirement:

- CHE 2900 Global Pharmaceutical Industry
- ENT 2021 Entrepreneurial Marketing

**Please Note:** MKT 3450 and MKT 3470 (6 cr.) do not count toward the Marketing elective requirement.

### **Real Estate**

Chair: Shelly Howton, PhD.

Associate Chair: Benjamin Scheick, PhD.

Office: 2019 Bartley Hall, tel. 610-519-7395

Website: <https://www1.villanova.edu/villanova/business/departments/finance.html>

### **COURSE REQUIREMENTS FOR REAL ESTATE MAJOR:**

- BL 2150 Real Estate Principles and Practices
- RES 2150 Real Estate Fundamentals
- RES 3150 Real Estate Investments
- RES 4150 Real Estate Development

Plus two (2) of the following:

- ACC 2410 Accounting for Real Estate
- **EITHER** ECO 3112 Public Sector Economics **OR**
- ECO 3410 Urban Economics
- FIN 2350 Real Estate Capital Markets
- RES 2340 Contemporary Topics in Real Estate
- RES 3250 Advanced Real Estate Modeling

**COURSE REQUIREMENTS FOR REAL ESTATE MINOR:**

- RES 2150 Real Estate Fundamentals
- RES 3150 Real Estate Investments

Plus one Real Estate elective course from the following:

- ACC 2410 Accounting for Real Estate
- BL 2150 Real Estate Principles and Practices
- ECO 3112 Public Sector Economics
- ECO 3140 Urban Economics
- FIN 2350 Real Estate Capital Markets
- RES 2340 Contemporary Topics in Real Estate

# PROGRAMS FOR NON-VSB STUDENTS

## BUSINESS MINORS

There are two options for students to earn a business minor: the **Academic Year Business Minor** and the **Summer Business Institute**. Both of these programs are application-based and administered by The Clay Center at VSB. The following provides an overview of the two options.

### ACADEMIC YEAR BUSINESS MINOR

The **Academic Year Business Minor** is designed for full-time undergraduates enrolled in other Villanova colleges. Students admitted to the program take classes with VSB students during the academic year. Four semesters are typically required to complete the minor.

Applications for the Academic Year Business Minor program are reviewed once per year after spring grades are posted. Acceptance is determined on a competitive basis. Students are required to attend an information session held by VSB before applying. Dates and times of information sessions are posted at the start of the fall and spring semesters.

Applications are available online at [business.villanova.edu](https://business.villanova.edu). The application deadline is May 1st and students are notified of acceptance in late May. Any questions should be directed to The Clay Center at (610) 519-5532 or by email at [businessminor@villanova.edu](mailto:businessminor@villanova.edu).

All VSB-specific courses must be taken at Villanova. Microeconomics, Macroeconomics, and the Statistics requirement may be taken elsewhere. Pre-approval by The Clay Center at VSB is necessary.

The required business courses for the Academic Year Business Minor are:

- ECO 1001 Intro to Microeconomics
- ECO 1002 Intro to Macroeconomics
- VSB 1000 Information Technology (1 cr.)
- VSB 1015 Business Dynamics
- VSB Option Choice of one (1) business core course from:
  - VSB 2006, VSB 2007, or VSB 2008
  - VSB 2004 Financial Accounting

- VSB 2009 Principles of Finance
- VSB 2020 Competitive Effectiveness (6 cr.)

**Statistics: The statistics requirement may be fulfilled by the following:**

MAT 1230 Intro Statistics I **and** MAT 1235 Intro Statistics II, **OR**  
 MAT 1430 Business Statistics, **OR**

Statistics requirements is waived for Engineer and Math majors

Credits from the Academic Year Business Minor program may apply to the degree requirements in the student’s primary academic college. Student should check with their primary academic advisor.

Students who successfully complete the Academic Year Business Minor program may then pursue an additional VSB minor in Accountancy, Business Analytics, Business Law and Corporate Governance, Entrepreneurship, Finance, International Business, Management Information Systems, Marketing, or Real Estate. **Prior to enrolling in any VSB discipline-specific minor courses, VSB approval is required. Furthermore, additional coursework may be required.** See minor course requirements listed under Academic Programs for more detailed information.

**VILLANOVA SUMMER BUSINESS (On-campus summer program)**

The Summer Business Institute (SBI) is a full-time, ten week accelerated program (typically scheduled from end of May – end of July) created exclusively for non-business majors. SBI, using a cohort-based model, is designed to be completed in one-summer with peers from other non-business majors. SBI is taught by VSB faculty members and covers key business disciplines including economics, accounting, finance, analytics, information technology, ethics, management, and marketing. A professional development course, including events and workshops, completes the curriculum. Courses are taught in an integrated manner, so that the basics of business make sense within the larger context of other professional fields. Villanova students who successfully complete SBI earn a business minor.

Courses include:

- SBI 0099 SBI Excel (0 credit)
- SBI 1000 Professional Success (1 credit)
- SBI 1001 Business Fundamentals (1 credit)
- SBI 100 Business Law Basics (1 credit)
- SBI 2005 Applied Economics (3 credits) – fulfills ECO 1001 Intro to Microeconomics **OR**
- SBI 3145 Managerial Economics (3 credits) for students who have credits for ECO 1001 Intro to Microeconomics
- SBI 2007 Analytics and Information Technologies (2 credits)

- SBI 3005 Financial Management and Reporting (4 credits)
- SBI 3006 Competitive Effectiveness (4 credits)

Application is open to all qualified students and recent graduates from any accredited, 4-year college or institution. Note: International applicants must be matriculated in a full-time program of study at a U.S. institution.

SBI applications will be accepted from December 1 until April 15, or until the program is full. Decisions are made on a rolling basis beginning mid-January; early submission of applications is encouraged. Complete information can be found online at [business.villanova.edu/sbi](http://business.villanova.edu/sbi). Questions should be directed to The Clay Center at (610) 519-4570 or via email [sbi@villanova.edu](mailto:sbi@villanova.edu).

For Villanova students, SBI credit may apply to the degree requirements in their primary academic college. Students should check with their Dean's Office or academic advisor to find out how the SBI coursework may apply. Non-Villanova students should check with their primary institution about how SBI credits may transfer.

Villanova students who successfully complete SBI will earn a business minor and may also pursue an additional VSB minor in one of the following business disciplines: Accountancy, Business Analytics, Business Law and Corporate Governance, Entrepreneurship, Finance, International Business, Management Information Systems, Marketing, or Real Estate. **Prior to enrolling in any VSB discipline-specific minor courses, VSB approval is required. Furthermore, additional coursework may be required.** See minor course requirements listed under Academic Programs for more detailed information.

# COLLEGE OF ENGINEERING

**Randy Weinstein, Ph.D.**, Interim Dean  
**Gerard F. "Jerry" Jones, Ph.D.**, Senior Associate Dean, Graduate Studies and Research

**Andrea L. Welker, Ph.D., P.E.**, Associate Dean, Academic Affairs  
**Stephen Jones, Ph.D.**, Associate Dean, Student and Strategic Programs  
**Keith M. Argue, M.S.**, Assistant Dean, External Relations

**Office:** 310 CEER, tel. 610-519-4940

**Website:** [www.engineering.villanova.edu](http://www.engineering.villanova.edu)

## HISTORY

The second degree granting unit inaugurated at Villanova University was the College of Engineering, which began instruction in 1905 under the name of the School of Technology. It was the fourth engineering program to be established at a Catholic school of higher education in the United States. Dr. A.B. Carpenter, a graduate of Lehigh University, was hired in 1904 to organize and direct the School. He was ably assisted by Rev. James J. Dean, a young faculty member in the sciences. It was their responsibility to develop the curricula, hire faculty and plan the facilities needed. Programs in Civil and Electrical Engineering were the first to be initiated, with a total of twelve students enrolled. In 1908, an undergraduate program in Mechanical Engineering was established; and in 1909, the first engineering bachelor's degrees were awarded. An undergraduate program in Chemical Engineering was established in 1919. In the years following the Second World War, the College expanded its degree offerings to the masters level, establishing graduate programs in each of its four engineering departments. A fifth undergraduate degree program in Computer Engineering was added in 1993. A combined Bachelors/Masters Program is available in all programs. In 2003, a Doctoral Program was instituted in all programs. The undergraduate programs of Chemical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, and Mechanical Engineering are accredited by the Engineering Accreditation Commission of ABET [www.abet.org](http://www.abet.org). The College of Engineering is dedicated to supporting the research activities of its faculty and students. This research is conducted through cooperation with government, industry, and private foundations. The college has six established research centers: Center for Advanced Communications (CAC), Center for Nonlinear Dynamics and Control (CENDAC), Villanova Center for Resilient Water Systems (VCWRS), Center for Energy Smart Electronic Systems (ES2), Center for Cellular Engineering (NovaCell), and Villanova Center for Analytics of Dynamic Systems (VCADS). The college also has extensive research programs in computer engineering, electronics, photonics and MEMs

devices; nanotechnology, materials and manufacturing; thermal and fluid sciences; sustainable energy systems; stormwater management; and structural engineering.

## **ACADEMIC MISSION**

Villanova University's College of Engineering is committed to an educational program that emphasizes technical excellence and a liberal education within the framework of the University's Augustinian and Catholic traditions. As a community of scholars, we seek to educate students to pursue both knowledge and wisdom, and to aspire to ethical and moral leadership within their chosen careers, their community, and the world.

We value a spirit of community among all members of the college that respects academic freedom and inquiry, the discovery and cultivation of new knowledge, and continued innovation in all that we do.

## **OBJECTIVES**

The College of Engineering strives to prepare its graduates to understand their roles in and make constructive contributions to a technological society, and to provide ethical and moral leadership in their profession and communities. These objectives are accomplished by various methods, but primarily by integrating into the curriculum the values and morality of the University's Augustinian heritage. In addition to being professionally competent, graduates are expected to have an understanding of their professional and ethical responsibilities, the impact on engineering solutions in a global and societal context, knowledge of contemporary issues, and an appreciation of humanistic concepts in literature, the arts, and philosophy.

The College pursues these objectives by:

- Valuing all members of the Villanova community and beyond
- Supporting innovation and excellence in teaching
- Supporting faculty development through research and professional activities
- Emphasizing design and the design process so that the students are exposed to real-world situations
- Graduating students who
  - Apply scientific and mathematical concepts and principles to identify, formulate, and solve problems in a real-world context
  - Plan and conduct experimental investigations, and analyze and interpret their results
  - Function effectively on project teams
  - Contribute to teams
  - Communicate ideas and information
  - Understand the role of the engineering profession and technology, including appreciating concepts drawn from the humanities and social sciences
  - Embody high professional and ethical standards



- Have the motivation and capability to acquire, evaluate, and assimilate knowledge and continue the learning experience
- Appreciate the value of service and other cultures

## **DEGREES OFFERED**

The College of Engineering offers full-time (day) academic programs leading to the following degrees: Bachelor of Science in Chemical Engineering, Bachelor of Science in Civil Engineering, Bachelor of Science in Computer Engineering, Bachelor of Science in Electrical Engineering, and Bachelor of Science in Mechanical Engineering.

The undergraduate programs in Chemical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, and Mechanical Engineering are accredited by the Engineering Accreditation Commission of ABET, [www.abet.org](http://www.abet.org)

## **MINORS OFFERED**

The College of Engineering offers the following minors. Details about each minor can be found at <http://www1.villanova.edu/villanova/engineering/undergrad/minors.html>

- Aerospace Engineering
- Biochemical Engineering
- Biomedical Engineering
- Computer Engineering
- Electrical Engineering
- Engineering Entrepreneurship & Engineering Entrepreneurship Summer Institute
- Mechatronics
- Sustainability Studies (joint offering between the College of Engineering and the College of Liberal Arts and Sciences)
- Real Estate Development (joint offering between the College of Engineering and Villanova School of Business)

## **DEGREE REQUIREMENTS**

The undergraduate engineering curriculum provides the foundation for careers in engineering as well as the basis for further study in engineering and other professions such as law, medicine, business and management. Courses of study concentrate on mathematics, physics, chemistry, engineering science, and engineering analysis and design within a particular engineering discipline.

The curriculum places special emphasis upon developing oral and written communication skills, and it offers opportunities to develop an appreciation of the social sciences and humanities, and the flexibility to pursue minors. Courses in the humanities are included in each curriculum to make the student engineer more fully aware of social responsibilities and better able to consider non-technical factors in the engineering decision making process. Extensive hands-on laboratory experience and required projects for all seniors ensure professional preparation in the fundamentals of the design process within the real constraints of problem solving. To qualify for a bachelor's degree in the College of Engineering, undergraduate engineering students must successfully complete all of the first year core curriculum courses, those major courses required for the particular engineering degree sought, and a series of electives, as indicated in the following sections. They must also achieve cumulative overall and technical grade point averages of at least 2.00 in their course work.

At least half of all the engineering courses and, normally, the final 30 credits of an engineering bachelor's degree program, must be taken at Villanova University. All undergraduate degree requirements should be completed within a six-year period. NOTE: It is the responsibility of each student to know and to fulfill all degree requirements. To keep the curriculum abreast of the latest engineering developments, Villanova University reserves the right to change the program requirements without prior notice.

## **CORE CURRICULUM FOR STUDENTS ENTERING IN FALL 2018 OR LATER**

A requirement for the BS degree in any engineering discipline (entering classes in the Fall of 2017 or later) is the successful completion of the College of Engineering's Professional Development Program entitled the Career Compass. Details of the program can be found at:

<https://www1.villanova.edu/content/villanova/engineering/undergrad/Career-Readiness.html>

All engineering students have a common first semester consisting of the following courses:

- ACS 1000 - Ancients \* or ACS 1001 - Moderns \* - 3 credits
- CHM 1103 - General Chemistry Lab I - 1 credits
- CHM 1151 - General Chemistry I - 4 credit
- EGR 1001 - Career Compass First Yr A - 0.5 credits
- EGR 1200 - Egr. Interdisciplinary Proj. I - 3 credits
- MAT 1500 - Calculus I - 4 credits
- THL 1000 - Faith, Reason, and Culture - 3 credits

**ENGINEERING CURRICULUM REQUIREMENTS IN HUMANITIES AND SOCIAL SCIENCE**

- ACS 1000 Ancients
- ACS 1001 Moderns
- THL 1000 Faith, Reason and Culture
- Theology (THL) course at the 2000 level or above, or course with Core Theology (CTHL) attribute
- Department approved Ethics course
- One 3-credit course from:
  - Theology (THL) 2000 level or above, or course with Core Theology (CTHL) attribute
  - Philosophy (PHI)
  - Peace and Justice (PJ)
  - ETH 2050 The Good Life: Ethics & Cont Prob
  - CHE 2930 Catholic Social Teaching for EGRS

**ELECTIVES**

All students select their remaining additional program humanities and social science electives from among the courses listed in the University catalog and offered by the following departments/programs.

Humanities	Social Sciences
Arab & Islamic Studies Art History Classical Studies Communication English (ENG 1050, 1975, 2100-9999) Global Interdisciplinary Studies History Honors Program: (eligible Courses and Students only) Humanities Modern Languages (except speaking courses in native language) Philosophy Theatre	Criminology Economics Geography and the Environment* Humanities: HUM designated PSC Peace and Justice Political Science Public Administration Psychology Sociology Gender and Women's Studies  *Selected courses

Students should consult their adviser regarding curricular questions.

## **TRANSFERS AND CHANGE OF MAJOR**

Although all engineering students are enrolled in a common set of first semester classes, each freshman has a designated major corresponding to the department of initial Villanova acceptance. Requests to change majors are considered twice a year. The request to transfer may be found here:

<https://www1.villanova.edu/villanova/engineering/resources/undergraduates/forms/ChangeMajor.html>.

These requests are due December 1<sup>st</sup> and May 1<sup>st</sup>. After the freshman year, it is increasingly difficult to change majors as degree curricular requirements become more specialized. Transfers between degree programs is competitive and space dependent.

Engineering students who wish to change their major to an area outside of engineering must follow the transfer application requirements of that college.

Students who wish to change their major to Engineering from another college within the university must submit their request to transfer using this form: <https://www1.villanova.edu/villanova/engineering/resources/undergraduates/forms/ChangeMajor.html>. These requests are due December 1<sup>st</sup> and May 1<sup>st</sup>. Transfers between degree programs is competitive and space dependent.

# DEGREE PROGRAMS

## BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING

The chemical engineer typically uses the principles of mathematics, chemistry, biology, physics and engineering sciences to creatively solve technical and commercial problems arising in the design and manufacture of industrial scale processes. These solutions must respond to economic constraints as well as social, ethical, environmental and safety implications. Industrial scale processes can include fuels, bulk chemicals, polymers, foods and pharmaceuticals (including protein, gene and cell-based therapies). A chemical engineer is prepared to evaluate and think critically and can apply these skills in many fields outside of the traditional manufacture and research and development, including finance, management and patent law.

**Mission Statement** – The Chemical and Biological Engineering Department is committed to providing undergraduate and graduate students innovative and effective educational experiences that will prepare them for the technological, professional, and societal challenges of their careers. Through research that advances engineering and scientific knowledge, the department inspires students and brings value to the university and broader community.

**Program Educational Objectives** – Consistent with the University’s Augustinian Mission that values broadly-educated, and well-rounded individuals, graduates of the Chemical Engineering Program are able to pursue the following career objectives:

- Conduct themselves in a manner that recognizes their professional responsibilities to society in areas such as sustainability, safety, ethics, and environmental protection.
- Apply the underlying scientific principles and technical capabilities needed to succeed in both the traditional and emerging fields of the chemical engineering profession.
- Continue to learn and grow by leveraging professional opportunities that facilitate the effective practice of their chosen profession.

**Curricular Philosophy** – The early years of the chemical engineering curriculum emphasize the basic principles of natural and engineering sciences. Later courses use these principles to develop skills in chemical engineering design including the solution of open-ended problems requiring the exercise of judgment, and constrained by economics, safety, reliability or other requirements. Courses gradually develop the students’ abilities, with the complexity of design experiences systematically increasing throughout the required courses in chemical engineering science and culminating in the senior process design and process controls courses.

Electives in the junior and senior years allow the student to tailor the program toward career goals. In the senior year, the student can develop the ability to work independently by carrying out an engineering research project. All stages of the curriculum apply computers in various modes, ranging from programming personal computers for the solution of simple problems, through the use of computers for process monitoring and control, to the use of sophisticated software packages for process design.

The curriculum includes several chemical and biological engineering and science electives, to be chosen from a list of approved courses under the guidance of a faculty member designated as the student's academic adviser.

More information on the Chemical Engineering program can be found at the Department website <http://www1.villanova.edu/villanova/engineering/undergrad/majors/chemical.html>.

## **BACHELOR OF SCIENCE IN CIVIL ENGINEERING**

Civil engineers are involved in the planning, design, construction, and operation of facilities essential to modern life such as dams, bridges, highways, buildings, airports, harbors, river and shore protection, drinking water supplies, wastewater treatment, solid and hazardous waste management and disposal, offshore structures, and space platforms. Because these projects are often of a magnitude that affects large segments of the population, the responsibility of the civil engineer extends beyond mere physical facilities into the social, political, and economic welfare of those they serve.

**Mission Statement** – Villanova University's Department of Civil and Environmental Engineering provides our students with a high quality, contemporary, broad-based, personalized civil engineering education within the Augustinian, humanistic context. We prepare our students for professional practice, graduate study, and life-long learning.

**Program Educational Objectives** – Three to five years after graduation, we expect our graduates to be able to:

- Use their broad-based civil engineering backgrounds to perform as engineers in construction, environmental, geotechnical, structural, transportation, water resources, or general civil engineering.
- Succeed in graduate school in the disciplines listed above or closely related disciplines, as well as other areas such as business and law.
- Continue the process of life-long learning as required for long-term personal and professional growth.
- Serve society by being ethical members of their professional community.
- Use technical and interpersonal skills to help themselves and their employers succeed.
- Relate their personal and professional lives to the Augustinian, humanistic tradition.

The broad-based curriculum provides flexibility and meets student needs through a selection of electives.

More information on the Civil Engineering program can be found at the Department website: <http://www1.villanova.edu/villanova/engineering/undergrad/majors/civil.html>.

## **BACHELOR OF SCIENCE IN COMPUTER ENGINEERING**

Computer Engineering is a discipline that bridges the fields of Computer Science and Electrical Engineering. It may be simplistic to state that computer engineers “build computers,” but it is not far from the truth. Computer engineers are unique in having the balanced skills to bring the hardware and software work together. Building computers alone does not begin to describe the scope of what computer engineering is. Computers are now embedded in smart phones, drones, wireless networks, internet devices, autonomous vehicles and are an integral part of AI, cybersecurity and machine learning. The Villanova computer engineering program is a balanced program bringing together such fundamentals as computer architecture, networks, operating systems, digital electronics, embedded systems as well as electives in biomedical engineering, machine learning and cybersecurity.

**Mission Statement** – The mission of Villanova University’s Department of Electrical and Computer Engineering is to empower students to become leaders in their chosen professions and to prepare them for a life of service to others.

**Program Educational Objectives** – The Program Educational Objectives of the Computer Engineering program are to produce graduates who:

- Use their knowledge, analytical, and design skills to generate and validate sustainable and technically appropriate solutions to practical real world problems in their chosen professions;
- Communicate and work effectively with others having different roles or responsibilities in their professional work environments;
- Continue to develop their professional knowledge and skills throughout their career;
- Succeed in their careers by practicing their chosen discipline with professionalism, care, and integrity.

The curriculum is structured to provide a thorough foundation in the fundamentals of electrical and computer engineering. Analysis and design are emphasized throughout the curriculum, using a project-based structure to teach students how to work on their own and in teams and to synthesize engineering solutions by utilizing their analytical skills and knowledge. Heavy emphasis is placed on developing oral and written communication skills. The curriculum also provides opportunities for an increased awareness of the broader implications of technology and of the social responsibilities of the profession. The design process is emphasized throughout all four years, and design projects are included in the laboratory courses. The sophomore and junior years include core courses that provide a foundation for the senior year, which includes technical and professional electives and an in-depth design project.

The computer engineering curriculum not only provides a solid foundation in the core fundamentals but offers the flexibility for students to pursue other professional interests. The curriculum includes professional electives, free elective, science/math elective, computer engineering track electives, and humanities electives to serve this purpose. Students have used this flexibility to pursue minors in business, mechatronics, computer science, cognitive science, physics, astronomy, mathematics, foreign languages, history, and theology, to name a few; although, applying these electives towards a minor/concentration is not a requirement. In addition, students have used the flexibility of the curriculum to prepare for post-graduate study in medicine, law, business, education, and engineering.

The computer engineering program offers technical elective courses in the following specialized areas: computer architecture, digital signal processing, computer networks, multimedia systems, microcontrollers, digital integrated electronics and microfabrication, embedded systems, and computer security.

Students in the computer engineering program acquire experience with computers and their engineering applications, beginning with the engineering programming and applications course in the freshman year and continuing throughout the curriculum in the sophomore-level fundamentals courses, junior-level core courses, and senior-level technical electives. In addition to the activities and services offered by the university and the College of Engineering, the Electrical and Computer Engineering (ECE) Department provides the following additional services and activities for its students: an academic adviser, to assist students with the implementations of their academic plans; the annual ECE Day program and dinner, to highlight state-of-art topics in the electrical and computer engineering professions; the ECE Walk-in Tutoring Office, to assist ECE students with their upper-level courses; and college-level and departmental student organizations. More information on the Computer Engineering program can be found at the Department website <http://www1.villanova.edu/villanova/engineering/undergrad/majors/computer.html>

## **BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING**

Electrical Engineering is traditionally associated with the generation and distribution of power. While this is still true today, the field has branched out into numerous areas that may not be easily identified with electrical engineering, such as radio frequency (RF) systems, telecommunications, remote sensing, signal processing, digital circuits, instrumentation, audio, video and optoelectronics, satellites, GPS, radar and navigation, biomedical engineering and devices as well as renewable energy sources. The Villanova electrical engineering curriculum touches upon every one of these technology areas.

**Mission Statement** – The mission of Villanova University’s Department of Electrical and Computer Engineering is to empower students to become leaders in their chosen professions and to prepare them for a life of service to others.

**Program Educational Objectives** – The Program Educational Objectives of the Computer Engineering program are to produce graduates who:

- Use their knowledge, analytical, and design skills to generate and validate



- sustainable and technically appropriate solutions to practical real world problems;
- Communicate and work effectively with others having different roles or responsibilities in their professional work environments;
- Continue to develop their professional knowledge and skills throughout their career;
- Succeed in the careers by practicing their chosen discipline with professionalism, care, and integrity.

The curriculum is structured to provide a thorough foundation in the fundamentals of electrical and computer engineering. Analysis and design are emphasized throughout the curriculum, using a project-based structure to teach students how to work on their own and in teams and to synthesize engineering solutions by utilizing their analytical skills and knowledge. Heavy emphasis is placed on developing oral and written communication skills. The curriculum also provides opportunities for an increased awareness of the broader implications of technology and of the social responsibilities of the profession. The design process is emphasized throughout all four years, and design projects are included in the laboratory courses. The sophomore and junior years include core courses that provide a foundation for the senior year, which includes technical and professional electives and an in-depth design project.

The electrical engineering program offers technical elective courses in the following specialized areas: microwave networks and high-frequency circuit design, digital signal processing, linear integrated electronics, communication electronics, optoelectronics, digital integrated electronics and microfabrication, embedded systems, control systems, electric machines and power systems, electronic measurement and conversion, and renewable energy systems.

Students in the electrical engineering program acquire experience with computers and their engineering applications, beginning with the engineering programming and applications course in the freshman year and continuing throughout the curriculum in the sophomore-level fundamentals courses, junior-level core courses, and senior-level technical electives.

In addition to the activities and services offered by the university and the College of Engineering, the Electrical and Computer Engineering (ECE) Department provides the following additional services and activities for its students: an academic adviser, to assist students with the implementations of their academic plans; the annual ECE Day program and dinner, to highlight state-of-art topics in the electrical and computer engineering professions; the ECE Walk-in Tutoring Office, to assist ECE students with their upper-level courses; and college-level and departmental student organizations.

More information on the Electrical Engineering program can be found at the Department website <http://www1.villanova.edu/villanova/engineering/undergrad/majors/electrical.html>.

## **BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING**

Mechanical Engineers apply the principles of solid mechanics, thermal fluid sciences, dynamics and control, material science and manufacturing science to the analysis and design

of systems of all types. In applying this technical knowledge to fields such as energy systems, nanomanufacturing and robotics, the mechanical engineer must consider economic constraints and the social and ecological implications of solutions imposed. The mechanical engineering curriculum offers the student an opportunity to pursue educational objectives within the framework of this broad theme.

**Mission Statement** – We are committed to providing a rigorous educational experience in the discipline of mechanical engineering, graduating well-rounded leaders and life-long learners, who aspire to achieving professional excellence. We are *equally* committed to the discovery, dissemination, advancement and application of cutting-edge research. Inspired by the Augustinian tradition, we value an inclusive and diverse community in which we prepare our students to demonstrate the highest ethical conduct and contribute to the well-being of humankind.

**Program Educational Objectives** – Our graduates will:

Be valued members of their organizations because of their skills and abilities as mechanical engineers;

Solve complex technical problems and/or design systems that are useful to society by applying the fundamental scientific principles that underpin the mechanical engineering profession;

Advance in their chosen career paths by utilizing technical, leadership, communication, and interpersonal skills, with the highest ethical standards;

Apply their knowledge and skills to successfully practice professions of their choice;

Demonstrate professional and personal growth by pursuing or successfully completing an advanced degree, professional development courses, and/or engineering certification;

Be actively engaged in service to their professions and communities, consistent with the tradition of St. Augustine.

The first year of the mechanical engineering program is devoted to laying a foundation of mathematics, physical science, and the general engineering sciences. The final three years are devoted primarily to mechanical engineering topics. The required courses span the field of mechanical engineering, and electives provide the opportunity to pursue specific areas of mechanical engineering in greater depth through technical concentrations which include Mechanics and Materials, Thermal/Fluid Systems, and Dynamic Systems. A student opting for a technical concentration will first take an elective in the junior year which corresponds to his/her selected technical concentration. Each student will then customize the program of study by choosing four courses (12 credit hours) of technical electives in the senior year. To complete the technical concentration, two of these mechanical engineering technical electives must be selected from the designated set of concentration classes. In addition, the student must take the senior laboratory course from his/her technical concentration. A student who completes a technical concentration will have the concentration indicated on his/her transcript. Students who do not opt for a concentration will still take a junior year restricted elective and a senior lab; the four senior year mechanical engineering electives can be chosen freely from all offerings.

The engineering design process is emphasized throughout the program and culminates with a senior year project that requires a synthesis of basic principles learned in previous courses.

Throughout the curriculum the technical courses are balanced by a careful selection of humanities courses to ensure that the effects of technology on society are given due consideration in design.

A faculty adviser is assigned to each student at the beginning of his/her freshman year to provide academic and career guidance for the remainder of the student's years in the program until graduation. The adviser should be consulted regarding such topics as electives, minors or concentrations, graduate studies, undergraduate research, and completion of degree requirements for graduation.

More information on the Mechanical Engineering program can be found at the Department website:

<http://www1.villanova.edu/villanova/engineering/undergrad/majors/mechanical.html>.

## **ACADEMIC POLICIES & GENERAL INFORMATION**

### **POLICIES, PROCEDURES AND FORMS**

Unless otherwise noted, the College of Engineering follows the general academic policies and regulations listed in the University section of this Bulletin. It is the responsibility of the student to know and comply with all academic policies and regulations of the University and of the College of Engineering. Such policies may change without prior notice.

Policies specific to the College of Engineering can be found at

<https://www1.villanova.edu/villanova/engineering/resources/undergraduates.html>.

### **ADVISING**

Starting as a freshman, each student is assigned an academic adviser. The academic adviser is a full-time faculty member of the department of the student's major. If the student continues with the major to which s/he was admitted as an incoming freshman, the faculty adviser will remain unchanged for the full term of the program with a few exceptions. *Thus, it is incumbent upon students to get to know their academic adviser.* The academic adviser can help students adjust to university life or point them in the right direction for answers. Students must consult with their adviser at least once a semester during pre-registration to ensure proper course selection and advancement in the academic program. The academic adviser can assist in helping the student select minors and concentrations, and answer questions about career choices, internships, post-graduation employment, and graduate school. It is important to note that while a student's academic adviser may be called upon for assistance in making decisions, *it is ultimately the student's responsibility to understand the requirements of the chosen degree program and to plan for the orderly fulfillment of graduation requirements.* To this end, at pre-registration time each semester the academic adviser will provide the student with an up-to-date summary of the courses s/he has taken and will be required to take in the future to obtain the target degree.

During the freshman year a student is especially encouraged to speak with his/her academic adviser to learn about the engineering profession. In addition to the academic adviser who can provide career planning advisement and referrals when appropriate, the College of Engineering provides information about the engineering profession through annual sponsorship of programs that inform freshman students about career opportunities available in each major field of engineering.

## **AWARDS AND HONORS**

**Dean's List:** A student who has earned a semester GPA of 3.50 or above; is a full-time student; has completed 12 or more credits with final grades in the semester; and has no N or unreported grades is placed on the Dean's List. Approximately two months after the end of the semester, an appropriate letter of acknowledgement is sent to the student at the permanent address on file with the University.

**Dean's Award for Academic Achievement:** This award was established to recognize the outstanding academic performance of senior undergraduate engineering students who will graduate within the current academic year. To be a recipient of the Academic Achievement Award, students must have a cumulative grade point average within the top ten percent of their major at the end of the fall term.

**Dean's Award for Meritorious Service:** This award was established to recognize exceptional service to the College of Engineering by senior undergraduate engineering students who will graduate within the current academic year. To be eligible nominees must be involved in extra-curricular and/or service activities within the College for a sustained period. Preference is given to students who demonstrate noteworthy leadership in one or more activities.

**National Honorary Engineering Societies:** To recognize and encourage excellence in scholarship, chapters of the following national honorary engineering societies are maintained by the college: Tau Beta Pi, for all engineers; Chi Epsilon, for Civil Engineers; Eta Kappa Nu, for Electrical Engineers and Computer Engineers; and Pi Tau Sigma, for Mechanical Engineers.

## **COMPUTING**

**College and University Computing.** The entire campus is linked via a high-speed network and is connected to the internet. The College also provides virtual desktop which allows students to run Engineering software remotely. IT support is provided by UNIT, the University's IT group, as well as the College's IT group with a walk-in, on-line, and telephone help desk system.

**Software and Departmental Computing.** The analysis and simulation software Matlab and Mathcad, spreadsheet package Excel, drawing packages SolidWorks and AutoCad, and data acquisition software LabView are available for use. In addition to this, some departments have their own computers and workstations in classrooms and laboratories. Besides computers for data acquisition and control in the laboratories,

special purpose computer software is installed on computers throughout the College. For example, the Chemical Engineering Department uses ASPEN-PLUS for simulation of its chemical process systems and makes the software available in computer classrooms. The Civil Engineering Department has a number of industry-specific software packages installed on its computers including STAAD and SIM Traffic. SIMULINK and PSpice are used among many other packages in the Electrical and Computer Engineering Department. In the Mechanical Engineering Department the students use ANSYS and Fluent for finite element analysis and computational fluid dynamic simulations.

## **LABORATORY FACILITIES**

Dedication of the Center for Engineering Education and Research (CEER) took place in June 1998. The multi-million dollar facility provides leading edge technological support for teaching and research in the College of Engineering.

The 88,400-square-foot structure houses 30 instructional and research laboratories, a computer-aided engineering center, an interdisciplinary student projects laboratory, student group study rooms, a multi-media lecture hall seating 140, and conference rooms.

The Chemical Engineering Department's laboratories provide opportunities for students to integrate fundamental principles in thermodynamics, fluid mechanics, heat transfer, mass transfer and reaction kinetics with hands-on experimental planning, performance and analysis. Students use state-of-the-art facilities to participate in biotechnology, materials science and catalysis research. Computer clusters support research and a computer-equipped classroom enhances laboratory, process control and process simulation experiences.

The Civil and Environmental Engineering Department is committed to "hands-on" education in its experimental, computational, and design laboratories. Facilities are currently dedicated to instruction and research capabilities in environmental engineering, geology, soils, structures, transportation, and hydraulics. Facilities support undergraduate instruction as well as both undergraduate and graduate research. The department's Faris Structural Engineering Teaching and Research Lab provides 5,000 sq ft of useable floor space to test full-scale structural members up to 90 feet in length and includes two smaller laboratories for testing construction materials under various environmental conditions. The university campus is also used as a working laboratory for education and research on stormwater management, through a vast network of interconnected sensors.

The Electrical and Computer Engineering Department laboratory facilities are available to serve as important components of study in specialized areas as well as for core studies. Laboratories are currently in place for instruction and research in Control Systems, Digital Systems and Microprocessors, Electronics, Signal Processing, Solid State Devices, Microwaves, Microcontrollers, Advanced Electronics, Advanced

Computer Systems, Antenna Anechoic Chamber, Antenna Research, Communications, and Student Projects.

The Mechanical Engineering Department laboratories provide an environment for students to reinforce their understanding of the fundamental principles of mechanical engineering and apply that knowledge in experimental analysis and problem-solving. Their laboratories include Manufacturing Processes, Thermodynamics, Engine Testing, Materials Testing and Material Science, Control, Vibration, Stress, Heat Transfer, Fluid Mechanics, and Wind Tunnel.

## **STUDENT ORGANIZATIONS**

To encourage close contact between our engineering students and practicing professional engineers, and to assist students in establishing their engineering identity, the College of Engineering maintains student chapters of many engineering professional societies. These groups, with the cooperation and support of the faculty and practicing professional engineers, organize and sponsor meetings, guest speakers, and field trips of interest to engineering students.

More information on the many student organizations can be found at:

<http://www1.villanova.edu/villanova/engineering/undergrad/organizations.html>.

The broader professional and social interests of all engineering students are served by the Villanova University Engineering Student Council. Membership in this organization is open to all undergraduate engineering students.

## **DEPARTMENTS**

### **Chemical Engineering**

**Chair:** Dr. Noelle Comolli

Office: 217 White Hall, tel. 610-519-4950

Website: [www1.villanova.edu/villanova/engineering/undergrad/majors/chemical.html](http://www1.villanova.edu/villanova/engineering/undergrad/majors/chemical.html)

Courses: [www1.villanova.edu/villanova/engineering/resources/catalog/courses/ug\\_che.html](http://www1.villanova.edu/villanova/engineering/resources/catalog/courses/ug_che.html)

### **Civil and Environmental Engineering**

**Chair:** Dr. Shawn Gross

Office: 139 Tolentine Hall, tel. 610-519-4960

Website: [www1.villanova.edu/villanova/engineering/undergrad/majors/civil.html](http://www1.villanova.edu/villanova/engineering/undergrad/majors/civil.html)

Courses: [www1.villanova.edu/villanova/engineering/resources/catalog/courses/ug\\_ce.html](http://www1.villanova.edu/villanova/engineering/resources/catalog/courses/ug_ce.html)

### **Electrical and Computer Engineering**

**Chair:** Dr. Bijan Mobasserri

Office: 411 Tolentine Hall, tel. 610-519-4970

Website: [www1.villanova.edu/villanova/engineering/undergrad/majors/electrical.html](http://www1.villanova.edu/villanova/engineering/undergrad/majors/electrical.html)

[www1.villanova.edu/villanova/engineering/undergrad/majors/computer.html](http://www1.villanova.edu/villanova/engineering/undergrad/majors/computer.html)

Courses: [www1.villanova.edu/villanova/engineering/resources/catalog/courses/un\\_ece.html](http://www1.villanova.edu/villanova/engineering/resources/catalog/courses/un_ece.html)

## **Mechanical Engineering**

**Chair:** Dr. Sridhar Santhanam

Office: 131 Tolentine Hall, tel. 610-519-4980

Website: [www1.villanova.edu/Villanova/engineering/undergrad/majors/mechanical.html](http://www1.villanova.edu/Villanova/engineering/undergrad/majors/mechanical.html)

Courses: [www1.villanova.edu/villanova/engineering/resources/catalog/courses/ug\\_me.html](http://www1.villanova.edu/villanova/engineering/resources/catalog/courses/ug_me.html)

# COLLEGE OF NURSING

**Donna S. Havens, Ph.D., FAAN, RN**, Connelly Endowed Dean and Professor

**Bette Mariani, Ph.D., RN, ANEF**, Vice Dean

**Lesley A. Perry, Ph.D., RN**, Associate Dean for Academic Affairs

**Angelina A. Arcamone, Ph.D, RN**, Associate Dean of the Undergraduate Program

**Office:** Driscoll Hall, tel. 610-519-4900

**Website:** [www.nursing.villanova.edu](http://www.nursing.villanova.edu)

**Course descriptions:** [www.catalog.villanova.edu/courses/nur.html](http://www.catalog.villanova.edu/courses/nur.html)

*The health care of a complex and technologically advanced society requires professional nurses who are liberally educated, clinically competent, compassionate and ethically motivated. In responding to these objectives, the College of Nursing is a tangible expression of Villanova's mission, values and commitment to human service.*

## HISTORY

Villanova University first responded to society's need for baccalaureate-prepared nurses in 1932 when it offered a program of study leading to a Bachelor of Science in Nursing Education. This commitment was expanded in 1953 to create a College of Nursing that now offers a 4 year BSN program, a BSN completion program for registered nurses, an accelerated BSN program for second degree students, an MSN program, a PhD program, a Doctor of Nursing Practice program and a Continuing Education Program.

Baccalaureate nursing education prepares individuals for professional nursing practice in a variety of health-care settings and for continuous personal and educational growth, including entrance into graduate education in nursing. A liberal education is integrated with the ideals, knowledge, and skills of professional nursing practice under the direction of well-qualified faculty.

The M. Louise Fitzpatrick College of Nursing is approved by the State Board of Nursing of the Commonwealth of Pennsylvania. Upon completion of the undergraduate program, graduates are eligible to take the licensing examination (NCLEX-RN) for professional registered nurses. This license is transferable within the United States nationally by state. The BSN, MSN, and Doctor of Nursing Practice programs are fully accredited by the Commission on Collegiate Nursing Education. The Nurse Anesthesia concentration in the graduate program is accredited by the Council on Accreditation of Nurse Anesthesia Educational Programs. The Continuing Education Program is accredited as a provider of Continuing Education in Nursing by the American Nurses Credentialing Center, Commission on Accreditation.



## Contact Information:

American Nurses Credentialing  
Center  
8515 Georgia Avenue, #400  
Silver Spring, MD 20910  
1-800-284-CERT (2378)  
[www.nursingworld.org/ancc/](http://www.nursingworld.org/ancc/).

Commission on Collegiate Nursing  
Education  
655 K Street NW, Suite 750  
Washington, DC 20001  
Phone: (202) 887-6791  
Fax: (202) 887-8476  
[www.aacnnursing.org/CCNE](http://www.aacnnursing.org/CCNE)

Commonwealth of Pennsylvania  
Department of State Bureau of  
Professional and Occupational  
Affairs  
State Board of Nursing  
P.O. Box 2649  
Harrisburg, PA 17105-2649  
Phone: (717) 783-7142  
Fax: (717) 783-0822  
[http://www.dos.state.pa.us/bpoa/  
nursing@pados.dos.state.pa.us](http://www.dos.state.pa.us/bpoa/nursing@pados.dos.state.pa.us)

Council on Accreditation of Nurse  
Anesthesia Educational Programs  
222 South Prospect Avenue  
Park Ridge, Illinois 60068-4001  
Phone: (847) 692-7050  
Fax: (847) 692-6968  
[www.aana.com/](http://www.aana.com/)

## ACADEMIC MISSION

The Fitzpatrick College of Nursing (FCN) is a tangible expression of Villanova University's mission, tradition, and commitment to human service. As a major school of nursing under Catholic auspices, it carries responsibility for the education of nurses within the framework of Christian beliefs and values and the heritage of the Order of St. Augustine. The Fitzpatrick College of Nursing interprets nursing as a healing ministry emanated by love and demonstrated through service and the care of others. As a healing art as well as an applied science and practice discipline, nursing as taught at Villanova University emphasizes the concern for spiritual health as well as that of mind and body. Curricula reflect the integration of these elements and their application in clinical practice, and concern for others regardless of race, ethnicity, or religion. The Fitzpatrick College of Nursing educates individuals for service to a diverse society including all sectors and strata of the population; as such, graduates are prepared to assume roles in all settings where health care is delivered.

Within this context, nursing draws its worth and spirit from motives based on love of one's fellow men and women who are made in the image and likeness of God. As a social service to the community, nursing responds to the needs of the sick, poor and disabled, and promotes wellness as the pre-eminent goal of nursing care. The practice of nursing within a Christian environment requires that those who nurse recognize and respect the needs of each person and that they teach while they nurse in order to assist their patients and the community to achieve the highest possible level of wellness of body, mind, and spirit.

The Fitzpatrick College of Nursing, consistent with the mission of Villanova University, assumes responsibility for the education of individuals who will be prepared to provide a vital service to society and who are liberally educated, clinically competent, compassionate, and ethically motivated. The college is committed to providing high quality education in the liberal arts and sciences and expert preparation in the knowledge and clinical skills of professional nursing to qualified individuals who must be prepared and empowered to confront the health care demands of a complex and technologically advanced society.

The FCN views itself as an important locus of education, scholarship, and organizational leadership within Nursing's professional and educational communities. It views with great seriousness its prominent role within the constellation of collegiate nursing programs under Catholic auspices.

The FCN awards the baccalaureate in nursing (BSN) and provides basic preparation in nursing to those who are studying for the first professional degree in the field. Such students include high school graduates with no prior college experience, registered nurses who have not yet attained the baccalaureate, college graduates with degrees in other disciplines who have made a decision to study nursing, and adults who are studying for their first college degree.

The Graduate Program awards the master's degree in nursing (MSN), and post-MSN Certificates and provides preparation and leadership development in selected areas of advanced nursing practice, development of research skills, and knowledge of health policy. In addition, course options prepare individuals for positions as educators, nurse practitioners, and nurse anesthetists.

The Graduate Program administers the doctor of philosophy degree in nursing (PhD), which is designed to prepare nurses as educators and researchers for academic careers in higher education. The Ph.D. Program at Villanova is unique in that it focuses on the application of advanced nursing knowledge and scholarly inquiry that address professional and practice concerns related to the learning process.

The Graduate Program administers the post-baccalaureate Doctor of Practice – Nurse Anesthesia (DNP-NA) track which is designed to prepare nurses with a sound base of theoretical knowledge and clinical experience in the practice of nurse anesthesia and professional leadership. The Graduate Program also administers the post-masters Doctor of Nursing Practice (DNP) Program which is designed to prepare advanced practice registered nurses, including Nurse practitioners, Certified Register Nurse Anesthetists, Clinical Nurse Specialists, Certified Nurse Midwives and Nursing Leaders with advanced knowledge in evidence based practice, organizational leadership and financial acumen to lead innovation in nursing practice and healthcare.

The Program in Continuing Education is committed to providing quality programs that enhance the professional growth and update the knowledge base of nurses, other health care professionals, and the public on topics related to health care.

The College of Nursing's emphasis on education in values and ethical principles is a pervasive and central theme and emanates from the Catholic and Augustinian tradition of the University. The faculty are expected to serve as role models and mentors for the professional development of students in the exercise of their academic responsibilities.

Revised May 2012

## **DEGREES AND PROGRAMS**

The College awards the baccalaureate degree in nursing (BSN) and provides basic preparation in nursing to those who are studying for the first professional degree in the field. Such students include high school graduates with no prior college experience, registered nurses who were prepared in hospital or community college programs and who wish to attain the baccalaureate, college graduates with degrees in other disciplines who made a later decision to study nursing, and mature adults who are studying for their first college degree.

The Graduate Program awards the master's degree (MSN) and provides preparation and leadership development in selected areas of advanced nursing practice, development of research skills and knowledge of health policy. In addition, course options prepare individuals for positions as clinical teachers, faculty, nurse practitioners and nurse anesthetists. The Graduate Program also awards the doctoral degree in nursing (PhD) to individuals who are prepared as teacher-scholars for academic careers in higher education and the doctor of nursing practice (DNP) for nurse administrators and advanced practice nurses such as nurse practitioners, registered nurse anesthetists, clinical nurse specialists and certified nurse midwives.

The Program in Continuing Education is committed to providing short courses, conferences, workshops and symposia for nurses, other health professionals and the public-at-large on topics related to health care. Some of these programs are developed to update the knowledge of practicing nurses while others provide an academic arena for the sharing and critiquing of papers and ideas relevant to current issues or trends in health care.

## DEGREE REQUIREMENTS

### Bachelor of Science in Nursing Curriculum (136 credits)

#### FRESHMAN

<i>Fall Semester</i>	<i>credits</i>	<i>Spring Semester</i>	<i>credits</i>
CHM 1131	3	CHM 1134	3
CHM 1107	1	CHM 1108	1
ACS 1000	3	ACS 1001	3
NUR 1102	2	NUR 1104	2
PSY 1000 or SOC 1000	3	SOC 1000 or PSY 1000	3
THL 1000 or PHI 1000	3	PHI 1000 or THL 1000	3
		ENG 1050	3
<b>SOPHOMORE</b>			
BIO 1205	4	BIO 1206	4
BIO 1181	3	NUR 2810	3
NUR 2204	2	NUR 2206	2
NUR 2205	1	NUR 2207	2
PSY 3200	3	Elective*	3
NTR 2120 OR MAT 1250 OR Elective*	3	NTR 2120 OR MAT 1250	3
*Must be selected from the areas of History, Political Science, or Economics in consultation with the student's major adviser.			
<b>JUNIOR</b>			
NUR 3114	6	NUR 3118	3
NUR 3115	6	NUR 3119	3
NUR 3108	3	NUR 3120	3
NUR 3030	3	NUR 3121	3
		NUR 3122	3
		PHI 2115	3
<b>SENIOR</b>			
NUR 4104	3	NUR 4112	3
NUR 4105	3	NUR 4113	5
NUR 4108	3	NUR 4116	2
NUR 4109	3	NUR 4117	3
NUR 4114	2	NUR 4200	1
THL Elective**	3	Elective*	3

\*\*2000 level or above is recommended

\*Students are required to select three electives: One upper level Theology (in addition to Theology 1000), one Social Studies (selected from the areas of History, Political Science, or Economics) and one free elective in an area of the student's interest.

## **PROGRAM REQUIREMENTS**

Entrance physical examination, selected diagnostic tests, as well as designated immunizations, are required of all nursing students. Additional or repeated health screening tests are required prior to entry into clinical experiences. Students are required to be certified in Basic Cardio-pulmonary Resuscitation prior to enrolling in NUR 2207. Continuing re-certification is the responsibility of the student throughout the remainder of the program. As a prerequisite to entry into the nursing program, all students are required to have criminal background checks that comply with the Older Adults Protective Services Act and Child Protective Services Law, as well as urine drug screening, child abuse clearance and FBI fingerprinting.

All nursing students are required to participate in a battery of standardized tests to assess nursing knowledge prior to graduation. The cost is assumed by the students. Permission to take the NCLEX Licensure exam may be delayed based upon a student's academic record and performance on the standardized tests.

Registered nurse students must furnish evidence of malpractice liability insurance.

### **Global Health Minor**

The College of Nursing offers a Global Health Minor which aims to educate students about the factors that influence health and the inter-disciplinary response to addressing global health challenges. The minor is open to all undergraduate students who are sophomore level or above. Minor consists of 15 credits which includes required and elective classes. Students who wish to participate in the Global Health Minor must meet with the Global Health Minor advisor, currently the Director of the Center for Global and Public Health in the College of Nursing, to discuss their course of study to assure that the student is able to meet all requirements.

## **ACADEMIC POLICIES AND INFORMATION**

Unless otherwise noted, the College of Nursing follows the general university academic policies and regulations listed in the University section of this *Catalog*. *It is the responsibility of the student to know and comply with all academic policies and regulations of the University and of the College of Nursing and to abide by the professional standards established by the College. Such policies may change without prior notice.* Note: if a student withdraws from the College of Nursing and is readmitted at a later date, the requirements in effect at time of readmission will be applied. Policies and regulations specific to Nursing students include the following:

## **ACADEMIC ADVISING**

Every student entering the College of Nursing is assigned a faculty adviser. It is the responsibility of the student to contact his/her adviser prior to each registration period and if he/she is experiencing any academic difficulty. Each student must take responsibility to meet with his/her adviser on an ongoing basis. Advisers are available during posted office hours or by appointment. If the student experiences difficulty in contacting his/her advisor, there is a Student Success and Retention Advisor available to see a student during regular office hours.

## **ACADEMIC GRIEVANCE PROCEDURE**

If a student has a grievance within a nursing course, he/she is advised to speak with the individual teaching the course. If the problem is not resolved at this level, it may be taken to the Course Leader, Program Director, Associate Dean of the Undergraduate Program in that order.

## **ACADEMIC POLICIES**

Students are expected to abide by the policies and professional standards established by the College of Nursing. The College of Nursing reserves the right to change program requirements without prior notice to reflect advances in the professional field. If a student withdraws from the College of Nursing and is readmitted at a later date, the requirements in effect at the time of readmission will be applied.

A grade of "C" or better must be attained in all nursing courses for progress in the nursing major.

**Students must achieve** an examination average of 73% or better in all nursing theory courses that are paired with a lab or clinical course or have clinical as a component of the course. The course numbers are: NUR 2204, NUR 2206, NUR 3114, NUR 3118, NUR 3120, NUR 4104, NUR 4108, and NUR 4112.

The student must also achieve a 73% or better in the overall course grade. Only one nursing course may be repeated in the curriculum prior to dismissal from the program.

A required course may be repeated once prior to dismissal from the program. *BSNExpress* students who receive less than a "C" in a nursing course may continue to pursue a BSN in the traditional BSN program.

Students must complete, in sequence, the required lower division courses, with a Q.P.A. of 2.5 in order to advance to junior level courses with a clinical component. Students who receive less than a "C" in BIO 1205, BIO 1206 or NTR 2120 will be required to repeat the course(s) before advancing to the Junior level nursing courses. Students must successfully complete, in sequence, courses in the nursing major as indicated in the curriculum plan. Students who

study on a part-time basis are required to successfully complete the theory class prior to enrolling in the associated practicum course.

The College of Nursing reserves the right to place on probation or withdraw any student whose performance is deemed unsatisfactory.

Students for whom English is not the primary language or not the language spoken in the home will be encouraged to bring translation dictionaries to their examinations and be given extended time on tests.

Extended time is equivalent to time and one half of the usual testing time. Students are expected to self-identify to the course faculty.

International students, who are in the BSN program or RN completion program but who are not expatriates residing permanently or working in the United States and will not sit for NCLEX but return to their countries, may have the progression policies suspended, on a case by case basis, by action of the Dean of the College of Nursing and upon formal recommendation of the Program Director.

### **Preparation for Registered Licensing Examination:**

- a. For the purpose of continuously preparing nursing students in the baccalaureate program leading to initial licensure as registered nurses for the comprehensive licensing examination (NCLEX-RN), standardized tests developed for this purpose will be administered and evaluated as part of the final course grades beginning in the sophomore year (or its equivalent) at the student's expense.
- b. All senior nursing students (or the equivalent) are required to demonstrate successful achievement on a designated predictive NCLEX-RN readiness assessment examination prior to graduation. This examination, in combination with any required remediation, must be successfully completed as a prerequisite to certification by the College as part of the application process for state licensure.

## **ACADEMIC PROBATION AND DISMISSAL**

**Probation.** A student is placed on academic probation in the College of Nursing when:

- A required course is failed.
- A grade less than C is earned in science or nursing courses. The QPA is below 2.0 in any given semester.

*“Students who are on probation for earning less than a C in a science or nursing course must complete a mandatory plan of study as determined by the Academic Standing Committee. Students who do not complete this plan will remain on academic probation.”*

**Dismissal.** Students are usually permitted two semesters of probationary status prior to dismissal from the program. A dismissal from the College may be appealed in writing. Detailed instructions for appeal are outlined in the dismissal letter.

## **ADMISSION**

**Regular Students.** All applicants for full-time or part-time study must meet the entrance requirements for admission to the University as listed in this *Catalog*.

**Transfer Students.** Transfer students with a 3.0 Q.P.A. are considered for admission to the College of Nursing on a limited basis. Please see the section on *Transfer Students* in the general University section of this *Catalog*. Further inquiries should be directed to the College of Nursing.

**Adult Students/Second Career Applicants.** The College of Nursing welcomes applications from adults who wish to begin preparing for a career in nursing. These include individuals who possess undergraduate and/or graduate degrees in other fields as well as those adults entering college for the first time. Part-time study is possible during the introductory level of the program. Full-time study is required during the clinical portion of the program. All applicants must meet the entrance requirements for admission to the University. In addition, the College offers an accelerated curriculum for individuals with a bachelor's degree in another discipline. Applicants must demonstrate superior academic achievement in prior course work to be eligible for this program. Further inquiries should be directed to the College of Nursing.

**Registered Nurse Students.** The RN to BSN online track will officially close December 2021. Current students have been provided with a teach-out plan and should contact Dr. Margaret Lyons, the Program Director, with any questions.

## **ADMISSION TO CLOSED SECTIONS OF COURSES**

Students will not be permitted to enroll in closed sections. Exceptions to this rule will be made only by the Associate Dean of the Undergraduate Program and only when a student must enroll in the specific section in order to complete requirements which are necessary for progression in the program.

## **GRADUATE COURSE REGISTRATION FOR UNDERGRADUATE STUDENTS**

A junior or senior with a 3.00 cumulative quality point average wishing to enroll in a graduate course must have the written approval of the Associate Dean of the Undergraduate Program before submitting a request to the Associate Dean of the Graduate Program. A student who wishes to take NUR 8904 Research in Nursing requires a GPA of 3.5.



## **INTERNATIONAL STUDIES**

The College of Nursing, in conjunction with the Office of Education Abroad, is pleased to offer a variety of opportunities for a Nursing major to study in an overseas university during her/his course of studies.

The College of Nursing has established a year-long study abroad program with the University of Manchester, Manchester, England. Students in this program spend their entire sophomore year in England. The courses transfer to Villanova as the sophomore year of the nursing curriculum and students graduate on time with their classmates.

The program requires some changes in the freshman course of study; any freshman who is interested should contact the Associate Dean of the Undergraduate Nursing Program or his/her academic adviser as early as possible. Nursing students may participate in international opportunities offered by the College of Nursing as elective experiences. A nursing major may also participate in any of the summer or semester study abroad programs approved by the University and administered by the Office of Education Abroad. However, since these are not nursing programs, students who participate need to change their course of study and may graduate later than their graduation class. Interested students should see the detailed discussion of International Studies in the Villanova University section of this *Catalog* or contact the Office of Education Abroad, Middleton Hall, second floor, (phone 610-519-6412).

## **WITHDRAWAL FROM A COURSE (WX)**

Until the final day for authorized withdrawal from courses, approximately three and a half weeks following mid-term break (for exact date, see the academic calendar <http://www.villanova.edu/calendar/>), students may withdraw from a course without penalty and will receive the grade of "WX". After that date, students seeking withdrawals from courses without penalty ("WX") must present to the Dean a written request with valid reasons for the request, such as serious personal or medical problems, and recommendations from the instructor of the course. The Dean of the College is the final authority for granting or refusing the exception on the basis of the documentation and recommendations submitted. Students who do not have a justifiable cause to withdraw from a course without academic penalty may still withdraw from the course and receive a grade of "W." Withdrawal from a course may alter a student's degree completion date.

# **BSN PROGRAM FOR REGISTERED NURSE STUDENTS**

The College of Nursing offers an Online **BSN** track for registered nurses who are graduates of an associate degree or diploma nursing program. The track will close in December 2021 and is no longer accepting applicants.

## **State Disclosures for Distance Education Programs:**

The RN-BSN Online Track is not authorized to offer the RN-BSN program in all 50 states. Information related to state authorization can be found at [www1.villanova.edu/main/online-programs.html](http://www1.villanova.edu/main/online-programs.html).

All registered nurse students are expected to have the following on file prior to enrollment in clinical nursing courses:

1. Annual Health Examination, Laboratory Studies, Urine Drug Screen and
2. Current Immunizations.
3. Current CPR Certification.
4. Current R.N. License.
5. Current Malpractice Insurance Certificate.

## **COLLEGE LEVEL EXAMINATION PROGRAM (CLEP)**

Students in the College of Nursing's RN-BSN Online Program can gain credits by means of the CLEP Subject examinations as long as:

The credit is applicable to the BSN degree for RN students only.

Credit is given for the Subject Examinations and NOT for the CLEP General Examinations.

NOTE: Villanova University considers credits earned through CLEP Subject Examinations as transfer credit. No more than 9 credits may be earned through the College Level Examination Program (CLEP). A score of 60 or higher on the subject examination is required in order to earn credit. The student transcript will carry a notation of credit for the courses specified but will not carry a grade. The CLEP Subject Examinations will not have an effect on the cumulative quality point average.

## **ADVISEMENT**

The RN to BSN Online Track director advises all RN students/

# BSN PROGRAM FOR RN STUDENTS

## COURSE/CREDIT REQUIREMENTS

### PHYSICAL SCIENCES/MATH

20 Credits

- Anatomy & Physiology..... 8 cr.
- Chemistry or Biology..... 3 cr.
- Microbiology and  
Genetics or General Biology ... 3 cr.
- Nutrition ..... 3 cr.
- Statistics ..... 3 cr.

### HUMANITIES

12 Credits

- English/Literature..... 3 cr.
- Philosophy-Health Care Ethics.. 3 cr.
- Theology..... 3 cr.
- Humanities Electives..... 3 cr.

### SOCIAL/BEHAVIORAL

#### SCIENCES

18 Credits

- General Psychology ..... 3 cr.
- Human Development..... 3 cr.
- Introductory Sociology..... 3 cr.
- Electives\* ..... 9 cr.
- (Social Behavioral Sciences)\*

### NURSING

74 Credits

- Nursing Credit Transfer..... 32 cr.
- Clinical Decision-Making  
Assessment\* ..... 12 cr.
- NUR 3000 ..... 3 cr.
- NUR 3007..... 3 cr.
- NUR 2810\*\* ..... 3 cr.
- NUR 3122 ..... 3 cr.
- NUR 4112 ..... 3 cr.
- NUR 4113 ..... 5 cr.
- NUR 4114 ..... 2 cr.
- NUR 4116 ..... 2 cr.
- NUR 4117 ..... 3 cr.
- NUR 4118 ..... 3 cr.

TOTAL CREDITS – 12

## **FACILITIES FOR INSTRUCTION AND PRACTICE**

The University assumes full responsibility for providing the instruction throughout the entire program. (Students are responsible for their own transportation to and from the various facilities utilized for the practice of nursing.) Community based practice of nursing will most likely require individual means of transportation for agency and home visiting. During the professional portion of the curriculum, theory and laboratory are directed by faculty members. Among the agencies used for student experience are the following:

Abington Hospital – Jefferson Health, Abington, PA  
Einstein Medical Center, Philadelphia, PA  
Alfred I. DuPont for Children, Wilmington, DE  
Belmont Behavioral Hospital, Philadelphia, PA  
Bryn Mawr Hospital – Mainline Health System, Bryn Mawr, PA  
Children's Hospital of Philadelphia, Philadelphia, PA  
Crozer-Chester Medical Center, Chester, PA  
Fox Chase Cancer Center, Philadelphia, PA  
Holy Redeemer Home Care and Hospice Services, Philadelphia, PA  
Hospital of the University of Pennsylvania, Philadelphia, PA  
Home Care and Hospice – Mainline Health System, Radnor, PA  
Lankenau Hospital – Mainline Health System, Philadelphia, PA  
Clinical Simulation and Learning Resource Center, Fitzpatrick College of Nursing  
Mercy Hospital, Philadelphia, PA  
Paoli Hospital – Mainline Health System, Paoli, PA  
Penn Care at Home, Philadelphia, PA  
Pennsylvania Hospital, Philadelphia, PA  
Penn Presbyterian Medical Center, Philadelphia, PA  
St. Christopher's Hospital for Children, Philadelphia, PA  
St. Mary's Hospital, Langhorne, PA  
Thomas Jefferson University Hospital, Philadelphia, PA  
Corporal Michael J. Crescenz Veterans Administration Medical Center, Philadelphia, PA

Selected school systems, day-care centers, community health centers, senior citizen centers, and industries are also used.

# COLLEGE OF PROFESSIONAL STUDIES

**Christine Kelleher Palus, Ph.D.**, Dean  
**Susan Leighton**, Director, Academic Programs  
**Pete Watkins**, Director, Teaching and Learning

**Offices:** Vasey Hall, First Floor  
**Telephone:** 610.519.4300  
**Email:** [cpsinfo@villanova.edu](mailto:cpsinfo@villanova.edu)  
cps.villanova.edu

## HISTORY

In May 2014, Villanova University created the College of Professional Studies (CPS)—the first new College at the University in 50 years. CPS provides academically rigorous undergraduate degree and certificate programming, as well as professional education—on campus and online—for the adult learner and working professional.

CPS continues Villanova’s century-old tradition of service to adult learners and complements Villanova’s breadth of academic offerings by providing innovative programs with flexible delivery options.

## ACADEMIC MISSION

The College of Professional Studies (CPS) provides an academically rigorous education to high-achieving adults who are balancing educational and professional aspirations with life’s commitments.

Grounded in the Augustinian mission and core values of *Veritas*, *Unitas*, and *Caritas*, CPS celebrates the diversity and creativity of all members of our academic community, and seeks to inspire global citizenship, professional excellence, and lifelong learning.

CPS embodies Villanova’s enduring commitment to provide access to academic excellence, and offers premier, relevant, and innovative programs, taught by an engaging faculty of scholars and practitioners.

## VISION

- We strive to provide a purposeful, transformative, and results-driven education for students at all stages of their lives.
- We are committed to a supportive and collaborative educational experience. We want our students to feel empowered and emboldened.
- We will be a preeminent hub for innovative professional programming.

- Our curriculum is designed to be focused, responsive, and nimble, drawing inspiration from evolving workforce and career trends.

Students served at CPS include: working professionals who seek to complete an undergraduate degree or credit-bearing certificate with flexible course options; post graduates who seek requirements for admission to graduate or professional schools or advanced certifications; senior level high school scholars seeking individual university level courses; and senior citizens (age 65 and over) who wish to enroll in undergraduate courses for personal enrichment.

Degree-seeking students have typically earned a minimum of 15 college credits or completed a minimum of four years post-secondary work experience, military experience, professional education, or a combination of the three.

## **DEGREES OFFERED**

The College of Professional Studies offers three undergraduate degrees - a Bachelor of Interdisciplinary Studies (BIS), a Bachelor of Arts (BA), and an Associate of Arts (AA) degree. In partnership with the College of Liberal Arts and Sciences, CPS also offers a Bachelor of Science (BS). Within these degrees, varied majors and delivery options provide applicable, relevant, flexible and engaging courses of study for adult learners.

### **Degrees, Majors, and Delivery Options:**

<b>Degrees</b>	<b>Majors</b>	<b>Delivery Options</b>
Associate of Arts (AA)	N/A	On Campus, Hybrid, Online
Bachelor of Interdisciplinary Studies (BIS)	General Studies	On Campus, Hybrid, Online
	Information Systems	On Campus, Hybrid
	Leadership	On Campus, Hybrid, Online
	Organizational Development and Management	On Campus, Hybrid, Online
	Public Service and Administration	Hybrid, Online
Bachelor of Arts (BA)	English*	On Campus
	History*	On Campus
	Leadership	On Campus, Hybrid, Online
	Public Service and Administration	Online and Hybrid
Bachelor of Science (BS)	Computer Science	On Campus, Hybrid

\*Majors offered in partnership with the College of Liberal Arts & Sciences. May require daytime classes to complete.

### Combined Bachelor/Master Programs

Degrees	Eligible Majors
BIS/MS in Human Resource Development	General Studies
	Leadership
	Organizational Development and Management
BIS/MS in Software Engineering	Information Systems

### Credit-Bearing Certificates and Delivery Options

Certificates	Delivery Options
Accountancy	On Campus
Information Systems*	On Campus
Leadership	On Campus, Hybrid, Online
Pre-Health Professions	On Campus

\*All credit-bearing certificate programs except Information Systems require students to have completed a Bachelor's degree prior to admission.

### Baccalaureate Degree Requirements

The requirements for the BIS, BA and BS degrees are:

- Completion of all core curriculum requirements, academic major course requirements for the degree with an overall cumulative average quality point average (QPA) of not less than 2.00 and a cumulative technical quality point average of not less than 2.00.
- No more than 60 credits (20 courses) may be transferred into a program from any source including AP, CLEP, ACE and other academic institutions.
- The final 60 credits must be earned at Villanova.
- Discharge of all financial obligations to Villanova University.

A student's eligibility for graduation is determined by the Director of Academic Programs. It is the student's responsibility to ensure all requirements for graduation are met.

### Associate of Arts

The **Associate of Arts (AA)** is an undergraduate degree program designed for students who want a rigorous and diverse general curriculum. Courses are offered in a broad range of disciplines, such as the Humanities, Social Sciences, Math, Natural Sciences, Language, Culture, and Fine Arts. Additionally, students can customize their academic plan with electives catered to professional and personal interests.

The AA degree requires students to complete 20 courses and a minimum of 60 credits, 30 of which must be taken at Villanova University. Up to 30 credits can be transferred from an accredited institution.

The Associate of Arts degree can be completed in-person on Villanova's campus, online, or as a hybrid program.

**Associate of Arts (20 Courses, 60 Credits)**

<b>Course</b>	<b>Title</b>	<b>Credits</b>
ACS 1000 Ancients	Ancients	3
ACS 1001 Moderns	Moderns	3
PHI 1000 Know/Reality/Self	Knowledge, Reality & Self	3
THL 1000 Faith, Reason, and Culture	Faith, Reason & Culture	3
ETH 2050	Ethical Tradition and Contemporary Life	3
ENG 1975	Core Lit and Writing Seminar	3
History	Approved Core History	3
Fine Arts	(Designated Course Only)	3
Math		3
Social Science		3
Foreign Language		6
Natural Science		6
Free Electives (includes any UG course offered)		18
<b>Total</b>		<b>60</b>



## **Bachelor of Interdisciplinary Studies (BIS)**

The Bachelor of Interdisciplinary Studies follows a specific core curriculum which provides flexibility so that adult students may select classes in line with their personal interests and experiences as well as their professional goals from a variety of different disciplines.

The combined Bachelor of Interdisciplinary Studies/Master of Science in Human Resource Development (BIS/MS) program is designed to offer a planned educational track, in an accelerated format, that will prepare students for a career in the field of human resources. At the completion of junior year, qualified BIS Organizational Development and Management, General Studies or Leadership major students may apply to the BIS/MS program. Students who are admitted into the BIS/MS track are permitted to enroll in three graduate HRD courses during their senior year. These courses count toward completion of both the BIS degree and the MS degree in Human Resource Development. Students are required to consult with their CPS academic advisor to register for these courses.

The combined Bachelor of Interdisciplinary Studies in Information Systems (BIS/IS) and Master of Science in Software Engineering (MS/SE) is designed to offer qualified BIS/IS students a planned educational track that will have synergistic benefits for existing BIS and MS programs alike. At the completion of their junior year, qualified BIS Information System majors may apply to the BIS/MS integrated program. Students admitted to the BIS/IS – MS/SE track may enroll in three graduate level courses senior year with all three counting toward both the BIS/IS degree and the MS/SE. Students are required to consult with their CPS academic advisor to register for these courses.

## **Bachelor of Arts**

The Core Curriculum requirements for the Bachelor of Arts degree can be found in the College of Liberal Arts portion of this catalog.

## **Bachelor of Interdisciplinary Studies Core Curriculum (45 credits)**

### Humanities in Augustinian Tradition (3 courses, 9 credits)

Course #	Title	Credits
ACS1000	Ancients	3
PHI 1000	Knowledge, Reality, Self	3
THL 1000	Faith, Reason, and Culture	3

### Civic and Ethical Leadership (3 courses, 9 credits)

Course #	Title	Credits
ETH 2050 or PHI 2180 for IS Majors	The Good Life – Ethics and Contemporary Problems (Computer Ethics for IS and	3
American Perspectives:	Includes courses with an American perspective from the following disciplines (PSC, ECO, SOC, HIS)	3

Global Perspectives:	Includes courses with a Global perspective from the following disciplines (PSC, ECO, SOC, HIS)	3
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**Communication and Writing Skills (2 courses, 6 credits)**

Course #	Title	Credits
COM 1100 or COM 1101	Public Speaking/Business Communication	3
ENG 1050	The Literary Experience	3

**Cultural Appreciation (2 courses, 6 credits)**

Course #	Title	Credits
Fine Arts, Modern Language/Culture, Theatre, Film, Literature		6

**Quantitative and Scientific Literacy (2 courses, 6 credits)**

Course #	Title	Credits
Natural Science		3
MAT 1260		3

**Core Electives (3 courses, 9 credits)**

Course #	Title	Credits
Advanced Courses: History, Philosophy, Theology, English, Communication, Fine Arts, Social Science	Advanced courses in these subjects must be numbered 2000 and above.	9

**Majors:**

**Organizational Development & Management (BIS - 120 total credits)**

**Organizational Development & Management Major Requirements (10 courses, 30 credits)**

Course #	Course Title	Credits
ODM 1000	Foundations of Organizational Behavior	3
ODM 1100	Foundations of Strategic Management	3
ODM 2000	Essentials of Finance and Accounting	3
ODM 2010	Essentials of Marketing	3

ODM 2020	Ethics, Regulation and Social Responsibility	3
ODM 2030	Organizational Decision Making	3
ODM 2040	Strategic Operations and Process Management	3
ODM 2050	Innovation & Creative Thinking	3
LDR 2070	Strategy Driven Talent Management	3
ODM 5000	Organizational Development and Management Capstone	3

Electives (15 courses, 45 Credits)

\*MAT 1320 (Calculus I) or MAT 1500 (Calculus for Science) is highly recommended for all students seeking to attend graduate school.

\*\* Students entering a technical degree program should have successfully completed college-level courses in Math and English Composition.

### General Studies (BIS - 120 Total credits)

Major Course Requirements(11 courses, 33 credits)

Students with a major in General Studies must select advanced coursework (2000 Level or higher) in the following topic areas:

#### Humanities:

Art History	Philosophy
Classical Studies	Modern Language
Communication	Theology
Education	Theater
English	History
Ethics	Global Interdisciplinary Studies
Humanities	Arab & Islamic Studies
French	

#### Social Sciences:

Economics	Geography and the Environment
Global Interdisciplinary Studies	Political Science
Public Administration	Psychology
Sociology	Humanities: designated PSC
Peace and Justice	Gender and Women's Studies
Criminology	Leadership
Organizational Development and Management	

Sciences:

Astronomy and Astrophysics
Biology
Biochemistry
Chemistry
Computer Science
Environmental Science
Physics

Electives (13 Courses, 42 credits)

**Information Systems (BIS - 122 total credits)**

**Information Systems Major Requirements** (10 courses; 32 credits chosen from the below list of options)

Course #	Title	Credits
CSC 1020	Computing and the Web	3
CSC 1051	Algorithms and Data Structures I	4
CSC 1052	Algorithms and Data Structures II	4
CSC 2400	Computer Systems I	3
CSC 1300	Discrete Mathematics	3
CSC 2500	Survey of IS Environments	3
Systems Analysis	MIS 2040 (Systems Analysis & Design) OR CSC 4700 (Software Engineering)	3
Databases	MIS 2030 (Database Management) OR CSC 4480 (Principles of Database Systems)	3
CSC 4710	Information Systems Project Management	3
CSC 2020	Web Development & Technologies I	3
CSC 2025	Web Development & Technologies II	3
CSC 3070	Emerging Technology Trends	3
CSC 3080	Information Security and Protection	3
MIS 3020	Enterprise Systems and Application	3
CSC 2053	Platform Based Computing	3
Data Communications	CSC 4900 (Computer Networks) OR MIS 3010 (Business Data Communication)	3
MIS 3030	Enabling Technology in E-Business	3
CSC 4490	Data Warehousing and Mining	3

ECE 5477	Computer Communications Security	3
CSC 5930	Advanced Topics in Computer Science	3
CSC 1600	Operating Systems	3
CSC 4797	Information Systems Capstone	3

Electives (15 courses, 45 Credits)

\*MAT 1320 (Calculus I) or MAT 1500 (Calculus for Science) is highly recommended for all students seeking to attend graduate school.

\*\* Students entering a technical degree programs should have successfully completed college-level courses in Math and English Composition.

### **Leadership (BIS - 120 total credits; BA – 122 total credits)**

Leadership Major Requirements (10 courses, 30 Credits)

Course #	Title	Credits
LDR 2000	Foundations of Leadership	3
LDR 2010	Strategic Planning for Leaders	3
LDR 2020	Leadership and Community	3
LDR 2030 OR CSC 3070	Leadership and Technology OR Emerging Technology Trends	3
LDR 2040	Ethics and Leadership	3
LDR 2060	Leadership in a Borderless Economy	3
LDR 2070	Strategy Driven Talent Management	3
COM 2440 OR COM 3475	Theories of Organizational Communication OR Communication Challenges in Organizations	3
COM 3441	Negotiation and Dialogue	3
LDR 5000	Leadership Capstone	3
LDR 5940 +	Topics in Leadership	3
LDR 5950 ++	Topics in Leadership	1

+LDR 5940 and LDR 5950 are both upper level leadership topics courses that may change from semester to semester and can be substituted for other Leadership courses. The college advising staff will determine the course substitution.

++LDR 5950 courses can be combined to make fulfill (1) three credit leadership course requirement

Electives (BIS - 15 courses, 45 credits; BA – 14 courses, 42 credits)

## **Public Service & Administration (BA - 122 total credits)**

### Public Service & Administration Major Requirements (10 Courses, 30 Credits)

<b>Course #</b>	<b>Title</b>	<b>Credits</b>
PA 1050	Public Administration	3
PA 2000	Public Policy	3
PA 2100	City and Suburb	3
PA 3000	Overview of Non-Profit Sector	3
PA 4100	Public Budgeting	3
PA 4200	Organizational Development	3
PA 6000	Vocation of Public Service	3
LDR 2010	Strategic Planning for Leaders	3
LDR 2020	Leadership and Community	3
LDR 2040	Ethics & Leadership	3

Electives (14 courses, 42 credits)

### **Credit-Bearing Certificate Programs**

Several certificate programs are available through the College of Professional Studies. Certificate programs are designed for individuals who typically already have a Bachelor's degree\* but wish to develop expertise in a particular area.

\*The Information Systems Certificate does not require a Bachelor's degree.

The following programs are available:

#### **Certificate in Accountancy**

The Certificate in Accountancy is designed to allow individuals who possess Bachelor's degrees in General Arts or other non-business majors to acquire expertise in accounting. The program provides an educational opportunity for persons interested in securing careers in accounting in a diversity of environments in industry, business, and government, and the program also meets the needs of individuals who work in smaller businesses or who are self-employed and need knowledge of accounting practices to make critical business decisions. The certificate requires 36 accounting and business-related credits which the state of Pennsylvania currently mandates as the minimum requirement to sit for the CPA examination.

To be eligible for this certificate, a student must possess a Bachelor's degree from an institution accredited by the appropriate regional accrediting association. Twelve courses must be completed; six required accounting classes and six electives. Students are required to have completed all prerequisite courses necessary (indicated in the course description) for any particular course in the certificate program. A maximum of two transfer courses are permitted. All remaining upper-level courses in the certificate program must be completed at Villanova.

**Certificate in Accountancy** (12 courses, 6 required courses, 6 elective courses)

Course #	Title	Credits
Required Courses:		
VSB 2004	Principles of Financial Accounting	3
VSB 3006	Principles of Managerial Accounting	3
ACC 2310	Intermediate Accounting I	3
ACC 2320	Intermediate Accounting II	3
ACC 2360	Federal Income Tax	3
ACC 2430	Auditing	3
Elective Courses:		
ACC 2340	Accounting Information Systems	3
ACC 2410	Accounting for Real Estate	3
ACC 2435	Advanced Auditing	3
ACC 2450	Advanced Accounting	3
ACC 2470	Cost Accounting	3
ACC 2480	Advanced Taxes	3
ACC 3350	Fraud Accounting	3
VSB 2007	Corp Responsibility and Regulation	3
BL 2185	Law of Contracts and Sales	3
VSB 2009	Principles of Finance	3

\*\* Students must have a minimum of 24 credits in the accountancy area.

**Certificate in Information Systems**

The certificate in Information Systems is designed to help acquire related information systems knowledge and skills through a broad selection of coursework. Students are **not** required to have a Bachelor's degree to enroll in the certificate program. Students are required to have all prerequisite courses necessary (indicated in the University Catalog) for any course in the certificate program. Courses may be transferred in from another accredited University to fulfill prerequisite requirements but will not be considered for the course hours. This allows students to complete additional electives. This certificate program is aligned with the

prerequisite courses needed by students who may wish to pursue a graduate degree in Computing Sciences in the College of Liberal Arts and Sciences.

**Certificate in Information Systems** (6 Courses, 4 Required, 2 Elective, 18 credits)

Course #	Title	Credits
<b>Required Courses</b>		
Introductory Course: CSC 1020 OR VSB 2006 OR CSC 1300	Computing & the Web OR Strategic Information Technology Discrete Structures  <u>Note:</u> CSC 1300 is required for students pursuing the Certificate in Information Systems to complete prerequisites for the graduate programs in Computing Science.	3
CSC 1051	Algorithms & Data Structures I [Prerequisite for graduate programs]	4
Databases: MIS 2030 OR CSC 4480	Database Management OR Principles of Database Systems	3
Systems Analysis: MIS 2040 OR CSC 4700	MIS 2040 Systems Analysis and Design OR CSC 4700 Software Engineering	3
<b>Elective Courses:</b>		
CSC 2400	Computer Systems I [Prerequisite for graduate programs]	3
CSC 1052	Algorithms & Data Structures II [Prerequisite for graduate programs]	4
CSC 4710	Information Systems Project Management	3
CSC 3070	Emerging Technology Trends	3
CSC 3080	Information Security & Protection	3
MIS 3030	Enabling Technology in E-Business	3
MIS 3020	Enterprise System Integration	3
CSC 2500	Survey of Information Science	3

**Certificate in Leadership**

The Certificate in Leadership is designed to help individuals acquire related knowledge and skills through a broad selection of coursework. It is especially useful for those students who have already completed a Bachelor’s degree in business or liberal arts but now wish to acquire a more formal grounding in leadership practices. To be eligible for this certificate, a student



must possess a Bachelor's degree from an accredited institution. This certificate can be completed in-person on Villanova's campus, online, or as a hybrid program.

**Certificate in Leadership Studies** (5 courses, 2 required, 3 elective 15 credits)

Course #	Course Title	Credits
Required Courses:		
LDR 2000	Foundations of Leadership	3
LDR 2010	Strategic Planning for Leaders	3
Elective Courses:		
LDR 2020	Leadership and Community	3
LDR 2030	Leadership and Technology	3
LDR 2040	Ethics and Leadership	3
PSY 2700	Industrial/Organizational Psychology	3
COM 3490	Organizational Communication	3
COM 3490	Leadership in a Borderless Economy	3
COM 3490	Negotiation and Decision Making	3

**Certificate in Pre-Health Professions Sciences**

This certificate program provides a fundamental education in the sciences that can lead to entrance into schools of the health professions and to a wide array of careers. Interested students are strongly encouraged to check the admissions requirements for individual schools and programs relating to the health professions.

To be eligible for this certificate, a student must possess a Bachelor's degree from an institution accredited by the appropriate regional accrediting association. A maximum of two courses (no more than 10 credits) which have been completed within the last five years may be transferred at the time of admission.

Students are required to have all prerequisite courses necessary (indicated in the University Catalog) for any course in the certificate program. Courses may be transferred for requirements but will not be considered for the course hours.

**Certificate in Pre-Health Professions Sciences** (8 Courses, 34 credits)

Course #	Course Title	Credits
BIO 2105	General Biology I (lab included)	4
BIO 2106	General Biology II (lab included)	4
CHM 1151 and CHM 1103	General Chemistry I AND Lab	5

CHM 1152 and CHM 1104	General Chemistry II AND Lab	5
CHM 2211 and CHM 2201	Organic Chemistry I AND Lab	4
CHM 2212 and CHM 2202	Organic Chemistry II AND Lab	4
PHY 1100 and PHY 1101	General Physics I AND Lab	4
PHY 1102 and PHY 1103	General Physics II AND Lab	4

### **Summer Session**

The summer program at Villanova is designed to assist students in fulfilling their academic needs through a variety of graduate and undergraduate courses offered each summer. Summer sessions run two four-week day sessions, and one eight-week evening and online session, and follow the dates specific on the University Academic Calendar found on the website of the Office of the Provost and CPS.

### **Visiting Summer Students**

Visiting summer students from other colleges/universities are required to apply to the College of Professional Studies. Academic advisement and the transferability of a Villanova summer course to the visiting student's college/degree program is the responsibility of the student.

### **Current Villanova Students**

Current Students register using the MyNOVA system, after obtaining their PIN from their academic advisor.

Students dismissed from Villanova University may not attend Summer Sessions.

For more information on summer sessions and assistance with registration, please call (610) 519-4300 or visit [villanova.edu/summer](http://villanova.edu/summer) session.

### **Flexible Enrollment Options**

#### **FastForward Courses**

Fast Forward courses are designed to help adult students accelerate their path toward graduation. These courses are scheduled as two- seven-week sessions throughout the fall and spring semesters. The session's start and end dates coincide with the Villanova University Academic Calendar. Courses are held on weekday evenings, for a class period of 3 1/2 hours, or offered online as distance learning.

FastForward campus courses are designed with 1,470 minutes of in person class sessions and an additional 780 minutes of "instructional equivalent" online activities and assignments is required. Fast Forward fully online courses must also "meet" for the equivalent of 2,250 minutes using a combination of live instruction time and having students engage in similar "instructional equivalent" activities.

### **Variable Course Load**

Students may vary their course load semester by semester, depending on their professional and personal demands. Full time status is defined as attempting 12 or more credits per semester, students attempting less than 12 credits per semester are considered part-time. Please see the Bursar's website for more information about credit limits and costs.

### **Distance Learning**

With online degree options, and most courses running either online and/or in a hybrid (on/campus and online) format, students have the ability to take courses that fit their scheduling needs. Distance Learning courses are identifiable by attribute in the Master Schedule.

## **ACADEMIC AND STUDENT POLICIES AND INFORMATION**

Unless otherwise noted, The College of Professional Studies follows the general University academic policies and regulations listed on the Office of the Provost's website. It is the responsibility of the student to know and observe all academic policies and regulations of the University and the College of Professional Studies. Note: such policies may change without prior notice.

### **Admissions Policies:**

#### **Admissions Requirements:**

Students in the College of Professional Studies are typically working professionals who are seeking to complete their degree or credit-bearing certificate in a flexible manner. Our students have typically earned prior college credit and/or an Associate's degree. For students without earned college credit, we require a minimum of four years post-secondary work experience, military experience, professional education, or a combination of the three before applying to our degree or credit-bearing certificate programs.

Students in the College of Professional Studies, on average, are 37 years old with 5-11 years' work experience and have generally earned at least 15 college credits.

Prospective adult students interested in applying to a degree or credit-bearing program in the College of Professional Studies will need to submit the following to be considered for admissions:

#### **Degree Programs:**

- Application fee: \$50.
- Official college transcript(s) for each school attended

Note: Unofficial transcripts can be submitted as part of the application, but official transcripts must be received by CPS upon admission and before registration

- An official high school transcript, or proof of passing the GED, is only required for students who have not earned 15 or more college credits.

- A 350-word essay, discussing your interest in the program to which you are applying, and the goals you wish to achieve as a result of attainment of a degree
- Current resume showing 4 years of post-secondary work experience

### **Credit-Bearing Certificate Programs:**

#### **Certificate in Information Systems**

- Application fee: \$50.
- Official college transcript(s) for each school attended.

Note: Unofficial transcripts can be submitted as part of the application, but official transcripts must be received by CPS upon admission and before registration.

- An official high school transcript, or proof of passing the GED, is required for students who have not earned 15 college credits

#### **Certificates in Accountancy, Leadership, or Pre-Health Professions**

- Application fee: \$50.
- Official transcript documenting a Baccalaureate degree from an accredited institution

Note: Unofficial transcripts can be submitted as part of the application, but official transcripts must be received by CPS upon admission and before registration.

#### **College of Professionals Studies International Student Admissions**

- Application fee: \$50.
- Transcripts: High school transcripts and official transcripts from all institutions of higher education where applicant completed coursework are required. Official English translation required by WES or NACES approved agency.
- Non-native English speakers must also submit official scores from either TOEFL or IELTS.
- Completed Certification of Finances form along with bank statement (dated no later than three months prior to the submission of your application) showing the ability to meet tuition and living expenses. If the bank statement is not in the applicant's name, then a letter of support must accompany the bank statement of the account holder stating he/she will financially support the application while he/she is attending Villanova.

The College of Professional Studies does not offer student housing. All international CPS students must secure their own housing.

International students are only admitted to the following CPS Programs:

- Bachelor of Interdisciplinary Studies (BIS)

- Bachelor of Arts in Leadership Studies (BA)
- Paralegal Professions Program

Official Transcripts should be sent to:

Mail – Villanova University, College of Professional Studies, 800 Lancaster Avenue, Villanova, PA 19085

Electronic – cps.info@villanova.edu

### **Individual Courses at Villanova**

The College of Professional Studies welcomes students interested in taking individual courses, but not enrolling in a degree program. These students typically enroll for professional enrichment or to complete prerequisite courses for another program. The application process to enroll in individual courses is competitive and dependent upon course availability. Students must have completed at least 15 college credits and demonstrated strong academic performance.

Students who are currently enrolled in another university can apply and be considered based on individual circumstances and with an official letter from their home university. The letter must state that they are in academic and disciplinary good standing and the credits can be transferred to the home institution.

If a student is accepted to enroll in individual courses, students are only eligible to enroll in 9 credits.

During the University's Summer Session, anyone who has earned a high school diploma (including individuals who are enrolled in another university) may apply to enroll in a course as a visiting student. Students must submit a copy of their high school or college transcript. High school applicants must have at least a 3.0 GPA.

### **Admission Deferment Policy**

Students who confirmed admission to CPS who now wish to defer their start date to a later semester may apply for an admission deferment.

- Requests to defer an offer of admission will be reviewed on a case-by-case basis and may be granted for reasons including illness, military service, or other extenuating circumstances. Supporting documentation must be provided with the application for deferment.
- An admission deferment may be granted for a maximum of one year.
- Deadline for application of deferment is the same date as the drop/add deadline for the current semester.

Failure to meet any of these terms may result in the revocation of admission. In such a case, an applicant will need to reapply for admission to the University by the appropriate application deadlines.

### **Readmission Policy**

Students are expected to make adequate, timely progress towards completion of their degree or credit-bearing certificate in the College of Professional Studies. Students who have voluntarily withdrawn from the College or have been away from the program without notifying the University for one academic calendar year may submit a petition for re-admission. In addition to submitting a petition, students will need to submit a new application to CPS. Petitions should be addressed to the Dean of the College of Professional Studies. The decision to re-admit students is made by the Dean, in consultation with the Director, Admissions and Enrollment and the Director, Academic Programs. Students may only re-admit one time to the College of Professional Studies.

In order to have re-admission considered, a former student should submit the following in their petition:

1. Full name at time of previous enrollment.
2. Name of previous degree / credit-bearing certificate program and major (if applicable).
3. Dates of attendance.
4. Reasons for withdrawal or absence.
5. Timetable for completion of degree / certificate requirements including expected date of graduation, if re-admitted.
6. Official transcripts of any universities attended since you left Villanova.

Students who are successfully re-admitted are subject to the rules and degree requirements as specified in the Undergraduate Catalog in effect for the academic year in which they are re-enrolled. This means that students will be required to complete any new courses or other graduation requirements that are currently required. A return to study is not always granted. Prior acceptance to any Villanova program does not guarantee future acceptance to that same or another program regardless of coursework completed or GPA.

The Dean will review the petition and the Directors' recommendations and will contact the student with a final decision. All decisions made by the Dean on matters of readmission are final and without right of further appeal.

Exceptions to the conditions of the above policy will be made for service members who have not been able to attend school due to military service.

Per the Academic Standing Policy, found on the Office of the Provost's Website:

"Any student who has not completed a degree within twelve years must complete a degree through CPS. If the degree or major pursued by the full-time student is not offered by CPS, then the former full-time student must choose a degree and/or major offered to part-time students."

## **ACADEMIC POLICIES**

CPS follows all University Academic Policies. For all policies, please see the Office of the Provost's website:

<https://www1.villanova.edu/villanova/provost/resources/student/policies.html>

### **Advanced Academic Credit**

In addition to the provisions for advanced academic credit listed in each College's section of this Catalog, CPS students may gain credit by examination by means of the College Level Examination Program (CLEP) administered by the College Entrance Examination Board. Credit is awarded for the CLEP Subject Examinations and NOT for the General Examinations. The credit must be applicable to the student's program. CLEP credits are considered transfer credits. A list of transferable CLEP courses is available on the CPS website. A score of 60 or higher on an approved Subject Examination will be considered for credit. Incoming students who have taken Advanced Placement (AP) or International Baccalaureate Higher Level (IB) exams should contact their Academic Advisor to verify Villanova's receipt of the official scores and ensure that proper adjustments have been made to their academic record. Students should request that the College Board send AP scores directly to Villanova University (our code is 2959). A maximum of 60 transfer credits, which includes, CLEP, AP and IB credits, and credits from other colleges or universities, may be accepted toward a degree program. These credits are not accepted for core curriculum courses. Students seeking to transfer ACE credits (such as Joint Military Transcripts) should discuss transferability with their Academic Advisor.

### **Academic Advising**

Every student entering the College of Professional Studies is assigned an Academic Advisor. Advisors are available in person, via telephone and video meetings, during posted hours and/or by appointment. It is the responsibility of the student to connect with their advisor prior to each registration period and throughout their degree program to review academic goals and progress.

### **Academic Standing**

CPS follows University Policies on Academic Standing and Probation. For entire policy see the Office of the Provost's website:

<https://www1.villanova.edu/villanova/provost/resources/student/policies/standing.html>

Villanova uses three related policies to define Academic Standing: Grade Point Average; Academic Progress and Academic Probation. The correct interpretation of all three policies is that all students who are making sufficient progress toward their degree and who are eligible or have been allowed to register and take academic course work at Villanova for the current term are considered in good academic standing.

Academic Probation: The records of students who's cumulative or semester quality-point average falls below 2.00 will be reviewed by the Academic Standing Committee of their college for appropriate action. Students in business, science or engineering whose technical course quality-point average falls below 2.00 will also come before the committee. Typically, the student will either be placed on academic probation or

dismissed. While on academic probation, students are limited to a schedule of courses determined by the Academic Standing Committee of their College. A student on academic probation will normally be allowed only one semester to achieve the required quality-point average

**Academic Dismissal:** A student who is not making satisfactory academic progress (minimum 2.0 GPA and eligible to register for academic course work in the current term) at CPS will be dismissed from the college. For additional information, refer to the University Academic Dismissal Policy found on the Office of the Provost's website. <https://www1.villanova.edu/villanova/provost/resources/student/policies/dismissal.html>

### **Transfer Policy**

Students enrolled in the College of Professional Studies (CPS) are not permitted to transfer into other colleges at Villanova.



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## COURSES LISTING

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**AAH 1102 His West Art: Renaiss - Cont** The history of the visual arts in the West from the Early Renaissance to the present. (3 cr) Last Offered: Fall 2019 Fall 2018 Spring 2018

**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. (3 cr) Last Offered: Fall 2019 Fall 2017 Fall 2016

**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. (3 cr) Last Offered: Spring 2019 Spring 2017 Spring 2016

**AAH 1903 Internship Elective** An internship in an elective area of concentration. (3 cr) Last Offered: Fall 2019 Spring 2019 Spring 2018

**AAH 2000 Ancient Art** The artistic contributions of the ancient societies of Egypt, the Aegean, Greece and Rome, placed within appropriate cultural contexts.(3 cr) Last Offered: Spring 2018 Spring 2017 Spring 2014

**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. (3 cr) Last Offered: Fall 2019 Spring 2017 Spring 2016

**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. (3 cr) Last Offered: Spring 2019 Spring 2017 Spring 2015

**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. (3 cr) Last Offered: Fall 2015 Fall 2012 Fall 2006

**AAH 2004 Modern Art** An examination of the visual arts since 1900 that emphasizes their historical roots and present social significance. (3 cr) Last Offered: Fall 2019 Fall 2011 Fall 2010

**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. (3 cr) Last Offered: Fall 2019 Fall 2017 Fall 2016

**AAH 2008 The Renaissance City** The role of art in the development of Italian Renaissance cities, particularly Siena. The impact of humanism and antiquity. The creation of urban identity. The imitation of ancient Roman public and domestic architecture. The renewal of classical urban planning. (3 cr) Last Offered: Summer 2013 Summer 2012 Summer 2011

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Spring 2018 Fall 2015 Spring 2014

**AAH 2993 Internship** (3 cr) Last Offered: Fall 2016 Fall 2015 Spring 2015

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2017 Spring 2015

**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. (3 cr) Last Offered: Fall 2018 Fall 2014 Fall 2012

**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. (3 cr) Last Offered: Fall 2018 Fall 2016

**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. (3 cr) Last Offered: Summer 2019 Summer 2018 Summer 2017

**AAH 3009 Topics in Art History** Selected themes or periods in the history of art examined in depth. (3 cr) Last Offered: Summer 2019 Spring 2019 Spring 2018

**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. (3 cr) Last Offered: Spring 2014 Spring 2002 Spring 2000

**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. (3 cr) Last Offered: Spring 2014 Fall 2008 Fall 2004

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Spring 2018

**AAH 5515 Independent Research** An intensive research project under individual direction. Permission of chairperson required. (3 cr) Last Offered: Fall 2019 Spring 2019 Spring 2018

**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. (3 cr) Last Offered: Summer 2016 Fall 2015 Summer 2015

**ACC 2020 Special Topics** Special accounting topics offered in lecture/seminar format. Permission of Department Chair. (1 cr)

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Spring 2018 Fall 2016

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Fall 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Fall 2017

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (6 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (6 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**ACC 3500 Ind Study: Accounting** (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**ACS 1000 Ancients** A Humanities seminar based principally on texts and readings drawn from primary sources up to 1650. Extensive written work and seminar discussions. Required readings: Hebrew and Christian scriptures, selections from the works of Augustine, Greek and Renaissance works. Readings from different genres and disciplines. Themes developed by the instructor in accordance with the selected readings. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**ACS 1001 Moderns** A Humanities seminar based principally on texts and readings drawn from primary sources 1650 to the present. Extensive written work and seminar discussions. Readings from each of the following five historical eras: Early Modern, Enlightenment, Romantic, Modernist, Contemporary. Readings will also reflect different genres and disciplines. Themes developed by the instructor in accordance with the selected readings, including a specific Augustinian theme. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (1 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015

**AER 1012 Leadership Lab** (0 cr) Last Offered: Spring 2018 Fall 2017 Fall 2016

**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. (1 cr) Last Offered: Spring 2018 Spring 2017 Spring 2014

**AER 1022 Leadership Lab** Spring 2019 Fall 2018 Spring 2017

**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. (1 cr) Last Offered: Fall 2018 Fall 2017 Fall 2016

**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. (1 cr) Last Offered:

Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2018 Fall 2016 Fall 2015

**AER 2021 Air Force Leadership Studies II** An interdisciplinary approach to leadership which includes study of human behavior and relationships, and motivation. (3 cr) Last Offered: Spring 2019 Spring 2016 Spring 2014

**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. (3 cr) Last Offered: Fall 2016 Spring 2015 Fall 2014

**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. (3 cr) Last Offered: Spring 2017 Spring 2015 Fall 2014

**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 (3 cr) Last Offered: Spring 2019 Spring 2018

**AFR 3100/3101/3102 Special Topics** Specific topics vary each semester. (3 cr)

**AFR 5000 Ind. Study Africana Studies** Permission of Program Director. Individual students with specific interest work on a tutorial basis with an appropriate professor. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2004

**AIS 3000 Special Topics** (3 cr) Last Offered: Spring 2014 Fall 2012 Spring 2012

**AIS 4100 AIS Seminar** (3 cr) Last Offered: Spring 2016 Spring 2014 Fall 2013

**AMP 2020 Growth Mindset** This course will explore the science of character necessary for developing and embracing a growth mindset for authentic leadership based on ethics, character, and integrity. This course is an opportunity for students to examine and re-evaluate their beliefs, values, and assumptions about character and mindset, and then apply them in various leadership contexts. Villanova Core Values of Veritas, Unitas, and Caritas will be a vital component of the process. (3 cr) Last Offered: Summer 2018

**AMP 2030 Decision Making for Profession** Decision making is a basic function



for professional administrators and managers. This course will explore decision making philosophy and provide leadership opportunities to analyze situations, solve problems, and skillfully communicate to increase organizational effectiveness. Students will assess decision making skills (self and others) and develop a presentation/plan to enhance an organization's structure and practice. (3 cr) Last Offered: Spring 2018

**ARB 1111 Basic Arabic I** Functional use of Modern Standard Arabic for students with no prior knowledge of Arabic. Recitations, readings and oral drills. (6 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (6 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (5 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (5 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2019 Fall 2017 Fall 2016

**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. (3 cr) Last Offered: Spring 2018 Spring 2017 Spring 2016

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Spring 2009

**ARB 2142 Arab Culture Thru Film & Text** Arab culture and civilization with emphasis on the Arab people's contribution to the arts and sciences. Satisfies Diversity Requirement. (3 cr) Last Offered: Spring 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Fall 2016 Fall 2015

**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. (3 cr) Last Offered: Fall 2019 Spring 2015 Spring 2014

**ARB 5900 ARB: Independent Study** Supervised study, activity or research. May be taken more than once. Prior approval of chair and instructor. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Spring 2019

**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. (3 cr)

**ASPD 1000 Advising: Explore & Experience** Take control of your education by learning how to harness opportunities that will maximize personal and professional success as you begin your journey. Understand how to make educational choices, maintain health and wellness, exhibit professionalism, and explore possible professional directions. (1 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (1 cr) Last Offered: Fall 2017

**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. (1 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (1 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (1 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (1 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (1 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (1 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (1 cr) Last Offered: Fall 2012

**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. (1 cr) Last Offered: Fall 2013

**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. (1 cr) Last Offered: Spring 2014

**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. (1 cr) Last Offered: Spring 2019 Spring 2018

**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. (1 cr) Last Offered: Fall 2019 Spring 2019

**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. (1 cr) Last Offered: Spring 2019

**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. (1 cr)

**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. (1 cr) Last Offered: Spring 2019

**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. (1 cr) Last Offered: Fall 2019

**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. (1 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (1 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (1 cr) Last Offered: Spring 2018

**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. (1 cr) Last Offered: Fall 2019 Spring 2019 Spring 2018

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Spring 2018

**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. (3 cr) Last Offered: Fall 2019  
Spring 2019      Fall 2018

**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. (3 cr) Last Offered: Spring 2013

**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. (3 cr) Last Offered: Fall 2019 Fall 2018      Fall 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (2 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**AST 2134 Observational Lab II** Continuation of AST 2122. (2 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2018 Fall 2016 Fall 2014

**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. (3 cr) Last Offered: Spring 2019 Spring 2017 Spring 2015

**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. (3 cr) Last Offered: Fall 2019 Fall 2017 Fall 2015

**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. (3 cr)

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**AST 4122 Undergrad Research II** Continuation of AST 4121. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr)

**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. (3 cr)

**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. (3 cr) Last Offered: Summer 2019 Spring 2019 Summer 2018

**BA 2500 Communication Portfolio I** Record/videotape 3-5 minute oral presentation for evaluation by Communication Department. (0 cr)

**BA 4500 Communication Portfolio II** Record/videotape 3-5 minute oral presentation for evaluation by Communication Department. (0 cr)

**BIO 1057 Intro to Occupational Therapy** Provide an understanding of the

practice of Occupational Therapy through observation & readings in an independent study format. (2 cr) Last Offered: Fall 2019 Spring 2019 Spring 2018

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (4 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (4 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**BIO 1903 Internship Elective** Open to BIO and BSC majors. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**BIO 1906 Internship Elective** Open to BIO and BSC majors. (6 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**BIO 1950 TOPIC: Elective in Biology** Selected topics in biological and interdisciplinary studies. Will not count for credit for the biology major. (3 cr) Last Offered: Fall 2016 Spring 2016 Fall 2015

**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. (4 cr)

**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. (4 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (4 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**BIO 2993 Internship** Open to BIO and BSC majors. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**BIO 2996 Internship** Open to BIO and BSC majors. (6 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (4 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**BIO 3055 Animal Physiology** The basic principles underlying how animals function and the mechanisms used to solve physiological problems. (4 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (4 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (4 cr) Last Offered: Spring 2019 Spring 2016 Spring 2015

**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. (4 cr) Last Offered: Spring 2015 Spring 2014 Fall 2009

**BIO 3255 Evolutionary Ecology** Factors affecting the distribution, abundance, and interactions of organisms. Climate patterns, biomes, physiological adaption, 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. (4 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (4 cr) Last Offered: Fall 2019 Spring  
2019 Fall 2018

**BIO 3385 Global Change Ecology** Roles of ecology in documenting, responding, feedback 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. (4 cr)

**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. (4 cr) Last Offered: Fall 2013 Fall 2011 Fall 2009

**BIO 3455 Histology** The microscopic study and demonstration of cells, tissues and organ systems of the mammalian body. (4 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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). (4 cr) Last Offered: Fall 2018 Fall 2017 Spring 2017

**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. (4 cr) Last Offered: Fall 2018 Fall 2016 Fall 2013

**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. (4 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Fall 2017 Fall 2015

**BIO 3905 Vascular Plants** Organization of the vascular plant body, plant reproduction and development, systematic and environmental considerations, tissue culture and hormonal regulation. (4 cr) Last Offered: Fall 2014 Fall 2012 Spring 2010

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Spring 2018

**BIO 3952 Special Topics in Biology LAB** One credit lab in Biology. Topic to be determined by term. (1 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (4 cr) Last Offered: Fall 2019 Fall 2018 Summer 2018

**BIO 4105 Bacterial Pathogens** Strategies and mechanisms of bacterial pathogens in disease, defense strategies used by the host, vaccine strategies, and the engineering of new vaccines using bacterial vehicles. Laboratory on isolation and cultivation of pathogens, transfer and manipulation of pathogens to study mechanisms of disease. (4 cr) Last Offered: Fall 2018 Fall 2016 Fall 2014

**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. (4 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**BIO 4251 Endocrine Physiol/Pharmacology** Mechanisms of endocrine control of growth, metabolism, reproduction, adaptation, and behavior. The endocrine glands. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**BIO 4252 Endocrine Physiol/Pharmacology** Laboratory experience in endocrinology, demonstrative and analytical. (1 cr) Last Offered: Fall 2016 Fall 2015 Fall 2014

**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. (4 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (4 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Spring 2017 Spring 2015

**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 .(4 cr) Last Offered: Spring 2015 Spring 2013 Spring 2012

**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. (2 cr) Last Offered: Fall 2019 Spring 2019 Fall 2017

**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) Last Offered: Spring 2019 Spring 2018 Spring 2014

**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. (4 cr) Last Offered: Fall 2019 Spring 2019 Spring 2018

**BIO 4605 Neurobiology** The physiology of the nervous system using vertebrates and invertebrates. The function of nerve cells, synapses, sensory, motor, behavior and learning. (4 cr) Last Offered: Fall 2019 Fall 2018 Fall 2016

**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. (3 cr) Last Offered: Spring 2013 Spring 2010 Spring 2009

**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. (2 cr) Last Offered: Summer 2014 Summer 2013 Spring 2013

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (4 cr) Last Offered: Fall 2019 Spring 2019 Fall 2017

**BIO 5100 Senior Seminar** Special topics in modern biology, presented by student lectures and informal discussions. Topics to be announced each semester. (1 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (2 cr) Last Offered: Fall 2013

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**BIO 6100 Affiliation Study**(0 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**BIO 6401 BS/MS Independent Study 1** Supervised laboratory/field research (1 cr) Last Offered: Fall 2019 Fall 2017 Fall 2016

**BIO 6402 BS/MS Independent Study 2** Supervised laboratory/field research. (1 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**BIO 6403 BS/MS Independent Study 3** Supervised laboratory/field research. (1 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**BIO 6404 BS/MS Independent Study 4** Supervised laboratory/field research. (1 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (2 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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) (1 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (2 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**BL 2149 Cont. Topics in Business Law** Contemporary issues and topics which affect the legal environment of business. (3 cr)

**BL 2150 Real Estate Princs Pracs** Ownership, possession and management of land and buildings; landlord and tenant, transfer of rights; title insurance; moral and ethical dimensions; comparison with other legal systems. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**BL 2185 Law of Contracts & Sales** Elements for legal agreements; Uniform Commercial Code Article 2; moral and ethical dimensions; comparison with other legal systems. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**BL 3350 Independent Study - BL** Independent Study under faculty guidance in an area of student's special interest. Permission of Faculty and Department Chair. (3 cr) Last Offered: Summer 2017 Summer 2016 Summer 2015

**CBN 2900 Topics in Cog & Behav Neuro** Topics in Cog & Behav Neuro: Neuroscience and ethics, Neuroeconomics, Drugs and behavior, etc. (3 cr)

**CBN 4000 Cell & Behavioral Neuroscience** Neuronal mechanisms of behavior: Molecular and cellular processes, neural plasticity and epigenetic modification, coding of sensory and motor processes. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**CBN 5000 Advanced Lab in Neuroscience** Advanced Laboratory in Neuroscience: Examination of research methodologies, analysis techniques and data interpretation at different levels of neuro-behavioral investigation. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**CEE 1205 Introduction to CEE** Introduction to Civil and Environmental Engineering for freshman. Students are exposed to environmental, geotechnical, structural and material, transportation, and water resource problems and exercises. (3 cr) Last Offered: Spring 2019

**CEE 2100 Egr Mechanics I-Statics** Vector analysis of force systems on particles and rigid bodies with particular emphasis on mathematical and physical formulation of principles underlying the solution of engineering problems; vector algebra; friction; centroids and moments of inertia. (3 cr) Last Offered: Spring 2018 Spring 2017 Spring 2016

**CEE 2103 Mechanics of Solids** Stress resultants in bodies from tension, compression, shear, flexure, torsion and temperature; stress and strain transformations; combined stresses; load deformation relationships; Euler buckling. (3 cr) Last Offered: Summer 2019 Summer 2018 Summer 2017

**CEE 2105 Mechanics I: Fund. Behavior** Forces & moments; equilibrium of particles and rigid bodies; analysis of trusses; stress & strain; axial deformations; distributed force patterns; centroids & moments of inertia; dry friction; column buckling. (4 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**CEE 2106 Mech II: Material Behavior** Shear & moment diagrams; bending & shear stresses; beam deflections; torsion; stress & strain transformations; combined loadings; characteristics of civil engineering materials including Portland cement concrete, masonry, wood, composites, & asphalt; experimental testing using recognized standards. (4 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**CEE 2211 Transportation Engineering** Introduction to transportation planning, intermodal transportation systems, roles of government agencies, alternatives analysis, environmental justice and right-of-way process, facility design (alignment, geometrics), operations (capacity, level of service, traffic control, queuing), and air/public/freight/port and future modes of transportation. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**CEE 2311 Environmental Engr Science** Fundamental physical/chemical/microbiological principles for environmental remediation; environmental regulations; air and water quality, dissolved oxygen modeling, fate and transport of contaminants, risk assessment. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**CEE 2604 Civil Engineering Fundamentals** Development of analytical,

experimental, interpretive and field-based skills and procedures for civil engineering; computation and computer methods; professional engineering. (3 cr) Last Offered:  
Fall 2019                  Fall 2018                  Fall 2017

**CEE 2805 Geology for Engineers** Development and composition of minerals, rocks and soils; geologic structure and deformation of rock masses; weathering, mass wasting, erosion, groundwater, streams, ocean currents and glaciers. (3 cr) Last Offered:  
Fall 2019 Fall 2018 Fall 2017

**CEE 3107 Mechanics III: Fluid Behavior** Fluid properties; kinematics of particles & flow; conservation of mass, energy and momentum; fluid resistance, boundary layer theory, flow in conduits; lift and drag; turbomachines. (4 cr) Last Offered: Fall 2019  
Fall 2018                  Fall 2017

**CEE 3321 Water & Wastewater Treatment** Water quality problems and eutrophication; Clean Water and Safe Drinking Water Acts; analysis and design of unit processes in water and wastewater treatment facilities including sedimentation, coagulation and flocculation, adsorption, filtration, disinfection, activated sludge and trickling filters. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**CEE 3401 Structural Analysis** Concepts of stability and determinacy; moment area, conjugate beam and energy principles; indeterminate analysis by method of consistent deformation, slope deflection, moment distribution, introduction to analysis software. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**CEE 3402 Structural Steel Design** Design of structural steel members using the AISC Manual; Topics include: structural loads; ASD and LRFD design methods; local buckling; design of beams for flexure, shear, and serviceability; compression members; tension members; combined loading. Includes an integrated laboratory component. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**CEE 3500 Fluid Mechanics** Fluid properties; fluid statics, kinematics of flow; conservation of mass, energy and momentum; dynamic similarity; fluid resistance, boundary layer theory, flow in conduits; lift and drag; potential flow; compressible flow. (3 cr) Last Offered: Spring 2017 Spring 2011 Spring 2010

**CEE 3511 Hydraulic Egr & Hydrology** Pressure conduits, water and wastewater transport, pumping; open channel flow, hydraulic structures; principles of hydrology. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**CEE 3705 Engineering Economics** Components of economic analysis for decision making among alternative including cash flow diagrams, break-even analysis, money-time relationships and equivalent worth, present worth analysis, rates of return, cost estimation, pricing strategy, life cycle analysis and benefit/cost ratio analysis. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**CEE 3801 Soil Mechanics** Properties of soil as an engineering material, stresses in soil masses, consolidation and settlement, bearing capacity, seepage and soil stabilization. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**CEE 3901 Soil Mechanics Lab** Soil classification; techniques for determining properties of soil and soil aggregate; case histories in geotechnical engineering. One period a week. (1 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**CEE 3902 Civil Egr Materials** Basic properties of civil engineering materials including steel, Portland cement concrete, asphalt binder and concrete, aggregates, wood, masonry, and composites. (2 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**CEE 3910 Fluid Mechanics Laboratory** Experiments and demonstrations illustrating principles of flow behavior including computer-aided analysis and interpretation. Co-requisite: CEE 3500 Fluid Mechanics or permission of CEE Chair. (1 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**CEE 3913 Hydraulic Egr & Hydrology Lab** Experiments and demonstrations illustrating principles of flow in open channel flow, hydraulic structures, pressure conduits, pumping and hydrology. Laboratory includes numerical simulation and analysis of experiments. (1 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**CEE 3921 Environmental Egr Lab** Physical, chemical, and microbiological analyses of water and wastewater; quantitative analysis of several unit operations and processes for water and wastewater treatment plant design and control; field trips to water and wastewater processing facilities. (1 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**CEE 3950 Graphical Communications** Expressing calculations and designs through graphical techniques. (1 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**CEE 4224 Trans Facilities Design** (CEE Senior Elective) Engineering applications of transportation design process including design philosophies, environmental impact evaluations, materials design, pavement design, and design of highway, airport, rail facilities. Use of national and state codes and computer-based design software. (3 cr) Last Offered: Fall 2018 Fall 2017 Fall 2016

**CEE 4226 Transportation System Design** (CEE Senior Elective and/or Technical or Free Elective) Engineering applications of transportation design process including design philosophies, elements of systems capacity design, intersections, and interchange design. Use of national and state codes and computer-based design software. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2016

**CEE 4331 Solid & Hazardous Waste** (CEE Senior Elective) Solid waste generation, composition, collection, management and regulations; hazardous waste classification, regulation and management; air pollution control methods. (3 cr) Last



Offered: Fall 2019

Fall 2018 Fall 2017

**CEE 4404 Reinforced Concrete Design** Design of reinforced concrete members using ACI 318. Topics include structural loads, design of flexural members (rectangular beams, t-beams and slabs), shear design, serviceability, column design, and detailing. Includes an integrated laboratory component. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**CEE 4521 Water Resources Egr Design** (CEE Senior Elective) Design fundamentals of hydrology and open channel hydraulics using production-level programs. Topics include design storms, storm water design and open-channel river modeling. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**CEE 4601 CEE Capstone Design 1** Relationships among planning, design, and construction processes for civil engineering projects. Multidisciplinary team feasibility study, alternatives analysis, and development of a conceptual design in civil engineering. Seminars on professional practice. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2011

**CEE 4602 Professional Practice in CEE** Relationships among planning, design, and construction processes for civil engineering projects. Multidisciplinary team feasibility/alternative study focusing on conceptual design. Seminars on career choices, ethics, business, public policy, and leadership. (2 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015

**CEE 4606 CEE Capstone Design 2** Culminating design experience in civil engineering. Written and oral reports on a design project in one or more civil engineering disciplines. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**CEE 4607 Selected Topics in CEE** Specialty class in or independent study on a current engineering topic. Section numbers below 10 are technical electives within the CEE curriculum. (3 cr) Last Offered: Fall 2019 Spring 2019 Summer 2018

**CEE 4608 Project & Constr Management** (Technical Elective) Project scheduling, estimating, specifying, cost management, personnel management, logistical support, contracts and change orders. Interaction among clients, engineers, constructional organizations and regulatory agencies. Focus on sustainable design. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**CEE 4609 CEE Special Topics** Specialty class in or independent study on an engineering topic. Civil Engineering with permission of chair. (1 cr) Last Offered: Fall 2019 Spring 2019 Spring 2018

**CEE 4610 Intern'l. Res. Collaboration** Research performed off campus at an international destination. Topic, program, and work plan must be pre-approved. Requires approval of Chair. (3 cr) Last Offered: Summer 2018

**CEE 4611 Civ Engr Service Learning** Service learning experience related to civil engineering. Mandatory weekly group meetings for preparation and reflection on service activities and their impacts. Consent of instructor required. (1 cr) Last Offered: Spring 2018 Spring 2017 Spring 2016

**CEE 4612 CEE Undergraduate Research** (Technical Elective) Individual participation in modern analytical or experimental research activities under faculty supervision; required technical report and presentation at end of semester. Consent of department chair required. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**CEE 4801 Foundation Design** (CEE Senior Elective) Soil testing, site investigation, design of both shallow and deep foundations. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**CGS 5900 Cognitive Science Seminar** Interdisciplinary seminar focusing on theories, methods, and applications related to the study of intelligent systems. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2018 Fall 2016

**CGS 5990 Special Topics** Selected topics in Cognitive Science: attention, computational modeling, linguistics, deep learning, embodiment etc. (3 cr)

**CHE 2031 Intro Chemical Processes** Application of physical and chemical principles to the solution of steady-state material balances. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**CHE 2032 Chem Engr Thermo I** Thermodynamics of single component systems: applications of first and second laws, steady-state energy balances, equations of state, thermodynamic properties of fluids, thermochemistry. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**CHE 2232 Fluid Mechanics** Fluid statics, fluid properties, flow of incompressible fluids in conduits, friction factors, meters, pumps, external flow, drag, flow in packed and fluidized beds. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**CHE 2900 Global Pharmaceutical Industry** Fundamental drivers such as new technologies that characterize the global pharmaceutical industry. Includes attention to regulatory harmonization and global access to medicines; as well as elements such as global supply chain management and risk-based quality. (3 cr) Last Offered: Spring 2018 Spring 2016 Spring 2014

**CHE 3031 Heat Transfer** Principles of heat flow, mechanisms of conduction,

convection and radiation, correlations for heat transfer coefficients, heat transfer equipment and process applications. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**CHE 3032 Mass Transfer** Fundamentals of interphase mass transfer: mechanisms, driving force and resistance to transfer, design and analysis of continuous and staged contacting processes, gas absorption and stripping, binary distillation, liquid extraction. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**CHE 3131 CHE Thermodynamics II** The fundamental property relation, thermodynamic properties of single and multiple pure phases, homogeneous multicomponent phases, ideal and non-ideal liquid solutions, phase equilibria, chemical reaction equilibria, problem solving techniques, applications. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**CHE 3332 ChemE Reactor Engineering I** Principles and methods of chemical kinetics and reactor design. Introduction to heterogeneous systems. Stoichiometry and rate laws for simple and complex reactions, analysis of reaction rates, isothermal reactors, introduction to temperature effects. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**CHE 3931 Technical Communications** Oral and written communication skills, reporting and analyzing results of experiments and/or literature investigations, graphical reporting. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**CHE 3932 ChemE Lab I** Application of chemical engineering principles to laboratory and pilot scale equipment. Oral and written reporting of results. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**CHE 4131 Process Design I** Application of fundamental principles of chemical engineering to design of industrial chemical processes; use of process simulators (such as AspenTech ASPEN PLUS) for process design. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**CHE 4232 Chemical Process Control** Introduction to process control concepts and applications, computer simulation of processes during transient change, real-time and LaPlace domain analysis of controlled systems. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**CHE 4331 Process Modeling & Analysis** Application of rate laws and conservation equations to modeling by differential equations of physical and chemical systems. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**CHE 4831 Senior Project Studio I** Independent investigation of a chemical engineering problem, under supervision of a faculty advisor, or industry sponsor, including a written comprehensive report. (Nine hours per week of independent study). (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**CHE 4832 Senior Project Studio II** Continuation of CHE 4831. May include further investigation of same problem or a different topic. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**CHE 4931 ChemE Lab II** Design and analysis of chemical engineering experiments using laboratory and pilot scale equipment. Oral and written reporting of results. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**CHE 5001 Industrial Liq & Sld Waste** Industrial waste management: nature and sources of waste streams, principles underlying chemical and physical treatment methods, case studies of treatment technology. (3 cr) Last Offered: Spring 2019 Spring 2017 Spring 2015

**CHE 5002 Prin of Air Pol Control** Causes, effects and control of air pollution, emphasizing abatement technologies: classification and sources of airborne pollutants, particulate control devices, VOC abatement technologies, NO<sub>x</sub> and SO<sub>x</sub> abatement, and meteorological effects. (3 cr) Last Offered: Fall 2019 Spring 2018 Fall 2016

**CHE 5032 Equipment Design & Spec.** Equipment design and specification based on theoretical and practical knowledge of unit operations. Analysis and design of several types of process equipment. Mandatory tours of chemical process facilities will be scheduled on Friday afternoons based on student interest. (3 cr) Last Offered: Spring 2019 Spring 2015 Spring 2014

**CHE 5062 Chemical Engineering Economics** Methods of economic evaluation & decision making, applied to engineering problems. Cost estimation & indexing, time value of money, depreciation, comparison of alternatives. (3 cr) Last Offered: Fall 2018 Fall 2016 Fall 2014

**CHE 5131 CHE Math and Num Method** Mathematical and numerical method techniques for solving equations of importance to chemical engineering applications. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2015

**CHE 5133 Brewing Science & Tech** The science in the suds: course covers chemistry of malt and mashing, hops chemistry, biology of fermentation, and the engineering technology of brewing beer. This course requires an understanding of organic chemistry and microbiology. Pre-requisites: CHM 2211 Organic Chem I/permissible instead. Must be 21 years old at the start of the class. (3 cr)

**CHE 5232 Industrial Catalytic Processes** Principles and methods of chemical kinetics and reactor design applied to heterogeneous reactive systems of industrial importance: catalysis and catalytic reactors, catalyst deactivation, diffusion effects, design of heterogeneous catalytic and non-catalytic chemical reactors. (3 cr) Last Offered: Fall 2012 Spring 2011 Spring 2010

**CHE 5332 Special Topics in CHE** Selected topics in chemical engineering: recent developments, new technology, applications of other disciplines to chemical engineering problems. RESTRICTION: Must have Chair's Permission. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**CHE 5530 Gene Therapy Methods & Research** Lectures on common cloning methods and DNA sequencing/ analysis techniques, along with labs that require students to design/construct a mammalian gene expression plasmid and evaluate it in animal cells. (3 cr) Last Offered: Fall 2019

**CHE 5532 Intro to Biotechnology** Production of commercially useful materials by living organisms, emphasizing emerging technology: biologically important compounds, their relationships to genetics and metabolic pathways, controlled growth of microbes, separation and purification of products. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2017

**CHE 5533 Bioseparations** Factors underlying physical and chemical separations of natural (biological) products: centrifugation and filtration, cell Breakage, precipitation, extraction, adsorption, chromatography and crystallization; process-scale equipment and operations. (3 cr) Last Offered: Spring 2018 Spring 2017 Spring 2016

**CHE 5534 Biomaterials** Materials for use in medicine and in/on the body, material bulk and surface properties, biological responses to materials, applications, manufacturing processes, cost, sterilization, packaging and regulatory issues. (3 cr) Last Offered: Fall 2018 Spring 2017 Fall 2016

**CHE 5535 Bioengineering Lab Techniques** Fundamental concepts of current biotechnology techniques; demonstration and application of laboratory methods encountered in industry or academia, including genetic engineering, bacterial/mammalian cell culture, and protein expression, purification, and characterization. (3 cr) Last Offered: Fall 2017 Spring 2017 Spring 2016

**CHE 5632 Polymer Sci and Engr** Basic principles of polymer science: nature and structure of organic high-polymers, polymerization reactions, physical and chemical properties, mechanical testing, viscoelasticity, flow and processing applications. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**CHE 5633 Nanomaterials & Surface Scienc** Factors underlying interfacial phenomena and nano-material formation; thermodynamics of surfaces; emulsification, foaming, detergency, nucleation, wetting adhesion, surface films; particle growth, micelles, self-assembled monolayers; unique nanoscale characterization and properties. (3 cr) Last Offered: Fall 2017 Fall 2016 Spring 2016

**CHE 5634 Intro to Material Science** Comprehensive introduction to structure/property relationships of engineering materials; atomic & molecular structure of materials; means to control structure; mechanical behavior; electronic behavior; effects of treatment history on properties; effects of usage conditions on properties; material selection.

(3 cr) Last Offered: Fall 2017 Fall 2015 Fall 2013

**CHE 5715 Alternative Energy** Technical, economic, and social evaluations of alternative and sustainable energy sources focusing on liquid fuels as well as other energy sources. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**CHE 5842 Safety Analysis** Hazard identification; flammability; material properties; pressure relief; toxicity; risk analysis. (3 cr) Last Offered: Spring 2018

**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. (6 cr) Last Offered: Fall 2019 Fall 2018 Summer 2018

**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. (6 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (5 cr) Last Offered: Fall 2019 Fall 2018 Summer 2018

**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. (5 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Summer 2018

**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. (3 cr) Last Offered: Spring 2019 Summer 2018 Spring 2018

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Spring 2019

Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2015

**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. (3 cr) Last Offered: Spring 2016

**CHI 1151 Spec. Top. in Chinese Language** Intensive instruction in conversation, reading and writing with emphasis on the refinement of Chinese language skills. (3 cr) Last Offered: Fall 2015

**CHI 2143 Chinese Culture** Chinese culture and civilization from the beginning to the present. Conducted in English. Satisfies Diversity Requirement. (3 cr) Last Offered: Summer 2019 Summer 2018 Summer 2017

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**CHI 5900 CHI: Independent Study** Supervised study, activity or research. May be taken more than once. Prior approval of chair and instructor. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**CHM 1000 Profesi Development Sem** 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. (1 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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 (1 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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.) (1 cr) Last Offered: Summer 2019 Spring 2019 Summer 2018

**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. (1 cr) Last Offered: Fall 2019 Spring 1998 Fall 1997

**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. (1 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**CHM 1134 General Chemistry II** Introduction to organic and biochemistry stressing the application of principles developed in CHM 1131. Open to health affiliation students. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (4 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (4 cr) Last Offered: Summer 2019 Spring 2019 Summer 2018

**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. (4 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017



**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. (2 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (2 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**CHM 1903 Internship Elective** (3 cr) Last Offered: Spring  
2019 Spring 2018 Spring 2017

**CHM 1906 Internship Elective** (6 cr) Last Offered: Spring  
2019 Spring 2018 Spring 2017

**CHM 1909 Internship Elective** (9 cr) Last Offered: Spring  
2019 Spring 2018 Spring 2017

**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. (1 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (1 cr) Last Offered: Summer 2019 Spring 2019 Summer 2018

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Summer 2019 Spring 2019 Summer 2018

**CHM 2993 Internship** (3 cr) Last Offered: Summer 2019 Summer 2018 Summer 2017

**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. (2 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (2 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**CHM 3301 Inorganic Chem Lab II** This laboratory course emphasizes preparative techniques of inorganic compounds. Instrumental methods of structure elucidation are included. (2 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**CHM 3402 Physical Chem Lab II** Experimental methods of chemical kinetics will be covered. Spectroscopic, polarimetric, and conductimetric methods will be used. (1 cr) Last Offered: Spring 2018 Spring 2017 Spring 2016

**CHM 3403 Physical Chem Lab for Majors** Experiments centered on chemical thermodynamics including calorimetry and phase equilibria, emphasizing data treatment, including error analysis curve fitting, and related topics. (2 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**CHM 3404 Phy Chem Lab for Majors II** Experiments centered on chemical rate processes and spectroscopy including NMR relaxation, classical rate studies, infrared spectroscopy, as well as computer simulation of experiments. (2 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**CHM 3411 Physical Chemistry I** First, second, and third laws of thermodynamics; phase equilibria and chemical equilibria; gases; and electrochemistry will be covered in this course. Corequisite: CHM 3401 or CHM 3403. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**CHM 3412 Physical Chemistry II** This course will present an introduction to quantum mechanics and its implications including molecular orbital theory, electronic structure, and molecular spectroscopy. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**CHM 3417 Biophysical Chemistry** A study of thermodynamics, kinetics, chemical equilibria, and spectroscopy as they apply to biological molecules, macromolecules, and cells. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (2 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (1 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**CHM 3514 Bioanalytical Chemistry** Designed for the biochemistry concentration

with emphasis on theory, instrumentation and practical applications of analytical chemistry to biological materials. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Fall 2018 Spring 2013 Spring 2011

**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. (3 cr) Last Offered: Spring 2019

**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. (3 cr) Last Offered: Fall 2013

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Spring 2016

**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. (3 cr) Last Offered: Spring 2019 Spring 2014

**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. (3 cr) Last Offered: Spring 2015

**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. (3 cr) Last

Offered: Fall 2005 Fall 2004 Fall 2003

**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. (3 cr) Last Offered: Spring 2019

**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. (3 cr) Last Offered: Fall 2019

**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. (3 cr) Last Offered: Fall 2019

**CHM 4601 Survey Biochemistry Lab** An introduction to laboratory techniques in biochemistry; enzyme kinetics, column chromatography, electrophoresis, standard biochemical assays and interpretation of data. (1 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**CHM 4603 Biochem Tech. and Pract.** A laboratory course to complement CHM 4621 with emphasis on enzyme purification, enzyme characterization, and nucleic acid analysis. (1 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (1 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Spring 2019  
Spring 2018 Spring 2017

**CHM 4623 Biochemistry III** Integration of metabolism in organisms, membrane receptors expression of genes, gene manipulation, translation, transcription. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2014 Spring 2012

**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. (3 cr) Last Offered: Spring 2016 Spring 2014

**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. (3 cr) Last Offered: Fall 2017 Fall 2015 Fall 2012

**CHM 4661 Proteomics** Topics vary from semester to semester (3 cr) Last Offered: Spring 2018 Fall 2016

**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. (3 cr) Last Offered: Spring 2014

**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. (3 cr) Last Offered: Fall 2018 Spring 2015 Spring 2013

**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. (3 cr) Last Offered: Fall 2019 Spring 2017  
Fall 2013

**CHM 4800 Research** Student participation in independent research under faculty supervision, frequent conferences with advisor on literature search, theoretical and experimental research. (0 cr)

**CHM 4801 Research I** Student participation in independent research under

faculty supervision, frequent conferences with advisor on literature search, theoretical and experimental research. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**CHM 4802 Research II** Continuation of CHM 4801. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**CHM 4803 Research III** Continuation of CHM 4802. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Spring 2018

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Summer 2018

**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. (3 cr) Last Offered: Summer 2019 Spring 2019 Summer 2018

**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. (3 cr) Last Offered: Summer 2019 Summer 2018 Summer 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2017 Fall 2014 Fall 2012

**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. (3 cr) Last Offered: Fall 2019 Fall 2016 Spring 2014

**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. (3 cr) Last Offered: Spring 2017 Spring 2016 Fall 2014

**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. (3 cr) Last Offered: Summer 2019 Summer 2018 Spring 2018

**CLA 5900 CLA: Independent Study** Supervised study, activity, or research. May be taken more than once. Prior approval of chair and instructor. (3 cr) Last Offered: Spring 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Spring 2019

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019



**COM 1903 Communication Internship** Supervised work/study program in radio, television, advertising, publicity or public relations. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**COM 1906 Communication Internship** Supervised work/study program in radio, television, advertising, publicity or public relations. (6 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**COM 1909 Communication Internship** Supervised work/study program in radio, television, advertising, publicity or public relations. (9 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Summer 2019 Spring 2019 Summer 2018

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**COM 2993 Communication Internship** Supervised work/study program in radio, television, advertising, publicity or public relations. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**COM 2996 Communication Internship** More intensive, in depth work/study/program in radio, television, advertising, publicity or public relations. (6 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Spring 2019 Fall 2016 Fall 2015

**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. (3 cr) Last Offered: Fall 2018 Fall 2017 Fall 2016

**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. (3 cr) Last Offered: Summer 2019 Summer 2018 Summer 2016

**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). (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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). (3 cr) Last Offered: Summer 2019 Summer 2018 Summer 2017

**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. (3 cr) Last Offered: Fall 2019 Spring 2017 Spring 2014

**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. (3 cr) Last Offered: Fall 2017 Spring 2016 Spring 2013

**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 experiences a bonus but not required. (3 cr) Last Offered: Fall 2015

**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. (3 cr) Last Offered: Fall 2015 Spring 2014 Fall 2008

**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. (3 cr) Last Offered: Summer 2017 Summer 2015 Summer 2014

**COM 3290 Spec Top in Rhetoric & Perf** Topic or problem in the Rhetoric & Performance area of communication selected by the instructor. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Spring 2019 Spring 2018

Spring 2017

**COM 3303 Screenwriting Development** of narrative strategies through improvisation and techniques of mediated visualization using video. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2009 Spring 2008

**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. (3 cr) Last Offered: Fall 2019 Spring 2018 Fall 2007

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2017

**COM 3321 Interactive Media Design I** 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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**COM 3322 Interactive Media Design II** An advanced exploration of Interactive Media Arts and Design for the Web and beyond, with a special focus on developing and consuming content on mobile devices. (3 cr) Last Offered: Fall 2018 Spring 2018 Spring 2017

**COM 3340 Film History** Evolution of film as an art form; includes the impact of technology. (3 cr) Last Offered: Fall 2018 Fall 2010 Fall 2006

**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. (Pre-requisites will be waived for Women's Studies concentrators or minors). (3 cr) Last Offered: Fall 2019 Fall 2017 Fall 2016

**COM 3342 International Cinema** Study of the film of or about a particular country with emphasis on political, social, cultural and artistic issues. (3 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015

**COM 3343 Contemporary Cinema** Seminar course in which various strategies are applied to the analysis of contemporary films. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Spring 2019 Fall 2017 Spring 2017

**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. (3 cr) Last Offered: Spring 2017 Spring 2015 Spring 2013

**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. (3 cr) Last Offered: Fall 2019 Fall 2016 Spring 2016

**COM 3354 Media Criticism** Analysis of contemporary film, television, music, print media and electronic media from a cultural studies perspective. (3 cr) Last Offered: Fall 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Summer 2014 Fall 2013 Summer 2013

**COM 3356 Media Audiences** Introduction to the study, measurement and analysis of media audiences, merging theoretical approaches with applied methods for understanding user behavior. (3 cr) Last Offered: Summer 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Fall 2013 Fall 2012 Spring 2011

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**COM 3366 Multimedia Journalism** Students learn to write across media platforms, create integrated news packages, and maintain strong journalistic principles, techniques and ethics. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**COM 3390 Spec Top in Media & Film** Topic or problem in the Media & Film area of communication selected by the instructor. (3 cr) Last Offered: Spring 2019 Fall 2018 Fall 2017

**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. (3

cr) Last Offered: Fall 2015 Fall 2014 Fall 2012

**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. (3 cr) Last Offered: Fall 2019 Spring 2018 Fall 2016

**COM 3403 Intercultural Communication** The impact on culture of communication styles, and practices. The role of communication in personal and professional intercultural relationships. (3 cr) Last Offered: Fall 2019 Spring 2017 Spring 2016

**COM 3404 Communication & Conflict** Communicative elements of conflict that arise out of personal and cultural differences in a variety of interpersonal interactions and relationships. (3 cr) Last Offered: Spring 2019 Spring 2014 Spring 2013

**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). (3 cr) Last Offered: Summer 2019 Summer 2018 Summer 2017

**COM 3440 Leadership** Examination of organizational leadership in the context of managing continuous change. Topics include models and theories of leadership, leading organizational culture, effective leadership models, theories and applications of change management, and leading and sustaining change. (3 cr) Last Offered: Spring 2018 Fall 2016 Fall 2014

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Spring 2017

**COM 3442 Teambuilding & Small Group Com** Theory and practice of communication for idea generation and problem-solving in groups, teams, and in other multiple contexts. (3 cr) Last Offered: Fall 2018 Fall 2017 Spring 2017

**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. (3 cr) Last Offered: Fall 2019 Spring 2018 Spring 2016

**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. (3 cr) Last Offered: Fall 2018 Spring 2017 Spring 2016

**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. (3 cr) Last Offered: Spring 2019 Fall 2017 Fall 2016

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Spring 2018

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**COM 3464 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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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.  
(3 cr)

**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. (3 cr) Last Offered: Fall 2015

**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. (3 cr)

**COM 3490 Spec Top in Interpersonal Org** Topic or problem in the interpersonal/Organizational area of communication selected by the instructor. (3 cr) Last Offered: Fall 2019 Spring 2019 Spring 2016

**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. (6 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**COM 5100 Directed Study** Supervised project culminating in term paper. (3 cr)  
Last Offered: Fall 2019 Summer 2019 Spring 2019

**COM 5200 Topics** Intensive workshops in selected areas of professional development or communication research. (1 cr) Last Offered: Fall 2019 Spring 2019 Spring 2018

**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. (1 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**COM 5600 Special Topics in Production** One-Credit Workshops in areas of media and multimedia production. Course may be repeated six times (1 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2018

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Fall 2019 Fall 2018

**COU 3700 Family & Couples Counseling** Examines the principles of general systems theory as it applies to working with multi-person client systems in therapy. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**CRM 3100 Juvenile Delinquency** Meaning and scope of delinquency; delinquency theories; role of social institutions and social agencies; prevention, control, and treatment programs. (3 cr) Last Offered: Spring 2018 Spring 2017 Spring 2016

**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. (3 cr) Last Offered: Spring 2015 Spring 2014 Fall 2013

**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. (3 cr) Last Offered: Spring 2019 Fall 2018 Fall 2013

**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. (3 cr) Last Offered: Fall 2016 Fall 2015 Fall 2014

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Spring 2018

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr)

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr)

**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. (3 cr)

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**CRM 5000 Criminology Independent Study** Supervised research project which results in a major research paper. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**CRM 5100 Criminological Theory** The nature of criminological theory and the major theoretical developments that have shaped criminology. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Spring 2015 Fall 2014 Fall 2013

**CRM 6003 Internship** Supervised work experience in a criminal justice agency. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**CRM 6006 Internship** Supervised work experience in a criminal justice agency. (6 cr)

**CRM 6009 Internship** Supervised work experience in a criminal justice agency. (9 cr)

**CRM 6500 Senior Seminar** This course focuses on a particular substantive area and integrates criminological theory and research methodology. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr)  
Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Fall 2017 Spring 2011 Fall 2001

**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. (3 cr) Last Offered: Summer 2019 Spring 2019 Summer 2018

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Spring 2018 Spring 2014

**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. (3 cr) Last Offered: Spring 2019

**CSC 1051 Algorithms & Data Struc I** Object-oriented design: objects, classes, methods, encapsulation; programming fundamentals: data, variables, selection, loops, arrays, input/output; basic graphics and exceptions. (4 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (4 cr) Last

Offered: Fall 2019                      Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**CSC 1600 Operating Systems**                      System software design and implementation; process and resource management; concurrency, scheduling, and deadlock; memory management; file systems and security. (3 cr) Last Offered:                      Fall 2019  
Fall 2018                      Fall 2017

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**CSC 1800 Organ of Prog Languages**                      High level language features: data types, control structures; formal lexical and syntactical analysis; operational semantics; language translation. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**CSC 1930 Explorations in Computing**                      Emerging technologies & their applications; computing in support of investigations & applications in the humanities & social sciences. (3 cr) Last Offered: Spring 2018                      Spring 2017

**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. (1 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (1 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2015 Fall 2013 Fall 2011

**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. (3 cr) Last Offered: Spring 2016 Spring 2014 Spring 2012

- CSC 2053 Platform Based Computing** Topics include maps, hash tables, graphs, concurrency/ interference/synchronization, internet programming and security. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018
- 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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017
- 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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019
- 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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017
- 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. (3 cr) Last Offered: Fall 2018 Spring 2017 Fall 2014
- 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.(3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019
- 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. (3 cr) Last Offered: Fall 2019 Spring 2019
- 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. (3 cr) Last Offered: Fall 2018 Fall 2017 Fall 2014

**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. (3 cr) Last Offered: Spring 2019 Spring 2005

**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. (3 cr) Last Offered: Spring 2019 Spring 2017

**CSC 3300 Linear Algebra for Computing** Fields, vectors, matrices. Structures and computations in a high-level language for these mathematical objects. Computational applications including image morphing, page rankings, compression, search in images, graph manipulation. (4 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**CSC 3400 Information Retrieval** Theory and practice of location, organization, and rendering of meaningful content from largely unorganized sources. (3 cr) Last Offered: Fall 2017 Fall 2015 Fall 2004

**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. (3 cr) Last Offered: Fall 2012 Fall 2011 Fall 2010

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Spring 2018

**CSC 4181 Compiler Construction** Lexical and syntactical analysis; code generation; error recovery; recursive descent compilation; handling of run-time environment. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2019 Fall 2017 Spring 2015

**CSC 4380 Info Visualization** The presentation of information; visual cognition, scientific visualization, illustration presentation, color theory, motion dynamics, image processing. (3 cr) Last Offered: Fall 2018 Fall 2015 Fall 2013

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**CSC 4480 Principles of Database Systems** Concepts and technology of database management systems; data modeling with an emphasis on the relational model; database querying and normalization; physical data organization. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**CSC 4490 Data Warehousing & Mining** Tools and techniques, theory and practice for storage and effective use of massive data sets. (3 cr) Last Offered: Spring 2016

**CSC 4500 Artificial Intelligence** The nature of intelligence and the question of its computer implementation; search algorithms; knowledge representation; automated deduction; natural language understanding; planning; problem solving. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2013

**CSC 4510 Machine Learning** The design of software systems that adapt to new circumstances and detect and extrapolate patterns; neural networks; decision tree induction; genetic algorithms and genetic programming. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Fall 2018

**CSC 4630 Software Dev and Systems** Operating system structures; system calls; system libraries; interprocess communication; user-interface programming environments; software utilities; software portability. (3 cr) Last Offered: Spring 2019 Spring 2017 Spring 2015

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last

Offered: Fall 2019 Fall 2017 Fall 2016

**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. (3 cr) Last Offered: Fall 2019 Spring 2016 Fall 2012

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2008 Spring 2007

**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. (3 cr) Last Offered: Spring 2019

**CSC 4900 Computer Networks** Underlying principles of computer networks; OSI and TCP/IP architecture; LAN technologies; interconnecting devices: hubs, bridges, switches, routers, gateways; IP addressing and forwarding; routing protocols; transport protocols; error, flow, and congestion control; client- server communication; authentication and authorization; security threats and solutions. (3 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015

**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. (3 cr)

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Fall 2019  
Fall 2018 Fall 2017

**CST 3000 Topics Course** (3 cr) Last Offered: Spring 2015 Fall 2014 Spring 2014

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**CST 5900 Independent Study** (3 cr) Last Offered: Fall 2019  
Spring 2019 Spring 2018

**DIT 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. (3 cr)

**ECE 1205 ECE Freshman Projects** Project-based introduction to engineering course for freshman electrical and computer engineering majors. (3 cr) Last Offered: Spring 2019

**ECE 1620 Egr Prog & Applic** Engineering problem solving using the C programming language, C control structures, data files, debugging, functions, arrays, elementary data structures, and pointers. Two lecture hours per week and 1 lab period per week. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**ECE 2030 Electrical Circuit Fundamental** Basic concepts, steady-state dc circuit analysis, network theorems, energy storage elements, complete response of first-order circuits, steady-state sinusoidal circuit analysis, AC systems and Laplace Transform. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**ECE 2031 Elect Circuit Fundamentals Lab** Must be taken concurrently with ECE 2030. Laboratory exercises cover electrical safety and laboratory practice, basic instrumentation, computer-aided circuit analysis, and application of electronic devices. (1 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**ECE 2042 Fund Computer Engineering I** Introduction to logic design and digital computer fundamentals. Topics include computer arithmetic, Boolean algebra and logical design, assembly language programming basics, and basic concepts of computer architecture. (3 cr) Last Offered: Fall 2019 Fall 2018 Spring 2018

**ECE 2043 Fund of Comp Engineering I Lab** This laboratory course is intended to be taken concurrently with ECE 2042. The laboratory includes exercises on logic design and on programming the 68000 micro-processor in assembly language. (1 cr) Last Offered: Fall 2019 Fall 2018 Spring 2018

**ECE 2044 Fund Comp Engineering II** Continuation of ECE 2041. Topics include the PIC Microprocessor, VHDL, Quine-McCuskey method, fault detection and localization, state machine minimization, state machine testing, and codes. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**ECE 2045 Fund Comp Engineering II Lab** This laboratory course is intended to be taken concurrently with ECE 2044. Includes exercises on the PIC and the uses of VHDL. (1 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**ECE 2052 Fund Electrical Engineering I** Basic concepts, steady-state dc circuit analysis, network theorems, ideal op-amp circuit analysis, energy storage elements, complete response of first-order circuits, steady-state sinusoidal circuit analysis and the phasor diagram. (3 cr) Last Offered: Spring 2018 Fall 2017 Spring 2017

**ECE 2053 Fund Elect Engineering I Lab** Must be taken concurrently with ECE 2052. Laboratory exercises cover electrical safety and laboratory practice, basic instrumentation, computer-aided circuit analysis, and applications of electronic devices. (1 cr) Last Offered: Spring 2018 Fall 2017 Spring 2017

**ECE 2054 Fund of Elect Engineering II** Second-order circuits, complex-frequency (s-domain) analysis, network functions, RMS value, superposition of average power, maximum power transfer, frequency response (Bode) plots, ac power, balanced three-phase circuits, resonance, magnetically-coupled coils and the ideal transformer. (3 cr) Last Offered: Spring 2018 Spring 2017 Spring 2016

**ECE 2055 Fund Elect Engineering II Lab** Must be taken concurrently with ECE 2054. Laboratory projects in system design that employ both analog and digital electronic components and various types of input/output devices. (1 cr) Last Offered: Spring 2018 Spring 2017 Spring 2016

**ECE 2290 Engr System Models & Control** Modeling and analysis of electrical, mechanical, and electromechanical systems; open-loop and feedback systems; frequency domain models; state equations; linearization, time response; steady-state error; block diagrams and signal flow graphs; stability criteria; root locus method. Practicum includes laboratory experiments involving actual engineering systems. Three lecture hours and a two-hour practicum per week. (4 cr) Last Offered: Spring 2019 Fall 1998 Summer 1998

**ECE 2409 Fundamentals of MATLAB** Use of MATLAB, a matrix oriented,

high level programming language, for the simulation and modeling of physical systems. Matrix operations, extensive 2-dimensional and 3-dimensional graphing, introduction to MATLAB toolboxes. Lectures are conducted in parallel with hands-on programming and computer simulations. One lecture hour and one laboratory period per week. (2 cr) Last Offered: Fall 2019 Summer 2019 Fall 2018

**ECE 2430 Embedded Systems I** Introduction to logic design and digital computer fundamentals. Topics include computer arithmetic, Boolean algebra and logical design, basic concepts of computer architecture, programming and interfacing microcontrollers. (3 cr) Last Offered: Spring 2019

**ECE 2431 Embedded Systems I Lab** This laboratory course is intended to be taken concurrently with ECE 2430. The laboratory includes exercises on logic design and on programming and interfacing microcontrollers and programmable logic devices. (1 cr) Last Offered: Spring 2019

**ECE 2530 Analog Electronics I** Basic electronic concepts. Waves and particles, semiconductor device physics, diodes and BJT circuits and amplifier circuits. (3 cr) Last Offered: Spring 2019

**ECE 2531 Analog Electronics I Lab** Must be taken concurrently with ECE 2530. Electronic circuit applications are investigated through laboratory design projects on semiconductor device physics, diodes and BJTs. (1 cr) Last Offered: Spring 2019

**ECE 2550 Intro to Electronics & Applic.** Basic electronic concepts. Electronic circuit applications are investigated through the creation of laboratory design projects which address contemporary topics in Electrical Engineering. (2 cr) Last Offered: Spring 2018 Spring 2017 Spring 2016

**ECE 2620 C++, Algorithms & Data Struct** C++ classes, access rules, inheritance, friends, abstract classes, passing parameters by value, by reference, polymorphism in functions and operators, static and dynamic binding, templates; searching, sorting; pointer implementation of lists, stacks, queues, trees, hashing; P and NP classes; analysis of algorithms. (4 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**ECE 2800 Prof. Dev. Seminar** Various professional development activities including: initiation into mentoring program, introduction to engineering ethics and professional responsibilities, field trips and other events on contemporary issues, peer evaluation process, development of oral and written communication skills, workshops on a variety of professional skills. (2 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**ECE 3225 Signal Processing** Signal representation, Fourier series, Fourier transform, discrete-time systems, convolution, discrete-time Fourier transform, Z-transform. Practicum includes MATLAB exercises on transform properties and their use in modulation and filtering. Three lecture hours per week. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**ECE 3230 Signals Lab** Use of MATLAB on filtering, channel equalization, music synthesis and spectrum analysis. Two-hour practicum per week. (1 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**ECE 3245 Discrete Time Signals & System** Discrete-time signal and system representation; sampling of continuous signals; discrete-time Fourier and Z-transformations; frequency content of signals and frequency response of systems; systems analysis and filtering. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**ECE 3430 Embedded Systems II** Digital logic families with primary emphasis on external electrical characteristics of the logic devices. Applications and designs at the board-level, involving topics such as series/parallel conversion and analog/digital conversion. (3 cr) Last Offered: Fall 2019

**ECE 3445 Computer Architecture** Fundamentals of instruction sets and their efficient execution - e.g., pipelines, caches, out-of-order execution, and branch prediction mechanisms. Performance analysis, superscalar, VLIW, multithreading, and multiprocessing are among the topics studied. Trace-driven simulators are used in practicums to explore concepts learned in class. Three lecture hours with a two-hour practicum each week. (4 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**ECE 3450 Digital Electronics** Digital logic families with primary emphasis on external electrical characteristics of the logic devices. Applications and designs at the board-level, involving topics such as series/parallel conversion and analog/digital conversion. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**ECE 3476 Computer and Network Security** Computer security in the context of the Internet, including hands-on exercises and experiments in the areas of authentication, attacks and threats, email and communication digital signatures and encryption, mobile devices, privacy, safe browsing and certificates. (3 cr) Last Offered: Spring 2019

**ECE 3500 Electronic Materials & Devices** Physics of crystal structures, energy bands, Fermi level, charge carriers, the pn junction, and excess carriers. Devices: diodes, bipolar junction transistors and field effect transistors. Three lecture hours and a two-hour practicum per week. (4 cr) Last Offered: Fall 2018 Fall 2017 Fall 2016

**ECE 3530 Analog Electronics II** Analysis, design, and simulation of analog electronic circuits. Single and multistage amplifiers, amplifier frequency response, power amplifiers, linear and nonlinear op-amp circuits, active filters, oscillators. MOSFET and CMOS circuits. (3 cr) Last Offered: Fall 2019

**ECE 3531 Analog Electronics II Lab** Must be taken concurrently with ECE 3530. MOSFET DC Circuits, Device Parameter Extraction from BJT and MOSFET, Single and Multistage Amplifier Designs & frequency response, Power Amplifier Design with Thermal Design Considerations (Application of Heat Sinks). (1 cr) Last Offered:

Fall 2019

**ECE 3550 Analog Electronics** Analysis, design, and simulation of analog electronic circuits. Single and multistage amplifiers, amplifier frequency response, power amplifiers, linear and nonlinear op-amp circuits, active filters, oscillators. Three lecture hours and a two-hour practicum per week. (4 cr) Last Offered: Fall 2018  
Fall 2017 Fall 2016

**ECE 3690 Engineering Electromagnetics** Maxwell's equations, plane waves, dissipative media, reflection and transmission of waves at an interface, metallic and optical waveguides, transmission lines, linear and array antennas. Practicum includes computer projects, laboratory demonstrations and problem solving. Three lecture hours and a two-hour practicum per week. (4 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**ECE 3720 Eng Probability & Statistics** Basic set theory, axioms of probability, probability relationships. Concepts of a random variable. Joint random variables. Selected topics in statistics from: estimation, hypothesis testing and regression. Selected topics from: functions of a random variable, random processes, Markov chains, applications (e.g. reliability, queuing, microprocessor control, digital communications, detection). Prerequisites: junior CPE or junior EE standing. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**ECE 3770 Electrical Communications** Analog and digital communications systems: characterization of communication channels, bandwidth and signal distortion; AM and FM, FM stereo and Dolby noise reduction; sample and hold, source encoding, matched filtering, digital modulations and error control coding. Practicum includes analysis and simulation of products such as compact discs and high-speed modems. (4 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**ECE 3970 Design Seminar - EE** Areas and career paths in electrical engineering. Overview of required senior project courses and faculty project sponsors. Engineering design, project selection requirements, technical communications, information gathering. Requires selection of design project adviser, project topic, and a formal written project proposal. (2 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**ECE 3971 Design Seminar - CPE** Areas and career paths in computer engineering. Overview of required senior project courses and faculty project sponsors. Engineering design, project selection requirements, technical communications, information gathering. Requires selection of design project adviser, project topic, and a formal written project proposal. (2 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**ECE 4290 Engr System Models & Control** Modeling and analysis of electrical, mechanical, and electromechanical systems; open-loop and feedback systems; frequency

domain models; state equations; linearization; time response; steady-state error; block diagrams and signal flow graphs; stability criteria; root locus method. Practicum includes laboratory experiments involving actual engineering systems. Three lecture hours and a two-hour practicum per week. (4 cr) Last Offered: Spring 2019 Spring 2018  
Spring 2017

**ECE 4470 Computer Networks** ISO/OSI, TCP/IP reference models; data transmission, encoding, framing, error detection, stop-and-wait, sliding windows; CSMA/CD, Ethernet; bridges, spanning tree protocol; connectionless, connection-oriented and source routing, IP addressing, forwarding, VPNs; switching fabrics; ARP, DHCP, DV, OSPF, BGP, DNS. (4 cr) Last Offered: Spring 2019 Spring 2018  
Spring 2017

**ECE 4810 Intro. to Electric Energy Sys.** Fundamentals of energy conversion and storage, conventional and renewable sources of energy, introduction to the electric energy system grid, control and economic operation of the electric energy system grid, and introduction to smart grid and smart metering technologies. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**ECE 4970 Design Project - EE** Completion of the design project presented in ECE 3970. Requirements: written and oral progress reports, demonstration of achieved objectives, formal written final report, oral presentation. Design groups meet weekly with their instructors. Senior standing. (3 cr) Last Offered: Fall 2019 Fall 2018  
Fall 2017

**ECE 4971 Design Project - CPE** Completion of the design project presented in ECE 3971. Written and oral progress reports, demonstration of achieved objectives, formal written final report, oral presentation. Design groups meet weekly with their instructors. Senior standing. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**ECE 4972 Design Project Report - EE** Preparation and presentation of a final written report and a formal presentation of each project team's senior design project completed in ECE 4970. (1 cr) Last Offered: Fall 2019 Spring 2019  
Spring 2018

**ECE 4973 Design Project Report - CPE** Preparation and presentation of a final written report and a formal presentation of each project team's senior design project completed in ECE 4971. (1 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**ECE 5010 ECE Summer Internship** Academic credit for a summer internship. Requirements: Senior standing, a technical GPA of 3.0 or greater, and sponsorship by a full-time faculty member arranged prior to the start of the internship. Program details available from the Electrical and Computer Engineering Department Chairman, Tolentine Hall, Room 403. (610-519-4971). (3 cr) Last Offered: Summer 2019 Summer 2018 Summer 2017



**ECE 5240 Multimedia** Algorithms and standards that make possible multimedia communication and storage over the internet, including baseline JPEG, JPEG 2000, video compression (MPEG-1, 2, 4), audio compression and MP3, DVD, video conferencing and streaming, multimedia over broadband (DSL and cable), multimedia database search and retrieval and digital watermarking for multimedia content ownership and intellectual property rights protection. Prerequisites: Senior CPE or senior EE standing. (3 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015

**ECE 5250 Biomedical Instrumentation** Introductory course in Biomedical Engineering emphasizing human physiology & medical measurement tools & techniques. Topics include the nervous system, the cardiovascular system & the respiratory system. (3 cr) Last Offered: Fall 2019 Fall 2011 Fall 2010

**ECE 5251 Biomedical Signal Processing** Signal processing of biomedical signals. Cardiac, neurological, & electromyographic signal processing. Biomedical signal filtering, frequency analysis, spectrum estimation & physiological information extraction. Prerequisites: EGR 2021 or equivalent. (3 cr) Last Offered: Spring 2019 Spring 2017 Spring 2016

**ECE 5252 Medical Imaging** Principles of structural and functional medical imaging modalities: X-ray, Computed Tomography (CT), Magnetic Resonance Imaging (MRI), ultrasound and optical imaging. Fundamentals of biomedical image analysis: image acquisition and display, image enhancement, segmentation and registration as used in medical imaging applications. Prerequisites: EGR 2021 or equivalent. (3 cr)

**ECE 5390 Control System Design** Problem formulation, design techniques and evaluations, time domain and frequency domain design methods. Incorporates computer-aided analysis and design in conjunction with required laboratory projects. Three lecture hours and a two-hour practicum per week. (4 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**ECE 5400 Applied Machine Learning** Introduction to machine learning models and algorithms; Software techniques such as compression and pruning to enable efficient processing of neural networks. Hardware accelerators for training and inference process. Hardware/software optimization for using machine learning to solve practical problems. (3 cr) Last Offered: Fall 2019

**ECE 5450 Microcontrollers & Applic** ARM-Based microcontroller design and the following related topics: General purpose input/output, counters/timers, pulse-width modulation, A/D conversion, stepper motor control, use of integrated development environments, practical application programming in C. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**ECE 5451 Adv Microcontroller App Design** Communications and complex inputs/outputs in ARM-based microcontroller design: Fast input/output, I<sup>2</sup>C bus, UARTs, SPI bus, CAN bus, vectored interrupts, USB, JTAG, in-application flash programming.

Implementation of real-world designs using the C programming language. (3 cr) Last  
Offered: Spring 2017 Spring 2016 Spring 2014

**ECE 5478 Eng Secure Cyber-Physical Sys** Cyber-Physical Systems include home automation and protection, connected vehicles, connected medical devices, drones, smart buildings and cities, and industrial control systems. Secure engineering of cyber-physical systems leading to a safer and more secure connected environment that also respects personal privacy. Improvement of security after deployment. Emphasis on hands-on activities and lab work. (3 cr) Last Offered: Fall 2019 Fall 2018  
Fall 2017

**ECE 5480 Android Mobile Dev Programming** The Android software stack and the underlying device sensors. Topics covered: Mobile Design Considerations, Java Language Primer, Android SDK, Threading, Geolocation Services, NFC, Bluetooth, Wi-Fi Direct, Common Device Sensors, Persistence, Accessing Web Services and IOIO microcontroller. (3 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015

**ECE 5690 Microwave Networks** Plane wave propagation; propagation in TEM transmission lines and waveguides; IMPATT; TRAPAT; Gunn-Effect and parametric devices; microstrip lines and microwave integrated circuits; laboratory work includes measurement of SWR, impedance, and power at microwave frequencies. Three lecture hours and a two-hour practicum per week. (4 cr) Last Offered: Fall 2019 Fall 2018  
Fall 2016

**ECE 5730 RF Circuit Design** Design of active circuits and antennas for RF and wireless systems, including semiconductor control circuits, S-parameter based amplifier and oscillator design, mixers, and antennas for portable and base station applications. CAD tools and laboratory-based projects are emphasized. (3 cr) Last Offered: Spring  
2019 Spring 2017 Spring 2014

**ECE 5760 Intro to Optoelectronics** Introduction to various optoelectronic devices, including light emitting devices, photodetectors, optical modulators, solar cells and display devices. Applications to systems. (3 cr) Last Offered: Spring 2015 Spring  
2014 Spring 2013

**ECE 5790 Digital Signal Processing** Review of discrete-time signals and systems; design and implementation of digital filters; Fast Fourier transform algorithms and applications; introduction to statistical signal processing; computer-aided design projects. Three lecture hours and a two-hour practicum per week. (4 cr) Last Offered: Fall 2017  
Fall 2016 Fall 2015

**ECE 5800 Electric Machines** Magnetic circuits; electromechanical energy conversion; single-phase power transformers; induction motors; synchronous machines; dc machines; permanent magnet motors. (3 cr) Last Offered: Fall 2013  
Fall 2012 Fall 2009

**ECE 5850 Renewable Energy Systems** The design of renewable energy systems. Topics include: Solar Thermal Energy, Photovoltaics, Bioenergy, Hydroelectricity, Tidal Power, Wind Power and Geothermal Energy. Prerequisite: ECE 2054 or equivalent. (3 cr) Last Offered: Spring 2014

**ECE 5900 Special Topics** Addresses a special topic in electrical and/or computer engineering of interest to faculty and students. (3 cr) Last Offered: Spring 2016 Fall 2015 Spring 2015

**ECE 5991 Elec Eng Research I** Students work with faculty on current research topics. Weekly meetings with faculty adviser and a final written report and/or oral presentation are required. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**ECE 5992 Elec Eng Research II** Continuation of ECE 5991. (3 cr) Last Offered: Fall 2019 Spring 2019 Spring 2018

**ECO 1000 Introductory Topics-Economics** An examination of basic Micro- and Macroeconomic topics. CANNOT COUNT FOR ECONOMICS MAJORS. (3 cr)

**ECO 1001 Intro to Micro** The price system; demand and supply analysis; the production process; analysis of market structures. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**ECO 1002 Intro to Macro** The economic system and its fundamental principles. The economic functions of government, monetary and fiscal policy, and international trade. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**ECO 1565 Topics: Study Abroad** Specific topics vary. Only for study abroad. Cannot count for Economics major. May be taken more than once. (3 cr)

**ECO 1903 Internship Elective** Fulfills 3.0 free elective credits. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**ECO 1906 Internship Elective** Fulfills 6.0 free elective credits. (6 cr) Last Offered: Summer 2019 Summer 2018 Spring 2018

**ECO 1909 Internship Elective** Fulfills 9.0 free elective credits. (9 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Spring 2019  
Fall 2018

**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. (1 cr) Last Offered: Fall 2019

**ECO 2993 Internship** Fulfills 3.0 economic elective credits. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**ECO 2996 Internship** Fulfills 6.0 economic elective credits. (6 cr) Last Offered: Summer 2019 Summer 2018 Spring 2018

**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. (3 cr) Last Offered: Fall 2019 Fall 2018  
Fall 2017

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Spring 2019 Fall 2018 Spring 2018

**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. (3 cr) Last Offered: Summer 2019 Summer 2018 Summer 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2019 Fall 2018  
Fall 2017

**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. (3 cr) Last Offered: Fall 2019

**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. (3 cr) Last Offered: Spring 2019  
Fall 2018 Fall 2016

**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. (3 cr)

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2017

**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. (3 cr) Last Offered: Fall 2019  
Fall 2018 Spring 2018

**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. (3 cr) Last Offered: Fall 2016 Fall 2015 Fall 2013

**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. (3 cr)

**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. (3 cr) Last Offered: Fall 2015 Spring 2015  
Fall 2014

**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. (3 cr) Last Offered: Fall 2018

**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. (3 cr) Last Offered: Spring 2018 Spring 2016 Spring 2014

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**ECO 3138 Game Theory** Basic game theoretic framework, concepts and applications; mathematical models to understand the behavior of humans in strategic situations. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Spring 2019 Fall 2017 Fall 2016

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Spring 2018

**ECO 4200 Topics in Economics** Selected topics in economics currently of interest to faculty and students. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr)

**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. (3 cr) Last Offered: Fall 2018 Spring 2018  
Spring 2017

**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. (3 cr) Last Offered: Fall 2018  
Fall 2016 Spring 1998

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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 (1 cr) Last Offered: Fall 2019

**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. (3 cr) Last Offered: Fall 2017 Fall 2016  
Fall 2015

**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. (3 cr) Last Offered: Fall 2019 Spring 2019  
Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Spring 2018

**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. (3 cr) Last Offered: Spring 2019  
Spring 2018 Spring 2017

**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. (1 cr) Last Offered:  
Spring 2019      Spring 2018      Spring 2017

**EDU 3251 Psych of Teaching & Learning** The application of learning theory to classroom teaching. (3 cr) Last Offered:      Fall 2019 Spring 2019      Fall 2018

**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. (3 cr) Last Offered:  
Fall 2017      Fall 2016      Spring 2015

**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. (3 cr) Last Offered:      Fall 2019      Spring 2019      Fall 2018

**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. (3 cr) Last Offered:  
Fall 2018      Spring 2018      Fall 2017

**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. (3 cr) Last Offered:  
Fall 2014

**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. (3 cr) Last Offered:  
Fall 2019      Spring 2019      Fall 2016

**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. (3 cr) Last Offered:      Fall 2019  
Spring 2019      Fall 2018

**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. (3 cr) Last Offered:  
Fall 2019      Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2014 Spring 2014 Spring 2013

**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. (3 cr) Last Offered: Fall 2015 Fall 2013 Fall 2012

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Fall 2019 Fall 2015 Fall 2014

**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. (3 cr) Last Offered: Fall 2019 Fall 2015 Fall 2014

**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. (3 cr) Last Offered: Fall 2019 Fall 2015 Fall 2014

**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. (3 cr) Last Offered: Fall 2014 Fall 2012  
Fall 2011

**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. (3 cr) Last Offered: Fall 2019 Fall 2015 Fall 2014

**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. (3 cr) Last Offered: Spring 2018 Spring 2017 Summer 2016

**EDU 4290 Philosophy of Education** The development of a sound personal philosophy of education and practice in applying that philosophy to current educational issues. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (9 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2018  
Spring 2017

**EDU 4298 Student Teaching** (6 cr) Last Offered: Spring  
2016 Spring 2014 Spring 2013

**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. (3 cr) Last Offered: Spring  
2016 Fall 2012 Fall 2011

**EGEN 2100 Creativity and Innovation** An introduction to various methods, practices, and tools that can be effectively used to develop creative solutions to problems. Different exercises and assignments will be used to allow students to demonstrate their

creative potential both as individuals and as part of a team. The connection between creativity and innovation will also be addressed. (1 cr) Last Offered: Fall 2019  
Summer 2019 Fall 2018

**EGEN 2150 Intro to Entrepreneurial Techn** Students will gain a working understanding of technologies of interest to entrepreneurs. The course will be refreshed yearly, but the initial offering is expected to include emerging technologies and day-to-day technologies. NOTE: Only available as part of the Engineering Entrepreneurship Summer Institute (E2SI) (3 cr) Last Offered: Summer 2019 Summer 2018 Summer 2017

**EGEN 2200 Opport Identif & Bus Principl** Foundation course for moving an idea from concept to reality. Topics include opportunity discovery and analysis; business and engineering steps in product design; protecting ideas; prototyping; technical and business feasibility; team dynamics; introduction to venture financing and marketing. Prereq: Membership in the Engineering Entrepreneurial Minor (3 cr) Last Offered: Summer 2019 Spring 2019 Summer 2018

**EGEN 2300 Entrepreneurship Practicum I** Provides work experience in a start-up business environment for a sophomore student registered in the engineering entrepreneurship minor program. (1 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**EGEN 3100 Feas Analysis for Entrepreneur** Learn and apply techniques to prove or disprove the technical and business feasibility of product and service concepts. Help students understand plans and begin to create business plans for their own business concepts. Additional topics in opportunity analysis, feasibility analysis, accounting, marketing, financing, and product development management. Any engineering major in engineering entrepreneurship minor program. (3 cr) Last Offered: Fall 2019 Summer 2019 Fall 2018

**EGEN 3200 Product & Service Prototyping** Team-based course focused on the design and construction of a proof-of-principle prototype which demonstrates a product or service. Students will create a high-level product design specification (PDS), work breakdown structure (WBS), and budget for their prototype; conduct market and competitive analysis; hold consumer focus interviews and report findings. Course mastery includes the development of an investment pitch for potential funding. (3 cr) Last Offered: Summer 2019 Spring 2019 Summer 2018

**EGEN 3300 Entrepreneurship Practicum II** Provides work experience in a start-up business environment for a junior student registered in the engineering entrepreneurship minor program. (1 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**EGEN 3400 Entrepreneurship Practicum III** Provides work experience in a start-up business environment for a junior student registered in the engineering entrepreneurship minor program. (1 cr) Last Offered: Spring 2019 Spring 2018 Spring

2017

**EGEN 4100 Market, Finance, and Vent Plan** Students will experience the detailed steps in designing and commercializing a product. Development by a team of multidisciplinary engineering students of a professional quality business model for a technology-based product or service of the students' choosing. Learn how to set up, staff, run and finance a company. Additional topics include Entrepreneurship Leadership, Innovation Management, and Risk Management. Cover activities of corporate CEOs, CTOs, CFOs and COOs. (3 cr) Last Offered: Fall 2019 Summer 2019 Fall 2018

**EGEN 4500 Sustain. Bus. Models BOP Techn** The design of business models for very low-income customers. Topics include: Money flow in low income communities, micro-lending, co-creation of technologies, appropriate technologies, and business model canvas. (3 cr) Last Offered: Fall 2014

**EGR 1001 Career Compass First Yr A** First part of the professional development program for first year engineering students focused on four areas: The Engineering Profession, Setting the Stage for Personal Success, Post-Graduation Planning, and Communicating in the 21st Century. (0.50 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**EGR 1002 Career Compass First Yr B** Second part of the professional development program for first year engineering students focused on four areas: The Engineering Profession, Setting the Stage for Personal Success, Post-Graduation Planning, and Communicating in the 21st Century. (0.50 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**EGR 1200 Egr. Interdisciplinary Proj. I** Core engineering concepts and project-based introduction to engineering course for freshmen engineering majors. First half of semester is lecture/project format emphasizing core concepts and math. Second half consists of an elective interdisciplinary project. Students choose from among several of these. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**EGR 2001 Egr: Humanistic Context** A study of selected engineering achievements with emphasis on their technological innovations and impacts on society. Several case studies are examined to explore the connections between specific engineering achievements such as the computer, the DC-10, the Brooklyn Bridge, nuclear power, toxic waste disposal, and specific aspects of society, including political arrangements, art, the media, historical trends, social attitudes, and the role of specific individuals. (3 cr) Last Offered: Spring 2013 Spring 2012 Fall 2011

**EGR 2003 Career Compass Second Yr A** First part of the professional development program for second year engineering students focused on four areas: The Engineering Profession, Setting the Stage for Personal Success, Post-Graduation Planning, and Communicating in the 21st Century. (0.50 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**EGR 2004 Career Compass Second Yr B** Second part of the professional development program for second year engineering students focused on four areas: The Engineering Profession, Setting the Stage for Personal Success, Post-Graduation Planning, and Communicating in the 21st Century. (0.50 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**EGR 2005 Bridging Diver & Bldg Communit** View cultural diversities as opportunities that will enhance the creativity and overall quality of any project development process or team effort. The course will provide students with pragmatic tools for understanding and working effectively across and through differences in culture and communication in professional situations and promote an inclusive design approach for solutions. Includes tactical emphasis on effective teaming, innovative teams, and difference by design. Restricted to 30 students (15 seats reserved for Engineering. Junior or senior level. (3 cr)

**EGR 2020 Physiology for Engineers** Structure and function of biomolecules, cells, tissues, organs, and organ systems (including musculoskeletal, circulatory, respiratory, and nervous systems).(3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**EGR 2021 Elements of Biomed Engr** Survey of current topics in biomedical engineering; Engineering fundamentals (e.g., mechanics of materials, dynamics, transport, signal processing) with applications to biomedical engineering. (3 cr) Last Offered: Spring 2019 Spring 2018

**EGR 2200 Transport in Bioengineering** Provide non-engineering students with a basic engineering background for a bioengineering minor. The content covers thermodynamics, fluid mechanics, heat transfer, mass transfer and kinetics. (3 cr) Last Offered: Spring 2016 Spring 2015 Spring 2014

**EGR 2930 Catholic Soc Teaching for EGRS** Tradition and key themes of Catholic Social Teaching and how engineers can incorporate these themes in developing solutions to engineering problems. Engineering topics and case studies will be analyzed, with emphasis on a comparison of "greater good" and "common good". Permission of instructor. (3 cr)

**EGR 3005 Career Compass Third Yr A** First part of the professional development program for third year engineering students focused on four areas: The Engineering Profession, Setting the Stage for Personal Success, Post-Graduation Planning, and Communicating in the 21st Century. (0.50 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**EGR 3006 Career Compass Third Yr B** Second part of the professional development program for third year engineering students focused on four areas: The Engineering Profession, Setting the Stage for Personal Success, Post-Graduation Planning, and Communicating in the 21st Century. (0.50 cr) Last Offered: Fall 2019 Spring

2019

**EGR 4000 Undergraduate Research I** Student participation in independent research under faculty supervision, frequent conferences with advisor on literature search, theoretical and experimental research. (1 cr) Last Offered: Fall 2019 Spring 2019  
Spring 2008

**EGR 5001 Engineering Service Learning** Service learning experience related to engineering. Mandatory weekly group meetings as well as participation in seminar series. Fee associated with course. Consent of instructor required. (1 cr) Last Offered: Last Offered: Fall 2019 Spring 2019 Fall 2018

**EGR 5002 EGR Service Learning Leader** Leading a service learning trip related to engineering. Mandatory weekly group meetings as well as participation in seminar series. Fee associated with course. Consent of instructor required. (1 cr)

**EGR 5050 Professional Practicum** Provides work experience for an undergraduate student who has been offered an opportunity to work in a field directly related to their major. Permission of Department of Chair and Associate Dean required. (0 cr) Last Offered: Fall 2019 Summer 2019 Fall 2018

**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. (3 cr) Last Offered: Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**ENG 1903 Internship Elective** (3 cr) Last Offered: Fall 2019  
Summer 2019 Spring 2019

**ENG 1906 Internship Elective** (6 cr) Last Offered: Fall 2019  
Spring 2019 Spring 2018

**ENG 1909 Internship Elective** (9 cr) Last Offered: Fall 2019  
Spring 2019 Spring 2018

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**ENG 2000 Adv Expository Writing** Practice in writing reports, reviews, arguments, description; emphasis on organization and development. (3 cr) Last Offered: Summer 2019  
Summer 2018 Fall 2017

- 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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019
- ENG 2004 Intro to 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. (3 cr) Last Offered: Fall 2019
- ENG 2005 Writing of Short Story** Instruction in writing short story. (3 cr) Last Offered: Fall 2019 Fall 2018 Spring 2018
- ENG 2006 The Writing of Poetry** Instruction in writing poetry. Limited to 15 students. (3 cr) Last Offered: Spring 2019 Fall 2018 Spring 2018
- ENG 2007 The Writing of Screenplays** Instruction in writing screenplays. Limited to 15 students. Permission of instructor required. (3 cr) Last Offered: Spring 2016 Spring 2004
- ENG 2009 Writing the Traditional Novel** An exploration of strategies in writing the traditional novel. (3 cr) Last Offered: Spring 2019 Spring 2018 Fall 2016
- 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. (3 cr) Last Offered: Spring 2019 Fall 2018
- 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. (3 cr) Last Offered: Fall 2019
- ENG 2020 Journalism** News gathering and news writing; principles, rules and techniques of news, editorials, features. (3 cr) Last Offered: Summer 2019 Spring 2019 Summer 2018
- ENG 2021 Journalism for Co-ops** Journalistic principles and practice for students doing individual co-ops via ENG 2999. Distance learning. (3 cr) Last Offered: Fall 2019 Spring 2019 Spring 2018
- ENG 2030 Tutoring Writers** Theory and practice of Writing Center Work; writing, editing and tutoring skills. Permission of instructor required. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017
- 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. (3 cr) Last Offered: Spring 2016 Spring 2015 Spring 2014

**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. (3 cr) Last Offered: Fall 2015 Fall 2014 Fall 2012

**ENG 2045 Sp Top in Writing & Rhetoric** Special writing and rhetoric topics selected by the instructor. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Spring 2017 Spring 2015 Spring 2014

**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. (3 cr) Last Offered: Fall 2018 Fall 2013 Fall 2011

**ENG 2070 Legal Writing and Analysis** Fundamentals of legal writing and analysis. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**ENG 2101 Brit Literary Trad 1** British literature from Anglo-Saxon to the Neo-Classical periods. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**ENG 2102 Brit Literary Trad 2** British literature from the genesis of Romanticism in the 19th century to the literature of modern times. (3 cr) Last Offered: Spring 2019 Spring 2016 Spring 2014

**ENG 2250 Ways of Reading: Lit Analysis** An exploration of how we engage, understand, explicate, and enjoy texts of all sorts. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**ENG 2300 Women in Literature** Study of the place of women in literature, with emphasis on modern fiction, drama and poetry written in English. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**ENG 2301 Lit of Science Fiction** Science fiction as a significant genre. (3 cr) Last Offered: Spring 2014 Spring 2012 Fall 2009

**ENG 2310 Study of Poetry** Concepts of poetry with detailed analyses of selected poems. (3 cr) Last Offered: Spring 2015 Spring 2013 Summer 2001

**ENG 2320 Forms of the Novel** The nature of the novel as an art form in British, American, and European works. (3 cr) Last Offered: Spring 2013 Spring 2007 Spring 2005

**ENG 2340 Modern Short Story** Contributions to the short story form



made by American, Irish, British, and Continental writers. (3 cr) Last Offered: Spring 2017  
Spring 2016 Fall 2015

**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. (3 cr) Last Offered: Fall 2018 Fall 2017 Fall 2016

**ENG 2450 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. (3 cr) Last Offered: Summer 2018 Fall 2017 Summer 2017

**ENG 2470 Modern Irish Drama** A study of the major Irish playwrights of the twentieth century including: Yeats, Lady Gregory, Shaw, Synge, O'Casey, Beckett, and Friel. (3 cr) Last Offered: Spring 2013 Spring 2011 Spring 2010

**ENG 2490/2491 Topics in Irish Studies** Specific topics vary each semester. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**ENG 2500 Irish Revival** Selected readings in the drama and fiction literature of Ireland in the 20th century. (3 cr) Last Offered: Spring 2018 Fall 2015 Spring 2015

**ENG 2501 African American Lit Trad 1** The development of early African American literature from the eighteenth century through the Harlem Renaissance of the early twentieth. (3 cr) Last Offered: Fall 2016 Fall 2015 Fall 2014

**ENG 2502 African American Lit Trad 2** African American literature from the twentieth century to today. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2016

**ENG 2510 Black Literature: Novel** Novels published during Reconstruction, the Harlem Renaissance, the Black Arts Movement, and throughout the 20th century. (3 cr) Last Offered: Spring 2014 Summer 2003 Fall 2002

**ENG 2515 Black Literature: Drama** Major works of the Harlem Renaissance, the Black Arts Movement, and the present. (3 cr) Last Offered: Spring 2017 Spring 2012 Spring 2009

**ENG 2520 Black Lit: Short Story** Short fiction by Chesnutt, Hurston, Petry, Baldwin, McPherson, Williams, Walker, Morrison, Butler, and other writers of the 20th century. Diversity requirement. (3 cr) Last Offered: Fall 2019 Fall 2015 Spring 2010

**ENG 2530 Harlem Renaissance** A study of the major works of African American literature written during the 1920s and 1930s. (3 cr) Last Offered: Fall 2016 Fall 2014 Fall 2013

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Fall 2017

**ENG 2730 Intro to African Lit I** Survey of various important literary practices in Africa, especially oral performance & its effect on written literature. (3 cr) Last Offered: Fall 2013 Fall 2012 Spring 2011

**ENG 2731 Intro to African Lit II** Survey of the various literary practices in Africa, especially recent fiction & women's writing. (3 cr) Last Offered: Spring 2014 Spring 2013 Spring 2010

**ENG 2735 African Drama** Study of modern African drama. (3 cr) Last Offered: Spring 2019 Spring 2010 Spring 2009

**ENG 2740 Caribbean Lit** Study of representations of the Caribbean in the plays & novels of significant authors from the region. (3 cr) Last Offered: Fall 2018 Fall 2014 Summer 2013

**ENG 2790/2791/2792/2793 Topics in Lit. and Culture** Specific topics vary each semester. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Last Offered: Fall 2019 Spring 2019 Fall 2018

**ENG 2991 English Majors in Workplace** Communicating and applying skills of English Majors in the workplace. (1 cr) Last Offered: Fall 2018 Spring 2018 Fall 2017

**ENG 2992 English Topics Abroad** Co-requisite 1-credit course designed to provide an embedded study-abroad experience to complement a requisite English course. (1 cr) Last Offered: Spring 2019

**ENG 2993 Internship** (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**ENG 2996 Internship** (6 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (6 cr) Last Offered: Fall 2017 Fall 2016

- 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. (9 cr) Last Offered: Fall 2019 Spring 2019 Spring 2018
- ENG 3150 Chaucer** The Canterbury Tales, Troilus and Criseyde, and additional works. (3 cr) Last Offered: Fall 2019 Fall 2017 Fall 2016
- ENG 3190/3191/3192 Medieval Brit/Ir Lit. & Cult.** Specific topics vary each semester. (3 cr) Last Offered: Fall 2018 Spring 2017 Fall 2015
- ENG 3230 Eliz & Jacobean Drama** Playwrights of the English Renaissance excluding Shakespeare. (3 cr) Last Offered: Spring 2011 Spring 2007 Fall 2000
- ENG 3250 Shakespeare** A selection of plays by Shakespeare. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2017
- ENG 3290/3291/3292 Renaissance Br/Ir Lit. & Cult.** Specific topics vary each semester. (3 cr) Last Offered: Spring 2018 Fall 2016 Fall 2014
- ENG 3291/3292 Renaissance Br/Ir Lit. & Cult.** Specific topics vary each semester. (3 cr)
- ENG 3350 Milton** English poems and selected prose on issues of gender, politics, religion, culture. (3 cr) Last Offered: Fall 2018 Fall 2015 Spring 2014
- ENG 3490/3491/3492 18th c. Brit/Ir Lit. & Culture** Specific topics vary each semester. (3 cr) Last Offered: Fall 2018 Spring 2018 Fall 2017
- ENG 3502 Later Romantic Writers** Byron, Shelley, Keats and other writers of the second half of the Romantic period. (3 cr) Last Offered: Spring 2018 Fall 2011 Spring 2009
- 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. (3 cr) Last Offered: Spring 2013 Spring 2009 Spring 2007
- ENG 3520 19th Cent British Novel** Selected novelists from Jane Austen to Thomas Hardy. (3 cr) Last Offered: Fall 2019 Fall 2017 Fall 2012
- ENG 3525 Dickens** Selected novels by Charles Dickens. (3 cr) Last Offered: Fall 2013 Spring 2012 Fall 2009
- ENG 3590/3591/3592 19th c. Brit/Ir Lit. & Culture** Specific topics vary each semester. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016

- ENG 3615 James Joyce** A study of the novels and short stories of James Joyce, with concentration on *Ulysses*. (3 cr) Last Offered: Fall 2017 Fall 2014 Spring 2012
- ENG 3620 Modern British Novel** The British novel from the turn of the century to World War II. (3 cr) Last Offered: Spring 2016 Fall 2013 Fall 2010
- ENG 3621 Contemp British Novel II.** The development of the novel since World War II. (3 cr) Last Offered: Fall 2018 Spring 2017 Spring 2016
- ENG 3690/3691/3692 Br/Ir Lit. & Cult. after 1900** Specific topics vary each semester. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017
- ENG 4001 Major Amer Writers I** The masterpieces of selected American writers from early times to the Civil War era. (3 cr) Last Offered: Spring 2019 Fall 2018 Fall 2017
- ENG 4002 Major Amer Writers II** The masterpieces of selected American writers since the Civil War era. (3 cr) Last Offered: Spring 2017 Spring 2015 Spring 2014
- ENG 4040 American Short Story** Development of the short story in America from Washington Irving to the present. (3 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015
- 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. (3 cr) Last Offered: Fall 2019 Spring 2007 Spring 2005
- ENG 4515 American Gothic** The nature and evolution of horror writing in America from the eighteenth-century to today. (3 cr) Last Offered: Fall 2019 Spring 2018 Spring 2017
- ENG 4520 American Novel to 1895** The genesis of the American novel. (3 cr) Last Offered: Fall 2016 Fall 2015 Fall 2014
- ENG 4540 The American Revolutionary Era** Lives and writings of the American Revolutionary Era Founders. (3 cr) Last Offered: Fall 2013 Fall 2010 Spring 2009
- ENG 4590/4591/4592 Am. Lit. & Cult. before 1900** Specific topics vary each semester. (3 cr) Last Offered: Spring 2018 Fall 2017 Spring 2017
- 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. (3 cr) Last Offered: Fall 2017 Fall 2011 Fall 2005
- ENG 4615 Amer Poetry since 1950** American poets since 1950, including Lowell, Plath, Sexton, Snodgrass, Ginsberg, Rich, Snyder, Baraka, and others. (3 cr) Last Offered:

Fall 2015 Fall 2007 Fall 2001

**ENG 4620 American Novel 1895-1950** Representative novelists from Crane to Steinbeck. (3 cr) Last Offered: Fall 2015 Spring 2015 Summer 2013

**ENG 4630 American Drama to 1960** Major plays of the period. (3 cr) Last Offered: Spring 2014 Fall 2011 Summer 2010

**ENG 4631 Amer Drama since 1960** Major plays of the period. (3 cr) Last Offered: Fall 2014 Fall 2012 Fall 2005

**ENG 4636 Contemp Amer Women's Poetry** The work of American women poets from the last forty years. (3 cr) Last Offered: Fall 2018 Fall 2003 Spring 1999

**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. (3 cr) Last Offered: Spring 2018 Fall 2004 Summer 2003

**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. (3 cr) Last Offered: Fall 2017 Spring 2003 Summer 2002

**ENG 4650 Amer Criminal Trial Narratives** Significant Modern American narratives in the sub-form of Criminal Trials & Court Martials. (3 cr) Last Offered: Fall 2012 Fall 2011 Fall 2010

**ENG 4690/ 4691/ 4692 Amer. Lit. & Cult. after 1900** Specific topics vary each semester. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**ENG 5000 Senior Seminar** Capstone experience combining immersion in primary and secondary materials with an intensive writing experience. Limit of 15 students. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**ENT 2021 Entrepreneurship Mkt** Marketing strategies for new ventures including target markets, research, sales strategy, guerilla marketing, promotion, distribution, pricing. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2017 Spring 2016

**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. (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**ETH 3010 Topics in Ethics** Addresses a special topic in ethics of current interest to faculty & students. (3 cr) Last Offered: Fall 2019 Spring 2019 Spring 2018

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (4 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (4 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**FFS 1121 Intermediate French I** Review of grammar, composition, reading and conversation. Students should have completed FFS 1112 or equivalent. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**FFS 1122 Intermediate French II** Review of grammar, composition, reading and conversation. Students should have completed FFS 1121 or equivalent. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Summer 2017

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**FFS 1134 Business French** An introduction to French business terminology and discourse related to economic, finance, and management. (3 cr)

**FFS 1138 Advanced Grammar** Intensive practice of spoken and written French. (3 cr) Last Offered: Summer 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Spring 2019 Fall 2018 Spring 2018

**FFS 1140 Writing & Stylistics in French** Intensive practice in written expression and textual analysis. Compositions are modeled on selected French texts. (3 cr) Last Offered: Fall 2019 Summer 2018 Summer 2017

**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. (3 cr)

**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. (3 cr) Last Offered: Summer 2019 Summer 2018 Spring 2018

**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. (3 cr)

**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. (3 cr) Last Offered: Fall 2018 Fall 2017 Spring 2017

**FFS 2221 Lit/Cult Francophone World** Significant developments in the literatures of the French-speaking world from the 20th century to the present. (3 cr) Last Offered: Fall 2019 Fall 2016

**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. (3 cr) Last Offered: Spring 2019

**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. (3 cr) Last Offered: Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2018

**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. (3 cr)

**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. (3 cr) Last Offered: Spring 2019

**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. (3 cr) Last Offered: Summer 2017

**FFS 3145 The Extreme Contemporary** Analytical readings of major texts published within the past ten years. (3 cr) Last Offered: Fall 2019 Fall 2017

**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. (3 cr)

**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. (3 cr)

**FFS 3227 Readings Sub-Saharan Afr Lit** Analytical Readings of major texts of the French-speakiing Sub-Saharan traditions. Prerequisite: FFS 2220 or FFS 2221 or FFS



2075 or FFS 2285 or authorization from instructor. (3 cr)

**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. (3 cr)

**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. (3 cr)

**FFS 3287 Cult Studies: France & Maghreb** Exploration of the rich inter-cultural connections between France and its former North-African colonies. Prerequisites: FFS 2220 or FFS 2221 or FFS 2075 or FFS 2285 or authorization from Instructor. (3 cr)

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr)

**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. (3 cr)

**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. (3 cr)

**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. (3 cr)

**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. (3 cr) Last Offered: Fall 2016

**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. (3 cr)

**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. (3 cr) Last Offered: Fall 2018

**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. (3 cr)

**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. (3 cr)

**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. (1 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**FFS 5900 Independent Study** (3 cr) Last Offered: Spring 2019 Spring 2018 Fall 2017

**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. (3 cr) Last Offered: Spring 2016 Spring 2014 Spring 2012

**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.(3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**FIN 2121 Special Topics in Finance** Special finance topics offered in lecture/seminar format. Permission of Department Chair or Instructor. (1 cr) Last Offered: Fall 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr)  
Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019  
Fall 2018 Spring 2017

**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. (3 cr) Last Offered: Spring 2019 Fall 2018  
Spring 2018

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3

cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**FIN 2340 Contemporary Topics in Finance** Contemporary issues and topics in Financial Management, Financial Markets, Investments, or International Finance. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Fall 2018 Fall 2017 Fall 2016

**FIN 2343 Student-Managed Funds II** Continuation of FIN 2342. This course will not be used to fulfill a Finance major or minor elective requirement. NOTE: This course does not fulfill a FIN elective. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Fall 2017

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (6 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**GEV 1002 Geo. of a Globalizing World** The human and physical realms of Geography. Focus on current geographic problems facing specific regions of the world. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**GEV 1003 Geo. of Earth's Environments** World climates, water, landforms,

soil, and vegetation form the basis of this global environmental approach. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr)

**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. (3 cr)

**GEV 1050 Environmental Science I** Multidisciplinary foundation in Environmental Science; first of two semester courses. Science course linking environmental biology, chemistry, earth sciences, and climate change. Collection of data from lab experiments and field-based observations. (4 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (4 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**GEV 1053 Environmental Studies II** Overview of fundamental environmental topics, including themes in energy, pollution, and resources. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (4 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**GEV 1903 Internship Elective** (3 cr) Last Offered: Fall 2019  
Summer 2019 Spring 2019

**GEV 1906 Internship Elective** (6 cr) Last Offered: Fall 2019  
Summer 2019 Spring 2019

**GEV 1909 Internship Elective** (9 cr) Last Offered: Fall 2019  
Spring 2019 Spring 2018

**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. (4

cr) Last Offered: Spring 2019      Spring 2018      Spring 2017

**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. (3 cr) Last Offered:  
Fall 2019      Fall 2018      Fall 2017

**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. (3 cr) Last Offered: Fall 2019      Fall 2018      Fall 2017

**GEV 2993 Internship** (3 cr) Last Offered: Fall 2019  
Summer 2019      Spring 2019

**GEV 2996 Internship** (6 cr) Last Offered: Fall 2019  
Summer 2019      Spring 2019

**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. (3 cr) Last Offered: Fall 2019  
Spring 2019      Spring 2018

**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. (3 cr) Last Offered: Fall 2019      Spring 2019      Fall 2018

**GEV 3002 Ecosystem Services** Four major categories of ecosystem services: provisioning services, regulating services, cultural, and supporting services. (3 cr) Last Offered: Spring 2017

**GEV 3003 Environmental Geology** Application of the principles of geology in the solving of environmental problems. (3 cr)

**GEV 3004 Geographies Envrnl 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. (3 cr) Last Offered: Spring 2018

**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. (3 cr) Last Offered: Fall 2019      Fall 2016 Spring 2016

- GEV 3301 Fisheries** Current practices and the environmental, political and social implications of this global industry. (3 cr)
- GEV 3302 Agricultural Science** Environmental implications of agriculture, incl. a scientific analysis of soil, pesticides, fertilizer, and biodiversity. (3 cr)
- GEV 3303 Soil Science** Soil, soil properties, and biota in various ecosystems with a focus on human impacts to soil mesocosm. (3 cr)
- GEV 3304 Air Pollution** Analysis of natural and human-caused environmental impacts to the atmosphere. (3 cr)
- GEV 3305 Energy Systems** Assessment of current methods for supplying energy, incl. fossil fuels, nuclear energy, and renewable energy. (3 cr)
- GEV 3306 Alternative Energy** Analysis of emerging and established alternative energies, incl. wind, solar, biofuel, and hydropower. (3 cr)
- 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. (3 cr) Last Offered: Fall 2018  
Spring 2017
- GEV 3309 Coral Reefs** Overview of the science, policy, and management issues for coral reef ecosystems in a changing world. (3 cr)
- GEV 3310 Special Topics in Geology** Topical approach to geology to include the terror of wines, to the geology behind current events. (3 cr)
- 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. (3 cr) Last Offered: Spring 2019 Spring 2017 Spring 2016
- GEV 3501 Geomorphic Environments** Landform processes and development. Geomorphic processes, dynamics, and equilibrium systems. Data collection, statistical analysis, and interpretation of landform development models. (3 cr)
- 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. (3 cr) Last Offered: Spring 2018
- GEV 3515 Geography of Africa** Major geographic problems facing contemporary Africa, with a special emphasis on spatial planning within a number of national contexts. (3 cr) Last Offered: Spring 2016 Fall 2015 Spring 2015

**GEV 3521 GIS for Urban Sustainability** Review and analyze sustainability issues faced by cities. Learn GIS applications related to urban sustainability (3 cr) Last Offered: Spring 2019 Spring 2018

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Spring 2018 Spring 2016 Spring 2015

**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. (3 cr) Last Offered: Spring 2018 Spring 2015 Spring 2013

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**GEV 3590 Topical Research Problems** Individual projects or studies in geography and the environment. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Spring 2018 Spring 2017

**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. (4 cr) Last Offered: Spring 2014 Spring 2013

**GEV 4310 Environmental Issues Seminar** Interdisciplinary coverage of current global environmental issues, emphasizing their complexity, analyses, and solutions. (3



cr) Last Offered: Spring 2019      Spring 2018      Spring 2017

**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. (4 cr) Last Offered: Fall 2019      Fall 2015      Spring 2015

**GEV 4321 Microbial Processes** Examination of Earth's dynamic systems and the environmental consequences of environmental processes. (4 cr)

**GEV 4322 Ocean Environments** Investigation of the biological, geological, chemical, and physical characteristics of the ocean. (4 cr) Last Offered: Fall 2017

**GEV 4323 Watershed Biogeochemistry** Biogeochemical and physical characteristics of watersheds and the threats they currently face. (4 cr) Last Offered: Spring 2019      Spring 2016

**GEV 4324 Wetland Science and Management** Wetland flora and fauna, hydrology, soils and ecology. (4 cr)

**GEV 4325 Environmental Ecology** Principles of ecology and their implications for analyzing environmental problems. Understanding processes controlling the dynamics of populations, communities, and ecosystems. (4 cr) Last Offered: Fall 2018  
Fall 2016

**GEV 4326 Geologic Processes** Geologic processes, formation of fossil fuel and ore deposits, and the environmental impact of their extraction. (4 cr)

**GEV 4327 Process Geomorphology** Processes that shape landforms. Major components of geomorphology, including fluvial, glacial, periglacial, aeolian, slope, and weathering process. (4 cr)

**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. (4 cr)

**GEV 4329 Global Change Research** Advanced field and laboratory research focused on contemporary issues in environmental science. (4 cr)

**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. (3 cr) Last Offered: Fall 2019  
Fall 2014

- GEV 4331 Env. Policy & Management** National and international debates of key environmental issues from policy and management perspectives. (3 cr)
- GEV 4332 Water Resources Planning** Management and planning of natural and constructed water systems. (3 cr)
- GEV 4333 Politics and the Env.** Analysis of current affairs related to the environment. (3 cr) Last Offered: Fall 2019 Fall 2018
- GEV 4334 Environmental Law** Legal analysis of the environment, incl. seminal national and international laws. (3 cr)
- GEV 4335 Energy Policy** Policies pertaining to the extraction, supply, distribution, and use of energy. (3 cr)
- 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. (3 cr) Last Offered: Spring 2017 Spring 2014
- 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. (3 cr) Last Offered: Spring 2015 Spring 2014
- GEV 4351 Oceanography** Biology, geology, chemistry, and physical environment of the ocean.(3 cr) Last Offered: Fall 2019
- GEV 4352 Physical Geology** Earth's dynamic systems and the environmental consequences of geologic processes. (3 cr)
- 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. (3 cr)
- GEV 4354 Biomimicry** Design and production of materials, structures, and systems that are modeled on biological entities and processes. (3 cr)
- GEV 4355 Tropical Ecology** Environmental issues unique to tropical latitudes and ecosystems. (3 cr)
- GEV 4356 Global Change Science** Advanced exploration and discussion focused on contemporary issues in environmental science. (3 cr)
- GEV 4360 Field Methods in Env Science** Environmental field research focusing on a specific environmental issue including an extensive field trip. (4 cr) Last Offered: Spring 2018 Spring 2017

**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. (4 cr)

**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. (3 cr) Last Offered: Spring 2016

**GEV 4511 Climate Variability** Seasonal, interannual, and decadal variations in climate variables. Atmospheric circulation patterns, teleconnections, and their impacts on the environment and society. (3 cr)

**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. (3 cr) Last Offered: Fall 2019 Spring 2018 Spring 2016

**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. (3 cr)

**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. (3 cr) Last Offered: Spring 2019

**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 (3 cr)

**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. (3 cr)

**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. (3 cr)

**GEV 4700 Geographic Information Systems** Principles, techniques, and applications of Geographic Information Systems (GIS). Laboratory employs analyses with state-of-the-art GIS software. (4 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**GEV 4710 Adv. Geographic Info Sys** Spatial problem solving by focusing on theoretical/conceptual and practical aspects of GIS modeling and spatial analysis. (4)

cr)

**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. (1 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (0 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**GEV 6200 Independent Study** Individual projects or studies in geography & the environment. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**GIS 2993 Global Studies Internship** Permission of Chairperson required. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**GIS 2996 Global Studies Internship** Permission of Chairperson required. (6 cr) Last Offered: Spring 2019 Spring 2018 Fall 2017

**GIS 3000 Special Topics Study Abroad** Special topics in global and interdisciplinary studies taken while studying abroad. (3 cr)

**GIS 4100 Topics in GIS** Specific topics in global interdisciplinary studies that vary each semester. (3 cr) Last Offered: Spring 2018

**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. (3 cr) Last Offered: Fall 2012

**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. (3 cr) Last Offered: Spring 2013

**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. (3 cr) Last Offered: Fall 2017 Spring 2016 Fall 2014

**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. (3 cr) Last Offered: Fall 2017 Spring 2016 Spring 2014

**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. (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015

**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. (3 cr) Last Offered: Summer 2017 Spring 2015

**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. (3 cr)

**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. (3 cr) Last Offered: Fall 2016

**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. (3 cr) Last Offered: Spring 2018

**GIS 4675 East Asian Comparative Lit** Team-taught interdisciplinary seminar. Examination of Modern East Asian Literature with Japanese and Chinese

Components. (3 cr) Last Offered: Spring 2015 Spring 2012

**GIS 5000 Special Topics** Intensive seminar taught by distinguished visiting faculty on a topic of global and interdisciplinary significance. (1 cr) Last Offered:  
Fall 2019 Spring 2019 Spring 2018

**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. (3 cr) Last Offered:  
Fall 2019 Spring 2019 Fall 2018

**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. (3 cr)

**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. (3 cr)

**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. (3 cr)

**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. (3 cr)

**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. (3 cr)

**GIS 6000 Independent Study** Individual students with specific interests will work on a supervised project. (3 cr) Last Offered: Fall 2019 Spring  
2019 Fall 2018

- 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. (3 cr) Last Offered:  
 Fall 2019      Fall 2018      Fall 2017
- GIS 6600 Capstone 2: Thesis** Directed research seminar focusing on the writing of the major thesis. Senior standing. (3 cr) Last Offered:      Spring 2019  
 Spring 2018      Spring 2017
- GRK 1111 Introductory Ancient Greek I** The basic forms, syntax and vocabulary of Ancient Attic Greek; selected prose in second semester. (4 cr) Last Offered:  
 Fall 2019      Fall 2018      Fall 2017
- GRK 1112 Introductory Ancient Greek II** The basic forms, syntax and vocabulary of Ancient Attic Greek, selected prose in second semester. (4 cr) Last Offered:  
 Spring 2019      Spring 2018      Spring 2017
- 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). (3 cr) Last Offered: Fall 2013      Fall 2011      Fall 2009
- GRK 1122 Intermediate Ancient Greek II** (3 cr) Last Offered:  
 Spring 2014      Spring 2012
- GRK 3001 Readings in Authors** Selected readings from a variety of Greek authors. Fulfills advanced literature requirements. (3 cr) Last Offered:      Spring 2018  
 Spring 2009      Fall 2008
- GRK 5900 Greek: Independent Study** Supervised study, activity or research. May be taken more than once. Prior approval of chair and instructor. (3 cr) Last Offered:  
 Fall 2019      Spring 2019      Fall 2017
- 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. (3 cr) Last Offered:      Fall 2019      Spring 2019      Fall 2018
- GWS 2993 GWS Internship** Internship. (3 cr) Last Offered:      Spring 2019  
 2019      Summer 2018      Spring 2018
- GWS 3000 Independent Study** Approval of Gender and Women's Studies Director required. (3 cr) Last Offered:      Fall 2019      Spring 2019      Spring

2018

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**HIS 1002 The United States to 1877** For AP and transfer credit only. Does not fulfill Arts and Sciences core history requirement. (3 cr)

**HIS 1003 The United States Since 1877** For AP and transfer credit only. Does not fulfill Arts and Sciences core history requirement. (3 cr)

**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. (3 cr) Last Offered: Fall 2015  
Spring 2014 Fall 2013

**HIS 1060 Topics in Religion & Society** Selected core courses exploring religion in different eras with emphasis on cross cultural interaction. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**HIS 1065 Topics Nature, Environ & Tech** Selected core courses exploring relationship between environmental and technological change in different eras and societies. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**HIS 1070 Topics Empire and Imperialism** Selected core courses on empire and practice of imperialism in different eras. (3 cr) Last Offered: Fall 2019  
Spring 2019 Fall 2018

**HIS 1075 Topics in Race & Gender** Selected core courses exploring issues of race and/or gender in different eras. (3 cr) Last Offered: Fall 2019  
Spring 2019 Fall 2018

**HIS 1150 Topics in Atlantic World** Selected core courses on political, social, and cultural interaction in the Atlantic basin beginning in the 15th century. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**HIS 1155 Topics in America & the World** Selected core courses offering transnational perspectives on the development of American society. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**HIS 1160 Topics in Asia & Pacific** Selected core courses on political, social, and cultural interaction among different societies in Asia and Pacific basin. (3 cr)



<b>HIS 1165</b>	<b>Topics Global Perspectives</b>	Selected core courses that take a global or comparative approach to major issues.	(3 cr) Last Offered:	Fall 2019
	Spring 2019	Fall 2018		
<b>HIS 1250</b>	<b>Top in Ancient Civilizations</b>	Selected core courses on different aspects of ancient societies.	(3 cr) Last Offered:	Fall 2019 Summer 2019
	Spring 2019			
<b>HIS 1903</b>	<b>Internship Elective</b>		(3 cr) Last Offered:	Fall 2019
	Spring 2019	Spring 2018		
<b>HIS 1906</b>	<b>Internship Elective</b>		(6 cr) Last Offered:	Fall 2016
	Fall 2015	Spring 2015		
<b>HIS 1909</b>	<b>Internship Elective</b>		(9 cr) Last Offered:	Fall 2015
	Fall 2014	Spring 2014		
<b>HIS 2000</b>	<b>Investigating U.S. History I</b>	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. (3 cr)	Last Offered:	Fall 2019 Fall 2018 Fall 2017
<b>HIS 2001</b>	<b>Investigating US History II</b>	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. (3 cr)	Last Offered:	Spring 2019 Spring 2018 Spring 2017
<b>HIS 2151</b>	<b>Colonial America</b>	The political, economic, social, and intellectual life of the American colonies and the clash of racial and ethnic groups in America to 1763. (3 cr)	Last Offered:	Spring 2019 Spring 2015 Fall 2011
<b>HIS 2161</b>	<b>Revolutionary &amp; Fed Amer</b>	The colonial resistance to Great Britain; the making of the Constitution; and the continuing struggle, to 1810, to define the meaning of the Revolution. (3 cr)	Last Offered:	Spring 2016 Summer 2014 Fall 2012
<b>HIS 2171</b>	<b>Building a Nation 1800-50</b>	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. (3 cr)	Last Offered:	Fall 2018 Spring 2014
	Spring 2013			
<b>HIS 2181</b>	<b>Civil War &amp; Reconstruct</b>	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. (3 cr)	Last Offered:	

Spring 2019      Spring 2017      Spring 2015

**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. (3 cr) Last Offered: Spring 2014      Spring 2013      Fall 2011

**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. (3 cr) Last Offered: Spring 2019      Fall 2017      Spring 2016

**HIS 2251 U. S. Foreign Rel 1776-1914** The completion of independence, hemispheric diplomacy, expansion, Civil War, and imperialism. (3 cr) Last Offered: Spring 2013      Spring 2011      Spring 2009

**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. (3 cr) Last Offered: Fall 2019      Spring 2014  
Fall 2010

**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. (3 cr) Last Offered: Spring 2017      Fall 2014  
Fall 2013

**HIS 2272 History of Amer 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. (3 cr) Last Offered: Spring 2015      Spring 2012      Spring 2010

**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. (3 cr) Last Offered: Fall 2019      Fall 2018      Spring 2015

**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. (3 cr) Last Offered: Fall 2017      Spring 2015      Spring 2013

**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. (3 cr) Last Offered:  
Fall 2018                  Fall 2012                  Fall 2010

**HIS 2281 Immigration in Amer Hist** 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. (3 cr) Last Offered: Spring 2013                  Spring 2012                  Spring 2011

**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. (3 cr) Last Offered: Spring 2019                  Spring 2018                  Fall 2016

**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. (3 cr) Last Offered: Fall 2018                  Fall 2016  
Fall 2015

**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. (3 cr) Last Offered: Spring 2019                  Spring 2017                  Spring 2016

**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. (3 cr) Last Offered: Spring 2018                  Fall 2011                  Spring 2010

**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. (3 cr) Last Offered: Fall 2019  
Spring 2017                  Fall 2015

**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. (3 cr) Last Offered: Fall 2014                  Spring 2013                  Spring 2012

**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. (3 cr) Last Offered: Spring 2018                  Fall 2013                  Fall 2008

- HIS 2993 Hist Internship** An internship in a local historical archive, museum, park, or library. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019
- HIS 2996 Hist Internship** A more extensive internship in a local historical archive, museum, park, or library. (6 cr) Last Offered: Summer 2019 Summer 2018 Summer 2017
- HIS 2998 Topics in American History** Selected topics in American history of interest to faculty and students. (3 cr) Last Offered: Fall 2019 Spring 2019 Spring 2017
- 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. (3 cr) Last Offered: Fall 2013 Spring 2012 Fall 2010
- 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. (3 cr) Last Offered: Fall 2015 Spring 2014 Spring 2013
- 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. (3 cr) Last Offered: Fall 2014 Spring 2012 Spring 2011
- 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. (3 cr) Last Offered: Spring 2015 Summer 2014 Spring 2013
- 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. (3 cr) Last Offered: Spring 2016 Fall 2013 Fall 2012
- HIS 3095 Topics in Ancient History** Selected topics in Ancient history of interest to faculty and students. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

- HIS 3108 The Crusades** The medieval conflict between the rival cultures and religions of Christendom and Islam. (3 cr) Last Offered: Spring 2010  
Spring 2008 Fall 2001
- HIS 3126 Hist of Italian Cities** (3 cr) Last Offered: Spring 2015  
Summer 2013 Fall 2012
- 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. (3 cr) Last Offered: Fall 2012 Spring 2011  
Spring 2009
- 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. (3 cr) Last Offered: Spring 2019 Fall 2012  
Fall 2007
- 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. (3 cr) Last Offered: Spring 2019  
Fall 2014 Spring 2014
- 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. (3 cr) Last Offered: Spring 2017 Spring 2012 Spring 2009
- 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. (3 cr) Last Offered: Fall 2018  
Spring 2017 Spring 2015
- 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. (3 cr) Last Offered: Spring 2013 Fall 2011 Fall 2010

- HIS 3216 Ireland since 1800** The social and political history of the Irish state in the 19th and 20th centuries. (3 cr) Last Offered: Summer 2019 Fall 2018 Summer 2018
- 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. (3 cr)
- 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. (3 cr) Last Offered: Fall 2014 Fall 2012 Fall 2011
- HIS 3230 Modern Germany** The German lands from 1800 to the present, changing conceptions of Germany and dilemmas of German history. (3 cr) Last Offered: Spring 2013 Fall 2008 Spring 2005
- HIS 3233 Hitler and Nazi Germany** Germany from the rise of Hitler to the end of the Second World War. (3 cr) Last Offered: Fall 2019 Fall 2017 Fall 2013
- 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. (3 cr) Last Offered: Fall 2017 Fall 2015 Spring 2014
- 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. (3 cr) Last Offered: Spring 2019 Spring 2016 Fall 2014
- 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. (3 cr) Last Offered: Spring 2013 Fall 2001 Summer 1999
- 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. (3 cr) Last Offered: Fall 2016 Spring 2014 Spring 2011

**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. (3 cr) Last Offered: Spring 2014 Fall 2012 Fall 2011

**HIS 3995 Topics in European History** Selected topics in European history of interest to faculty and students. (3 cr) Last Offered: Spring 2018 Fall 2017 Fall 2016

**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. (3 cr) Last Offered: Spring 2019 Fall 2017 Spring 2016

**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. (3 cr) Last Offered: Fall 2014 Fall 2008 Spring 2006

**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. (3 cr) Last Offered: Fall 2018 Spring 2017 Spring 2013

**HIS 4095 Top Middle Eastern Hist** Selected topics in Middle Eastern history of interest to faculty and students. (3 cr) Last Offered: Spring 2015 Summer 2013 Fall 2012

**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. (3 cr) Last Offered: Spring 2014 Spring 2012 Spring 2008

**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. (3 cr) Last Offered: Fall 2019 Fall 2015 Spring 2013

**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. (3 cr) Last Offered:  
Fall 2017                      Fall 2014

**HIS 4330 Modern China II, 1912-Present** China during its republican and Communist periods. (3 cr) Last Offered: Spring 2015      Fall 2013  
Spring 2003

**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. (3 cr) Last Offered: Spring 2016      Spring 2014      Spring 2013

**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. (3 cr) Last Offered: Fall 2014

**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. (3 cr) Last Offered: Fall 2018 Spring 2017      Spring 2015

**HIS 4395 Topics in Asian History** Selected topics in Asian history of interest to faculty and students. (3 cr) Last Offered: Spring 2017      Spring 2013      Fall 2012

**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. (3 cr) Last Offered: Fall 2012      Spring 2003

**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. (3 cr) Last Offered: Spring 2014      Fall 2011 Fall 2003

**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. (3 cr) Last Offered: Spring 2017      Fall 2013      Spring 2012



**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. (3 cr) Last Offered: Spring 2013 Fall 2011 Spring 2010

**HIS 4495 Topics Latin Amer Hist** Selected topics in Latin American history of interest to faculty and students. (3 cr) Last Offered: Spring 2018 Summer 2015 Spring 2015

**HIS 4499 Topics in World History** Selected topics in world or non-western history of interest to faculty and students. (3 cr) Last Offered: Fall 2019 Spring 2019 Spring 2016

**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. (3 cr) Last Offered: Fall 2016 Fall 2007 Fall 2004

**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, transplantation, artificial organs, genetic engineering, and artificial intelligence. (3 cr) Last Offered: Fall 2015 Fall 2013 Fall 2012

**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. (3 cr) Last Offered: Spring 2016 Spring 2013 Spring 2010

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2016

**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. (3 cr) Last Offered: Fall 2012 Fall 2007 Spring 2005

**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. (3 cr) Last Offered: Fall 2012 Fall 2009 Fall 2008

**HIS 4995 Topics Comparative Hist** Selected topics in non-Western and world history of interest to faculty and students. (3 cr) Last Offered: Spring 2013 Fall 2012 Spring 2012

**HIS 4997 Topics in the History of Race** Selected themes in the history of race examined in depth. (3 cr) Last Offered: Fall 2019 Fall 2008 Fall 2007

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**HIS 5501 Sem in Historical Methodology** Student research and reports. Seminar format. Written permission of chair required. (3 cr) Last Offered: Fall 2019 Fall 2018 Spring 2018

**HIS 5515 Independent Research** An intensive research project under individual direction. Written permission of chair required. (3 cr) Last Offered: Summer 2019 Spring 2019 Spring 2018

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Fall 2016 Fall 2015 Fall 2014

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**HON 1005 Interdisc Humanities I** Honors seminar on major works and ideas from the classical Graeco-Roman world. Emphasis on literature, drama, and performance. (1 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (1 cr) Last Offered: Spring 2019 Spring 2018

**HON 1007 Interdisc Humanities III** Honors seminar on major works and ideas from the modern and contemporary periods. Emphasis on literature, drama, and performance. (1 cr) Last Offered: Fall 2019 Fall 2018

- 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) Last Offered: Sem 2. Two coreq: HON 1050, 1052, 1053, 1054. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017
- 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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017
- 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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017
- 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. (3 cr) Last Offered: Fall 2013 Fall 2012 Fall 2011
- 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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017
- 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. (3 cr) Last Offered: Fall 2015 Fall 2014 Fall 2013
- 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. (3 cr) Last Offered: Spring 2017 Fall 2014 Fall 2013
- 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. (3 cr) Last Offered: Fall 2014 Fall 2013 Fall 2012
- HON 3100 Classics** (3 cr) Last Offered: Spring 2018 Spring 2013 Fall 2003
- HON 3450 Communication** (3 cr) Last Offered: Fall 2014 Spring 2011 Fall 2010

**HON 3600/3601 Literature** (3 cr) Last Offered: Fall 2019  
Fall 2018 Fall 2013

**HON 4000/4001 History** (3 cr) Last Offered: Spring 2018  
Fall 2017 Fall 2010

**HON 4075 Humanities** Honors Seminar. Topics will vary. (3 cr)

**HON 4090 Humanities** Honors Seminar. Topics will vary. (3 cr)

**HON 4100 Mathematics** (3 cr) Last Offered: Spring 2014  
Fall 2012

**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. (3 cr) Last Offered: Spring 2016  
Spring 2015 Spring 2014

**HON 4300/4301 Philosophy** (3 cr) Last Offered: Spring  
2019 Fall 2012 Fall 2011

**HON 4500 Political Science** (3 cr) Last Offered: Fall 2016  
Fall 2013 Fall 2012

**HON 4701 Psychology** (3 cr)

**HON 4800/4801 Theology & Religious Studies** (3 cr) Last Offered:  
Fall 2019 Fall 2018 Spring 2012

**HON 4900/4950 Sociology** (3 cr) Last Offered: Fall 2016  
Fall 2013 Fall 2005

**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. (1 cr) Last Offered: Fall 2019

**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. (1 cr)

**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. (1 cr) Last Offered: Fall 2019

**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. (3 cr) Last Offered: Fall 2018  
Spring 2010

**HON 5300 Enrichment: Topics** Intensive experiential courses providing enrichment opportunities. Individual and group participation directed toward enhancing intellect and delight. (1 cr) Last Offered: Fall 2019 Spring 2019  
Fall 2018

**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. (1 cr) Last Offered: Fall 2019 Spring 2019

**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. (1 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (1 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (1 cr) Last Offered: Spring 2016 Fall 2015 Spring 2015

**HON 5435 Music Theory** The art of music as an expansion of metaphoric language, including images from the visual arts, scientific and philosophic ideas. (1 cr) Last Offered: Spring 2013 Spring 2012 Fall 2010

**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. (1 cr) Last Offered: Spring 2019 Spring 2018 Spring 2016

**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. (1 cr) Last Offered: Fall 2015 Spring 2003 Fall 2002

**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. (1 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**HON 5490 Culture Leadership Workshop** Civic engagement skill set development in global events; cultural trends; intercultural communication; and discourse across academic disciplines. (1 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**HON 5500 Ind Study & Research** Independent Study and Research (3 cr) Last Offered: Fall 2019 Summer 2019 Summer 2018

**HON 5501 Ind Study & Research** Independent Study and Research (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**HON 5506 Ind Study & Res Science** Independent Study and Research in Science (3 cr) Last Offered: Fall 2019 Summer 2019 Fall 2018

**HON 5507 Ind Study & Res Science** Independent Study and Research in Science (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Summer 2013 Fall 2012 Summer 2012

**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. (3 cr) Last Offered: Spring 2013 Spring 2012

**HON 5599 Teaching Practicum** Intern teaching under supervision of Practicum Coordinator. (3 cr) Last Offered: Spring 2019 Fall 2018 Fall 2013

**HON 5600 Seminar for Visiting Professor** Seminar topic to be determined by visiting professor. (3 cr) Last Offered: Spring 2014 Spring 2012 Spring 2008

**HON 5700 Colloquia** (3 cr) Last Offered: Fall 2019  
Fall 2018 Fall 2017

**HON 5701 Colloquia** (3 cr) Last Offered: Fall 2004

- Fall 2003      Fall 2002  
**HON 5702 Colloquia** (3 cr) Last Offered:      Fall 2017  
 Spring 2008      Fall 2006
- Fall 2006  
**HON 5750 Colloquia** (3 cr) Last Offered:      Fall 2019  
 Spring 2018      Fall 2011
- 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. (3 cr) Last Offered:  
 Fall 2019      Summer 2019      Spring 2019
- 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. (3 cr) Last Offered:      Fall 2019  
 Spring 2019      Spring 2018
- HON 6003 Oral Exam Capstone** Course will prepare students pursuing the Honors Degree through the non-thesis track for their oral examination. (1 cr) Last Offered:  
 Fall 2019      Summer 2019      Spring 2019
- HS 2000 Intro:Prin & Survey Prac** Course is Writing Enriched. (3 cr) Last Offered: Fall 2017 Fall 2016      Fall 2015
- HS 2100 Assessment and Referral** (3 cr) Last Offered:      Spring 2018  
 Spring 2013      Fall 2011
- 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. (3 cr) Last Offered:      Spring 2013      Spring 2012  
 Spring 2011
- HS 3000 Lab Communication Skills** (3 cr) Last Offered:      Fall 2013  
 Fall 2012      Fall 2011
- HS 3100 Lab in Group Process** (3 cr) Last Offered:      Spring 2013  
 Spring 2012      Spring 2011
- 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. (3 cr) Last Offered:      Fall 2012  
 Spring 2012      Fall 2011
- HS 3500 Gerontology** (3 cr) Last Offered:      Spring 2017

Fall 2015

Fall 2014

**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. (3 cr) Last Offered: Spring 2016 Fall 2015 Spring 2015

**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. (3 cr) Last Offered: Spring 2018 Fall 2017 Spring 2017

**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. (3 cr) Last Offered: Spring 2017 Spring 2012 Fall 2007

**HS 4000 Seminar Human Services** Integration of the theoretical and practical aspects of the student's program. (3 cr) Last Offered: Fall 2014 Fall 2013 Fall 2012

**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. (6 cr) Last Offered: Spring 2015 Spring 2014 Spring 2013

**HUM 1903 Internship** (3 cr) Last Offered: Fall 2019  
Spring 2019 Spring 2018

**HUM 1906 Internship** (3 cr) Last Offered: Fall 2019  
Spring 2019 Spring 2018

**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. (3 cr) Last Offered: Fall 2019 Spring 2019  
Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Spring 2019  
Fall 2018

**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? (3 cr) Last Offered: Spring 2019 Fall 2018 Spring 2018

**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. (3 cr) Last Offered: Spring 2019 Fall 2018 Spring 2018

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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? (3 cr) Last Offered: Spring 2013 Spring 2010 Fall 2008

**HUM 2900 Topics** Specific topics vary each semester. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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 (1.5 cr) Last Offered: Fall 2019

**HUM 2993 Internship** (3 cr) Last Offered: Fall 2014  
Fall 2013 Fall 2012

**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. (6 cr) Last Offered: Fall 2016 Fall 2015 Fall 2014

**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 "worldly" experience. Fulfills an upper level Literature in the Core Curriculum. (3 cr) Last Offered: Spring 2019  
Spring 2018 Spring 2017

**HUM 3050 The Poetry of Meditation** Study of philosophical and religious poetry: Dante, Herbert, Hopkins, Eliot, Pinkerton, and Hill. (3 cr) Last Offered: Spring 2016 Fall 2012 Spring 2011

**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. (3 cr) Last Offered: Fall 2012 Fall 2011  
Spring 2009

**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. (3 cr) Last Offered: Spring 2013 Fall 2009 Fall 2008

**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. (3 cr) Last Offered: Spring 2013 Spring 2009 Fall 2006

**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. (3 cr) Last Offered: Fall 2015 Fall 2014 Fall 2012

**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. (3 cr) Last Offered: Fall 2014  
Fall 2013 Spring 2011

**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? (3 cr) Last Offered: Fall 2015  
Fall 2010 Fall 2009

**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. (3 cr) Last Offered: Fall 2012 Fall 2010 Fall 2008

**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. (3 cr) Last Offered: Spring 2016  
Spring 2009 Spring 2007

**HUM 5900 HUM - International Context** Course integrates both academic and practical approaches exploring issues in service projects and voluntary organizations. (3 cr) Last Offered: Summer 2015 Summer 2014 Summer 2012

**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. (3 cr) Last Offered: Summer 2019  
Summer 2018 Summer 2017

**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. (3 cr) Last Offered: Fall 2016 Fall 2014

**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. (3 cr) Last Offered: Fall 2019 Fall 2017 Fall 2016

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**HUM 6950 Ind Study & Research** (3 cr) Last Offered: Fall 2019  
Fall 2018 Spring 2017

**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. (4 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (4 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2017  
Spring 2017 Spring 2016

**IS 2222 Topics: Irish Language** Specific topics concerning the Irish language (Gaelic); topics vary by semester. (3 cr) Last Offered: Spring 2019 Fall 2014

**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. (3 cr)

**IS 4100 Spec Top in Irish Studies** Perspectives on the culture and history of Ireland. Presentations by the Resident Program Director, lectures by a range of NUI faculty, readings by noted Irish writers, performances by local musicians, and field trips. Required of all students participating in the semester abroad program at NUI Galway, Ireland. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (4 cr) Last Offered: Fall 2019 Fall 2018 Summer 2018

**ITA 1112 Introductory Italian II** 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. (4 cr) Last Offered: Spring 2019 Summer 2018 Spring 2018

**ITA 1121 Intermediate Italian I** Review of grammar, composition, reading and conversation. Students should have completed ITA 1111 and 1112 or the equivalent. (3 cr) Last Offered: Fall 2019 Fall 2018 Summer 2018

**ITA 1122 Intermediate Italian II** Review of grammar, composition, reading and conversation. Students should have completed ITA 1121 or the equivalent. (3 cr) Last Offered: Spring 2019 Summer 2018 Spring 2018

**ITA 1131 Conversation & Composition I** Intensive practice in conversation and composition with emphasis on developing advanced language skills in Italian. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Summer 2017

- ITA 1138 Advanced Grammar** Intensive practice of spoken and written Italian. (3 cr) Last Offered: Spring 2018 Fall 2014 Fall 2010
- ITA 1140 Writing & Stylistics in Ita.** Intensive practice in written expression and textual analysis. Compositions are modeled on selected Italian texts. (3 cr) Last Offered: Spring 2019 Fall 2016 Summer 2016
- 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). (3 cr) Last Offered: Fall 2019 Fall 2017 Fall 2015
- ITA 1143 Readings in Italian Literature** Readings in fiction, verse and drama representing various literary currents and personalities from the Renaissance to modern times. (3 cr) Last Offered: Summer 2016 Spring 2016
- 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. (3 cr)
- 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. (3 cr) Last Offered: Fall 2018 Spring 2017
- 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. (3 cr) Last Offered: Fall 2018
- 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. (3 cr) Last Offered: Spring 2018
- 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. (3 cr) Last Offered: Fall 2019
- 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. (3 cr) Last Offered: Fall 2017 Fall 2014
- 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. (3 cr)

**ITA 3064 Staging Italian Theatre** 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. (3 cr)

**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. (3 cr)

**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. (3 cr) Last Offered: Fall 2016

**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. (3 cr)

**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. (3 cr)

**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. (3 cr)

**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. (3 cr) Last Offered: Spring 2019 Spring 2017 Summer 2016

**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. (3 cr)

**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. (3 cr)

**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. (3 cr)

**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. (3 cr) Last Offered: Summer 2014

**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. (3 cr)

**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. (3 cr)

**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. (3 cr)

**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. (3 cr) Last Offered: Spring 2016 Spring 2014 Spring 2013

**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. (1 cr)

**ITA 5900 Independent Study** (3 cr) Last Offered: Fall 2019  
Spring 2019 Spring 2018

**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. (6 cr) Last Offered: Fall 2019 Summer 2019 Fall 2018

**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. (6 cr) Last Offered: Summer 2019 Spring 2019  
Summer 2018

**JPN 1121 Intermediate Japanese I** Further practice of communication skills (speaking and listening), reading and writing skills. Supplementary practice with computer. (5 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (5 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2016 Fall 2015 Fall 2014

**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. (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015

**JPN 2100 Japanese Lit Eng Trans** The masterpieces of Japanese literature with a component on women writers. Conducted in English. (3 cr) Last Offered: Summer 2016 Summer 2015 Summer 2014

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2018 Fall 2017 Fall 2016

**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. (3 cr) Last Offered:



Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2019 Fall 2013 Fall 2012

**JPN 5900 JPN: Independent Study** Supervised study, activity or research. May be taken more than once. Prior approval of chair and instructor. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**LA 1903 Internship Elective** Permission of Program Director. Junior or Seniors with a 3.0 overall GPA only. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**LA 1904 Global Internship** Global internship course. Must secure approval of Office for Undergraduate Students (OUS) Internship Office. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**LA 1906 Internship Elective** Permission of Program Director. Juniors and Seniors with 3.0 overall GPA only. (6 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**LA 1909 Internship Elective** Permission of Program Director. Junior or Seniors with a 3.0 overall GPA only. (9 cr) Last Offered: Summer 2019 Spring 2019 Summer 2018

**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. Juniors and Seniors with an overall GPA of 3.0 only. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. Junior and Seniors with an overall GPA of 3.0 only. (6 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**LAS 3412 Special Topics** Study of topics of special interest in Latin American Studies. Topics to be arranged. (3 cr) Last Offered: Fall 2019 Spring 2011 Spring 2010

**LAS 3950 Latin American Studies Seminar** (3 cr) Last Offered: Spring 2017 Spring 2015 Spring 2014

**LAS 5000 Internship** Global, cross-cultural experience. Six weeks of summer practicum at a major economic, political, or cultural institution in Chile.(3 cr) Last Offered: Spring 2019 Summer 2018 Spring 2018

**LAS 6000 Independent Study & Research** Independent research on a topic relevant to Latin America. Cross-disciplinary. Required integration of theory and data. (3 cr) Last Offered: Spring 2019 Spring 2018 Fall 2017

**LAT 1111 Introductory Latin I** Basic forms, syntax and vocabulary; selected Latin prose in second semester. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**LAT 1112 Introductory Latin II** Basic forms, syntax and vocabulary; selected Latin prose in second semester. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**LAT 1121 Intermediate Latin I** Review of Latin syntax; selected readings from prose and poetry. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**LAT 1122 Intermediate Latin II** Review of Latin syntax; selected readings from prose. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**LAT 3001 Readings in Authors** Selected readings from a variety of Latin authors. (3 cr) Last Offered: Fall 2019 Fall 2018 Spring 2018

**LAT 5350 Ovid** Ovid as an epic poet of the Augustan age. (3 cr) Last Offered: Spring 2017 Fall 2004 Fall 1999

**LAT 5900 Latin: Independent Study** Supervised study, activity or research. May be taken more than once. Prior approval of chair and instructor. (3 cr) Last Offered: Spring 2019 Spring 2018 Fall 2017

**LDR 2000 Foundations of Leadership** Introduction to the concepts of and approaches to leadership. Historical and contemporary leadership theories. (3 cr) Last Offered: Fall 2019 Spring 2019 Spring 2018

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Summer 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**LDR 2030 Leadership & Technology** Analysis of the implications of technology on leadership. The strategic role of technology in organizations. Information systems, e-commerce and their value to leaders. (3 cr) Last Offered: Spring 2019 Summer 2018 Fall 2017

**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. (3 cr) Last Offered: Fall 2019 Fall 2018  
Fall 2017

**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. (3 cr) Last Offered: Fall 2018 Fall 2017

**LDR 2060 Leadership in a Borderless Eco** The course focuses on the problems confronting the world's disadvantaged majority. Students in this course will develop transformational leadership skills by examining the interconnectedness of educational, economic, and socio-cultural issues in the US and abroad. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2019 Summer 2019  
Fall 2018

**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 (3 cr) Last Offered: Spring 2018

**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. (3 cr) Last Offered: Summer 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Summer 2019 Spring 2018 Summer 2017

**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. (1 cr) Last Offered: Summer 2017

**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. (3 cr) Last Offered: Summer 2019 Summer 2018 Spring 2018

**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. (3 cr) Last Offered:  
Spring 2017 Fall 2016 Spring 2016

**MAT 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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**MAT 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. (3 cr) Last Offered:  
Spring 2019 Spring 2018 Spring 2017

**MAT 1250 Stats in Health Care Research** Descriptive and inferential statistics: graphical displays, estimation, & hypothesis testing. Restricted to nursing students; others by special permission only. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**MAT 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. Restricted to Part-Time Studies (3 cr) Last Offered: Spring 2017 Spring 2016  
Fall 2015

**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. (3 cr) Last Offered: Fall 2019

**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. (3 cr) Last Offered: Fall 2018  
Spring 2018 Fall 2017

**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. (4 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**MAT 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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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 (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**MAT 1325 Calculus II for Liberal Arts** Techniques of differentiation and integration, applications and further developments of calculus. (3 cr) Last Offered: Spring 2014 Spring 2012 Spring 2011

**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. (4 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**MAT 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. (4 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (4 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (4 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**MAT 1903 Internship Elective** Internship Elective (3 cr) Last Offered:  
Fall 2019 Fall 2017 Fall 2016

**MAT 1906 Internship Elective** Internship Elective (6 cr) Last Offered:  
Summer 2019 Summer 2018 Summer 2017

**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. (4 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Fall 2019  
Spring 2019 Fall 2018

**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. (4 cr) Last Offered: Fall 2019  
Summer 2019 Spring 2019

**MAT 2993 Internship** Internship (3 cr) Last Offered: Fall 2019  
Summer 2019 Spring 2019

**MAT 2996 Internship** Internship (6 cr) Last Offered: Summer  
2019 Spring 2019 Summer 2018

**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. (3 cr) Last Offered: Fall 2019  
Spring 2019 Fall 2018

**MAT 3305 Topics in Analysis** Advanced topics selected from real analysis, complex analysis, or higher analysis. (3 cr) Last Offered: Spring 2019  
Spring 2004 Spring 2002

**MAT 3400 Linear Algebra** Vector spaces, linear transformations, basis and dimension, orthogonal transformations, least squares, eigenvalues and eigenvectors, similarity, diagonalization, symmetric, applications. (3 cr) Last Offered: Fall 2019  
Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019  
Spring 2019 Fall 2018

**MAT 3930 History of Mathematics** Development of mathematics from ancient times to the birth of calculus in the seventeenth century. (3 cr) Last Offered: Fall 2019  
Fall 2019 Fall 2017 Fall 2015

**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. (3 cr) Last Offered: Fall 2017 Spring 2015 Spring 2014

**MAT 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. Prerequisites: MAT 4310 and MAT 5700. (3 cr) Last Offered: Fall 2019

**MAT 4270 Numerical Analysis** Numerical and computational aspects of root-finding methods, interpolation and polynomial approximation, numerical differentiation and integration, approximation theory. (3 cr) Last Offered: Spring 2019 Fall 2015  
Spring 2013

**MAT 4310 Stat Methods** Data displays and summarization, probability distributions, point and interval estimation, hypothesis testing, categorical data analysis, regression and correlation. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**MAT 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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**MAT 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. (3 cr) Last Offered: Fall 2019

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**MAT 5110 Topics in Geometry** Topics selected from affine, hyperbolic,

spherical, elliptic, Euclidean or projective geometry. (3 cr) Last Offered: Fall 2018  
Fall 2016 Fall 2014

**MAT 5200 Theory of Numbers** Congruences, quadratic reciprocity, Diophantine equations; applications. (3 cr) Last Offered: Spring 2018 Spring 2017 Summer 2014

**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. (3 cr) Last Offered: Spring 2018 Spring 2016 Spring 2015

**MAT 5500 Topology** Topological equivalence, connectedness, compactness, topology of subsets of  $R^n$ , manifolds, topological embeddings, topological spaces. (3 cr) Last Offered: Fall 2018 Spring 2017 Spring 2016

**MAT 5600 Differential Geometry** Geometry of curves and surfaces, curvature, first and second fundamental forms, minimal surfaces, use of MAPLE. (3 cr) Last Offered: Spring 2019 Spring 2013 Fall 2009

**MAT 5700 Math Statistics I** Probability, random variables, joint distributions, expected values, limit theorems, distributions derived from the normal distribution. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**MAT 5705 Math Statistics II** Survey sampling, parameter estimation, hypothesis testing, two sample tests, analysis of variance, analysis of categorical data, linear least squares. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**MAT 5910 Topics in Statistics** Lecture course in an area of statistics. May be repeated for credit if topics are different. Prerequisites: Dependent on Topic. (3 cr)

**MAT 5920 Topics in Applied Mathematics** Lecture course in an area of applied mathematics. May be repeated for credit if topics are different. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**MAT 5930 Topics in Pure Mathematics** Lecture course in an area of pure mathematics. May be repeated for credit if topics are different. (3 cr) Last Offered: Fall 2017 Fall 2015 Spring 2015

**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. (1 cr) Last



Offered: Fall 2019          Summer 2019          Spring 2019

**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.          (2 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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.          (3 cr) Last Offered:          Fall 2019          Summer 2019          Spring 2019

**ME 1205 Prog & Solid Modeling for ME**          Introduction to programming using Matlab, programming structures to solve problems in topics applicable to Mechanical Engineering, solid modeling using SolidWorks, 3D-printing of models, engineering drawings.          (3 cr) Last Offered:          Spring 2019

**ME 2100 Statics**          Vector analysis of force systems on particles and rigid bodies with particular emphasis on mathematical and physical formulation of principles underlying the solution of engineering problems; vector algebra; friction; centroids and moments of inertia.          (3 cr) Last Offered:          Fall 2019          Fall 2018          Fall 2017

**ME 2101 Dynamic Systems I**          Kinematics, velocity, and acceleration of particles in Cartesian, cylindrical, and spherical reference frames, projectile motion, dynamics of particles, momentum principles, systems of particles, rigid body kinematics and dynamics.          (3 cr) Last Offered:          Spring 2019          Summer 2018 Spring 2018

**ME 2103 Mechanics of Materials**          Definition of stress and strain mechanical behavior of material under axial, shear, torsion, bending, and combined loads; stress and strain transformations; deflection of beams; buckling.          (3 cr) Last Offered:          Spring 2019          Spring 2018          Spring 2017

**ME 2505 M.E. Analysis & Design**          Introduction to the design process as a foundation for future mechanical engineering courses. The role that engineering design plays in contemporary society; the creativity and innovation inherent in mechanical engineering design; and development of the ability to function as part of a design team.          (4 cr) Last Offered:          Fall 2019          Fall 2018          Fall 2017

**ME 2900 ME Laboratory I**          Basic experiments related to instrumentation used in the field of Mechanical Engineering; includes data collection and design of experiments.          (1 cr) Last Offered:          Spring 2019          Spring 2018          Spring 2017

**ME 3100 Thermodynamics**          Elements of thermodynamics theory, system and control volumes, properties of pure substance, ideal gas, heat and work interactions, first and second laws, entropy.          (3 cr) Last Offered:          Spring 2019          Spring 2018          Spring 2017

- ME 3102 Dynamic Systems II** Free and forced vibration of one degree-of-freedom mechanical systems, response to harmonic excitation, general excitation, transient response, transfer function analysis, higher order systems including two degree-of-freedom systems and DC motors. (3 cr) Last Offered: Fall 2019 Summer 2019 Fall 2018
- ME 3103 Dynamic Systems III** Modeling of mechanical and electrical systems, feedback control systems with PID, analysis and design of transient and steady state response, stability analysis, root-locus technique, frequency domain analysis and design, state space methods. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017
- ME 3300 Materials Science I** Introduction to crystal structures, imperfections in solids, diffusion, mechanical properties of materials, dislocations and strengthening mechanisms, phase diagrams, structure and properties of ceramics and polymers, electrical properties. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017
- ME 3333 Manufacturing Engineering** Fundamentals of manufacturing including the relation among materials, structures, properties, and manufacturing processes, manufacturing economics, traditional manufacturing processes, and the new trend of advanced manufacturing such as 3D printing and nanomanufacturing. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017
- ME 3402 Solid Mechanics & Design I** Stress, strain, stress-strain relations, strain gauges; stress analysis; static failure; fatigue failure; design projects. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017
- ME 3403 Solid Mechanics & Design II** Design and analysis of machine elements; wear; torsion of noncircular sections; computer aided engineering; design projects. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017
- ME 3600 Fluid Mechanics** Fluid properties, fluid statics; kinematics of flow; conservation of mass, energy, momentum; dynamic similarity; fluid resistance, boundary layer theory; flow in conduits; lift and drag; potential flow; compressible flow. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017
- ME 3900 ME Laboratory II** Test of engineering materials, experiments related to basic stress analysis, thermodynamics and materials science. (1 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017
- ME 3950 Heat Transfer I** Steady state, unsteady state conduction in one & two dimensions; numerical methods of solution; forced & free convection in internal & external flow; heat exchangers; multi-mode heat transfer. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017
- ME 4001 Dynamic Systems Lab** Laboratory experiments in data acquisition, measurement and characterization of dynamic systems, vibration, smart actuators, and real-

- time control. (1 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017
- ME 4002 Solid Mechanics Lab** Laboratory experiments in structure, properties and mechanics of materials. (1 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017
- ME 4003 Thermal Fluids Lab** Laboratory experiments in thermodynamics, fluid mechanics, heat transfer, aerodynamics, engine performance, and energy conversion. (1 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017
- ME 4850 Thermal-Fluid System Design** Integration of thermodynamics, fluid mechanics and heat transfer and application to thermal designs. Characteristics of applied heat transfer problems: nature of problem specification, incompleteness of needed knowledge based and accuracy issues. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017
- ME 5000 Selected Topics in ME** (Technical Elective) Individual study of a selected topic with an ME faculty; requires exams/homework/projects similar to a regular course. Consent of department chair required. (3 cr) Last Offered: Fall 2016 Spring 2016 Spring 2015
- ME 5001 ME Undergraduate Research I** (Technical Elective) Individual participation in modern computational, analytical or experimental research activities under faculty supervision; requires technical report and presentation at end of semester. Consent of department chair required. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018
- ME 5002 ME Undergraduate Research II** Individual participation in modern computational, analytical or experimental research activities under faculty supervision; requires technical report and presentation at end of semester. Consent of department chair required. (3 cr) Last Offered: Fall 2019 Spring 2019 Spring 2018
- ME 5003 Senior Research Seminar** Researchers from the Mechanical Engineering graduate program present their work; discussions of Mechanical Engineering graduate research projects; general topics related to Mechanical Engineering graduate research. (1 cr) Last Offered: Spring 2015 Spring 2014 Spring 2013
- ME 5005 Capstone Design I** Product design; durability, economic, safety, ethical and environmental considerations; robust and quality design; decision-making, planning, scheduling and estimating; design proposal. (2 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017
- ME 5006 Capstone Design II** Continuation of ME 5005; product design; design review process; oral presentation of design projects; final written report. Must be taken the semester following ME 5005. (2 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

- ME 5101 Elements of Aerodynamics** The standard atmosphere, two-dimensional incompressible flow, Reynolds and Mach number, generation of lift based on airfoil and wing platform characteristics, drag force, propulsive force, overall airplane performance, static stability and control. (3 cr) Last Offered: Spring 2019 Fall 2017 Fall 2016
- ME 5102 Compressible Fluid Flow** Foundations of fluid dynamics, isentropic flow, normal shock waves, flow in constant-area ducts and friction, flow with heat exchange, unsteady flow. (3 cr) Last Offered: Fall 2019 Fall 2018 Spring 2018
- ME 5130 Intro to Sustainable Energy** Technical aspects of sustainable energy technologies such as wind, solar, biomass, ocean waves/tides, geothermal, and hydropower. Issues related to storage, transportation, distribution, industrial usage, and buildings; progress, challenges, and opportunities for technical feasibility and economic viability. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017
- ME 5140 Design of Gravity Water Ntwrks** Analysis and design of pipelines, tanks, valves, and other components in a gravity-driven water network; optimization of networks, hydroelectric power generation, and cultural and organizational issues. (3 cr) Last Offered: Fall 2016 Fall 2014 Fall 2013
- ME 5150 Hypersonic Flow** An introductory course in the nature and methods of analysis for high Mach number, hypersonic flows involving inviscid, viscous and high temperature analysis of gasses. Thermodynamics of hypersonic reacting gasses. (3 cr)
- ME 5152 Advanced Thermodynamics** Applications of thermodynamics including power plants, internal combustion engines, refrigeration systems, psychrometrics and combustion. Topics in alternative energy conversion and the thermodynamics of living organisms. (3 cr)
- ME 5201 Intro to Finite Elements** Basic concepts of finite-element method, method of weighted residuals, 1-D axial and beam elements, 2-D stress and thermal elements, design projects via commercial codes. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018
- ME 5205 Flight Dynamics** Static stability and control of aircraft; equations of unsteady motion; stability derivatives; uncontrolled longitudinal and lateral motion; open loop control mechanisms; closed loop control concepts. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017
- ME 5206 Aircraft Design** An integrated study of aerodynamics, propulsion, dynamics and control, structures, aeroelasticity, and performance with the purpose of a design of an aircraft that meets the desired specifications. Topics include weight estimates, sizing, configuration layout, airfoil and wing geometry, propulsion estimates, structural analysis, and stability of motion. (3 cr) Last Offered: Spring 2019 Spring

2018 Spring 2017

**ME 5207 Orbital Mechanics** Study of two-body problems with applications to geocentric orbits and interplanetary transfers. Topics include central force motion, Kepler's Law, orbit determination and maneuvers, Hohmann transfer and interplanetary trajectories. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**ME 5301 Fracture and Fatigue** Failure, structure of materials, stress-strain equations, mechanical testing, yielding & fracture, fracture of cracked members, fatigue of materials, stress-based approach to fatigue, fatigue crack growth, creep. (3 cr) Last Offered: Fall 2013 Fall 2012 Fall 2011

**ME 5411 Mechatronics** Introduction to mechatronics, mechatronics components, its working principle and governing models, digital and analog electronics, mechatronic actuators, micro-controllers, sensors, modeling mechatronic systems, and case study. Senior standing. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**ME 5421 Introduction to Robotics** Basic principles of robotics; kinematic and dynamic concepts; actuators, sensors and practical issues; forward and inverse kinematics and dynamics of simple robotic arms; kinematics and dynamics of wheeled robots; alternative locomotion for mobile robots. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**ME 5441 Advanced System Modeling** Lumped-parameter modeling of multiphysics dynamic systems, with examples from bioengineering and mechatronics; unified network thermodynamics approach using bond graph techniques to analyze interactions between mechanical, electrical, fluid, or thermal domains; computer simulation of system response. (3 cr) Last Offered: Fall 2019 Fall 2017 Fall 2016

**ME 5500 Biomechanics** An introductory survey of topics from the field of biomechanics, such as joint mechanics, cellular mechanics, biomaterials, and prosthetic devices. (3 cr) Last Offered: Fall 2019 Fall 2018 Spring 2018

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**MGT 1102 Management Essentials** Introduction to organizational structures and functions; management processes and behavior of individuals and groups in organizations. (3 cr) Last Offered: Fall 2018 Fall 2015 Fall 2013

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Fall 2015

**MGT 2155 Organizational Behavior** Human behavior in organizations; research and theoretical writing on organizational behavior; case discussions. Junior or senior standing. (3 cr) Last Offered: Fall 2019 Spring 2019 Spring 2018

**MGT 2206 Management Practice** Application of management theory to problem identification and solutions. Motivation, leadership, discipline and shaping organizational cultures. Junior or senior standing. (3 cr) Last Offered: Spring 2019 Spring 2018 Fall 2017

**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 a management elective. Junior or senior standing. (3 cr) Last Offered: Fall 2019 Summer 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Fall 2019 Fall 2017 Fall 2016

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr)

**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. (3 cr) Last Offered: Fall 2014 Fall 2013 Spring 2012

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Summer 2016 Summer 2015 Summer 2014

**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. (3 cr) Last Offered: Summer 2019 Spring 2019 Summer 2018

**MGT 3320 Ind Study - Management** Study with faculty member's guidance and

approval in area of special interest to student. Department chair approval required. (3 cr)  
Last Offered: Fall 2019 Spring 2019 Fall 2018

**MGT 3340 Ind Study-Internatl Busn** Study with faculty member's guidance and approval in area of special interest to student. Department chair approval required. (3 cr)  
Last Offered: Fall 2019 Spring 2019 Spring 2018

**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. (3 cr)  
Last Offered: Spring 2019  
Spring 2018 Spring 2017

**MGT 4132 Seminar in Management** Study of selected topics in Management including discussion and lecture materials prepared and presented by individual students. Topics to be announced each semester, when seminar is offered. (3 cr)

**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. (3 cr)  
Last Offered: Fall 2019 Spring 2019 Fall 2018

**MIS 2020 Prog for Adaptive Prob Solving** Explores a problem solving methodology that employs programming. Emphasis upon identifying capabilities and limitations of the programming approach. Learn skills and techniques to define business problems, design solution processes, develop program specifications, code, debug, and document and defend solutions. (3 cr)  
Last Offered: Fall 2019 Spring 2019 Fall 2018

**MIS 2030 Database Management** Theoretic and practical issues related to the management of a data base in a business environment including: the role of databases and database applications in contemporary organizations; data modeling using entity-relationship models; fundamentals of the relational data model and its implementation with SQL; characteristics of distributed databases and Client/Server data base technologies. (3 cr)  
Last Offered: Fall 2019 Spring 2019 Fall 2018

**MIS 2040 Systems Analysis & Design** Concepts, tools and techniques in the analysis and design of computer-based information systems; major issues and decision making in each phase of the development life cycle, application of creativity and innovation to the practice of systems analysis and design, skills necessary for modeling the data and processing requirements of an information system using an automated development tool, a systems development team project approach. (3 cr)  
Last Offered: Fall 2019 Spring 2019 Fall 2018



**MIS 3020 Enterprise Systems & Appl** Management and development enterprise computing concepts and applications in today's organization; integration of information systems in real time for support of internal functions; integration of different E-Commerce front ends with the Enterprise Resource Planning (ERP) system for extension of their functionality. (3 cr) Last Offered: Fall 2019 Fall 2018  
Fall 2017

**MIS 3030 Enabling Tech in E-Business** Introduces theory, techniques, and tools needed to build successful E-business applications. It includes a survey of business web applications and their underlining technologies. Students learn to use client-side and server-side techniques, such as JavaScript, CGI, and Active Server Page, to building web applications. As a part of the course, students will be required to construct a functional database-driven web application by utilizing the technologies covered in class. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**MIS 3050 CRM and Data Analytics** Fundamental issues associated with Customer Relationship Management (CRM) and Data Analytics, theoretical and practical, such as designing and building a data warehouse, building and populating info-cubes, report generation with SAP BW, data mining, business intelligence technologies, and extension of CRM to the Internet. (3 cr) Last Offered: Spring 2019 Spring 2018  
Spring 2017

**MIS 3060 Bus Intelligence and Perf Mgmt** Examines concepts, processes, and tools related to business intelligence and performance management; learn systematic approaches for identifying business metrics and key performance indicators (GPI); apply data visualization techniques to develop interactive business intelligence applications that transform data into information and insights. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**MIS 3070 Emerging Business Technologies** This course focuses on the emerging and disruptive business technologies - like augmented reality, intelligent systems, Internet-of-Things and location-based services - likely to impact current and future business models and processes the most. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**MIS 3090 Special Topics in MIS** Study of selected topics in MIS. Topics to be announced each semester when the special topics course is offered. (3 cr) Last Offered: Spring 2018 Spring 2017 Fall 2016

**MIS 3310 MIS Internship** Employment with approved business firms where various meaningful assignments are performed with appropriate training, instruction, and supervision. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**MIS 3331 MIS Independent Study** Study with faculty member's guidance in area of special interest to student. (3 cr) Last Offered: Summer 2019 Spring 2019 Summer 2018

**MIS 3500 MIS Co-Op** Full-time employment with an approved firm in the area of MIS where experience is gained through appropriate training, instruction, and supervision. Course does not fulfill the requirements of the major. Prerequisite: MIS major with junior status; minimum gpa requirements will vary; approval of DIT Department Chair and Director of Center for Student Advising and Professional Development required. (6 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Spring 2019 Spring 2017 Spring 2015

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2016 Fall 2015 Fall 2014

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**MKT 2225 Business Development Ldrship** 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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3

cr) Last Offered: Spring 2017      Spring 2016      Spring 2015

**MKT 2235 Sports Marketing**      Essentials of effective, innovative sports marketing practices, activities, techniques. Lectures, readings, guest speakers, trade publications, field experience.      (3 cr) Last Offered: Fall 2012      Fall 2011  
Spring 2011

**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.      (3 cr) Last Offered:      Fall 2019  
Spring 2019      Fall 2018

**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. (3 cr) Last Offered:      Fall 2019  
Fall 2018      Spring 2018

**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.      (3 cr) Last Offered:  
Fall 2019

**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.      (3 cr) Last Offered:  
Fall 2019      Spring 2019      Fall 2018

**MKT 2349 Cont. Topics in Marketing**      Contemporary issues and topics which affect a firm's marketing strategies. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**MKT 3350 Independent Study - Marketing**      Independent study under faculty guidance in an area of student's special interest.      (3 cr) Last Offered:      Fall 2019  
Summer 2019      Spring 2019

**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.      (3 cr) Last Offered:      Fall 2019  
Summer 2019      Spring 2019

**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. (6 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Spring 2017 Fall 2016 Fall 2015

**MSE 2100 AST: Birth and Death of Stars** A study of the fundamental properties of the Sun and stars. The formation of stars, their energy generation, evolution, and death - leading to the formation of exotic new objects such as white dwarfs, neutron stars, and black holes. (3 cr) Last Offered: Summer 2019 Spring 2019 Summer 2018

**MSE 2101 AST: Life in the Universe** A study of the origin and evolution of life on Earth and the possibilities of life in the Solar System and among the stars. The conditions leading to planetary habitability and how life outside the Solar System might be detected. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**MSE 2102 AST: Planetary Skies/Landscapes** A study of our own and other Solar Systems, including formation and evolution. The physical properties which shape planetary interiors, surfaces, and atmospheres. The Earth is studied in the context of the other planets, and its unique properties are examined. (3 cr) Last Offered: Fall 2019 Fall 2018 Summer 2018

**MSE 2103 AST: How Old is the Universe** How we know the Universe is 13.7 billion years old? Includes evidence from the Solar System, the oldest stars seen in the Milky Way galaxy, and the observed expansion of the Universe itself. Evolution and fate of the Universe. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**MSE 2104 AST: Earth-Our Habitable World** Explores the Earth as our home and as a laboratory for understanding the scientific method. The characteristics, dynamics, and evolution of the Earth. Leads to the discovery and understanding of the fundamental scientific principles at work on our home world. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**MSE 2105 AST: Earth-A Cosmic Connection** Explores the Sun and the stars - our ultimate sources of energy and the chemical elements. Characteristics, dynamics, and evolution of the Sun and the stars. The discovery and understanding of the fundamental scientific principles at work throughout the universe. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**MSE 2150 AST: Astronomy Lab - Planets** 1-cr laboratory course focusing on planetary astronomy. To be taken as a co-requisite with MSE 2101 "Life in the Universe" or MSE 2102 "Planetary Skies and Landscapes" (1 cr) Last Offered: Fall 2019

Fall 2018

Summer 2018

**MSE 2151 AST: Astronomy Lab - Stars** 1-cr laboratory course focusing on stellar and galactic astronomy. To be taken as a co-requisite with MSE 2100 "Birth and Death of Stars" or MSE 2103 "How Old is the Universe?". (1 cr) Last Offered: Summer 2019 Spring 2019 Summer 2018

**MSE 2152 AST: Our Habitable World Lab** 1-cr laboratory course to be taken as a co-requisite with MSE 2104 "Earth: Our Habitable World". (1 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**MSE 2153 AST:A Cosmic Connection Lab** 1-cr laboratory course to be taken as a co-requisite with MSE 2105 "Earth: The Cosmic Connection". (1 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**MSE 2200 BIO: Behavioral Bio of Animals** Mechanisms, evolution, and consequences of animal behavior, including how genes and environment affect behavior, learning and animal consciousness, role of hormones, predator-prey interactions, visual and auditory communication, courtship/mate choice, and human social behavior. Includes lectures, experimental labs, and student project. (4 cr)

**MSE 2201 BIO: How Microbes Rule World** Overview of microbiology, illustrating the roles of bacteria, viruses, fungi, algae and protozoa in our food, environment, and health. Lectures and labs cover microbe classification, control of microbial growth, roles of microorganisms in agriculture, ecology and industry, and principles of disease and host defenses. (4 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**MSE 2202 BIO: Biology and Politics** Examination of importance of science and technology in contemporary political issues such as alternative energy, global climate change and evolution. Scientific method and biological principles important in objective, evidence-based explanations examined through lectures, guest speakers, debates, and laboratory exercises. (4 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**MSE 2203 BIO: Heredity & Human Affairs** Overview of genetic topics and their social/ethical impacts, including genetic engineering, assisted reproduction, artificial wombs, Human Genome Project, cloning, fetal stem cells, gene therapy, and chromosomal abnormalities and disorders. Includes lectures, field trips, labs, discussions and student presentations. (4 cr) Last Offered: Fall 2017 Spring 2016 Fall 2015

**MSE 2204 BIO: Human Physiol-Body Works** Principles and mechanisms underlying how the human body functions, with emphasis on physical fitness. Includes lectures, discussions, and labs. (4 cr) Last Offered: Summer 2019 Spring 2019 Summer 2018

**MSE 2205 BIO: Biodiversity& Conservation** Examination of challenge of balancing

needs of an ever-growing human population while maintaining a healthy environment. Covers importance of biodiversity to both humans and proper functioning of earth, and discusses methods of effective conservation. Includes lectures, discussion sessions, and lab/field exercises. (4 cr)

**MSE 2206 BIO: Biotechnology in Our Soc.** Overview of revolutionary role of biotechnology in our society, including manipulation and analysis of DNA, transfer of genetic information, and use of computers in bioinformatics. Lectures and laboratory include recombinant DNA technology, gel electrophoresis, forensic DNA typing, problem solving, and socio-political-ethical issues. (4 cr) Last Offered: Fall 2019  
Spring 2019 Fall 2018

**MSE 2207 BIO: Organisms in Changing Envr** Exploration of effect of environmental factors (temperature, precipitation, ocean currents, humidity, wind) on physiology, distribution, and interactions of organisms in different ecosystems, as well as the longer term effects of climate change on biodiversity. Includes lectures, discussion sessions, labs, and a group project. (4 cr)

**MSE 2208 BIO: Cancer Chronicles** Overview of cancer, including its causes and how it is studied, evaluated, and treated. With one half of men and a third of women developing cancer, also covers importance of cancer in both socioeconomic and health terms. Includes lectures and labs. (4 cr) Last Offered: Fall 2019 Fall 2018  
Spring 2018

**MSE 2209 BIO: Challenges in Inf Diseases** Course examines global contemporary issues in infectious diseases, including epidemiology, microbiology, treatment and prevention. The biological as well as social, political and economic implications of emerging and re-emerging pathogens will be examined, including outbreaks and potential biological agents, vaccine safety and compliance, food safety concepts, and the global as well as domestic implications. The course is integrative and multidisciplinary, incorporating contributions from a wide range of specialties, including geography, history, mathematics/computer sciences and sociology. Lessons will be timely and driven by current infectious disease events, e.g., Ebola virus disease, Middle East Respiratory Virus Syndrome, seasonal and pandemic influenza, pertussis and measles, meningococcal disease and antibiotic resistance. Resources will include print and electronic media, in addition to the medical literature. (4 cr) Last Offered: Fall 2015

**MSE 2210 Drugs: How they Work, Caution!** How drugs work and why they should be taken with caution. Topics include: drug treatment of major illnesses; causes of drug toxicities/addiction; the actions of performance enhancing drugs; and influence of drugs on society. (4 cr) Last Offered: Summer 2019 Spring 2019 Summer 2018

**MSE 2211 BIO: Vaccines&Public Perception** Overview of vaccine science and pathogens, including how the history of vaccines, anti-vaccine movements, and social contexts play integral roles in public perception. Laboratory topics include an inquiry-based progression through vaccine design and student-designed public outreach campaigns to

promote vaccination. (4 cr) Last Offered: Spring 2019

**MSE 2300 CHM: Alchemy, Artisansh& Chm** This course examines introductory chemistry topics in a modern and historical light including how the current knowledge of chemistry is owed to Greek philosophers, Islamic healers, Western artisans, monks, and the alchemists. The laboratory recreates chemistry-related activities of the past (e.g., soap and dye-making). (4 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**MSE 2301 CHM: Water** The course explores the chemistry of water including its unique structure and properties, water pollution, water treatment, and its role in biochemistry, climate, renewable energy, and global economic and political policies. The laboratory introduces sampling methods and common quality measurements (e.g., dissolved oxygen and pH). (4 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**MSE 2302 CHM: Criminalistics** This course explores the techniques used to preserve and analyze physical evidence and how the results are used in legal proceedings. Topics include crime scene response, ballistics, fingerprinting, drug detection, and DNA analysis The laboratory provides experience with methods used in modern forensic science. (4 cr) Last Offered: Fall 2014 Fall 2013

**MSE 2303 CHM: The Science of Art** This course provides an understanding of artistic media related to technological advances throughout the centuries. Creating, viewing, and understanding, authenticating, and conserving works of art will be explored. The laboratory provides practice and an appreciation of the advances in artistic media throughout history. (4 cr) Last Offered: Fall 2018 Fall 2017 Fall 2016

**MSE 2304 CHM: Our Energy Future** An introduction to the science of energy principles and issues. Lecture and Laboratory provide context and practice with modern examples. (4 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**MSE 2305 CHM: Polymers** Polymers surround our everyday existence from the clothes we wear to the packaging we use to our own DNA. Using an interdisciplinary approach, we will study polymers from cradle to grave to help inform and shape responsible polymer use. (4 cr) Last Offered: Fall 2019

**MSE 2400 CSC: Evol Lrng Cmp Robtcs Agnts** This course explores how software designers and artificial intelligence researchers draw inspiration from biology and learning theory to design programs and robotic agents that learn and adapt to changes in their environment. No prior programming experience is required. (4 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**MSE 2500 GEV: Env. Sustainability** Challenges and complexities involved in achieving a sustainable society. Interdisciplinary approach to investigating impacts of a

growing human population on energy requirements, waste management, and natural resource use. (4 cr) Last Offered: Fall 2017 Fall 2015

**MSE 2501 GEV: Our Warming Planet** Climate change, past and future climate, impacts of climate change on the natural world and human society, and adaptation strategies. Laboratory work focused on applying the scientific method to understanding causes and consequences of climate change. (4 cr) Last Offered: Spring 2016  
Spring 2015 Spring 2014

**MSE 2502 GEV: Climate, Env., & Society** Science of meteorology, climatology, and how variations in climate affect periodic ecological cycles. Focus on connections between them and overall trends in environmental change. Laboratory work focused on applying the scientific method to climate and environmental variations. (4 cr) Last Offered: Spring 2019 Spring 2017 Spring 2015

**MSE 2504 GEV: Beaches and Coasts** Half of the world's population lives within the coastal zone. Yet, our use of this environment is occurring in tandem with environmental change. Laboratories will emphasize field techniques and include visits to local coastal sites, requiring four weekend field trips. (4 cr) Last Offered: Fall 2015

**MSE 2505 GEV: Wetlands** Wetlands improve the environment in ways society is only beginning to understand. Today, scientists realize their importance in providing vital habitat. Examination of how they affect our daily lives, their value to society, and current regulations. (4 cr)

**MSE 2506 GEV: Energy Extraction from Env** Extraction and use of fossil fuels is linked to global economics and to multiple environmental issues. Newly developed techniques such as hydro-fracking have recently allowed for the production of natural gas from shale deposits in the U.S. Focus on the science behind natural gas extraction from Marcellus Shale, and potential benefits and risks of this technology for the environment and society. (4 cr) Last Offered: Spring 2018

**MSE 2507 GEV: Environmental Pollution** Scientific principles, concepts, measurements, and case studies with a focus on the science of environmental pollution (air, water, and land). Global climate change, environmental sustainability, environmental justice, and environmental policies. (4 cr) Last Offered: Fall 2018

**MSE 2602 PHY:40% Solution: Light/Sound** Reflection, Refraction, Mirrors, Lenses; Interference and Diffraction; Light and our Atmosphere; Electromagnetic Radiation; Light Waves and Photons; Waves and Sound; Standing Waves; Music and Harmonics; Doppler Effect. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**MSE 2603 PHY: Big Bang: Forces/Particles** The Creation; What is Science?; Heliocentric System; Gravity on Earth; Newton's Laws; Gravity in the Universe; The Atom and Nucleus; Electromagnetic Forces; Strong Nuclear Force; Radioactivity; Elementary



- Particles; Standard Model; Anthropic Principle. (3 cr) Last Offered: Fall 2019  
 Fall 2018 Fall 2017
- MSE 2604 PHY: The Physics of Sports** An examination of the underlying physical principles governing sports, with exploration of such questions as how curve balls curve, why golf balls have dimples, and why sailboats can sail almost directly into the wind. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018
- MSE 2652 PHY: 40% Solution Lab** Experiments to accompany MSE 2602. (1 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017
- MSE 2653 PHY: Big Bang Lab** Experiments to accompany MSE 2603. (1 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017
- MSE 2654 PHY: The Physics of Sports Lab** Experiments to accompany MSE 2604. (1 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018
- MSE 2701 PSY: The Sounds of Human Lang.** Sounds of spoken language and how they are perceived by human listeners including speech production and perception, phonetics, and language development and disorders. Laboratories include acoustic analysis, experimental design, hypothesis testing, and data analysis. (4 cr) Last Offered: Fall 2019 Fall 2018 Spring 2018
- MSE 2702 PSY: Neuroscience of Sleep** Neuroscience of Sleep. (3 cr) Last Offered: Fall 2019 Spring 2019
- MSE 2752 PSY: Neuroscience of Sleep Lab** Neuroscience of Sleep Lab. (1 cr) Last Offered: Fall 2019 Spring 2019
- MSE 2900 MSE: Topics** (4 cr) Last Offered: Spring 2018
- NS 1000 Intro to Naval Science** Course is an introduction to the naval profession and to the concepts of seapower. The mission, organization, and warfare components of the Navy and Marine Corps, including an overview of officer and enlisted ranks, rates, and career patterns; naval courtesy and customs, military justice, leadership, and nomenclature are discussed. Normally taken by freshmen. (2 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017
- 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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017
- 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. (3 cr) Last Offered: Fall 2019  
Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**NS 3100 Navigation** The theory and technique of piloting and celestial navigation. Normally taken by juniors. (3 cr) Last Offered: Spring 2019  
Spring 2018 Spring 2017

**NS 3200 Naval Operations** The maneuvering board, tactical communications, rules of the road, and seamanship. juniors. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Spring 2018 Spring 2016 Spring 2014

**NS 3600 Fundamntls 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. (3 cr) Last Offered: Spring 2019 Spring 2017 Spring 2015

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**NTR 2120 Principles of Nutrition** Principles of normal nutrition and the interrelatedness of economics, culture and health. (3 cr) Last Offered: Fall 2019  
Summer 2019 Spring 2019

**NUR 1102 Intro to Prof Nursing** Core curricular concepts including professional

values, evidence-based practice, patient centered care, clinical reasoning, therapeutic communication, patient safety and dignity, and scholarly analytical skills are addressed. Examines historical, current and future factors that affect professional nursing. (2 cr) Last Offered: Fall 2019 Summer 2019 Fall 2018

**NUR 1104 Intro to Prof Nursing Practice** Examines professional nursing in the context of health care from national and global perspectives. Relationship of core curricular concepts to patient centered care is explored. Impact of healthcare planning, financing and delivery on nursing and global health is discussed. (2 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**NUR 2200 Healthy Lifestyles & Human Val** Exploration of real life issues of college students, with emphasis on personal decision making and values clarification. Substance use/abuse, sexuality, depression, STD/AIDS, stress management. (3 cr) Last Offered: Summer 2019 Summer 2018 Summer 2017

**NUR 2204 Health Assessment** Health assessment of individuals from birth through older adulthood, emphasizing the healthy adult. Health history and physical examination are discussed addressing evidence-based practice, clinical reasoning, genetics, genomics, culture, spirituality, human development, health teaching, therapeutic communication, patient safety and professional values. (2 cr) Last Offered: Fall 2019 Summer 2019 Fall 2018

**NUR 2205 Practicum in Health Assessment** Students practice, in the laboratory setting, techniques of health assessment, including gathering health history, assessing body systems, documenting findings, and providing health teaching while incorporating concern for safety, privacy, and dignity within the context of professionalism and patient-centered care. (1 cr) Last Offered: Fall 2019 Summer 2019 Fall 2018

**NUR 2206 Essentials of Nursing Practice** Best practices in professional nursing applied to patient care skills, including safety, hygiene, activity, nutrition, elimination, sleep, oxygenation, and health education are discussed. Using health assessment and clinical reasoning, nursing interventions to meet health care needs of individuals are addressed. (2 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**NUR 2207 Practicum in Essen of Nsg Prac** Practice of selected nursing and patient care skills in a variety of settings. Application of evidence-based nursing interventions to meet basic health needs of individuals in selected clinical settings is implemented. (2 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**NUR 2810 Resrch & Sci Evid in Nsg Prac** Critically examines the use of scientific evidence in nursing practice with emphasis on the use of systematic scholarly inquiry and analytical skills. The process for discovering new scientific evidence across research paradigms and their associated methodologies are examined. (3 cr) Last Offered: Summer 2019 Spring 2019 Fall 2018

**NUR 3000 Founda in Nur and Health** Concepts from College of Nursing philosophy as a framework for professional nursing practice. Standards, guidelines, reports and studies that influence nursing practice and healthcare. Strategies for use of scientific evidence, analytical skills and scholarly work to advance practice. (3 cr) Last Offered: Summer 2018 Spring 2018 Fall 2017

**NUR 3007 Health Assessment** Comprehensive nursing assessment of individual and families is emphasized. Opportunities to apply clinical skills such as interviewing, data collection, genograms and physical assessment are provided. Evidence-based tools are examined and used in completing assessments. College of Nursing Undergraduate RN-BSN students only. (3 cr) Last Offered: Summer 2018 Spring 2018 Fall 2017

**NUR 3030 Basic Conc Pharmacology** A classification of pharmacological agents, their actions, dosages, toxicity and interactions related to the physiological variables and life-cycle. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**NUR 3108 Pathophysiology** Human pathogenesis from the cellular, histologic, and systemic perspectives. Emphasis on pathophysiology that is commonly experienced by the individual and frequently encountered in the clinical setting. The influence of etiologic agents, environment, and human behavior on health maintenance, health restoration, and health promotion. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**NUR 3114 Nsg Care Adults & Older Adults** Nursing care of adults and older adults with age-related acute and chronic health conditions. Ethical and holistic patient centered care focused on providing continuity of care to meet the needs of the patient and family across care settings. (6 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**NUR 3115 Prac Nsg Adults & Older Adults** Clinical application of current evidence, therapeutic nursing interventions and principles of teaching-learning for patient centered care of adults and older adults. Continuity of care across care settings, including acute, chronic and community based clinical settings is emphasized. (6 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**NUR 3118 Nsg Care Women & Childbear Fam** Nursing care of women and childbearing families across the reproductive spectrum. Focuses on well women health and care of the childbearing family in wellness and in at risk situations, with an emphasis on improving the health of the family. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**NUR 3119 Prac Nsg Women & Childbear Fam** Clinical application of current evidence, clinical reasoning, nursing judgment and a public health focus when planning, implementing and evaluating patient centered care for women and childbearing families. Clinical practice settings include hospitals, birthing centers, clinics, and other community based sites. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**NUR 3120 Psychiatric & Mental Hlth Nsg** Nursing care of individuals and families with psychiatric and mental health problems. Psychiatric nursing concepts from a biological, psychological, sociological, legal, ethical, policy and advocacy context are examined. Concepts of therapeutic communication, mental health recovery, family as resource are addressed. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**NUR 3121 Prac Psych & Mental Hlth Nsg** Clinical application of nursing interventions for patients, families and groups experiencing mental health issues in hospital and community settings. Focused on integration of concepts of culture, ethnicity, spirituality, genetics/genomics, family and developmental influences on restoration, maintenance and promotion of health. (3 cr) Last Offered: Fall 2019  
Spring 2019 Fall 2018

**NUR 3122 Imper for Global & Pub Health** Factors that influence the health of communities and populations locally, nationally and globally. Public health principles and sciences, epidemiological data, environmental health, social determinants of health, genetics/genomics, influence of culture and health behaviors and health vulnerabilities are addressed. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**NUR 4104 Nsg Adults w Comp Hlth Prob** Nursing care of acutely ill adults and older adults with complex health problems. Restoration, maintenance and promotion of health for acutely ill adults and older adults and continuity of care within specialized settings and across care settings is emphasized. (3 cr) Last Offered: Fall 2019  
Spring 2019 Fall 2018

**NUR 4105 Prac Adults w Comp Hlth Prob** Clinical application of clinical decision making skills, clinical reasoning and nursing judgment in caring for adults and older adults with complex health problems. Focus is on provision of evidence based, patient centered care, patient safety, dignity and interprofessional collaboration. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**NUR 4108 Nsg Care Child & Adol** Nursing care of children, adolescents and families in community based and acute care settings. Emphasis is placed on family, social, cultural, religious and developmental factors on health promotion for well, acutely ill and chronically ill children and adolescents. (3 cr) Last Offered: Fall 2019  
Spring 2019 Fall 2018

**NUR 4109 Prac Nsg Care Child & Adol** Clinical Application of clinical decision making, clinical reasoning and nursing judgment in caring for children, adolescents and families in acute care and community based settings. Focus is on providing evidence based, patient centered care to maintain, restore and promote health. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**NUR 4112 Health Prom & Home Health** Nursing care for individuals, families, communities and populations. Emphasis is placed on designing, implementing and evaluating population based interventions to promote health. Consideration is given to

populations experiencing chronic health problems being cared for in the home and community. (3 cr) Last Offered: Spring 2020 Fall 2019 Summer 2019

**NUR 4113 Prac Health Prom & Home Health** Clinical application of evidence based nursing care in community based settings that provide home care or ambulatory care for individuals, families, communities, and populations of all ages. Application of health promotion strategies for populations to maintain or improve health. (5 cr) Last Offered: Spring 2020 Fall 2019 Summer 2019

**NUR 4114 Nursing and Health Policy** Impact of health policy, health care financing and economics, legislative and regulatory authority on nursing practice and the health care delivery system. Societal and professional issues influencing nursing practice and the nurse as an active participant in policy are examined. (2 cr) Last Offered: Spring 2020 Fall 2019 Summer 2019

**NUR 4116 Leadership & Management** Principles of leadership, management and organizational processes in nursing practice and in health care systems. Nursing's responsibility for quality, patient safety, professional values, accountability, and interprofessional collaboration is emphasized. (2 cr) Last Offered: Spring 2020 Fall 2019 Summer 2019

**NUR 4117 Fld Work Leadership & Mgmt** Clinical application of principles of leadership and management and organizational processes in nursing practice. Field work experiences may include acute care, long-term care, home health, and community based settings. (3 cr) Last Offered: Spring 2020 Fall 2019 Summer 2019

**NUR 4118 Cult Infl on Hlth Blf & Prac** Cultural influences on health beliefs and practices are examined. Implications for providing culturally sensitive nursing care to diverse individuals, groups and communities are addressed. (3 cr) Last Offered: Spring 2020 Fall 2019 Summer 2019

**NUR 4200 Seminars in Selected Topics** Opportunity for focused study of selected topics, such as current issues and trends in nursing and healthcare. (1 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**NUR 4900 Guided Study in Nursing** Study or project development in a special interest area in nursing under faculty guidance. Includes tutorial sessions as necessary. Registration with the permission of the Dean. (1 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**NUR 4901 Guided Study in Nursing** (2 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**NUR 4902 Guided Study in Nursing** (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**NUR 4903 Guided Study in Nursing** (4 cr) Last Offered: Spring 2019 Spring 2018

Fall 2017

**NUR 4904 Guided Study in Nursing** (5 cr) Last Offered: Spring 2019  
Spring 2018 Spring 2017

**NUR 4905 Guided Study in Nursing** (6 cr) Last Offered: Spring 2019  
Spring 2018 Spring 2017

**ODM 1000 Foundation of Organiz 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. (3 cr)

**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. (3 cr)

**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. (3 cr) Last Offered: Fall 2019

**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. (3 cr)

**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. (3 cr) Last Offered: Fall 2019

**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. (3 cr)

**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. (3 cr)

**PA 1050 Public Administration** Administrative politics, law, and ethics, organizational theory and technical fields, such as budgeting, planning, and personnel. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

- PA 2000 Public Policy** Theories of public policy making, national public policies, and contemporary issues. (3 cr) Last Offered: Fall 2019 Summer 2019 Fall 2018
- PA 2100 City and Suburb** Politics and problems in metropolitan areas of the United States. (3 cr) Last Offered: Fall 2019 Fall 2018 Spring 2018
- 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. (3 cr) Last Offered: Fall 2019 Fall 2018 Spring 2018
- PA 4100 Public Budgeting** How government and nonprofits raise revenue, engage in the budgeting process, and use budgets to manage in the public sector. (3 cr) Last Offered: Spring 2019
- PA 4200 Organizational Development** Evaluation of human capital initiatives, marketing and communication strategies, and service delivery in government and nonprofit organizations. (3 cr) Last Offered: Summer 2019
- PA 5000 Special Topics** Special topics in public administration. (3 cr) Last Offered: Spring 2018 Fall 2014
- PA 5100 Independent Study** Individual students with specific interests in public administration work on a tutorial basis with an appropriate professor. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019
- 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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017
- 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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019
- 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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019
- 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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Fall 2018 Spring 2017 Spring 2016

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Spring 2019 Spring 2007 Fall 2006

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Spring 2019 Fall 2017 Spring 2015

**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. (3 cr) Last Offered: Fall 2016 Spring 2003 Fall 2001

**PHI 2180 Computer Ethics** Codes of professional ethics, unauthorized

access, ownership of software, and the social responsibility of computing professionals. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Spring 2018 Spring 2013 Fall 2010

**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. (3 cr) Last Offered: Fall 2016 Fall 2015 Fall 2014

**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. (3 cr) Last Offered: Summer 2019 Fall 2018 Summer 2018

**PHI 2410 Philosophy of Sex & Love** Embodiment, the nature of sexuality, the types of love, sexual ethics, marriage, sexual differences, and sexual discrimination. (3 cr) Last Offered: Fall 2019 Fall 2018 Spring 2018

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**PHI 2430 Eco-Feminism** Basic positions in eco-feminism as they relate to the philosophical and religious traditions of the West. (3 cr) Last Offered: Spring 2015 Spring 2011 Fall 2007

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr)

**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. (3 cr) Last Offered: Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Spring 2018 Spring 2005

**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. (3 cr) Last Offered: Spring 2016 Spring 2013 Fall 2011

**PHI 2650 Philosophy of Sport** Nature of play, sport and game with special emphasis on the role of sport in modern society. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2019 Fall 2017 Fall 2012

**PHI 2760 Philosophy & Literature** Philosophical ideas in selected literary works; examination of the relation of literature to philosophy; fiction and truth, modes of communication. (3 cr) Last Offered: Summer 2015 Summer 2014 Summer 2013

**PHI 2800 Philosophy of History** Theories concerning the nature of history, the idea of progress, historical inevitability, the role of the "great man". (3 cr) Last Offered: Fall 2012 Fall 2011 Spring 2011

**PHI 2900 Philosophy of Religion** The meaning of God, the experience of the Divine, nature of revelation, negative theology, the absence of God. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2010

**PHI 2920 Asian Philosophies** Sources of Eastern philosophies; aspects of Hinduism, Jainism, Buddhism, Confucianism, Taoism, and/or Sufism. (3 cr) Last Offered: Spring 2015 Spring 2010 Fall 2009

**PHI 2990 Topics in Philosophy** (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**PHI 2993 Internship** Departmentally related and academically creditable field work experience. See department chair for more information. Permission of Department Chair required. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**PHI 2996 Internship** Departmentally related and academically creditable field work experience. See department chair for more information. (6 cr) Last Offered: Summer 2019 Summer 2018 Summer 2017

- PHI 3020 History of Ancient Philosophy** Plato, Aristotle and selected pre-Socratic and Hellenistic philosophers in the context of ancient and classical Greek civilization. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017
- 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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017
- 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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017
- PHI 3050 Kant & 19th Cent Philosophy** (3 cr) Last Offered: Fall 2019 Fall 2017 Spring 2016
- 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. (3 cr) Last Offered: Spring 2018 Spring 2009 Spring 1997
- PHI 3160 History of Islamic Phil** Islamic thought, concentrating particularly on Islamic medieval theology and philosophy. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017
- PHI 3720 Marx & Marxism** Marx on the theories of human nature, freedom and history; related developments in Marxist thought. (3 cr) Last Offered: Spring 2014 Fall 2011 Fall 2010
- PHI 3990 Topics in Hist of Philosophy** (3 cr) Last Offered: Spring 2019
- 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. (1 cr) Last Offered: Fall 2018 Fall 2017 Fall 2016
- 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. (2 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017
- PHI 4125 Bioethics** Advanced issues in medical ethics. Theories and

conceptions of human suffering, death and life; issues of suicide, bereavement, grief and euthanasia. (3 cr) Last Offered: Fall 2018 Fall 2015 Fall 2014

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**PHI 4150 Philosophy & Film** Analysis of selected classics and current films from the perspective of basic philosophical concepts and questions. (3 cr) Last Offered: Fall 2019 Summer 2019 Fall 2018

**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. (3 cr) Last Offered: Spring 2019 Spring 2014 Fall 2011

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Spring 2008

**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. (3 cr) Last Offered: Spring 2019 Fall 2017 Fall 2016

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**PHI 4900 Feminist Theories** (3 cr) Last Offered: Fall 2016

**PHI 4990 Independent Study & Research** Topic chosen by the student and approved by the professor and the chair. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Spring 2018

**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. techniques. (3 cr) Last Offered: Fall 2019  
 Spring 2019 Fall 2018
- PHY 1100 General Physics I** Mechanics, heat and sound. Recommended for Biology majors. (3 cr) Last Offered: Fall 2019 Summer 2019 Fall 2018
- PHY 1101 General Physics I Lab** Selected experiments in mechanics, heat and sound. Recommended for Biology majors. (1 cr) Last Offered: Fall 2019  
 Summer 2019 Fall 2018
- PHY 1102 General Physics II** A continuation of PHY 1100; light, electricity and modern physics. Recommended for Biology majors. (3 cr) Last Offered: Summer 2019 Spring 2019 Summer 2018
- PHY 1103 General Physics II Lab** Selected experiments in light and electricity. Recommended for Biology majors. (1 cr) Last Offered: Summer 2019 Spring 2019 Summer 2018
- PHY 1500 The Concept of Light** Historical and analytical survey of the concept of light from classical to modern viewpoints. Open to VSB and Arts majors (fulfills Arts core science requirement when taken with PHY 1501). (3 cr) Last Offered: Summer 2015 Summer 2014 Summer 2013
- 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). (3 cr) Last Offered: Summer 2018  
 Summer 2017 Summer 2016
- PHY 2400 Physics I Mechanics** Introduction to Mechanics. Designed for students in the College of Engineering. (3 cr) Last Offered: Fall 2019  
 Spring 2019 Fall 2018
- PHY 2402 Physics II Elec & Magnet** Electrostatics, DC Circuits, magnetism, and AC circuits. Designed for students in the College of Engineering. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018
- 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. (1 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018
- PHY 2410 University Phy:Mechanics** Vectors, kinematics, and dynamics of particles, rigid bodies, and fluids. Recommended for Science majors. (3 cr) Last Offered: Fall 2019 Fall 2018 Summer 2018

**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. (1 cr) Last Offered: Fall 2019  
Fall 2018 Summer 2018

**PHY 2412 Univ Physics: Elec & Mag** Electrostatics, DC circuits, magnetism, and AC circuits. Recommended for Science majors. (3 cr) Last Offered: Spring 2019 Summer 2018 Spring 2018

**PHY 2413 Lab: Elec & Magnetism** Recommended for Science majors. (1 cr) Last Offered: Spring 2019 Summer 2018 Spring 2018

**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. (3 cr) Last Offered: Fall 2019 Fall 2018  
Fall 2017

**PHY 2415 Lab: Thermodynamics** Selected experiments in heat, waves and optics. Recommended for Science majors. (1 cr) Last Offered: Fall 2019 Fall 2018  
Fall 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (1 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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). (1 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**PHY 2603 Computational Phy Lab II** Continuation of Computational Physics I. (1 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2019  
Fall 2018 Fall 2017

**PHY 3311 Electronics Lab** Laboratory experiments are chosen to supplement the

Physics 3310 lectures and to give experience with sophisticated electronic equipment. (1 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**PHY 4001 Elec & Magnetism I Lab** Selected experiments in the field. (1 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**PHY 4002 Elec & Magnetism II** Magnetism, Biot-Savart's law, Faraday's law, Maxwell's third and fourth equations, electromagnetic wave equation, radiation. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**PHY 4003 Elec & Magnetism II Lab** Selected experiments in the field. (1 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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). (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2016

**PHY 4200 Mathematical Physics I** Vector and tensor analysis, matrices and determinants, infinite series, functions of a complex variable. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**PHY 4202 Mathematical Physics II** A continuation of PHY 4200; second order differential equations, orthogonal functions, integral transforms, integral equations. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**PHY 4301 Experimental Methods I** Introduction to experimental methods in Physics. Applications of spectroscopic techniques in nuclear, solid-state, and materials Physic. Detection of particle and electromagnetic radiation, signal processing, spectral analysis and interpretation. (2 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (2 cr) Last Offered: Spring 2018 Spring 2017 Spring 2016



- PHY 5100 Quantum Mechanics** Operators, Schrodinger Equation, one dimensional problems, harmonic oscillator, angular momentum, hydrogen atom, scattering theory. (3 cr) Last Offered: Fall 2019 Fall 2018 Spring 2018
- PHY 5200 Thermo/Statistical Mech** Statistical methods, statistical thermodynamics, Ensembles, Partition functions. Quantum statistics. Kinetic theory of transport processes. (3 cr) Last Offered: Spring 2019 Fall 2016 Fall 2014
- 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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017
- 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. (3 cr) Last Offered: Spring 2019 Spring 2015 Spring 2014
- PHY 6000 Advanced Optics** Topics in geometrical and physical optics. (3 cr) Last Offered: Fall 2019 Spring 2017 Spring 1999
- 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. (1 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018
- 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. (2 cr) Last Offered: Fall 2019 Spring 2019 Spring 2018
- PHY 6600 Supervised Study in Physics** Same as PHY 6500 with increased number of hours. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018
- PHY 6900 Topics in Physics** Lecture course in an area of Physics. May be repeated for credit if topics are different. (3 cr) Last Offered: Fall 2019 Spring 2018 Fall 2016
- 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. (3 cr) Last Offered: Fall 2019 Fall 2013 Fall 2012
- 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. (3 cr) Last Offered: Fall 2019 Fall 2018 Spring 2018

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Spring 2018

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Summer 2018 Fall 2017 Spring 2017

**PJ 2993 Internship** Internship (3 cr) Last Offered: Fall 2019  
Summer 2019 Spring 2019

**PJ 2996 Internship** Internship (6 cr) Last Offered: Fall 2019  
Summer 2019 Spring 2019

**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. (1 cr) Last Offered: Spring 2013 Fall 2012 Spring 2012

**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. (3 cr) Last Offered: Fall 2019  
Spring 2019 Fall 2018

**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. (1 cr) Last Offered: Spring 2013 Fall 2012 Spring 2012

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2018 Fall 2016 Fall 2015

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**PJ 5600 Independent Study** Independent Study (3 cr) Last Offered: Fall 2019 Spring 2019 Spring 2018

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**PSC 2110 U.S. State & Local Government** Constitutions, institutions, instruments of popular control, and intergovernmental relations. (3 cr) Last Offered: Spring 2015

**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. (3 cr) Last Offered: Spring 2018 Spring 2017 Fall 2016

**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. (3 cr) Last Offered: Fall 2016 Fall 2014

**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. (3 cr) Last Offered: Spring 2019 Fall 2017 Spring 2016

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Fall 2018

**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. (3 cr) Last Offered: Summer 2019 Spring 2019 Summer 2018

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Spring 2017

**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.(3 cr) Last Offered: Fall 2015

**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. (3 cr) Last Offered: Fall 2019 Fall 2017 Fall 2015

**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. (3 cr) Last Offered: Fall 2019

**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. (3 cr) Last Offered: Fall 2018 Spring 2017 Fall 2015

**PSC 2230 International Organization** The development of international organization, the U.N., its principles, structure, and accomplishments; regional organizations; prospects for the future. (3 cr) Last Offered: Spring 2019  
Spring 2017 Fall 2015

**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. (3 cr) Last Offered: Spring 2015

**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. (3 cr) Last Offered: Spring 2019 Fall 2018 Spring 2018

**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. (3 cr)

**PSC 2330 East Asian Politics** Northeast Asian countries' political and economic development after World War II. (3 cr) Last Offered: Fall 2018  
Spring 2018 Fall 2016

**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. (3 cr) Last Offered: Fall 2019  
Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Fall 2018 Spring 2018  
Spring 2017

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Spring 2019 Spring 2017 Spring 2015

**PSC 2380 European Politics** European political institutions, changes in party systems, and impact of European integration/globalization on domestic economies. (3 cr) Last Offered: Fall 2016

**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. (3 cr) Last Offered: Fall 2017

**PSC 2410 Early Political Theories** The relevance of the classics of political thought for understanding modern politics from the Greeks to the modern era. (3 cr) Last Offered: Spring 2019 Spring 2017 Spring 2015

**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. (3 cr) Last Offered: Spring 2019

**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. (3 cr)

**PSC 3120 Political Communication (U.S.)** The role, behavior and influence of communications in American politics. (3 cr)

**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. (3 cr) Last Offered: Spring 2015

**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. (3 cr) Last Offered: Spring 2019  
Spring 2016 Fall 2015

**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. (3 cr) Last Offered: Spring 2017 Spring 2015

**PSC 3210 American Foreign Policy** The institutions, processes, and ideas which shape contemporary American foreign policy; the major problem areas. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr)

**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. (3 cr) Last Offered: Spring 2019 Spring 2018

**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. (3 cr)

**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. (3 cr)

**PSC 3320 Russian Politics** The contemporary Russian political system; political transformation from the Communist system which preceded it. (3 cr) Last Offered: Fall 2019 Spring 2018 Fall 2016

**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. (3 cr) Last Offered: Spring 2019 Spring 2018

- PSC 3340 Irish Politics** Foundation of the Irish Free State; political system and party system development; conflict in Northern Ireland, within the divided island and between the Irish Republic and Britain; Irish social, political cultural and economic development; Ireland in the international political system. (3 cr) Last Offered: Spring 2019
- 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. (3 cr) Last Offered: Fall 2019 Summer 2019 Fall 2018
- 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. (3 cr) Last Offered: Fall 2018 Fall 2014
- 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." (3 cr) Last Offered: Fall 2018 Fall 2016 Spring 2015
- PSC 4175 Topics in Am Gov & Politics** Topical courses in American Government and Politics offered on occasional basis. (3 cr) Last Offered: Fall 2018 Spring 2018 Spring 2017
- PSC 4275 Topics in Internat'l Relations** Topical courses in International Relations offered on occasional basis. (3 cr) Last Offered: Fall 2019 Spring 2019 Spring 2018
- PSC 4375 Topics in Comparative Politics** Topical courses in comparative politics offered on occasional basis. (3 cr) Last Offered: Summer 2019 Summer 2018 Summer 2017
- PSC 4475 Topics in Political Theory** Topical courses in political theory offered on an occasional basis. (3 cr) Last Offered: Fall 2019 Spring 2018 Fall 2017
- 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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019
- 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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019



**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Summer 2019 Summer 2018 Summer 2017

**PSC 6503 Internship Elective** Internship. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**PSC 6900 Political Sci Seminar** Capstone seminar on specialized topics in political science. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**PSY 1001 Intro to Brain and Behavior** Examination of fundamental concepts in psychology with special emphasis on underlying neural mechanisms. Satisfies same prerequisite requirements as PSY 1000 and is the preferred introductory psychology course for CBN majors. Cannot receive credit for both PSY 1000 and PSY 1001. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**PSY 2000 Intro Statistics** Basic concepts, assumptions, and applications of descriptive statistics and inferential statistics. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**PSY 2050 Research Methods in Psy.** Introduction to the reading, design, and reporting of psychological research. Writing intensive. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**PSY 2100 Sem Professional Development** Overview of ethical and professional issues in psychology. (1 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**PSY 2150 Undergrad Research Experience** Supervised research experience.

Students may register for PSY 2150 more than once. (1 cr) Last Offered: Fall 2019  
Spring 2019 Fall 2018

**PSY 2400 Cross-Cultural Psychology** Theory and research on cultural influences on human diversity in behavior and psychological processes. (3 cr) Last Offered: Fall 2019 Fall 2014 Fall 2013

**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. Satisfies Diversity 2 requirement. (3 cr) Last Offered: Fall 2017 Spring 2017 Spring 2016

**PSY 2700 Industrial/Organizational Psy** Applications of psychological data, theories, research methods, and testing procedures to individuals in organizational settings. (3 cr) Last Offered: Spring 2019 Fall 2018 Spring 2018

**PSY 2800 Human Factors** Application of theories of human performance (perception, cognition, and motor control) to the design of products and systems. (3 cr) Last Offered: Fall 2019 Spring 2015 Spring 2014

**PSY 2900 Special Topics** An intensive examination of selected topical areas within psychology. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (1 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**PSY 3200 Human Development** Theory and research on social/personality, physical, and cognitive/intellectual changes from infancy through old age. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**PSY 3300 Perception** Theory and application of sensory and perceptual processes such as distance perception, color vision, illusions and deafness. (3 cr) Last Offered: Spring 2019 Fall 2018 Spring 2018

**PSY 3500 Psych of Personality** Theories, dynamics, and structure of personality. Students cannot receive credit for this course and PSY 4700. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

- 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. (3 cr) Last Offered: Fall 2019  
Spring 2019 Fall 2018
- PSY 3700 Abnormal Psychology** Classification, etiology, and treatment of mental and behavioral disorders with emphasis on contemporary theory and research. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018
- PSY 3800 Clinical Psychology** Fundamental concepts, basic areas of professional functioning, and contemporary issues in the mental health field. (3 cr) Last Offered: Spring 2019 Spring 2017 Spring 2016
- PSY 4200 Biopsychology** Theoretical and laboratory examination of basic neural and hormonal processes underlying behavior. (3 cr) Last Offered: Fall 2019  
Spring 2019 Fall 2018
- PSY 4500 Cognitive Psychology** Theory and research on human learning, memory, and cognitive processes. Writing intensive. (3 cr) Last Offered: Fall 2019  
Spring 2019 Fall 2018
- PSY 4600 Animal Learning & Cognition** Cognitive mechanisms responsible for simple behavior and behavioral change as they have been studied using animal subjects. (3 cr) Last Offered: Spring 2018
- PSY 5150 Foundations of Modern Psych** Overview of the major concepts and theories of psychology presented in a historical context. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018
- PSY 5250 Contemp Research Issues in Psy** Recent and emerging topics, issues, and methods in psychological science. (3 cr) Last Offered: Fall 2019  
Spring 2019 Fall 2018
- 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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019
- RES 2150 Real Estate Fundamentals** An introduction to the field of real estate, includes the following broad topical areas: the legal nature of real estate, valuation and appraisal, real estate finance, and the secondary mortgage market. (3 cr) Last Offered: Fall 2019 Spring 2019
- RES 2340 Contemp Topics in Real Estate** Contemporary topics in Real Estate: Contemporary issues and topics in Commercial real estate including valuation, sustainability

and topics of interest in the current environment. Must be enrolled in one of the following Fields of Study (Major, Minor, or Concentration): Real Estate (3 cr) Last Offered:  
Fall 2019                      Fall 2018                      Spring 2018

**RES 3001 Real Estate Internship** Employment with an approved firm in the area of Commercial Real Estate where experience is gained with appropriate training, instruction, and supervision. Course does not fulfill the requirements for major. A minimum GPA of 2.5, approval of the office of Business Relations and written permission of the chairperson. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**RES 3150 Real Estate Investments** Valuation of commercial real estate properties including discounted cash flow approach. Pro forma accounting statement modeling, cash flow forecasting, lease price determinants, initial and exit cap rate determination and ultimately valuing actual real estate properties. The "four food groups" of commercial real estate. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**RES 3250 Advanced Real Estate Modeling** Apply advanced modeling techniques to underwrite and value commercial real estate assets, Argus certification, excel based modeling. Monte Carlo simulation, Google sketch-up, partnership waterfall modeling. (3 cr) Last Offered: Spring 2019 Spring 2018 Fall 2017

**RES 4150 Real Estate Development** Senior capstone class that focuses on the development process from land acquisition to final product incorporating real time real estate development projects. Specific topics include land acquisition, tax issues, optimal land use decisions, architectural and sight design, contracting and construction, leasing and marketing of properties and optimal exit strategies. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**RLL 1000 Special Studies** Studies in one of the areas not included in the languages, literatures and civilizations usually offered, e.g., Polish, Romanian and Ukrainian; readings and discussions. (3 cr)

**RLL 2221 Latinx Cultural Studies** The purpose of this course is to examine the experiences of different Latino communities living in the United States (Puerto Rican, Cuban, Dominican and Mexican) through literature, film, music, art and popular culture. Topics to be discussed include experiences of migration, identity formation and negotiation in terms of race, gender, sexuality and class, bilingualism and code switching, and marketing geared toward the Latino community. (3 cr)

**RLL 3046 Readings in FRE & Francoph Lit** Analysis of specific trends in French and Francophone literatures. Topics may include Surrealism, the New Novel, Existentialism, Negritude, Creolite, etc. Taught in English. (3 cr)

**RLL 3075 Theme in FRE & Francoph Cinema** Analysis of major works

dealing with a chosen topic. The course may explore a specific movement (the New Wave, etc.) Taught in English. (3 cr)

**RLL 3100 Themes in Romance Studies** Advanced study of topics in more than one Romance studies area. (FFS, ITA, or SPA) Taught in English. (3 cr)

**RLL 3287 Cult Stud: FRA & Francoph Worl** Exploration of the political, economic and sociocultural connections between France and its former colonies. Potential topics include France and the Maghreb, the African diaspora in France, etc. Taught in English. (3 cr)

**RLL 3412 Topics** Advanced study of topics of special interest in Italian, French or Spanish literary and/or cultural studies. May be repeated for credit if topic changes. Taught in English. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2017

**RLL 3413 Topics on Italy and Beauty** Advanced study of expressions of beauty as manifested in Italian Culture Literature, Art, Philosophy, Design, and Commerce. May be repeated for credit if topic changes. Taught in English (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**RLL 3420 The Renaissance** Advanced studies in the culture and art of the Renaissance, explored either by way of an overall European perspective, or with a specific focus on Italy, France, and Spain. Taught in English. (3 cr)

**RLL 3430 European Intellectual Thought** Overarching topics and common themes in the European Intellectual thought, as outlined in literature, philosophy, and art from the middle ages to the present. Readings in English translation will touch upon the Spanish, French, Italian, British, and German traditions. Taught in English. (3 cr)

**RLL 3440 The Postcolonial Perspective** Theories related to colonization and postcolonial representation are examined either in several geographical areas simultaneously, or are applied to a specific literary/cultural tradition. (3 cr) Last Offered: Fall 2017

**RLL 3450 Themes in Cultural Studies** Cultural meaning-making process manifest in cultural products, traditions and representations. Taught in English. (3 cr) Last Offered: Spring 2018

**RLL 3744 Cervantes** Readings in English of Cervantes' work. Taught in English. (3 cr)

**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. (6 cr) Last Offered: Fall 2019 Fall 2018 Summer 2018

**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. (6 cr) Last Offered: Spring 2019 Summer 2018 Spring 2018

**RUS 1123 Intermediate Russian I** Review of Introductory Russian, followed by further development of reading, speaking, writing, and translation skills. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**RUS 1124 Intermediate Russian II** Continued development of skills employed in Intermediate Russian I. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**RUS 1131 Conversation Composition** Advanced communication skills including reading and discussing topics on current events. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**RUS 1132 Advanced Convers & Comp** A continuation of RUS 1131. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2016 Summer 2016 Fall 2015

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**RUS 4120 The Russian Short Story** Representative Russian short stories from Pushkin to Pasternak. Conducted in English. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**RUS 5900 Russian: Independent Study** Supervised study, activity or research. May be taken more than once. Prior approval of chair and instructor. (3 cr) Last Offered: Fall 2019 Spring 2019 Spring 2018

**SAR 1000 Intro to Art Appreciation** The elements of art: form, color, line, design, materials and techniques. For students who would like to improve their ability to understand painting, sculpture, and architecture. (3 cr) Last Offered: Spring 2015 Fall 2013 Spring 2013

**SAR 2010 Intro to Calligraphy** A practical and historical approach to the study of writing. The development of the written letter and the ability to use the newly acquired hand, with the proper materials and techniques. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**SAR 2020 Basic Watercolor Techniques** Techniques of transparent watercolor painting with concentration on still life. (3 cr) Last Offered: Fall 2019  
Spring 2019 Fall 2018

**SAR 2021 Basic Drawing Techniques** A foundation course in drawing, emphasizing visual concepts through work in a variety of media including charcoal, pencil and ink. Direct observation of the model, composition, perspective, and theory. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**SAR 2022 Basic Oil Painting** Basic techniques in the oil medium, with emphasis on understanding the nature of canvas as a vehicle, and color theory. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**SAR 2100 Music Theory I** Basic materials and structures of music (pitch and rhythmic notation, scales and keys, the basics of rhythm, etc.), as well as composition, aural, and sight-reading skills. (4 cr)

**SAR 2110 Music History I** Development of Western European music from its earliest traceable roots through the Renaissance, and Baroque periods through the musical characteristics, instruments, and theory of each period, as well as the cultural and historical context. (3 cr)

**SAR 2111 Music History II** Development of Western European music from the close of the Baroque era (ca. 1750) through the Classical, Romantic, and Modernist eras to the present through the musical characteristics, instruments, and theory of each period, as well as the cultural and historical contexts. (3 cr)

**SAR 2113 The Charm of Music** A listening study approach to the many-faceted world of music from the great classics and their masters to the cultural explosion of the twentieth century. (3 cr) Last Offered: Fall 2019 Spring 2019  
Fall 2018

**SAR 2114 Words & Music: The Art of Song** An introduction to the art of songwriting through the study of existing songs and their components (imagery, meter, rhyme, structure, melody, harmony, rhythm, etc.), as well as the development of students' own songs through specific assignments and exercises. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**SAR 2119 Jazz: America's Music** A listening study of the greats of American Jazz, beginning with Ragtime, New Orleans, Big Band, Swing, Fusion and current trends. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**SAR 2150 Intermediate Watercolor** Human figure and landscape painting. Concentration on moods, character, personality of the human figure; landscape moods, lights, darks and composition. Dry-brush and wet-on-wet techniques. (3 cr) Last Offered: Spring 2016 Spring 2003

**SAR 3030 Special Topics in Music** A specialized area of music studies combining elements of music history, theory, and composition, as well as performance. (3 cr) Last Offered: Fall 2019 Fall 2013

**SAR 3031 Special Topics in Studio Art** A fine arts course that introduces the student to the history, theory and technique of art resulting in the creation of an original piece of art. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**SAR 4007 Painting of Icons** Painting icons in the classical, Byzantine Russian tradition including the study of the historical and physical inquiry into the iconic imagery of the twentieth century visual culture. No artistic talent necessary. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**SAR 5000 Independent Study** (3 cr) Last Offered: Fall 2016 Spring 2010 Spring 2009

**SAR 5004 Basic Printmaking** Basic introduction, to the traditional methods of the fine art of making prints including Monoprint, Stencil (e.g. Screen Printing, Relief (e.g., Woodcut, Linoleum), Intaglio (e.g., Experimental techniques of color printing, foam printing). The artistic development of the subject within its history will also be discussed. Water base inks will be used. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**SBI 1000 Professional Success** Skill building and strategizing for job/internship search; exposure to job/internship resources and practicing professionals. Course is open to students accepted to the SBI Program. (1 cr) Last Offered: Summer 2019 Summer 2018 Summer 2017

**SBI 1001 Business Fundamentals** Dynamic nature of business in a changing environment explored. Cross functional approach to understanding business operations. Emphasis on purpose of business; how business vision is actualized. Action learning, problem solving approach utilized. (1 cr) Last Offered: Summer 2019 Summer 2018 Summer 2017

**SBI 1006 Business Law Basics** Basic legal issues involved in the creation and operation of business organizations. RESTRICTED TO: SBI Students (1 cr) Last Offered: Summer 2019 Summer 2018

**SBI 2005 Applied Economics** Decision making of households, firms and the government with respect to the allocation of scarce resources. Topics include supply and demand, nature and characteristics of the U.S. economy, market structures etc. (3 cr) Last Offered: Summer 2019 Summer 2018 Summer 2017

**SBI 2006 Corporate Responsibility** Core concepts of business law, ethical



decision making, corporate social responsibility & governance. Restricted to students accepted to the SBI Program. (3 cr) Last Offered: Summer 2017 Summer 2016 Summer 2015

**SBI 2007 Analytics & Info Technologies** Explore alignment of info technologies with business; focus on acquisition of business data using info systems; gain meaningful insight on data using analytical tools. RESTRICTED TO: SBI Students (2 cr) Last Offered: Summer 2019 Summer 2018

**SBI 3005 Financial Mgmt & Reporting** Foundational principles of corporate finance & financial accounting; emphasis on solving business problems. Restricted to students accepted to the SBI Program. (4 cr) Last Offered: Summer 2019 Summer 2018 Summer 2017

**SBI 3006 Competitive Effectiveness** Integration of marketing & management concepts as an approach to creating value in business. Restricted to students accepted to the SBI Program. (4 cr) Last Offered: Summer 2019 Summer 2018 Summer 2017

**SBI 3145 Managerial Economics** Use of economic concepts and tools to determine management strategies that efficiently allocate scarce resources within the firm to optimize the value of the firm. (3 cr) Last Offered: Summer 2019 Summer 2018

**SCI 1903 Internship Elective** Permission of Program Director. Junior or senior Comprehensive Science students with a 3.0 QPA only. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**SCI 1906 Internship Elective** Permission of Program Director. Junior or senior Comprehensive Science students with a 3.0 QPA only. (6 cr) Last Offered: Fall 2019 Summer 2019 Summer 2018

**SCI 2993 Internship Elective** Permission of Program Director. Junior or senior Comprehensive science students with 3.0 QPA only. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**SCI 2996 Internship Elective** Permission of Program Director. Junior or senior Comprehensive Science students with a 3.0 QPA only. (6 cr) Last Offered: Fall 2019 Summer 2019 Summer 2018

**SCI 5300 Capstone Seminar** Selected topics with an interdisciplinary/multidisciplinary science viewpoint; reading of primary literature, secondary literature, and/or selected experiments; students oral and written presentations and discussions. (3 cr) Last Offered: Fall 2019

**SCI 5900 Independent Research** Supervised study, activity or research with

interdisciplinary or multidisciplinary content. Prior approval of director and instructor. (3 cr)  
Last Offered: Fall 2019 Summer 2019 Spring 2019

**SCSC 1000 Topics in Social Sciences** Selected interdisciplinary topics of special interest in the Social Sciences. (1 cr) Last Offered: Fall 2014 Summer 2014 Fall 2013

**SCSC 1050 Independent Study** Independent Study of selected interdisciplinary topic in social science.(3 cr) Last Offered: Summer 2014 Fall 2013 Summer 2012

**SCSC 1975 Business in British Society** Political, economic, social context of British business. Intercultural competence and contemporary affairs in Britain. Preparation for Global Citizens Program internship experience. Must be enrolled in Global Citizens Program. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**SL 1000 Serv Learning 4th Hour Seminar** Three hours of service each week and a bi-weekly seminar to critically reflect on service experience. explore issues of race, class as it related to poverty and the community. Plan and implement a Community service project. Restricted to Service Learning Community. (1 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**SL 3000 Service Learning Practicum** Community based service experience that connects current and prior coursework to real world applications. Written and communal reflection is directed toward understanding the implications for the organization, society, and self- a final paper/project incorporating scholarly sources. (3 cr)

**SOC 1000 Intro to Sociology** Introduction to the analysis of social behavior, emphasis on socialization, collective and group behavior. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Spring 2019 Fall 2018 Summer 2018

**SOC 1903 Internship Elective** (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015

**SOC 1906 Internship Elective** (6 cr) Last Offered: Fall 2012 Spring 2012 Fall 2011

**SOC 2100 Cultural Anthropology** Principles of cultural anthropology; ethnological variations in language, techniques, customs and values; problems of cultural development and change. (3 cr) Last Offered: Spring 2016 Fall 2015 Spring 2015

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2016

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Spring 2014 Spring 2013 Spring 2012

**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. (3 cr) Last Offered: Spring 2014 Spring 2013 Spring 2012

**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. (3 cr) Last Offered: Fall 2017 Fall 2016 Spring 2015

**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. (3 cr) Last Offered: Spring 2018 Fall 2017 Fall 2016

**SOC 2993 Internship Internship** (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**SOC 2996 Internship Internship** (6 cr) Last Offered: Fall 2012 Summer 2012 Spring 2012

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Spring 2015

**SOC 3400 Medical Sociology** This course explores the social dimensions of health, disease and illness, focusing especially on the social experience of illness, the social determinants of disease, 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 race, gender, class, and their solutions, and it considers the ways in which race, gender, class, and social connections matter for understanding health-related experiences and discourses. (3 cr) Last Offered: Fall 2019 Fall 2018 Spring 2018

**SOC 3450 Social Psychiatry** Cultural and social patterns in the causation, incidence and treatment of mental health problems; emphasis upon current approaches to mental illness and the relation of mental illness to criminal, antisocial and deviant behavior. (3 cr) Last Offered: Fall 2015 Spring 2014 Spring 2013

**SOC 3500 Sociology of Gender** Sex roles examined from a social learning and developmental perspective; recent changes in related attitudes and behaviors, consequences for interpersonal relationships and societal organization. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**SOC 3600 Race & Ethnic Relations** 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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Spring 2019 Fall 2004 Spring 2004

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Spring 2018

**SOC 4000 Special Topics** Topics addressing special or emerging interests, chosen for their current importance and the specific expertise of an instructor. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**SOC 4200 Sports and Society** Sports as both a unifying and divisive social force. The corporatization and commodification of organized sports. (3 cr) Last Offered: Summer 2019 Spring 2019 Summer 2018

- 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. (3 cr) Last Offered: Fall 2019  
Spring 2019 Fall 2018
- SOC 5100 Contemp Thry & Research** Significant contemporary contributions to sociology theory and research. (3 cr) Last Offered: Spring 2017 Spring 2015 Fall 2014
- SOC 5300 Data Analysis-Social Scientist** (3 cr) Last Offered: Fall 2019  
Spring 2019 Fall 2018
- 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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018
- SOC 6000 Sociology Independent Study** Supervised project or research culminating in research report or major paper. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017
- SOC 6500 Seminar** Advanced course for seniors focusing on particular substantive area; topics rotate. (3 cr) Last Offered: Spring 2019 Spring 2018 Fall 2017
- SPA 1111 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. (4 cr) Last Offered: Fall 2019 Fall 2018 Summer 2018
- SPA 1112 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. (4 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018
- SPA 1121 Intermediate Spanish I** Review of grammar, composition, reading and conversation. conversation. Students should have completed SPA 1111 and 1112 or the equivalent. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019
- SPA 1122 Intermediate Spanish II** Review of grammar, composition, reading and conversation. conversation. Students should have completed SPA 1121 or the equivalent. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019
- 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. (3 cr) Last Offered: Fall 2019  
Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Fall 2019  
Fall 2019 Summer 2019 Spring 2019

**SPA 1132 Conversation & Composition II** Spanish 1132 is the continuation of a two-course sequence. Intensive practice in conversation and composition with review of grammar as well as an introduction to the analysis of literary and cultural texts. As a result, students will develop their vocabulary and improve their grammatical skills, allowing them to express themselves in a sophisticated way. Students should have completed SPA 1131 or the equivalent. Uses literary and cultural readings (poetry, essays, theater, web-based media and narrative). Spanish 1132 is not recommended for Spanish Heritage Speakers. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Spring 2016 Fall 2015 Spring 2015

**SPA 1138 Advanced Grammar** Intensive grammar review with special attention to literary style. Students should have completed 1132 or the equivalent. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2019 Fall 2018  
Fall 2017

**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. (3 cr) Last Offered: Summer 2019 Summer 2018 Summer 2017

**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. (3 cr) Last Offered: Fall 2014

**SPA 2124 Creative Writing in Spanish** Designed specifically to develop the

creativity and talent of the students at the same time of improving their spoken and written Spanish through daily writing practice in and out of the classroom. Pre-requisite SPA 1132 or authorization from instructor. (3 cr) Last Offered: Spring 2015

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Fall 2014

**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. (3 cr) Last Offered: Fall 2019  
Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Spring 2019 Spring 2017 Summer 2015

**SPA 3044 Tales of an Unstable World** Representative trends in 20th century Spanish novels. Pre-requisite: any SPA course at the 2000 level or authorization from instructor. (3 cr) Last Offered: Fall 2018 Fall 2017

**SPA 3045 Chilean Folklore** Examines the short fiction in all its forms in the Hispanic literary tradition. Any SPA course at the 2000 level or authorization from instructor. (3 cr) Last Offered: Summer 2019 Summer 2018 Summer 2017

**SPA 3046 The Latin American "Boom"** The contemporary novel and short story Borges, Cartazar, Asturias, Fuentes, Machado de Assis, Rulfo, Garcia Marquez. Pre-requisite: any SPA course at the 2000 level or authorization from instructor. (3 cr)

**SPA 3054 Latin American Poetry** The development of Spanish-American poetry from colonial times to the present. Satisfies Diversity Requirement. Pre-requisites: any SPA course at the 2000 level or authorization from instructor. (3 cr) Last Offered: Summer 2017 Fall 2015 Fall 2014

**SPA 3064 Spanish Theatre of 20 & 21 c.** A critical analysis of representative works from Jacinto Benavente to present day within the historical and socio-cultural context of the literary production of each dramatist. Pre-requisite: Any SPA course at the 2000 level or authorization from instructor. (3 cr) Last Offered: Spring 2018 Spring 2016

**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. (3 cr) Last Offered: Fall 2018 Fall 2017 Fall 2016

**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. (3 cr) Last Offered: Fall 2014

**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. (3 cr) Last Offered: Fall 2019 Summer 2015 Fall 2014

**SPA 3254 Spanish Lyric Tradition** Examines the major themes and evolution of Spanish lyrical verse from its beginnings to present day. Pre-requisite: Any SPA course at the 2000 level or authorization from instructor. (3 cr)

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**SPA 3484 Medieval Frontiers** 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. (3 cr) Last Offered: Spring 2016

**SPA 3485 Nature in Medieval Culture** La naturaleza en la cultura medieval explores issues through literature: the perception of the world, the intersection between nature and religion, the relation between literature and visual arts, the importance and meaning of nature in political discourse. Pre-requisite: Any SPA course at the 2000 level or authorization from instructor. (3 cr)

**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. (3 cr) Last Offered: Spring 2017

**SPA 3744 Cervantes** An interdisciplinary approach to Cervantes's work. Pre-requisite: Any SPA course at the 2000 level or authorization from instructor. (3 cr) Last Offered: Fall 2016 Summer 2016

**SPA 3764 Drama of Golden Age** The representation of the monarch, women, minority groups, etc. in Golden Age society through its drama. Pre-requisite: Any SPA course at the 2000 level or authorization from instructor. (3 cr)

**SPA 3944 Hispanic Pop Culture** This course discusses the influence of popular culture expressions such as music, cinema, literature, sports and food in the nation building projects in Latin America. Pre-requisite: Any SPA course at the 2000 level or authorization from instructor. (3 cr)

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**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. (3 cr) Last Offered: Fall 2017 Spring 2016  
Spring 2015

**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. (3 cr) Last Offered: Fall 2019  
Spring 2019 Spring 2018

**THE 2021 Theatre in Philadelphia** (3 cr) Last Offered: Spring 2014  
Spring 2008 Spring 2007

**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. (3 cr) Last Offered: Spring 2016 Spring 2014 Fall 2004

**THE 2029 Fund Princ of Acting** Traditional acting theories and basic techniques: games, improvisation, sensory awareness exercises and beginning work on scenes. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**THE 2030 Advan Princ of Acting** Creation of an original piece of theater. Self-

selected scenes used to deepen individual growth. (3 cr) Last Offered: Spring  
2018 Spring 2017 Spring 2010

**THE 2032 Elements of Dance** The broad range of dance styles, dance theory, vocabulary, and body placement. (3 cr) Last Offered: Fall 2019 Spring  
2019 Fall 2018

**THE 2033 Advanced Elements of Dance** Expanded study of dance styles, dance theory, vocabulary, and body placement. (3 cr) Last Offered: Spring 2019  
Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Spring 2019 Spring 2017  
Spring 2015

**THE 2040 Theatre Practicum** Significant and responsible participation in the department's production program. Fall 2019 Spring 2019 Spring  
2018

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Fall 2018

**THE 3007 Playwriting** (3 cr) Last Offered: Spring 2019  
Spring 2018 Spring 2017

**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. (3 cr) Last Offered: Spring 2013

**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. (3 cr) Last Offered: Fall 2013 Fall 2012

**THE 3011 Asian Theatre** To understand Asian artistic style and practice through viewing performances, examining aesthetics, and studying plays. (3 cr)

**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. (3 cr) Last Offered: Summer 2019 Spring 2019 Summer 2018

**THE 4011 Directing the Play** Fundamentals of directing: script analysis, approaches to working with the actor, movement and blocking, visualization, design, and rhythm. (3 cr) Last Offered: Fall 2019 Spring 2013

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Spring 2019 Fall 2018 Summer 2018

**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. (3 cr) Last Offered: Fall 2015 Spring 2014 Spring 2013

**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. (3 cr) Last Offered: Summer 2013 Fall 2012 Summer 2012

**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 (3 cr) Last Offered: Summer 2015 Summer 2014 Summer 2012

**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. (3 cr) Last Offered: Fall 2015 Spring 2014 Fall 2013

**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. (3 cr) Last Offered: Fall 2018 Spring 2017 Spring 2015

- THL 2470 New Testament Ethics** Exploration of New Testament ethical traditions. (3 cr)
- THL 2480 New Testament Spirituality** Study of New Testament spiritual writers and traditions. (3 cr) Last Offered: Fall 2013 Spring 2013  
Fall 2012
- THL 2490 Themes in Biblical Studies** Interdisciplinary approach to biblical texts. Critical exegesis of biblical texts. (3 cr) Last Offered: Fall 2019  
Fall 2018 Spring 2016
- THL 2550 Themes Modern Christianity** Modern Christian writings, controversies, and events. (3 cr) Last Offered: Fall 2018 Fall 2016  
Spring 2000
- THL 2590 Themes Historical Theology** Selected topics in historical theology. (3 cr) Last Offered: Spring 2019 Fall 2017 Spring 2017
- 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. (3 cr) Last Offered: Spring 2018  
Spring 2017 Fall 2016
- 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. (3 cr) Last Offered: Fall 2016 Fall 2013
- 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. (3 cr) Last Offered: Fall 2016
- 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) (3 cr) Last Offered: Spring 2018 Spring 2017 Spring 2015
- 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) (3 cr) Last Offered: Fall 2014
- THL 3100 Christian Anthropology** The relationship between God and the human

person from a variety of viewpoints: human origins; the purpose of life; the problem of evil and the human condition; salvation as divinization - insights and approaches of recent writers. (3 cr) Last Offered: Fall 2015 Spring 2015 Fall 2014

**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. (3 cr) Last Offered: Fall 2019  
Spring 2017 Spring 2016

**THL 3250 Problem of Evil** Formulations of the problem and historical attempts to solve it. (3 cr) Last Offered: Summer 2019 Fall 2018 Summer 2018

**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. (3 cr) Last Offered: Spring 2017

**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. (3 cr) Last Offered: Spring 2018 Fall 2014  
Summer 2014

**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. (3 cr) Last Offered: Fall 2018 Fall 2016 Fall 2015

**THL 3510 Marriage in the Christian Trad** Christian marriage in the third millennium; scriptural, historical, legal, sacramental, and moral issues. (3 cr) Last Offered: Fall 2015 Spring 2015

**THL 3550 Presence and Absence of God** 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. (3 cr) Last Offered: Spring 2018  
Fall 2016 Spring 2016

**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. (3 cr) Last Offered: Fall 2015 Fall 2013 Summer 2011

**THL 3740 Liberation Theologies** Theologies emerging from specific struggles

for liberation in Latin American, Africa, Asia, and North America; their context, content, and critique. (3 cr) Last Offered: Spring 2019 Fall 2018 Spring 2018

**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. (3 cr) Last Offered: Fall 2015 Spring 2015 Fall 2014

**THL 3790 Themes Theological Studies** Exploration of issues of theological nature. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Fall 2015 Fall 2014 Spring 2014

**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. (3 cr) Last Offered: Spring 2015 Fall 2013

**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. (3 cr) Last Offered: Spring 2015 Spring 2014 Spring 2007

**THL 4200 Ethics of Life and Death** Explorations of selected issues in biomedical ethics (e.g., abortion, euthanasia). (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Spring 2016 Spring 2015 Spring 2014

**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. (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2014

**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. (3 cr) Last Offered: Spring 2018 Spring 2014 Spring 2013

**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. (3 cr) Last Offered: Fall 2016 Fall 2014

**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. (3 cr) Last Offered: Spring 2019

**THL 4490 Themes Christian Ethics** Select topics in Christian ethics. (3 cr) Last Offered: Fall 2019 Spring 2019 Summer 2018

**THL 4500 Augustinian Spirituality** Study of spirituality of Augustine and of Augustinian spiritual writers and traditions. (3 cr) Last Offered: Fall 2019 Spring 2019 Summer 2018

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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." (3 cr)

**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. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**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. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**THL 5150 Islam: History, Thought, Culture** Islam: history and

development; beliefs and rituals; sects and intellectual movement. (3 cr) Last Offered:  
Fall 2019 Spring 2019 Fall 2018

**THL 5160 Islamic Mysticism** Islamic Mysticism: sources; development and principles; contribution and influence. (3 cr) Last Offered: Fall 2019  
Spring 2017 Spring 2013

**THL 5170 Islamic Philosophy & Theology** Islamic relationalism and the crisis of moderate and conservative Muslim theologians; the dialectical struggle between Islamic philosophy and theology. (3 cr) Last Offered: Spring 2015 Fall 2012  
Fall 2010

**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. (3 cr) Last Offered: Spring 2014 Fall 2009 Spring 2003

**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. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**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. (3 cr) Last Offered: Summer 2017 Fall 2016 Fall 2012

**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. (3 cr) Last Offered: Spring 2014 Fall 2011 Spring 2010

**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. (3 cr) Last Offered: Spring 2013  
Spring 2011 Fall 2009

**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. (3 cr)

**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. (3 cr) Last Offered: Fall 2016 Fall 2014 Fall 2013



- 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. (3 cr) Last Offered: Summer 2019  
Summer 2018 Spring 2018
- 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. (3 cr)
- 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. (3 cr) Last Offered: Spring 2019 Fall 2018 Spring 2018
- THL 5800 Religion and Literature** Religious attitudes and experience in contemporary literature.(3 cr) Last Offered: Spring 2017 Fall 2016 Spring 2016
- 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) (3 cr) Last Offered: Spring 2019 Spring 2018 Fall 2017
- THL 5850 Women in Rel & Society** Examination of women's experiences in religious traditions with special emphasis on Christianity. (3 cr) Last Offered: Fall 2013 Fall 2012 Spring 2012
- 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. (3 cr) Last Offered: Summer 2013 Fall 2012 Spring 2011
- THL 5999 Themes Faith and Culture** Select topics on issues concerning the intersection of religion, society, and culture. (3 cr) Last Offered: Fall 2019  
Summer 2019 Spring 2019
- THL 6000 Topics in Theology or Religion** Course work in theological or religious studies topics.(3 cr) Last Offered: Summer 2019 Spring 2019 Fall 2018
- THL 6001 Themes in Religious Studies** Themes in religious studies taken by Villanova students studying overseas. (3 cr)
- THL 6050 Internship** Supervised experience in an approved context (e.g.,

social service, teaching, etc). (3 cr) Last Offered: Summer 2019 Fall 2016  
Spring 2016

**THL 6051 Internship** Supervised experience in an approved context (e.g., social service, teaching, etc). (6 cr) Last Offered: Summer 2018 Fall 2016  
Fall 2015

**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. (3 cr)

**THL 6300 Research Seminar** Research intensive seminar that satisfies a CLAS requirement for the Major. Introduction to research in THL/RST disciplines. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**THL 6400 Independent Study** Permission of chairperson required. (3 cr) Last Offered: Fall 2019 Spring 2019 Spring 2018

**THL 6500 Advanced Seminar** Special topic in theology that includes a research paper that critically integrates the student's study of the discipline of theology. Course is open to Theology Majors and Minors and Graduate students with the approval of the Director of Graduate Studies in Theology. (3 cr) Last Offered: Spring 2019  
Spring 2018 Spring 2017

**VAB 1000 Study Abroad** (0-15 cr) Last Offered: Fall 2019 Summer 2019  
Spring 2019

**VEXP 1000 The Leadership Experience** Exploration of leadership and personal growth in first year college experience. (1 cr) Last Offered: Fall 2019  
Spring 2019 Fall 2018

**VIA 1111 Digital Life Experiences I** Multidisciplinary examination of personal experiences and consequences of living digitally today, using case-studies, simulations, and media including films, books and social-communications for inspiration. Focus placed on issues, such as privacy, online safety, opportunities and digital dependencies. (1.5 cr) Last Offered: Fall 2018

**VIA 1112 Digital Life Experiences II** Multidisciplinary examination of society's dependence on, and usage of, interconnected digital resources. Focus on communal rather than personal aspects, using case-studies, simulations, and media sources for inspiration. Exploration of future alternatives, opportunities, risks and challenges. (1.5 cr)

**VIA 1121 Creativity** Foundation of creative approaches and techniques to apply in any academic or professional endeavor to become a creative problem solver. Includes team, individual, and hands-on learning and experimentation. (1.5 cr)

- VIA 1122 Innovation** Corporations, nonprofit organizations, and startups all thrive on innovation but what is it? Interactive workshops, lectures, case studies, and exercises explore innovative behaviors and applications (1.5 cr) Last Offered: Spring 2019
- VIA 1131 Intro Building What Matters** Overview of the Development process and environmental concerns with the built environment. Topics include; sustainable planning and design of the built environment, the planning process, environmental and economic considerations at different scales of planning. (1.5 cr) Last Offered: Fall 2018
- VIA 1132 Built Environ Landscape/Society** Expand students' idea of what constitutes the built environment - spaces, people, networks in addition to buildings and landscapes - with complementary foundational skills (map reading, plan reading, architectural photography) and acquaintance with the knowledge of important resources in the built environment. (1.5 cr) Last Offered: Spring 2019
- VIA 2111 Digital Life Technology I** Multidisciplinary exploration of technology and design concepts that support a modern digital life. Emphasis on cyber security principles and techniques applied to computers, smart phones, and other smart connected devices. Significant demonstration and hands-on activities. (1.5 cr)
- VIA 2112 Digital Life Technology II** Multidisciplinary group-based exploration of digital life technology and design concepts. Emphasis on cybersecurity principles and techniques applied to systems of interconnected computers, networks, devices, and people. Significant hands-on group activities. (1.5 cr)
- VIA 2121 Entrepreneurship** Survey of entrepreneurial ventures and firms through site visits and on campus interactions with founders. Covers social and commercial startups. Review of the entrepreneurial process. (1.5 cr)
- VIA 2122 Idea Generation and Testing** How do you come up with an idea? What makes an idea good? Part seminar part workshop, students utilize innovation, creativity, and entrepreneurship to find a breakthrough. (1.5 cr)
- VIA 2133 Readings Built Environment** Seminar on key writings in the built environment, covers classic texts in historic preservation; urban planning and design; social issues related to the built environment; and the role of the architect, planner, and developer, preservationist, and activist in society. (3 cr)
- VIA 3010 Indoor Air Quality/Hum Hlth** Examine and analyze issues surrounding indoor air quality (IAQ) and human health using environmental science, biology, public health, and social, policy, and economic influences. Air pollution, health effects, economics, social, and cultural factors, in developed and developing countries. (3 cr) Last Offered: Spring 2019

**VIA 3020 Creating Social Impact** Using interdisciplinary and sustainable innovations in the social impact sector to solve social problems. Become innovative problem solvers. Learn by doing via class discussions and hands-on projects to discover how to make social change now and as lifelong changemakers. (3 cr) Last Offered:

Spring 2019

**VIA 3030 US Statesman: Lib/Eqty Com Good** Economics and political philosophy applied to the history, theory, and practice of statesmanship. In-depth study of important case studies focusing on how political leaders must balance competing political and economic interests in society for the sake of the common good.(3 cr) Last Offered:

Spring 2019

**VSB 1000 Information Technology** On-line course focuses on design and use of spread sheets to support decision making/problem solving. (1 cr) Last Offered:

Fall 2019 Spring 2019 Fall 2018

**VSB 1001 Business Dynamics I** Emphasis on purpose of business; how business vision is actualized. Explores dynamic nature of business in a changing environment. Highlights skills of leaders. Integrates global, ethical, & technological dimensions of business. Emphasizes innovation as a business, personal skill. Restricted to VSB students & Business Minors. (3 cr) Last Offered:

Fall 2013 Fall 2012

Spring 2012

**VSB 1002 Business Dynamics II** Continuation of Business Dynamics I. Contribution of business functions to accomplish business vision; cross functional view of business. Integrates global, ethical, technological & innovative dimensions of business, personal success. Action learning, problem-solving approach. Restricted to VSB students & Business Minors. (3 cr) Last Offered:

Spring 2014 Spring 2013 Spring 2012

**VSB 1005 Business Dynamics - Accel** Explores dynamic nature of business in a changing environment. Cross functional view of business and contribution of functions to accomplish vision. Integrates global, ethical, and technological dimensions. Emphasizes innovation as business, personal skill. Restricted to VSB Transfer Students. (6 cr) Last Offered:

Fall 2013 Fall 2012 Fall 2011

**VSB 1015 Business Dynamics** Explores dynamic nature of business in a changing environment. Cross functional view of business and contribution of functions to accomplish vision. Integrates global, ethical, and technological dimensions. Emphasizes innovation as business, personal skill. (3 cr) Last Offered:

Fall 2018 Fall 2017

**VSB 2000 Backpack-to-Briefcase: SO Sem** Professional development program combining class sessions and out-of-class activities focused on career exploration, job search skills, and development of soft skills. (1 cr) Last Offered:

Spring 2019 Fall 2018

**VSB 2004 Financial Accounting** Course introduces generally accepted

accounting principles and both the creation and analysis of financial statements. Students are exposed to the importance of accounting in making decisions such as those related to business, investing, and financing. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**VSB 2005 Business Statistics** Statistical concepts and methods used in business and economics, including Probability, Discrete Probability, Sampling Distributions, Confidence Intervals, Hypothesis Testing, Regression Analysis, and Chi-Square Distribution, (ANOVA). (3 cr) Last Offered: Spring 2013 Fall 2012 Summer 2012

**VSB 2006 Strategic Info Technology** Strategic alignment of business and information technology (IT); managing IT as a strategic resource; strategies for sourcing IT development and services. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**VSB 2007 Corp Respon & Regulation** Examines law, ethics, corporate responsibility, and business regulation. Studies the sources, substantive principles, and evolving nature of law, and its role in ethical business decision making. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**VSB 2008 Business Analytics** Use of business intelligence and quantitative methods, including statistical analysis, forecasting/extrapolation, predicative modeling, optimization and simulation in the context of organizational decision making and problem solving. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**VSB 2009 Principles of Finance** The theory and techniques of financial management. Financial markets; financial statements and analysis; time value of money; interest rates; bond valuation; risk and return; equity valuation; cost of capital; capital budgeting; working capital management. Restricted to VSB students and Business Minors. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**VSB 2010 Fin Mgt & Reporting** Integrative perspective in understanding financial issues in business. Transaction analysis, valuation, revenue recognition, expense matching, cash flow, time value of money, risk/return, working capital management, capital budgeting, cost of capital covered. Satisfies Financial Accounting, Introduction to Finance requirements. (6 cr) Last Offered: Spring 2015 Fall 2014 Spring 2014

**VSB 2020 Competitive Effectiveness** Explores value creation for stakeholders and establishing competitive advantage; how goods/services are developed to meet customer/consumer needs and are distributed for consumption. Innovating, problem-solving, leading, and controlling through effective use of human capital explored. Satisfies Intro to Management/Intro to Marketing. (6 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**VSB 2030 Fin Mgt & Report I: Fin Acc** 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. Restricted to VSB students and Business Minors. (3 cr) Last Offered: Fall 2016 Spring 2016 Fall 2015

**VSB 2040 Fin Mgt & Report II: Prin Fin** 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. Restricted to School of Business students and Business Minors. (3 cr) Last Offered: Fall 2016 Spring 2016 Fall 2015

**VSB 2121 Business Scholars Seminar** Special business topics offered in a lecture/seminar format to prepare students for research opportunities. RESTRICTED TO: Permission of VSB Honors Director (1 cr) Last Offered: Spring 2019

**VSB 2500 Personal Finance** Critical personal finance skills for financial stability and success. Topics include planning personal finances, money management and budgeting, tax strategies, investments, credit and debt, purchase decisions, insurance, retirements and estate planning. This course will NOT be used to fulfill a Finance major or Finance minor elective requirement. (3 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**VSB 3000 Backpack-to-Briefcase: JR Sem** Professional development program built around an internal case competition. Topics addressed include written and oral communication; business research; team dynamics and leadership. (1 cr) Last Offered: Fall 2019 Spring 2019 Fall 2018

**VSB 3001 VSB Internship-TWC** Full-time employment through The Washington Center program with appropriate training, instruction and supervision. Must be enrolled in The Washington Center program.(6 cr) Last Offered: Fall 2015 Spring 2013

**VSB 3006 Prin of Managerial Accounting** How management accounting information can be used to help firms achieve strategic goals and profitability objectives. Use of an entrepreneurial perspective to examine how managers apply risk measurement and management techniques to business planning and control systems. Case-based learning to help students develop communication, technology, and team work. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**VSB 3008 Operations Management** Concepts and techniques for problems in manufacturing and service organizations. Topics: decision-making, forecasting, resource allocation, project management, quality, materials management, technology and strategy. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019

**VSB 3400 Internship Practicum** Approved semester project involving supervised practical application of previously learned knowledge to a business enterprise; supervision by both faculty member and corporate/non-profit executive. Permission of Dept.

Chair. (3 cr) Last Offered: Spring 2013

**VSB 3500 Special Topics in Business** Contemporary issues and topics impacting the business environment. (3 cr) Last Offered: Fall 2019  
Fall 2018 Summer 2018

**VSB 3900 Innovation & Design Practicum** "Design" is a systematic, human-centered approach to problem-solving used by decision-makers of the world's most innovative organizations (e.g., Google, Apple). by understanding what people want and need in their lives, designers iteratively test potential solutions to problems. Includes a theoretical component and a real-world project. Honors or permission of instructor. (3 cr) Last Offered: Fall 2019 Fall 2018 Fall 2017

**VSB 4000 B2B: SR Leadership Academy** Professional development capstone course focusing on the understanding, importance and development of leadership skills; specific topics may vary. (1 cr)

**VSB 4002 Strategic Think & Implem** Emphasizes strategy concepts to achieve integrative cross-functional solutions for competitive advantage. Application of strategy tools as well as concepts from prior course work. Application of knowledge to global and ethical challenges emphasized through the practice opportunities used in this course. (3 cr) Last Offered: Fall 2019 Summer 2019 Spring 2019