

Villanova University

VILLANOVA UNIVERSITY CATALOG

**UNDERGRADUATE STUDIES
2017 - 2019**

**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

2017

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.

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

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. Students who enter in fall 2016 or fall 2017 should check the world wide web catalog for changes. 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: 2017-2018

Fall Semester (2017)

Aug. 19-22 (Sat-Tu)	New Student Orientation and Registration
Aug. 23 (W)	Classes Begin
Aug. 26 (Sat)	Saturday Classes begin for Part-Time Studies only
Aug. 29 (Tu)	Last day for requesting Satisfactory/Unsatisfactory
Aug. 29 (Tu)	Last day for dropping and/or adding classes
Sept. 4 (M)	Labor Day (No Classes)
Sept. 19-24 (Tu-Sun)	St. Thomas of Villanova Celebration
Oct. 6 (F)	Mid-Term
Oct. 9 (M)	Semester Recess
Oct. 16 (M)	Classes Resume
Oct. 18 (W)	Grades Due (Noon)
Oct. 20 (F)	Registration Advising Begins
TBD	Registration Begins for Spring 2018
Nov. 8 (W)	Last Day for Authorized Withdrawal without Academic Penalty (WX)
Nov. 21 (Tu)	Thanksgiving Recess Begins after last class
Nov. 27 (M)	Classes Resume
Dec. 11 (M)	Final Day of Classes
Dec. 12 (Tu)	Reading Day
Dec. 13-19 (W-Tu)	Final Examinations (No exams on Sun. Dec 17)
Jan 2, 2018 (T)	Final Grades Due Fall 2017 Semester (12 Noon)
Jan 26, 2018 (F)	Last day for submission of work to remove incomplete ("N") grade
Feb 9, 2018 (F)	Last day for "N" grade conversion to final grade (Fall 2017 Semester). Grade change forms must be received by Registrar before 5:00 PM

Spring Semester (2018)

Jan. 15 (M)	Martin Luther King Day (No classes)
Jan. 16 (Tu)	Classes Begin
Jan. 22 (M)	Last day for requesting Satisfactory/Unsatisfactory
Jan. 22 (M)	Last day for dropping and/or adding classes
Mar. 2 (F)	Mid-Term
Mar. 5 (M)	Semester Recess
Mar. 12 (M)	Classes Resume
Mar. 14 (W)	Grades Due (Noon)
Mar. 16 (F)	Registration Advising Begins
TBD	Registration Begins for Fall 2019
Mar. 28 (W)	Easter Recess begins after last class
Apr. 3 (Tu)	Classes Resume
Apr. 4 (W)	Last Day for Authorized Withdrawal without Academic Penalty (WX)
May 1 (Tu)	Deemed a Friday Class Day and follows a Friday schedule (UG Day only)
May 2 (W)	Deemed a Monday Class Day and follows a Monday schedule (UG Day only)
May 3 (Th)	Final Day of Classes
May 4 (F)	Reading Day
May 5-11 (Sat-Fri)	Final Examinations (No exams on Sunday, May 6)
May 14 (M)	Final Grades Due – Spring 2018 semester (12 Noon)
May 18-19 (Fri-Sat)	Baccalaureate and Commencement
June 30 (F)	Last day for submission of work to removed incomplete (“N”) grade
July 13 (F)	Last day for “N” grade conversion to final grade (Spring 2017 Semester). Grade change forms must be received by Registrar before 5:00 PM

ACADEMIC CALENDAR: 2018-2019

Fall Semester (2018)

Aug. 23-26 (Th-Sun)	New Student Orientation and Registration
Aug. 25 (Sat)	Saturday Classes begin for Part-Time Studies only
Aug. 27 (M)	Classes Begin
Aug. 31 (F)	Last Day for dropping and/or adding classes and last day for requesting Satisfactory/Unsatisfactory
Sept. 3 (M)	Labor Day - No Classes
TBD	St. Thomas of Villanova Celebration
Oct 12 (F)	Mid-term
Oct 15 (M)	Semester Recess
Oct. 22 (M)	Classes Resume
Oct. 24 (W)	Grades Due (Noon)
Oct. 26 (F)	Registration Advising Begins
TBD	Registration Begins for Spring 2019
Nov 14 (W)	Last Day for Authorized Withdrawal without Academic Penalty (WX)
Nov 20 (Tu)	Thanksgiving Recess begins after last class
Nov 26 (M)	Classes Resume
Dec 11 (Tu)	Deemed a Friday and will follow a Friday Class Schedule (Undergraduate Only)
Dec 13 (Th)	Final Day of Classes
Dec 14 (F)	Reading Day
Dec. 15-21 (Sat-F)	Final Examinations (no exams on Sunday, December 16)
Jan. 2, 2019 (W)	Final Grades Due Fall 2018 Semester (12 Noon)
Jan. 25, 2019 (F)	Last day for submission of work to remove incomplete ("N") grade
Feb. 8, 2019 (F)	Last day for "N" grade conversion to final grade (Fall 2018 Semester). Grade change forms must be received by Registrar before 5:00 PM

Spring Semester (2019)

Jan. 14 (M)	Classes Begin
Jan. 18 (F)	Last Day for requesting Satisfactory/Unsatisfactory
Jan. 21 (M)	Last Day for dropping and/or adding classes
Jan. 21 (M)	Marting Luther King Day (No Classes)
Mar 1 (F)	Mid-term
Mar.4 (M)	Semester Recess
Mar. 11 (M)	Classes Resume
Mar. 13 (W)	Grades Due (Noon)
Mar. 15 (F)	Advising Begins
TBA	Registration Begins for Fall 2019
Apr. 3 (W)	Last Day for Authorized Withdrawal without Academic Penalty
Apr. 17 (W)	Easter Recess begins after last class
Apr. 23 (Tu)	Classes Resume
Apr 30 (Tu)	Deemed a Friday Class Day and will follow a Friday Class schedule (UG Day only)
May 1 (W)	Deemed a Monday Class Day and will follow a Monday Class schedule (UG Day only)
May 2 (Th)	Final Day of Classes
May 3 (F)	Reading Day
May 4-10 (Sat-F)	Final Examinations (No exams on Sunday, May 5)
May 13 (M)	Final Grades Due – Spring 2019 semester (12 Noon)
May 17-18 (F-Sat)	Baccalaureate and Commencement
June 28 (F)	Last day for submission of work to remove incomplete (“N”) grade
July 12 (F)	Last day for “N” grade conversion to final grade (Spring 2019 Semester). Grade change forms must be received by Registrar before 5:00 PM

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.

Villanova University

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) 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): 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.
- ❑ School of Business (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): Bachelor of Science in Nursing
- ❑ College of Professional Studies (www1.villanova.edu/villanova/professionalstudies.html) Bachelor of Interdisciplinary Studies. Students may also pursue the Bachelor of Arts, Bachelor of Science, Bachelor of Business Administration, and Bachelor of Business Administration in Accountancy through the College of Professional Studies, though the degrees belong to their respective Colleges as listed in this catalog.

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.

PART-TIME STUDIES

Villanova offers the opportunity for part-time study to a variety of students who are not able or do not wish to enroll as full-time matriculated students. Students may pursue Bachelor's Degrees on a part-time basis in: Accountancy, Business Administration, Computing Science, Education (secondary), English, History, and General Arts. Additionally, the Bachelor of Interdisciplinary Studies, a degree program for part-time adult students only, is offered with majors in Information Systems, Leadership Studies, Media & Technology, and General Studies. Details on these programs and requirements are to be found in the College of Professional Studies section of this Catalog.

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. 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

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 1st 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 in-coming 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 Charisma Presley at 610-519-7316.
- ❑ **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 professional team at the Center for Research and Fellowships (CRF) cultivates the development of intellectual, civic, and cultural leadership among Villanova students—at all levels and from diverse backgrounds. 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, 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. In recent years, CRF has assisted nearly 500 students to win awards and formal recognition from these and other national scholarship programs.

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 200 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 and Veritas Scholars throughout their time at Villanova—and beyond. CRF is located in 38 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, email 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)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).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).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 in Mendel and Tolentine halls 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 Workstations have been installed in both the Mendel and Tolentine Lab areas for student use.

The Villanova TechZone is a walk-up IT support center with multiple locations in Vasey Hall 101, CEER 209 and the Charles Widger School of Law. The TechZone provides

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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) from 9am to 7pm M-Th and 9am to 4pm F, by email (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 students with a Wildcard. The Wildcard is 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. These services include 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 officers and university officials to send targeted alerts to its 10,000 students and faculty members in a matter of

seconds. Nova Alert is designed to communicate an emergency with immediate danger, 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 student's 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 classmates and participating in a 1-credit weekly discussion class, 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 learningcommunities.villanova.edu.

Examples of themes/interests are

- Leadership (commuter sections also available)
- Art and Culture
- Caritas: Service Learning
- Creativity on the Page
- Environmental Leadership
- Faith and Reason
- Global Community
- Healthy Living
- Freedom and Virtue (no 4th hour requirement)
- Crossroads: Science and Humanities (no residence hall requirement)

LEARNING SUPPORT SERVICES

Learning Support Services provides learning and study skills resources for all students who wish to enhance their academic experience in preparing to meet their educational goals. These services include study groups and homework help sessions for selected courses, 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/strategies.html>

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Additionally, in conjunction with faculty, LSS is committed to providing “reasonable academic accommodations” for students with learning disabilities, other neurologically based disorders, and those disabled by chronic illnesses. 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.

It is the responsibility of the student to submit for review current documentation of their disability to Learning Support Services. Reasonable academic accommodations and support services 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. Students must obtain a new accommodation request form for each term at Villanova in order to receive accommodations during the term.

The Office of Learning Support Services is located in 212 Falvey Library. For additional information about our services, contact 610-519-5176 or email 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/help>.

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 the newly renovated Dugan Polk Family Reading Room which students can access 24 hours-a-day. Another 24-hour study space is the Holy Grounds café on the first floor of the library.

The library also has computer workstations, high-speed printers, and scanners located on the first floor of the library.

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

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.

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- ❑ 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.

The International Student Services Office offers ESL courses through the office of Continuing Studies and through the English department

Classes are offered in the fall, spring, and summer terms. In addition to ESL courses, the office has a dedicated ESL Helpdesk to aid non-native English speakers with writing and presentations.

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 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, visit the Office of Intercultural Affairs, or the Office of Diversity and Inclusion in person or online (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-

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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 or visit 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 Where is the Love? campaign for a healthy campus community. 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.

MUSIC ACTIVITIES

The Office of Music Activities promotes, maintains, and supervises the efforts of student performing groups on the Villanova campus. These groups include: INSTRUMENTAL: Concert Band; Orchestra; Marching/Pep Band; Jazz Ensemble; Music and Instruments Club (MIC) – BAND AUXILIARY: Dance Team; Wildcat Dancers: Twirlers – CHORAL: Villanova Singers (male); Villanova Voices (female); Gospel Choir (mixed) – A CAPPELLA: Haveners; Nothing But Treble; Minor Problem; Sirens; Spires; Supernovas; Vocal Minority – DANCE: 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) – THEATRE: 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 4400 students are housed on-campus across 18 traditional residence halls and 8 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, Kennedy Hall (610-519-4154) or by visiting our website

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, fraternities and sororities, 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, 214 Dougherty Hall (610-519-4210).

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 Villanova.edu/studentorgs

TRANSCRIPTS

Students may obtain transcripts of their records by ordering them online via their myNOVA account. Log into myNOVA, click on the Student Tab and scroll down to the Order a Transcript link. Select Undergraduate/Graduate Transcript from the menu items, then select Main Campus Degree Program and complete the order online. Current student transcripts may be ordered for pick up, mailing or electronic delivery. Students and Alumni without myNOVA accounts order transcripts on-line from the Registrar's Website www.registrar.villanova.edu, click on Transcript Requests, Undergraduate and Graduate Transcripts, How to Request a Transcript and then scroll down to 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 electronically 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. There is a \$5.55 transcript fee per transcript payable by credit or debit card through the online ordering process.

UNIVERSITY SHOP

The Villanova University Shop is the on-campus provider of retail services for Villanova University. Our merchandise mix supports the academic pursuits and cultural life of the University community and includes: coursebooks, reference and trade books, insignia sportswear and gift items, personal and convenience products and academic supplies.

VETERANS BENEFITS

The School Certifying Officials, located in the The Registrar's Office (Room 203, Tolentine Hall) serves as a liaison between the University and the Veterans Administration. Veteran or Military Students 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 VONAPP online application. 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 the VA VONAPP online application process. 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.

ADMISSION

GENERAL POLICY ON 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:

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		

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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 Thomas Jefferson University College of Health Professions, 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 University 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 December 20. 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 15, 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 University 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. (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 University Admission (on-line

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submission is preferred and will expedite to processing of the student's application, but paper copies can be processed). 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.

- ❑ Take the SAT or ACT and have the results directly sent to Villanova University (CEEB Code -2959 or ACT code-3744)
- ❑ 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 University 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 School of Business, 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.

ADVANCED PLACEMENT AND INTERNATIONAL BACCALAUREATE PROGRAMS

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

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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.

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 admittance, 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 85 on the iBT (internet based), or 550 on the paper based TOEFL; or a band score of 7.0 on the IELTS.

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.

ADVANCED PLACEMENT AND INTERNATIONAL BACCALAUREATE PROGRAMS

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.

TUITION AND FEES, 2017 - 2018

UNDERGRADUATE COLLEGES AND PROGRAMS

TUITION(Per Year) ¹

	Tuition	Per Credit Rate	General Fees*	Student Health Fees
All Undergrad Colleges	\$50,554	\$2,809	\$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
\$25,277	\$2,809	\$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	\$135/semester
Room (Depending on Accommodations)	\$3,155-4,575/semester
Board (Depending on Meal Plan)	\$1,555-3,385 (\$770-1,205 for commuters) /semester
Reinstatement Fee	\$250
Late Payment Fee ²	\$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

¹Subject to change at the discretion of the University Administration.

²A 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.

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

PART-TIME STUDIES, TUITION AND FEES, 2017 - 2018

Application Fee (Non-refundable)	\$25
Tuition Evening Rate	\$611 (per credit)
Tuition Day Rates	\$1014 (per credit)
General University Fee	\$15/semester
Reinstatement Fee	\$250
Late Payment Fee ²	\$25-\$200
Monthly Services Fee for Past Due Accounts	\$10/month
Returned Check Charge	\$30
Parking Fee ³	\$50

¹ Subject to change at the discretion of the University Administration.

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

³ 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 summer catalog)

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

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).

Presidential Scholarships. The Presidential Scholarship is a renewable, merit-based award covering full tuition, room, board (up to 19 meals-per-week plan), general fee, and the cost of textbooks for eight consecutive 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 32 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

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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) and 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 Undergraduate Research and Fellowships and The Center for Multicultural Affairs. For more information regarding the Program's particular commitment to enrolling Underrepresented Students, contact the Center for Multicultural Affairs 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. New students will be considered for the St. Augustine Scholarship effective with class entering August, 2018.

The Saint Augustine Scholarship. In keeping with the Augustinian tradition of living and learning in a community united in mind and heart, Villanova will offer its most outstanding applicants (based on exemplary academic achievement in a very rigorous curriculum with correspondingly high standardized test scores) this merit-based award. Candidates will also embody the ideals emblazoned on the University seal: Veritas, Unitas, Caritas (Truth, Unity, Love) through their extracurricular involvement and life experiences.

The University seeks to enroll eighty (80) St. Augustine scholars in the Class of 2022 at a value of \$15,000 renewable for four consecutive years. All applicants will be considered during the holistic review process and a limited number of students will be invited to apply for this prestigious award. Invitations will be emailed after December 20, 2017 for Early Action and Early Decision admitted students with the scholarship applications due by January 15, 2018. Regular Decision applicants selected for consideration will be invited the week of February 19, 2018 with scholarship applications due by March 5, 2018. All recipients will be notified on or before April 1.

St. Martin de Porres Grant. Villanova University provides St. Martin de Porres Grants to serve the University's goal of attracting a richly diverse population of undergraduate students - an essential component of our effort to offer the highest quality education to all Villanova students. St. Martin de Porres Grants are valued at full tuition and general fees. Grant recipients are from the greater Philadelphia area, are members of the most underrepresented groups in undergraduate education, including (but not limited to) members of underrepresented racial and ethnic populations, students from economically disadvantaged backgrounds, and students from families in which few or no members have attended college. To be eligible for consideration, students must have exemplary high school records, correspondingly high SAT or ACT scores, leadership roles, and active involvement through service to the community. The greater Philadelphia area 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. In addition, candidates must complete a St. Martin de Porres Grant application and submit it to the Office of University Admission by February

7. Finalists will be required to interview on campus in March. The selection committee will review qualified applicants and will notify the recipient 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 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 freshman. Therefore, this scholarship will next be awarded to an entering freshman starting in the 2020-2021 academic year.

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 freshmen. 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. In order to apply for the scholarship, candidates must complete the Common Application with the Member School Section for Villanova, which must be received in our office no later than January 15. In addition, candidates must complete a Goizueta Scholarship application (found on the Admission website) and submit it to the Office of University Admission by January 15. The selection committee will review qualified applicants and will notify the recipient by April 1.

Anthony Randazzo Endowed Presidential Scholarship. This award is a renewable, merit-based award covering full tuition, room, board (up to 19 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 graduated from a high school in the city of Philadelphia, Pennsylvania. In order to apply for the scholarship, candidates must complete and submit the Common Application with the Member School Section for Villanova no later than January 15. In addition, candidates must complete a Randazzo Presidential Scholarship Application and submit the application to the Office of University Admission by January 15. The selection committee will review qualified applicants and will notify the recipients by April 1. 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.

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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. To be eligible for consideration, a candidate must be invited to apply for the St. Augustine Scholarship.

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 freshmen 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) and January 15th (Early Action/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) and January 15th (Early Action/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) and January 15th (Early Action/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) and January 15th (Early Action/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 will 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.

Additional information regarding the financial assistance process may be obtained via the Office of Financial Assistance website at www.finaid.villanova.edu. Students and

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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.

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 Perkins Loan. This is a federal loan based on financial need for students accepted/enrolled in an undergraduate or graduate degree program. The Federal Perkins 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. Entrance and exit interviews are required by federal law. Due to limitations in our funding levels we have not been able to award Federal Perkins Loan funds to part-time or graduate students. The Perkins Loan program is scheduled to be phased out October 1, 2017.

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.

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. 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 4.45% for the Undergraduate Direct Subsidized and Unsubsidized Loans, and 6% 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 1.069% for first disbursements between 10/1/2016 and 10/1/2017 and 1.066% for disbursements on or after 10/1/2017 and before 10/1/2018 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) or the U.S. Government at 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.

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 or by calling them directly at 1-800-895-9061.

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%. The Federal Direct PLUS Master Promissory Note can be obtained from the U.S. Department of Education at www.studentloans.gov. A FAFSA must also be completed. An origination fee of 4.276% for first disbursements between 10/1/2016 and 10/1/2017 and 4.264% for disbursements on or after 10/1/2017 and before 10/1/2018 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).

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 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.

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 SEOG, Federal Work Study, Federal Perkins Loan, 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.

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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

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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

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 Perkins Loan, 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 Perkins 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 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, Federal Perkins Loan 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.

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) introduced the IRS Data Retrieval Tool, a feature that allows students and parents to import their tax information from their filed federal 1040 tax forms directly into the FAFSA on the Web. The IRS Data Retrieval Tool may be used when filing the initial FAFSA, or when renewing the 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 first file their federal tax returns with the IRS. If the tax return is filed electronically, the IRS Data Retrieval Tool may normally be used via the FAFSA on the Web site within one-to-two weeks. If filing a paper tax return, the Tool may not be available for approximately six-to-eight weeks past the filing date.

The IRS Data Retrieval Tool may be used either while completing the online FAFSA or after the FAFSA has already been submitted via the Internet. 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 and asset 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:

1. Click 'Link to the IRS' to be transferred directly to the IRS website
2. Once on the IRS website, enter the requested user-verification information
3. Once the IRS has verified your information, your previous year's tax information will be displayed
4. Choose to transfer the tax information from the IRS into the FAFSA
5. Check your FAFSA to make sure that the applicable figures populated from the IRS website

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Those who are exempt from and unable to use the IRS Data Retrieval Tool include students and parents who filed separate federal income tax returns for the previous tax year, students and parents whose marital status changed prior to the end of 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 to commit the information, 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 Federal Income Tax Transcript from the IRS. 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 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.

Upon the registration of courses, students will receive an order 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. Please note that if a student is not utilizing financial aid, all payment arrangements need to be made directly with Bisk.

For example:

A student first enrolls in undergraduate online program during the Summer II session, which for the 2017-2018 academic year runs from July 5, 2017 through August 28, 2017. The student submits a 2017-2018 FAFSA and completes an entrance interview and Master Promissory Note for the Direct Loans:

- The Office of Financial Assistance will automatically award the maximum Direct Subsidized/Unsubsidized loans for the full academic year, which in this case will be for Summer II through Spring II sessions, in accordance with the student's grade level. If the student is eligible for a Federal Pell Grant, this will also be automatically applied.
- Disbursements will be scheduled to pay after the add/drop period for each semester.

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- After enrollment and outside sources of aid are confirmed, Villanova University will send disbursement funds directly to the student.
- The student will then receive the funding and submit payment to Bisk for tuition and/or book charges. It is the student's responsibility to remit payment to Bisk.
- If a balance still exists for the semester after the full federal financial aid disbursement has been remitted to Bisk, the student will need to seek additional funding.

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

1. 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.

2. 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.

3. 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.

4. 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.

5. 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

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. For some majors, other averages are required. Please consult the colleges handbooks for specifics. 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 them, then the former full-time student must choose a degree and/or major offered in the College of Professional Studies. 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 nor Credit by Exam) 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)
- 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

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.

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- 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.

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), 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, deportment, 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.

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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, NROTC 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

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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

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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

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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

1. 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.
2. 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.
3. 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. At least half of the requirements for the student's major must be fulfilled at Villanova.

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.

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.* Any additional graduate courses taken while an undergraduate will count toward the undergraduate requirements

and be included in the student's undergraduate record, but it will not be allowed to "transfer" or count toward a subsequent graduate degree.

*In light of its 36 hour master's degree requirement, the Department of Theology and Religious Studies may, with the permission of the Dean of Graduate Studies, allow up to twelve credits to double count.

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, approximately three and one-half weeks after mid-term break (for an exact date, see the academic calendar @ www1.villanova.edu/villanova/provost/calendar.html), 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 under "Withdrawal from a Course" in each college's section of this 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 well being 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

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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

Christine Palus, 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

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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

College of Liberal Arts and Sciences

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.

LEARNING OBJECTIVES

Goal A. 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.

Values Objective: Graduates of the College of Liberal Arts and Sciences will demonstrate their engagement in and commitment to the pursuit of knowledge in a manner conducive to life-long learning.

Knowledge Objective: Graduates of the College of Liberal Arts and Sciences will demonstrate their knowledge of: (1) the fundamental facts, concepts, responsibilities, and modes of inquiry related to their academic majors and professions; and (2) topics of personal and intellectual interest to them, pursued through their choice of elective courses and other means.

Skills Objective: Graduates of the College of Liberal Arts and Sciences will demonstrate the following skills: (1) critical analysis; (2) creative problem solving; and (3) well-developed analytical skills.

Goal B. 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.

Values Objective: Graduates of the College of Liberal Arts and Sciences will demonstrate an appreciation for literacy in all its forms, including the way in which such information is gathered and expressed for the purpose of furthering intellectual discourse.

Values Objective: Graduates of the College of Liberal Arts and Sciences will comprehend the role and importance of scientific and technological literacy.

Knowledge Objective: Graduates of the College of Liberal Arts and Sciences will demonstrate their ability to engage in intellectual discourse with well-developed oral and written communication skills.

Knowledge Objective: Graduates of the College of Liberal Arts and Sciences will demonstrate their understanding of how technical/professional writing is accomplished within their academic majors.

College of Liberal Arts and Sciences

Skills Objective: Graduates of the College of Liberal Arts and Sciences will demonstrate their knowledge of: (1) how to acquire information that promotes the learning experience and the exchange of ideas; (2) appraise the value of such information in the current context; and (3) how to apply proper citation information for these materials.

Goal C. 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.

Values Objective: Graduates of the College of Liberal Arts and Sciences will demonstrate their appreciation of the works produced by intellectual and artistic endeavors, at a level consistent with the requirements of their academic majors and/or their participation in co-curricular cultural activities.

Values Objective: Graduates of the College of Liberal Arts and Sciences will demonstrate interest in international and multicultural issues.

Knowledge Objective: Graduates of the College of Liberal Arts and Sciences will demonstrate their knowledge of the works produced by intellectual and artistic endeavors, at a level consistent with the requirements of their academic majors and/or their participation in co-curricular cultural activities.

Knowledge Objective: Graduates of the College of Liberal Arts and Sciences will demonstrate their comprehension of cultural issues, including how multicultural and international perspectives can be incorporated into their own cognitive framework.

Skills Objective: Graduates of the College of Liberal Arts and Sciences will demonstrate an understanding of other languages, including the ability to communicate (in both oral and written forms) using appropriate grammar and vocabulary in a variety of culturally-authentic and meaningful contexts.

Goal D. The educational program does not simply look to the past, but acknowledges that our world is vibrant and continuously redefined. Thus, we must 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 trained to scrutinize and bring into perspective the relationship of the present day with that of the past.

Values Objective: Graduates of the College of Liberal Arts and Sciences will demonstrate an appreciation of how our historical perspectives are related to modern-day issues.

Knowledge Objective: Graduates of the College of Liberal Arts and Sciences will demonstrate their knowledge of the intellectual, ethical, and spiritual traditions of Western civilization, including Judeo-Christian, Catholic, and Augustinian traditions and the values and moral principles inherent in them.

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

Values Objective: Consistent with their attainment of intellectual goals, Graduates of the College of Liberal Arts and Sciences will (1) treat others with compassion, civility, and respect; (2) demonstrate their acceptance of individual, cultural, social, and ideological differences; (3) accept the responsibilities of community membership; and (4) demonstrate respect for the natural environment.

Knowledge Objective: Graduates of the College of Liberal Arts and Sciences will demonstrate their knowledge of how major Western ethical traditions (especially those influenced by Jewish and Christian perspectives) apply to selected contemporary ethical problems.

Knowledge Objective: Graduates of the College of Liberal Arts and Sciences will demonstrate their knowledge of ethical practices within their academic majors.

Skills Objective: Graduates of the College of Liberal Arts and Sciences will (1) manage conflicts productively; (2) work together to accomplish common goals and further the common good; and (3) motivate and coordinate the efforts of others to work toward common goals.

Goal F. 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.

Values Objective: Graduates of the College of Liberal Arts and Sciences will accept responsibility for the consequences of their own decisions and behavior.

Skills Objective: Graduates of the College of Liberal Arts and Sciences will (1) define a set of personal goals reflective of their values, capabilities, and interests; (2) demonstrate independence and self-direction in personal problem solving and goal attainment, including the ability to find and employ appropriate resources; and (3) establish rewarding relationships within their peer groups.

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, Undergraduate Students

Russell Gardener, Ph.D., Associate Director

Linda Boettcher, M.A., Director of Academic Advising

Andy Bove, M.A., Associate Director of Academic Advising

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Alicia McCumber, Senior Administrative Assistant

Kathleen Moore, Operations Manager

Michael J. Pennington, MHRM, M.Ed., Director for Experiential

Education & Pre-Law Advising Services

Kate Szumanski, M.A., M.S., Director of Professional Development

Ann Trail, Health Professions Advisor, Office for Undergraduate Students

VISION

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

MISSION

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

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

ACADEMIC ADVISING

Linda Boettcher, M.A., Director
Andrew Bove, M.A., Associate Director
Kathleen Matkowski, Administrative Assistant
107 St. Augustine Center for the Liberal Arts
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<http://www1.villanova.edu/villanova/artsci/undergrad/ous/advising.html>

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.

LEADERSHIP AND PROFESSIONAL DEVELOPMENT

Kate Szumanski, M.A., M.S., Director of Professional Development
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Leadership & Professional Development offers programming, mentoring, and courses that enable students to identify their strengths, explore professional and educational possibilities, and develop the skills necessary to prepare them for professional life. Through this process, we empower students to pursue their aspirations.

The Professional Development component provides students with a foundation for learning how their academic knowledge and skills transfer into the professional world. Students work in one-on-one meetings, through workshops, and in 1-credit courses to develop their skills. In the 1-credit *Professional Development* course, students learn a step-by-step professional development process that they will draw on throughout their professional lives.

Additional courses offered to enhance professionalism include *The Legal Profession*, *Professional Communication*, *Networking for Success*, *Social Networking*, and *Introduction to Professional Writing*.

PRE-LAW ADVISING SERVICES

Michael J. Pennington, MHRM, M.Ed., Director for Experiential Education
and Pre-law Advising Services
Charlotte Holmes, Administrative Assistant
107 St. Augustine Center for the Liberal Arts
610-519-3900
<http://www1.villanova.edu/villanova/artsci/undergrad/ous.html>

The Pre-Law Advising Services Director educates students regarding the requisite skills and requirements for a career in law. Students attend workshops and meet with the Director for Experiential Education & Pre-Law Advising Services to ascertain their interests in law, develop their test-taking skills for the LSAT, receive aid in completing law school applications, and evaluate the most suitable law schools. The Director also serves as the advisor to the Pre-Law Society.

PRE-LAW SOCIETY

Michael J. Pennington, MHRM, M.Ed., Advisor
107 St. Augustine Center for the Liberal Arts
610-519-3900
<http://www1.villanova.edu/villanova/artsci/undergrad/ous.html>

The Villanova Pre-Law Society is an undergraduate student organization committed to helping students who are interested in becoming attorneys. The Pre-Law Society has regular meetings throughout the academic year which are open to all Villanova students. Members receive invitations to special events including tours of law schools accredited by the American Bar Association.

INTERNSHIP PROGRAM

Kate Szumanski, Director of Professional Development
Michael J. Pennington, Director for Experiential Education & Pre-law Advising
Charlotte Holmes, Administrative Assistant
107 St. Augustine Center for the Liberal Arts
610-519-4232

The Internship Program provides resources, including: individual meetings, workshops, and other special events, to assist students as they explore experiential education opportunities. Through internships, students refine their career interests, develop

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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, minor, or concentration, or earn general elective credit. Students are required to submit an internship application to seek academic credit for their internship experiences. The application is available on the experiential education website.

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.

UNDECLARED SCIENCE ADVISING

Russell Gardner, Associate Director, Office for Undergraduate Students
107 St. Augustine Center for the Liberal Arts
610-519-3900
<http://www1.villanova.edu/villanova/artsci/undergrad/ous.html>

Undeclared 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 Undeclared 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

Louise Russo, Director
Ann Trail, Advisor
Christine Gadonas, Administrative Assistant
143 Mendel Science Center

610-519-4833

<http://www1.villanova.edu/villanova/artsci/undergrad/resources/health.html>

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. The HPA office works with student leadership in the pre-medical, pre-dental, pre-veterinary, pre-optometry, SPOTS (pre-SLP, PT, OT), pre-physician assistant organizations and Alpha Epsilon Delta, the pre-medical honor society, to develop pre-professional enrichment activities including workshops, networking events, and healthcare-related seminars and colloquia.

THE BACCALAUREATE DEGREE

GENERAL 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 40 courses of three or more credits and two labs (science degrees vary according to major), which include the successful completion of the Core Curriculum, academic major requirements, and free electives
- A cumulative GPA of at least 2.000. (Science students must also have a minimum technical grade point average of at least 2.000)
- At least half of the Core Curriculum requirements must be fulfilled at Villanova University
- At least 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
- A minimum of 122 credit hours
- At least 61 credits must be earned at Villanova University

See the Academic Programs Section of The Enchiridion for detailed information on requirements for each of these degrees, interdisciplinary concentrations, and minors.

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.

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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.

GRADUATION HONORS

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

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

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.

PHI BETA KAPPA

Phi Beta Kappa 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

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knowledge; education that seeks freedom from ignorance, alienation, and inhumanity; education that values intellectual integrity and tolerance over expediency, and breadth of scholarly achievement over specialized expertise.

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

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

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

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

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.

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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, preparing 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 (2 courses)
 - b. Theology and Religious Studies (1 course)
 - c. Philosophy (1 course)
 - d. Ethics (1 course)

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- II. Languages (2 courses)
- III. Mathematics or Statistics (1 course)
- IV. Sciences (MSE) (2 courses with laboratories)
- V. Core Literature and Writing Seminar (CLAWS)* (1 course)
- VI. History* (1 course)
- VII. Social Sciences (2 courses)
- VIII. Fine Arts (1 course)
- IX. Theology and Religious Studies (1 course)

Diversity Requirement

All students must complete two diversity courses.

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

CORE CURRICULUM REQUIREMENTS

I. FOUNDATION COURSES

A. 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, please visit: <http://www.villanova.edu/artsci/vcle/courses.htm>

NOTE: Students are not permitted to drop or withdraw from the Augustine and Culture Seminar (ACS) without academic penalty.

B. THEOLOGY AND RELIGIOUS STUDIES (1 COURSE)

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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.

C. 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.

D. 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.

II. 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 condition under F below.

Students who have their language requirement waived through the proficiency exam or petition for exemption will be required to take two additional free electives.

STUDENTS MAY FULFILL THE CORE CURRICULUM LANGUAGE REQUIREMENT IN ONE OF THE FOLLOWING WAYS:

- A. ADVANCED PLACEMENT EXAMINATION
- B. COMPREHENSIVE EXAMINATION (PROFICIENCY EXAM)
- C. CREDIT BY EXAM
- D. ROMANCE LANGUAGES AND LATIN
- E. IRISH AND CRITICAL LANGUAGES
- F. 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

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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:

<https://sp.artsci.villanova.deansoffice/Lists/CoreCurriculumLanguageRequirement/NewForm.aspx>. 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 and there is a fee of \$80.00 per credit. Arrangements for credit by exam should be made in the Office for Undergraduate Students (SAC 107).

Additional conditions for the credit by exam program are listed at http://www1.villanova.edu/villanova/artsci/undergrad/ous/challenge_exam.html

OPTION D: FOREIGN LANGUAGES USING THE LATIN ALPHABET (ROMANCE LANGUAGES)

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: www1.villanova.edu/villanova/artsci/classical/undergrad/lang_requirements.html

For additional information on Latin or to complete the Latin placement questionnaire, please visit: www1.villanova.edu/villanova/artsci/classical/undergrad/lang_requirements.html

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 six credits and meet five days per week. 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. 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

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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.
- 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 in the Falvey Learning Commons Suite 212 or by phone 610-519-5176.
- Additional questions regarding the Core Language requirement should be addressed to a student's faculty advisor or to the Office for Undergraduate Students (SAC 107).

III. MATHEMATICS OR STATISTICS (1 COURSE)

One course in either mathematics or statistics is required. 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.

IV. SCIENCE (2 SEMESTERS WITH LABORATORY)

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

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

V. SOPHOMORE LITERATURE AND WRITING SEMINAR (1 COURSE)

All students take a thematic literature and writing seminar course typically during their sophomore year. These courses are designated by the appropriate SWS attribute.

VI. 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.

VII. SOCIAL SCIENCES (2 COURSES)

Students 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, or Sociology, which are designated by the appropriate attribute.

VIII. 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. 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.

IX. THEOLOGY AND RELIGIOUS STUDIES (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)

Students take at least two courses designated with a “diversity” attribute. 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 may foster understanding of how individuals are affected within systems of power, oppression and marginalization.

Students are required to select one course in two of the three following areas:

Diversity 1: Courses that focus on non-dominant groups, minority groups, or impoverished groups in the United States; also courses focusing on the experiences of minorities in Western Europe as “marginalized” people.

Diversity 2: Courses that provide a focus on women’s experiences and/or highlight the relationship between gender and culture.

Diversity 3: Courses that provide a focus on the culture, economics, politics or ecology of societies and nations other than those of Europe and the United States.

NOTES:

1. A student may not use a single course to fulfill more than one category of the diversity requirement.
2. The diversity requirement cannot be fulfilled by independent study or a senior thesis.
3. Language courses cannot fulfill the requirement, although literature courses in a foreign language can fulfill the requirement provided they focus on appropriate material.

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4. A student may take a course incorporating community-based learning (such as a Service Learning course), provided that the course has been pre-approved for diversity course credit.
5. 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.

WRITING IN THE CORE CURRICULUM

Writing plays an integral part in the courses offered in the College of Liberal Arts and Sciences. Several of the courses in the Core Curriculum are specifically designed to provide students an opportunity to refine their writing skills. In addition to those courses in the Core Curriculum, many courses offered by individual departments also focus on writing and the development of students' writing skills.

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 the Office for Undergraduate Students (OUS), where the determination on credit is made. Most AP scores for incoming freshman students reach Villanova by mid-July. If the scores are received before first year classes begin, a representative of the Assistant Dean for Undergraduate Student 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 approved credit. All AP/IB scores must be received before completion of 2 semesters to be considered for credit. AP credits appear in the "Transfer Credit" area of the student record.

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Incoming students who have taken AP or International Baccalaureate Higher Level (IB) exams should inform their Academic Advisor and should check with OUS 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 AP tests and scores, and the second is a list of Higher Level IB tests and scores.

Advanced Placement	Score of 3		Score 4 or 5	
	Courses	Cr.	Courses	Cr.
Art History – (13)			AAH 1101 AAH 1102	3 3
Biology – (20)			BIO 2105 BIO 2106	4 4
Calculus AB – (66) or Calculus subgrade (69)			MAT 1500	4
Calculus BC – (68)			MAT 1500 MAT 1505	4 4
Calculus Subgrade – (69)			MAT 1500	4
Chemistry – (25)			CHM 1103 CHM 1104 CHM 1151 CHM 1152	1 1 4 4
Chinese Language & Culture– (28)			CHI-1111 CHI-1112	6 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 and Composition – (36) or English Literature & Composition – (37)			ENG 1050	3
French Language and Culture– (48)			FRE 1121 FRE 1122	3 3
Government and Politics: Comparative – (58)			PSC 1300	3

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Government and Politics: United States – (57)		PSC 1100	3
Environmental Science (40)		GEV 1052	3
History, European – (43)		HIS 1021	3
History, U.S. – (07)		HIS 1002 or HIS 1003	3
History, World – (93)		HIS 1040 or HIS 1050	3
Human Geography – (53)		GEV 1002	3
Italian language and 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) or Spanish Literature and Culture (89)		SPA 1121 SPA 1122	3 3
Statistics – (90)		MAT 1230	3

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**INTERNATIONAL BACCALAUREATE CREDIT AND
Course Equivalence**
NOTE: CREDIT IS ONLY GIVEN FOR HIGHER LEVEL EXAMS

SUBJECT	SCORE OF 5	CR	SCORE OF 6 OR 7	CR
ANTHROPOLOGY			SOC 2100	3
BIOLOGY			BIO 2105, BIO 2106	8
CHEMISTRY			CHM 1103, CHM 1104 CHM 1151, CHM 1152	1 OR 4
COMPUTER SCIENCE HL	CSC 1051	4	CSC 1051	4
INFORMATION TECHNOLOGY	CSC 1030	3	CSC 1030	3
ECONOMICS	ECO 1001, ECO 1002	6	ECO 1001, ECO 1002	6
ENGLISH	ENG 1050	3	ENG 1050	3
FRENCH A2 OR B		0	FRE 1121, FRE 1122	6
GEOGRAPHY	GEV 1002	3	GEV 1002	3
HISTORY AMERICAS		0	HIS 4495	3
HISTORY EUROPE		0	HIS 1021	3
ITALIAN A2 OR B		0	ITA 1121, ITA 1122	6
LATIN	PLACEMENT	0	LAT 1121, LAT 1122	6
MATHEMATICS			MAT 1500	4
MATH FURTHER	MAT 1500	4	MAT 1500, MAT 1505	8
MUSIC			SAR 3030	3
PHILOSOPHY		0	PHI 2990	3
PHYSICS			PHY 2410/11, PHY 2412/13	8
PSYCHOLOGY			PSY 1000	3
SPANISH A2 OR B			SPA 1121, SPA 1122	6

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.

TYPE OF STUDENT	NO AP Calculus	AP Calculus
Undeclared Arts	MAT 1220 MAT 1230 CSC 1300 MAT 1310 MAT 1320 MAT 1400 MAT 1430 MAT 1500	MAT 1505 MAT 4310 CSC 1300 MAT 2500 MAT 2600 MAT 2705
Undeclared Arts who are considering a Business Minor	MAT 1230/1235 VSB 2005 + calc MAT 1430 + calc BIO 3105 + calc	MAT 4310 MAT 1430
Students who are considering transferring to VSB	MAT1400 MAT 1430	MAT 1430
Undeclared Arts who are considering majoring in Economics <i>Note: ECO <u>Minor</u> only requires Calculus</i>	MAT 1400 MAT 1430 or any Calculus* or any Statistics*	MAT 1430 MAT 2500 MAT 2600 MAT 2705
Undeclared Arts who are considering majoring in Math	MAT 1500/1505	MAT 1505 MAT 4310 MAT 2500 MAT 2600 MAT 2705
Undeclared Science	Student should speak with science advisor.	
Pre-med	Student should contact Louise Russo MAT 1310/1315 is usual requirement.	
Arts Student in Naval ROTC	MAT 1310/1315 MAT 1320/1325 MAT 1500/1505	MAT1505 MAT 4310 MAT 2500 MAT 2600 MAT 2705

ACADEMIC POLICIES AND PROCEDURES

It is the responsibility of students to know and to comply with the academic regulations of the University and their individual colleges. For more detailed information concerning the College's policies see the Undergraduate Handbook, the *Enchiridion*, on the College's Web site:

<http://www1.villanova.edu/villanova/artsci/undergrad/enchiridion.html>

Please note: the College incorporates all University policy and procedures outlined in the University Catalog in addition to those outlined as specific College policies. More information on all College policies and procedures may be obtained in the Office for Undergraduate Students (SAC 107).

The Registrar's Office (Tolentine Hall 202, 610-519-4030) is responsible for registration processes; course and student records, transcripts, and enrollment reports; and other similar documents. Any changes in a student's personal data such as permanent or local address, phone numbers, etc., should be reported to this office.

Academic Bankruptcy

- **Repeat freshman year or the first semester:** 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).
- **Other Circumstances** 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.
- All requests for Academic Bankruptcy are granted at the discretion of the Assistant Dean for Undergraduate Students. Once a course has been bankrupted the action is permanent and cannot be reversed. In no case will tuition be refunded.

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 whose technical courses' quality point average falls

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below 2.00 will also come before the committee. Typically, the student will either be placed on academic probation or dismissed from the College.

- **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 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 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.

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.

Course Overloads

All students in the College of Liberal Arts and Sciences pursuing the Bachelor of Science degree or the Bachelor of Arts degree are required to be a full-time student by taking a minimum of 12 credit hours (four courses of three credits or more) each semester. Students who wish to take less than 12 credits a semester must seek approval from their academic advisor and the Associate Dean for Undergraduate Students. *The normal course load each semester for full-time students is five courses of three credits or more (excluding*

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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.

Students with a GPA lower than 3.0 that need to enroll in more than 17 credits a semester in order 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. In these cases, students must *complete and submit* the appropriate Request for Credit Increase form available in the Office for Undergraduate Students prior to their assigned registration day and time. ***In no case will permission be given for a seventh course, or for six courses and associated labs totaling more than 21 credit hours.***

Credit by Exam

To encourage independent study and recognize personal knowledge and mastery of a subject, 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 Web site at

http://www1.villanova.edu/villanova/artsci/undergrad/ous/challenge_exam.html

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.

Double Majors

Applications for 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.

Dropping/Adding Courses

During the first five days of each semester, students are given the option of dropping or adding courses by using their pin number and going online through MyNOVA, or by completing 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 Degrees

Students should reference the dual degree policy adopted by the University for the specific requirements pertaining to dual degrees. A double major does not automatically entitle a student to a second degree.

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.

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 OUS for review by Dr. Joseph Orkwiszewski, Associate Dean for Baccalaureate Studies.

Transfer Credit

For extensive explanations of transfer credit, and internal and external transfer students, please consult the undergraduate student handbook, the *Enchiridion*. In addition, please consult the Office for Undergraduate Students (OUS) in SAC 107.

ACADEMIC PROGRAMS

The following information is designed to give students a brief introduction to the requirements of the various degree programs in the College of Liberal Arts and Sciences. A significant number of courses required for Interdisciplinary Concentrations can fulfill Core Curriculum requirements. Please contact individual departments for additional information about a particular program.

AEROSPACE STUDIES PROGRAM AND MINOR (AIR FORCE ROTC)

Director: Lt. Brett Foster
Department of Aerospace Studies
Saint Joseph's University
Telephone: 610-660-3190
Email: rotc@sju.edu

Air Force Reserve Officer Training Corps participation is available through a cross-enrollment agreement with St. Joseph's University. Participation in a three or four-year program leads to a commission as a Second Lieutenant in the Air Force. Scholarships are available in any major. Additional Details are available in the Liberal Arts and Sciences Special Programs section of the Villanova Catalog.

AFROTC Program: AFROTC objectives are to recruit, select, and retain officer candidates until they are commissioned as second lieutenants in the U.S. Air Force; provide college-level education that qualifies cadets for commissioning in the U.S. Air Force; and develop each cadet's sense of personal integrity, honor, and individual responsibility; enhance knowledge of how the U.S. Air Force serves the national interest; increase understanding of officer professionalism in the U.S. Air Force; and develop potential as a leader and manager.

See the Web site address above for more information.

AFRICANA STUDIES PROGRAM

Program Director: Maghan Keita, Ph.D.

College of Liberal Arts and Sciences

Office Location: 39B Garey Hall

Telephone: 610-519-6964

Website: <http://www1.villanova.edu/villanova/artsci/africana.html>

**MAJOR: Global Interdisciplinary Studies: Africana Studies (GAFR)
(34 credits/12 courses)**

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 Minor is fulfilled by five courses with the AFR attribute for a minimum of 15 credits, of which the following must be included:

- a. AFR 3000: Constructs of Blackness;
- b. one course in either Africana History or Literature;
- c. students may also combine three 1-credit IGR courses to count as one of the undesignated Africana courses;
- d. courses taken as part of a study abroad program may be counted

Africana Studies offers a rich, innovative, and interdisciplinary approach to the study of Africa and its Diaspora communities. Courses are offered in a wide range of disciplines and will vary from semester to semester. Courses that count toward the Minor are identified by the AFR attribute. Credits desired from electives taken by students during Study Abroad will be applied at the discretion of the Director.

Students interested in the Minor should contact the Director of the program, while those interested in the GIS major should contact the Chair of GIS.

See the Web site address above for more information.

ARABIC LANGUAGE AND CULTURAL STUDIES

Program Director: Chiji Akoma, PhD

Office Location: 36 Garey Hall

Telephone: 610-519-6302

Website: <http://www1.villanova.edu/villanova/artsci/global/criticallangs/arabic.html>

Course Description Website:

<http://www1.villanova.edu/villanova/artsci/global/criticallangs/arabic/courses.html>

MINOR (6 courses)

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The minor in Arab Language and Cultural Studies requires six courses. ARB 1111/1112; ARB 1121/1122; and two ARB electives

The Arabic Language and Cultural Studies program offers Arabic language and linguistic study, and classical and modern Arabic 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 the 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 ever known until that time.

Arabic 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.

See the Web site address above for more information.

ARAB AND ISLAMIC STUDIES

Director: Hibba Abugideiri, Ph.D.

Office Location: 430 Saint Augustine Center

Telephone: 610-519-4683

Website: <http://www1.villanova.edu/villanova/artsci/arabislamic.html>

MAJOR (Global Interdisciplinary Studies: Arab and Islamic Studies (GAIS) (35 Credits/11 courses)

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)

1. AIS 4100 Capstone Seminar (1 course, 3 cr.) or the equivalent research seminar from COM, HIS, PSC, or GIS if double majoring in that area;
2. Required courses (2 courses, 6 cr.) from this list: HIS 4041, HIS 4365, PSC 4900, PSC 5900, and THL 5150. Any of these courses not used as a requirement may be counted as an elective;
3. Electives (2 courses, 6 cr.) must come from a list of approved courses in Arab and Islamic Studies, including additional Arabic language courses and study abroad courses. The list of these approved courses appears every semester on the AIS website. Certain

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topics courses listed under departments (ARB, COM, GIS, HIS, HUM, PSC, THL, etc.) with significant content relevant to AIS may also qualify as an elective with the permission of the Director of the Arab and Islamic Studies Program

Arab and Islamic Studies entails an interdisciplinary approach that reflects the complexity of the Arab and Islamic world. The program offers a basic grounding in Arabic language and provides a background for advanced professional studies, as well as careers in government or business in the field.

See the Web site address above for more information.

ART HISTORY

Chair: Marc Gallicchio, Ph.D.

Office Location: 403 Saint Augustine Center

Program Director: Mark Sullivan, Ph.D.

Office Location: 444 Saint Augustine Center

Telephone: 610-519-6933

Website: <http://www1.villanova.edu/villanova/artsci/history/academic-programs/undergrad/arhistory.html>

The Art History major and minor are administered by the Chair of the History Department

MAJOR (33 credits/11 courses)

Required Courses

AAH 1101 History of Western Art, Ancient to Medieval

AAH 1102 Renaissance to Contemporary World

Three courses (surveys, special topics, or seminars), on Art pre-1700

Two courses (surveys, special topics, or seminars), on Art post-1700

One additional upper level elective, from AAH 2000-4999

AAH 4010 Interpreting Art, Methodology Seminar

AAH 5010 Research and Writing, Senior Seminar

One course related to art history or the visual arts in another discipline (Studio Art; Artifacts in History HIS 2309, or other Material Culture course; Chemistry and Art CHM 1058 or Science of Art MSE 2303; Philosophy of Art PHI 2750; Cities of Ancient Greece CLA 2051, or Rome: The Ancient City CLA 2052); or, alternatively, a team-taught interdisciplinary course with one Art History faculty member (GIS; History; Honors; etc).

MINOR (18 credits/6 courses)

1101 Ancient to Medieval Survey OR 1102 Renaissance to Modern Survey Four additional Art History Courses

AAH 4010 Interpreting Art (or another seminar or topics course, above

AAH 3000

Art History Minors must earn at least half (9 credits / 3 courses) at Villanova University.

See the Web site address above for more information.

ASIAN STUDIES PROGRAM

Director: Masako Hamada, Ph.D.

Office: Garey Hall 34B

Telephone: (610) 519-4701

Website: <http://www1.villanova.edu/villanova/artsci/asian.html>

Course Description Website:

<http://www1.villanova.edu/villanova/artsci/asian/academic-programs/courses.html>

MAJOR (Global Interdisciplinary Studies: Asian Studies (GASN) (31 credits/11 courses)

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/5 courses)

Required courses:

5 courses, at least three of which with the ASN attribute to be chosen in consultation with and approved by the Director of the Asian Studies Program. Coursework must be done on more than one Asian country and in more than one discipline. Only language courses above the first-year level may count towards the Minor, and no more than two study abroad courses may count.

Asia is a dynamic world region and its cultures and societies are a complex mix of both ancient traditions and modern ideas. Asian Studies is an interdisciplinary program that helps students understand the diverse histories, politics, economies, cultures, religions, arts and literatures of Asia. Respect for the differences among peoples and cultures flows

naturally from engaged study of the wider world. 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.

The Asian Studies Program offers Villanova undergraduates 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 wellbeing of human life but also prepares them to play their own roles in the Asian Century.

Please see the Website for more information.

ASTROPHYSICS AND PLANETARY SCIENCE

Chair: Edward L. Fitzpatrick, PhD

Office Location: 456A Mendel Science Center

Telephone: 610-519-4820

Website: www.villanova.edu/arts/astronomy/

Course descriptions:

www1.villanova.edu/villanova/arts/astronomy/academic-programs/course_list.html

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)

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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 include: AST 2120-2123, 2133, 2134, 3141-3143, 3162, 4121, 4122; CSC 4630; MAT 1500, 1505, 2500, 2705; PHY 2410-2417, 2601, 2603, 4100, 4200 and 3 additional PHY courses numbered above 3000.

MINOR (24-27 credits):

A minor is open to all students and requires 9 courses and 24–27 credits. Required courses are: AST 2120, 2121, 2122; MAT 1310, 1315 (Calculus I and II) or higher; PHY 1100, 1102 or PHY 2400, 2402 or higher. In addition, two courses from AST 2123, 2133, 2134, 3141, 3142, 3143, and 3162.

See the Web site address above for more information.

BIOCHEMISTRY

Program Co-Directors: Janice Knepper, Ph.D, Jennifer Palenchar, Ph.D

Office Location: G24A Mendel Science Center, 214E Mendel Science Center **Telephone:** 610-519-4840

Program Office: Mendel Science Center 215

Website: <http://www.villanova.edu/artsci/biochem>

Course Description Website:

<http://www1.villanova.edu/villanova/artsci/biochem/academic-programs/undergrad.html>

Acceptance: 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

MAJOR

Required courses: CHM 1000, 1151/1103, 1152/1104, 2211/2201 (or 3211/3201), 2212/2202 (or 3212/3202), 3417, 3514/3503, 4621, 4622, 4623, 4603/4604; BIO 2105, 3351, 4505; MAT 1500/1505 (or 1310/1315); PHY 2410/2411 (or 1100/1101), 2412/2413 (or 1102/1103). In addition, majors must complete one Chemistry elective and one Biology elective from the approved list.

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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.

MINOR (23 credits)

Required courses: BIO 2105, 3351, 4505; CHM 4603/4604, 4621, 4622, 4623; including required prerequisite courses.

Research Opportunities: The Biochemistry program offers two mechanisms for participation in research by undergraduate majors. 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 or Bio 6509, 6609).

See the Web site address above for more information.

BIOLOGY

Chair: John M. Olson, Ph.D.

Office Location: 147 Mendel Science Center

Telephone: 610-519-4832

Website: <http://www1.villanova.edu/villanova/artsci/biology.html>

Course Description Website:

<http://www1.villanova.edu/villanova/artsci/biology/academics/undergrad/courses.html>

MAJOR (37 credits)

Required Courses: Thirty-seven credits (36 for class of 2020 and prior) in Biology, including BIO 2105, 2106, 3351, at least five Biology laboratory courses at the 3000-level and higher and a capstone course BIO 5100. Cognate science requirements include: CHM 1151/1103, 1152/1104, 2211/2201, 2212/2202; MAT 1310 and 1315; PHY 1100/1101 and 1102/1103. At least one course with lab must be chosen from each of the following areas: Ecology/Evolutionary/Population Biology, Organismal Biology, and Cellular/Molecular Biology.

Villanova University

Biology is a broad-based program designed for students interested in the 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.

MINOR (23 credits)

Required Courses: BIO 2105/2106. Additional elective courses from Biology departmental offerings numbered 3000 and higher. These Biology electives must include at least 3 lab science courses

Minors must complete at least 12 of their of their Biology credits at Villanova and achieve a minimum GPA of 2.0

5-Year BS/MS Program in Biology: Five-year double degree program. See “Requirements” under “Academic Programs” on departmental website for details regarding admission, 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.

See the Web site address above for more information.

BUSINESS MINOR

Villanova School of Business

Assistant Director Business Minor Programs: Samantha Wheeler

Telephone: 610-519-5532

Location: The Clay Center at VSB (Bartley Hall 1054)

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.

The **Academic Year Business Minor** is designed for full-time undergraduates enrolled in other Villanova colleges. The traditional year track program typically takes

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students four semesters to complete the minor; required courses are part of the VSB core curriculum and are taken alongside VSB students. The admission process for the program is competitive; students are admitted on a yearly basis after spring semester grades are posted. The deadline for applications is May 1; the application can be found online at www.tinyurl.com/ayminorapp. For program requirements visit businessminor.villanova.edu.

The **Summer Business Institute (SBI)** is a full-time, ten-week accelerated program created exclusively for non-business majors. SBI, using a cohort-based model, is designed to be completed in one summer. The admission process for the program is competitive; students are admitted on a rolling basis from December 15 - April 15. The application can be found online at www.tinyurl.com/sbiapp. For program requirements visit www.business.villanova.edu/sbi.

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.

CHEMISTRY

Chair: Wm. Scott Kassel, Ph.D.

Office Location: 215A Mendel Science Center

Telephone: 610-519-4840

Website: <http://www1.villanova.edu/villanova/artsci/chemistry.html>

Course Description Website:

http://www1.villanova.edu/villanova/artsci/chemistry/Academic_Programs/undergrad/courses.html

MAJOR (28 courses min)

Required Courses: CHM 1000 (2), 1311/01, 1512/02, 3511/01, 3211/01, 3212/02, 3311/01, 3411/03, 3412/04, 4611; MAT 1500/05; PHY 2410/11 and 2412/13; minimum of two CHM electives and one CHM lab elective. Those students pursuing the Biochemistry Option, a particularly attractive choice for those students considering medical school, have a curriculum identical to the above but with 4611 and one CHM elective replaced by CHM 4621/4603/4622/4604, and three semesters of Biology (BIO 2105/6 and a molecular based biology course).

Villanova University

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.

MINOR

To complete the Chemistry minor, students should complete a year of general chemistry, a year of organic chemistry, and then three additional chemistry courses, two having associated laboratories. All course prerequisites and co-requisites apply¹. *Biochemistry majors* need to complete 2 CHM courses at the 3000 level or above that are *not otherwise required for the biochemistry degree* to fulfill the requirements for the Chemistry minor. 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 at http://www1.villanova.edu/villanova/artsci/chemistry/Academic_Programs/undergrad/minor.html

See the Web site address above for more information.

CHINESE LANGUAGE AND CULTURAL STUDIES

Program Director: Chiji Akoma, Ph.D.

Office Location: 36 Garey Hall

Telephone: 610-519-6302

Website: <http://www1.villanova.edu/villanova/artsci/global/criticallangs/chinese.html>

Course Description Website:

<http://www1.villanova.edu/villanova/artsci/global/criticallangs/chinese/coursedescription.html>

MINOR (6 courses)

The minor in Chinese Language and Cultural Studies requires six courses. CHI 1111/1112; CHI 1121/1122; and two CHI electives.

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.

College of Liberal Arts and Sciences

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.

See the Web site address above for more information.

CLASSICAL STUDIES

Program Director: Valentina DeNardis, Ph.D.

Office Location: 304 Saint Augustine Center

Telephone: 610-519-6165

Website: <https://www1.villanova.edu/villanova/arts/ci/classical.html>

Course Description Website: www1.villanova.edu/villanova/arts/ci/classical/courses/

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, literature, history, art and archaeology, philosophy and religion. The program offers courses which may satisfy certain requirements for the Core Curriculum of the College of Liberal Arts and Sciences.

MAJOR (30 credits)

A major in Classical Studies requires a minimum of 10 courses in a combination of courses in the classical languages and courses in English on classical civilization. One of the 10 courses must be the Senior Classics Capstone (CLA/LAT/GRK 6001), to be taken in the fall of the senior year.

Students may choose one of three concentrations:

Latin: 8 Latin Courses and 2 Civilization Courses

Classical Languages: 4 Latin courses (intermediate and above), 4 Greek Courses (any level), and 2 Civilization Courses

Classical Civilization: 2 Latin or Greek Courses, 8 Civilization Courses

MINOR (18 credits)

A minor in Classical Studies requires a minimum of 6 courses in one of two concentrations:

Classical Languages: 4 Latin or Greek Courses and 2 Civilization Courses

Classical Civilization: 6 Civilization Courses (language not required)

Note: In the Classical Civilization major or minor, students may replace civilization courses with Latin or Greek courses.

Five Year B.A./M.A. Program: The five year 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 toward both their undergraduate and graduate degree.

See the Web site address above for more information.

COGNITIVE AND BEHAVIORAL NEUROSCIENCE

Chair: Thomas C. Toppino, Ph.D.

Office Location: 334 Tolentine Hall

Telephone: 610-519-4722

Website:

<http://www1.villanova.edu/villanova/artsci/psychology/AcademicPrograms/UndergraduatePrograms/neuro.html>

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.

Acceptance: 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 to 70 credits)

Required Courses: PSY 2000, PSY 2050, PSY 4200, PSY 4500, CBN 4000,

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CBN 4100, CBN 5000, BIO 3351. In addition, students select any four courses from approved offerings in four categories: Research, Behavioral/Psychological Science, Biological/Life Science, and Cognitive Science. Finally, students must complete general science requirements: BIO 2105, BIO 2106, CHM 1151/1103, CHM 1152/1104, PSY 1000 or PSY 1001; also, MAT 1500 & MAT 1505, or MAT 1312 & MAT 1314.

COGNITIVE SCIENCE

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

Office Location: 252 Tolentine Hall

Telephone: 610-579-7464

Website: <http://www.villanova.edu/artsci/cogsci>

Course Description Website:

<http://www1.villanova.edu/villanova/artsci/cogsci/undergrad.html>

MINOR (15 credits)

To complete a minor in Cognitive Science students must take 5 courses for a total of 15 credits, including;

Two required courses chosen from the following three options:

1. PHI 4610 – Philosophy of Mind
2. PSY 4500 – Cognitive Psychology
3. CSC 4500 Artificial Intelligence OR CSC 4510 OR MSE 2400

Plus three electives from the list of approved Cognitive Science courses which can be found at

<http://www1.villanova.edu/villanova/artsci/cogsci/undergrad/minor.html>

A student's five courses must include at least one approved course from three of the following departments: Biology, Cognitive Science, Computing Sciences, Electrical and Computer Engineering, Languages, Philosophy, and Psychological and Brain Science.

CONCENTRATION (21 credits)

To complete a concentration in Cognitive Science students must complete 7 courses for a total of 21 credits including:

CSC 1051 - Algorithms & Data Structures I

CSC 4500 - Artificial Intelligence OR CSC 4510 - Machine Learning

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OR MSE 2400

PHI 4610 - Philosophy of Mind

PSY 4500 - Cognitive Psychology

CGS 5900 - Cognitive Science Seminar

Plus two electives from the list of approved Cognitive Science courses which can be found at

<http://www1.villanova.edu/villanova/artsci/cogsci/undergrad/concentration.html>

See the Web site address above for more information.

COMMUNICATION

Chair: Heidi Rose, Ph.D.

Office Location: 28 Garey Hall

Telephone: 610-519-4750

Website: <http://www1.villanova.edu/villanova/artsci/communication.html>

Course Descriptions:

<http://www1.villanova.edu/villanova/artsci/communication/academic/undergrad/currentcourses.html>

Acceptance: Acceptance: (COM 1000 and COM 1100) and a minimum GPA of 2.5 are required to declare the major.

MAJOR (36 credit hours)

COM 1000 and COM 1100 are entry-level required courses and should be taken in the freshman and/or sophomore years. Theories classes (2000-level) may be taken at any time, and are prerequisites for the 3000-level courses. Students who plan to study abroad should take COM 1000, 1100, and at least one 2000-level course before going abroad. The research methods courses, COM 4001 and COM 4002, should be taken in the junior year or prior to taking the required capstone, COM 5050 (senior year).

After enrolling in COM 1000 and 1100, and declaring the Communication major, students will consult their academic advisers and choose either to design their own major specialization or will choose one (or more) of the following specializations: Public Relations, Journalism, Organizational Communication, Media Studies, Media Production, Rhetorical Studies, Performance Studies, and

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Interpersonal Communication. Based upon the selection of specialization, students will take two (2) courses at the Theory (2000) level and five (5) courses at the Advanced Topics (3000) level (from at least three different specializations). A complete listing of specialization requirements and courses is available on the departmental Web page or in the departmental office.

Note: 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.

MINOR (15 credits)

COM 1000 plus any four courses from the major course offerings. Students wishing to take an Internship must complete four Communication classes prior to applying for an internship. For details on specific minors created for non-COM majors in the College of Liberal Arts and Sciences, consult the departmental Web site.

See the Web site address above for more information.

COMPREHENSIVE SCIENCE

Director: Robert Styer, Ph.D.

Office Location: 347 Mendel Science Center (in Physics Dept Office)

Telephone: 610-519-4862

Website: <http://www1.villanova.edu/villanova/artsci/compsci.html>

Course Description Website:

<http://www1.villanova.edu/villanova/artsci/compsci/courses.html>

The Comprehensive Science program is designed to allow students interested in the physical and life sciences to get a broad based and thorough exposure to a full spectrum of scientific concerns and practices. The information provided here is a basic outline of the comprehensive science requirements. The elective courses taken may vary based upon special interest or concentrations selected by the student.

MAJOR:

Required Courses: BIO 2105, BIO 2106, CHM 1151, CHM 1103, CHM 1152, CHM 1104, CSC 1051, MAT 1500 (or equivalent), MAT 1505, two semesters of a science major level physics with labs, one semester of a science major level statistics, one additional Mathematics course selected from (MAT 2500, MAT 2705, MAT 4315, MAT 1314, or

CSC 1300), and one science major level capstone course or approved equivalent. Additionally, students must complete at least six (6) approved science electives chosen in consultation with the student's advisor or the program director.

The degree program allows for students to design a concentration in a particular discipline or an interdisciplinary field. Some sample concentrations include: Bio-Chemistry, Biology, Chemistry, Cognitive Science, Environmental Science, Pre-Dental, Mathematics, Pre-Medical, Physics, Pre-Optometry, etc.

See the Web site above for more information.

COMPUTING SCIENCES (COMPUTER SCIENCE)

Chair: Lillian Cassel, PhD

Office Location: 161 Mendel Science Center

Telephone: 610-519-7307

Website: csc.villanova.edu

Course Description Website: csc.villanova.edu/academics/courses

MAJOR (16 courses)

16 courses in computer science, MAT 1500, MAT 1505, plus 15 credits in science or mathematics including a year sequence in science for science majors with associated laboratories. Required courses include CSC 1051, 1052, 1300, 1700, 1800, 2053, 2300, 2400, 2405, 4170, 4480, 4700, 4790, and three computer science electives

Students majoring in computer science explore a broad spectrum of computing technologies and concepts. The courses provide a thorough foundation in the principles and practices of computing, preparing graduates for productive careers or further study. This program integrates concepts of software engineering as well as the theoretical foundations of the discipline. The program develops the total person, one with intellectual curiosity, mature judgment, a thirst for life-long learning, and a commitment to the betterment of society.

MINOR: Computer Science (8 courses)

Required courses include CSC 1051, 1052, 1300, 1700, 2400, 4480, and two computer science electives. The minor provides the opportunity for students in other majors to learn about computing in context and to understand the foundations of computational

thinking as an effective problem solving strategy.

MINOR: Information Science (7 courses)

Required courses include CSC 1051, 1052, 1300, 2500, 3400, and two computer science electives. The minor focuses on the acquisition, representation, storage, indexing, manipulation, retrieval, and management of information in all its forms — text, audio, video, image, animation, and hypermedia.

MINOR: Information Systems (5 courses)

Required courses include CSC 1051, MIS 2030 or CSC 4480, MIS 2040 or CSC 4700, and two information systems electives. The minor is designed for students who want a formal grounding in the management of information and want to understand the information demands on business and society.

MINOR: Media and Technology (7 courses)

Required courses include CSC 2020, CSC 2025, COM 2340, COM 3352 and three electives selected from a list of approved courses. The minor is designed to provide students instruction in information technology, computer programming relevant to media studies, digital media production, project management, and computing ethics. The goal is to produce students who are active, critical, and ethical users and producers of digital technology and who understand the current and potential roles of media and technology in society.

Certificate in Fluency in Information Technology (FIT) (4 courses)

Required courses include CSC 1035, CSC 4797 and two computer science electives. The FIT certificate provides a fundamental understanding of the computing technologies of the 21st century. It prepares students for general understanding of the technologies that will greatly influence the way they live and work, and the ties that understanding to their chosen major field of study.

See the Web site address above for more information.

CRIMINOLOGY

Director: Thomas M. Arvanites, Ph.D.

Office Location: 204 Saint Augustine Center

Telephone: 610-519-4774

Web site: <http://www.villanova.edu/villanova/artsci/sociology.html>

Course descriptions:

<http://www1.villanova.edu/villanova/artsoci/sociology/undergrad.html>

Acceptance: A student must have completed Introduction to Criminology (CRM 1001) with a minimum grade of “C+” or higher or have a minimum GPA of 3.0.

MAJOR (33 credits/11 courses)

The major in Criminology requires the completion of 11 courses (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 department chair, provided the student has at least 15 credits toward the major.

Required Courses: CRM 1001, CRM 5100, CRM 6500, plus SOC 5300 and SOC 5400. Students must also take five criminology electives and one sociology elective.

MINOR (15 Credits/5 courses)

The minor in Criminology requires the completion of 15 credits, including CRM 1001 and four other Criminology courses from the departmental offerings. No course toward the minor may be taken S/U, and no more than one course transferred from another university will be accepted. Minors cannot receive Criminology credit for an internship. The student must inform the chair of his or her intention to minor and request certification of the minor when it has been completed.

The Criminology major is an interdisciplinary program designed to provide students with an understanding of the causes, social functions, nature and application of, and societal reaction to criminal law. Rather than a technical program which focuses on applied skills, our program emphasizes the justice component.

See the Web site address above for more information.

CULTURAL STUDIES PROGRAM

Program Director: Karyn Hollis, Ph.D.

Office Location: 458 Saint Augustine Center

Telephone: 610-519-7872

Website: <http://www.culturalstudies.villanova.edu>

Course Description Website:

<http://www1.villanova.edu/villanova/artsci/culturalstudies/programs/major.html>

**MAJOR (Global Interdisciplinary Studies: Cultural Studies (GCST)
(34 Credits/12 courses)**

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

Cultural Studies (CST) is one of the newer interdisciplinary programs at Villanova. It benefits students by providing a specific understanding of the global cultural phenomena and practices. Because of its theoretical and interdisciplinary nature the program is an ideal complementary major to other area studies and to disciplinary majors in the humanities and social sciences. The CST major will give students an edge to compete in increasingly theory centered graduate programs and will prepare them for working in the publishing industry, journalism, media, or with NGO's, foundations, and other global organizations.

ECONOMICS

Chair: Peter Zaleski, Ph.D.

Office Location: 2014 Bartley Hall

Telephone: 610-519-4370

Website: <http://www1.villanova.edu/villanova/artsci/eca.html>

Acceptance: A minimum GPA of 2.5 and a minimum grade of B- in ECO 1001 & 1002 are required to declare the economics major.

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 (30 credits/10 courses – excluding MAT requirements)

Required Courses: MAT 1400 (or MAT 1320 or equivalent), MAT 1430 (Alternatively MAT 1230, and MAT 1235), ECO 1001, ECO 1002, ECO 2101, ECO 2102, ECO 3137, ECO 4132 plus four economics elective at 3000 or higher.

Students in the College of Liberal Arts and Sciences who specialize in Economics earn the degree of Bachelor of Arts in Economics. Students may receive a Specialization certificate by choosing to specialize in one of the following areas (Business Economics, Global Economics, Human Resource Economics, or Pre-Law) by taking, as part of their 12 elective credits, three courses within their specialty and focusing their seminar paper (ECO 4132) on that specialty area.

MINOR (18 credits/6 courses – excluding MAT requirements)

Required Courses: MAT 1400 (or MAT 1320 or equivalent), ECO 1001, ECO 1002, ECO 2101, ECO 2102, and two economics electives at 3000 or higher.

For a list of economics courses, please see the Economics listing in the catalog for the Villanova School of Business.

See the Web site address above for more information.

EDUCATION AND COUNSELING

Chair: Christopher Schmidt, Ph.D.

Office Location: 302 Saint Augustine Center

Telephone: 610-519-4620

Web site: <http://www1.villanova.edu/villanova/artsci/education.html>

Course Descriptions: <http://www1.villanova.edu/villanova/artsci/education/courses.html>

Acceptance: 2.8 GPA minimum, 6 credits in English and 6 credits in math, 2 letter of recommendation and an essay. Secondary Certification candidates apply the first semester of their sophomore year. For details refer to the Undergraduate Student Handbook.

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MAJOR:

In addition to the teaching subject area requirements described in the sequence charts that can be obtained at our office, Secondary Education majors are required to earn a total of 30 credit hours in Education courses. These are: EDU 2201 or 2202, 2300, 3251, 3263, 4245, 4290, 4292, 4298 and an appropriate teaching methods course. The coursework includes a full time student teaching experience which is open only to students in their senior year who have completed all education and all of the subject matter courses in their field of specialization.

MINORS:

A minor in Education does not lead to teacher certification but exposes students to the field of education. The Minor in Education requires 15 credits and includes EDU 2202, 3251, 3263, and 4290 and an additional three credits must be earned from among the following: EDU 2201, 2300, 3254, 3258, 3260, 3262, 3265, 3266, 4301. The minor in Educational Policy and Leadership requires 15 credits and includes EDU 2300, 3253, 3263 or the graduate equivalent course. Two elective courses may be selected from EDU 3264, 4245, 4289, 8656, 8669 or an education topics course.

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. Students interested in declaring the counseling minor must have a minimum GPA of 3.0 and complete six approved 3-credit courses (COU 2000, 3000, 3100, 3700, 3400, PSY 3200).

NOTE: *In addition to the Education major, it is recommended that students earn a second major in their teaching content subject area. Education majors may earn a double major in Education and a content subject area (i.e., Communication, English, Foreign Languages, History, Mathematics and Political Science). Education majors must come to the Department each semester for advising.*

See the Web site address above for more information.

ENGLISH

Chair: Heather Hicks, Ph.D.

Office Location: 402 Saint Augustine Center

Villanova University

Telephone: 610-519-4630

Website: <http://www.villanova.edu/arts/eng>

Course Description Website:

<http://www1.villanova.edu/villanova/arts/eng/undergraduate/majorinenglish.html>

MAJOR (33 credits)

Required Courses: 2250, 5000, four courses in historical fields

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.

MINOR (15 credits)

Required Courses:

- At least one course in Brit/Irish Lit. (mostly 3000-range)
- At least one course in Amer. Lit. (mostly 4000-range)
- Three electives from English courses 2000 and above

See the Web site address above for more information.

ENVIRONMENTAL SCIENCE AND STUDIES

Chair: Francis A. Galgano, Ph.D.

Office Location: G67 Mendel Science Center

Telephone: 610-519-3337

Website: <http://www1.villanova.edu/villanova/arts/geoenv.html>

Course Description Website:

<http://www1.villanova.edu/villanova/arts/geoenv/academicprograms.html>

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Acceptance: All majors and minors require a minimum GPA of 2.50 as a pre-requisite for declaring. Declaration of a minor also requires the permission of the Department Chair.

MAJOR: Environmental Science (BS) (132 credits/40 courses)

Required Courses: GEV 1050, 1051, 1750, 2310, 4700, 4310, 6200, 6005, 2 environmental lab courses and 4 science and technology courses; GEV 3300, CHM 1151, PHY 1100, MAT 1500, and two policy and management courses. An interdisciplinary major that focuses on the study of environmental processes and the solution of environmental problems. Environmental Science provides an integrated, quantitative, and interdisciplinary approach to the study of environmental systems.

MAJOR: Environmental Studies (BA) (128 credits/40 courses)

Required Courses: GEV 1050, 1051, 1750, 2310, 4700, 4310, 6200 and 6005; GEV 3300, CHM 1151, PHI 2121, 2 policy and management courses, 4 science and technology courses, and 2 environmental social science and humanities courses. Interdisciplinary major that systematically examines human interaction with the environment. Focuses on science and policy, and associated subjects, such as: politics, law, economics, sociology, planning, pollution control, and natural resources.

MINOR: Minor in Sustainability Studies (18-20 credits/6 courses)

Required Courses: Required course: GEV 3001 (3 cr.), which will replace one course from either the Humanities or Policy Stem. Select two courses from each of the three stems: Humanities, Policy and Management, and Science and Technology. Students may count 1 course from their major or a relevant MSE courses toward the minor

An interdisciplinary minor that examines ways to limit actions that adversely affect the environment including: improved utilization of natural resources; options for social, economic, cultural development; role of Science; role of Engineering; role of business; role of Government; and the role of People.

All environmental majors will, along with their environmental studies, participate in a full suite of geo-spatial information science courses, such Geographic Information Systems, Remote Sensing, and GPS.

ETHICS

Program Director: Mark Doorley, Ph.D.

Associate Director: Brett Wilmot, Ph.D.

Office Location: 104 Saint Augustine Center

Telephone: 610-519-4692

Website: <http://www1.villanova.edu/villanova/artsci/ethics.html>

Course Description Website:

<http://www1.villanova.edu/villanova/artsci/ethics/programs/catalog.html>

Acceptance: All students wishing to declare a minor or concentration must have taken ETH 2050. Those students wishing to pursue a minor must have earned a “B” or higher in the course, students wishing to pursue a concentration must have earned a “C” or higher in the course.

MINOR (4 courses)

Required Courses: Two of the 4 required courses must be in philosophical ethics and two in theological ethics. An e-portfolio is also required for the minor, to be completed in the spring of one’s last year at Villanova; this e-portfolio consists of written work that is representative of the student’s development as a thinker across the courses taken for the minor

CONCENTRATION (5 courses)

Each student in the concentration selects one of four tracks: Ethics and Health Care; Ethics, Politics, and Law; Ethics, Economics, and Public Policy; or Ethics, Science, Technology, and the Environment.

Required courses: Track I (Ethics and Healthcare) PHI 2115 OR PHI 4125 OR PHI 2117 AND THL 4200; Track II (Ethics, Politics and Law) PHI 2300 OR 2400 and PJ 2250 OR PJ 5100; Track III (Ethics, Economics and Public Policy) PHI 2450/PJ 2600 OR THL 4320 AND PJ 5200/SOC 2950 OR ECO 4200; Track IV (Ethics, Science, Technology and the Environment) PJ 2200 OR PHI 2121 AND HIS 2276 OR HIS 4527. Each student must take two elective courses in their track; electives are specified on the program website.

All students must take ETH 4000 Integrating Seminar, the capstone of the concentration.

Students are required to complete 100 hours of service related to the track they choose; up to 40 hours of previous service while in college can be counted toward the 100 hours. The student, in conjunction with the associate director, will arrange and design the

service with the goal of enhancing comprehension of applied ethical issues in the track selected by the student.

FRENCH AND FRANCOPHONE STUDIES

Chair of the Department of Romance Languages and Literature:

Carmen Peraita, Ph.D.

Program Coordinator: Etienne Achille, Ph.D.

Office Location: 303 Saint Augustine Center

Telephone: 610-519-7478

Website:

<http://www1.villanova.edu/villanova/artsci/romancelanglit/academics/frenchstudies.html>

Course Description Website:

<http://www1.villanova.edu/villanova/artsci/romancelanglit/academics/frenchstudies/coursedescriptions.html>

MAJOR (31 credits above the intermediate level)

The required courses are: FFS 1138 Advanced Grammar **OR** FFS 1140 Writing and Stylistics; FFS 2220 Literature and Culture of France **OR** FFS 2221 Literature and Culture in the Francophone World; FFS 3971 -Directed Research in FFS. One RLL course taught in English with FFS designation may be counted for the major but not the minor.

MINOR (4 courses above the intermediate level)

Students are encouraged to take FFS 1131 (Conversation and composition I), FFS 1132 (Conversation and Composition II), FFS 2220 Literature and Culture of France, or FFS 2221 Literature and Culture of the Francophone World, and an upper-level course (3000) of their choice.

Once a sequence of language courses has begun, a student may not revert to a lower-level course. Students may obtain up to six credits for the major or minor through the Villanova summer program, or up to 9 credits through the semester program abroad in France.

GENDER AND WOMEN'S STUDIES

Co-Directors: Catherine Kerrison, Ph.D. and Shauna MacDonald, Ph.D.

Office Location: 488 Saint Augustine Center

Email: GWS@Villanova.edu

Website: www1.villanova.edu/villanova/artsci/gws

Course Description Website:

<http://www1.villanova.edu/villanova/artsci/gws/academics/coursecatalog.html>

MAJOR: Gender and Women's Studies (GWS) (30 credits/10 courses)

Required Courses: GIS 2000: Introduction to Global Interdisciplinary Studies; GWS 2050: Gender and the World; GWS 3000: Research Seminar in Feminist Theory and Methodology; GWS 5000: Capstone Seminar; six electives with the GWS attribute, one of which should be a GIS-GWS team-taught Select Course and may include GIS 6500 GIS Capstone 1 (at the discretion of the Director). Possible courses include: COM 3341, 3406; ENG 2300; HIS 2296, 3360; NUR 4800; PHI 4900; PJ 2800; PSC 2700; PSY 3000; SOC 2300, 3500; THL 5850; or other course with GWS attribute.

MINOR (18 credits)

Required courses: GWS 2050 and 5000

Elective courses for the program may be taken in a variety of departments. Electives must be designated with the GWS attribute on the Master Schedule and/or be approved by the GWS Director for academics.

Gender and Women's Studies is an interdisciplinary field that 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 or minor in GWS can enhance practically any other field of study.

Housed in the department of Global Interdisciplinary Studies, GWS majors are required to take GIS 2000: Introduction to Global Interdisciplinary Studies. GIS 2000 is a pro-seminar that focuses on epistemology and interdisciplinary, theoretical approaches to global studies. The course also introduces students to the various interdisciplinary area and thematic studies in the department.

See the Web site address above for more information.

GEOGRAPHY

Chair: Francis A. Galgano, Ph.D.

Office Location: G67 Mendel Science Center

Telephone: 610-519-3337

Website: <http://www1.villanova.edu/villanova/artsci/geoenv.html>

Course Description Website:

<http://www1.villanova.edu/villanova/artsci/geoenv/academicprograms.html>

Acceptance: Students wishing to declare a Geography major or minor must have the permission of the Department Chair.

MAJOR: Geography (BA) (125 credits/40 courses)

Required Courses: GEV 1002, 1003, 1750, 2500, 4700, 6005, 1 regional elective, and 3 Geography electives. The major also requires a senior research project with a faculty member. Students may elect to complete a one-semester option (6200) or a two-semester option (GEV 6210/6220). Geography is the science that studies human and natural patterns on the Earth's surface and the processes that cause them. Geographers study things such as land features, weather, climate change, natural resources, people, population, culture, and other phenomena. Modern geography is an all-encompassing discipline that seeks to understand the Earth and all of its human and natural complexities. Geographers also leave Villanova equipped with a diverse and marketable array of technical skills such as computer cartography, Geographic Information Systems, Global Positioning Systems, satellite imagery, and remote sensing.

MINOR: Geography (16 credits/5 courses)

Required Courses: GEV 1002 or 1003, 1 regional course, 4700, and 2 elective courses
The Geography minor is designed for students who wish to deepen and/or 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. Students have the opportunity to explore the origins, development, morphology, and processes of natural landscapes, as well as those institutions and cultural, economic, political, and social patterns associated with human development of the landscapes.

See the Web site address above for more information.

GLOBAL INTERDISCIPLINARY STUDIES (GIS)

Chair: Chiji Akoma, Ph.D.

Office Location: 36 Garey Hall

Telephone: 610-519-6302

Website: <http://www1.villanova.edu/villanova/artsci/global.html>

Course Description Website:

<http://www1.villanova.edu/villanova/artsci/global/courses.html>

Acceptance: Students must complete an application and essay as prerequisites to declaring a Global Interdisciplinary Studies major.

MAJOR: Global Interdisciplinary Studies (31-34 credits/11-12 courses and 1 semester of study abroad)

Required Courses: GIS 2000: Introduction to Global Interdisciplinary Studies; 2 GIS team-taught 3-credit courses from GIS 4000 through GIS 6499, one of which counts as the Junior Research Seminar for the major; GIS 6500: Senior Capstone 1: Research; GIS 6600: Senior Capstone 2: Thesis; 1-credit GIS 5000: Special Topics; 1 semester of Study Abroad; and a specialization.

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 out of the seven specializations and design a 15-credit specialization. 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.

GIS: Africana Studies (GAFR)

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

- a. AFR 3000: Constructs of Blackness;
- b. one course in either Africana History or Literature (HIS 2292, 2293; ENG 2501, 2502, 3690, 2530)

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- c. students may also combine three 1-credit IGR courses to count as one of the undesignated Africana courses;
- d. courses taken as part of a study abroad program may be counted;
- e. A GIS Select course with AFR attribute may be counted among the six courses, as long as the two required GIS Select courses (GIS 4000-6499) for the GIS major have been fulfilled.

GIS: Arab and Islamic Studies (GAIS)

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

- a. two courses of Arabic at the intermediate level;
- b. one Political Science course with an AIS attribute;
- c. one History course with an AIS attribute;
- d. one Theology course with an AIS attribute;
- e. courses taken as part of a study abroad program may be counted.

GIS: Asian Studies (GASN)

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

- a. two courses of either Chinese or Japanese at the intermediate level or above;
- b. three non-language courses with the ASN attribute;
- c. courses taken as part of a study abroad program may be counted;
- d. one internship course may be counted.

GIS: Cultural Studies (GCST)

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

- a. CST 2100: Introduction to Cultural Studies;
- b. courses taken as part of a study abroad program may be counted; one internship course may be counted
- c. three Core Courses, one from each of the following three categories:

Representation

- CST 4100: US and Global Pop Culture
- PHI 2750: Philosophy of Art
- PHI 2170-001 Mass Media Ethics
- PHI 2760: Philosophy of Literature
- PHI 4140: Philosophy of Contemporary Music
- PHI 4150: Philosophy and Film

Gender

- PHI 2410: Philosophy of Sex and Love
- PHI 2420: Philosophy of Women
- PHI 2430: Eco-Feminism
- PHI 4900: Feminist Theories

Race

- PJ/PHI: Gender, Race and Class
- PHI 3160: History of Islamic Philosophy
- PHI 2140: Philosophy of Criminal Justice
- ENG 4646: Race & Ethnicity: American Novel

GIS: Irish Studies (GIST)

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

- a. one course of Irish language at the intermediate level or above (IS 1121 or IS 2222);
- b. one literature survey (ENG 2450 or ENG 2500);
- c. one history survey (HIS 3216 or HIS 2286);
- d. two electives with IS attribute
- e. courses taken as part of a study abroad program may be counted;
- f. one internship course may be counted.

GIS: Russian Area Studies (GRAS)

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

- a. two Russian language courses at the intermediate level;
- b. four courses with the RAS attribute for a minimum of 12 credits;
- c. up to two courses taken as part of a study abroad program may be counted.

GIS: Latin American Studies (GLAS)

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

- a. four courses with the LAS attribute (12 credits minimum)
- b. two advanced Spanish courses above 1122 (6 credits)
- c. courses taken as part of a study abroad program may be counted
- d. one internship course may be counted.

The Department of Global Interdisciplinary Studies also offers minors in the following programs:

- a. **Arabic Language and Cultural Studies**
- b. **Chinese Language and Cultural Studies**
- c. **Japanese Language and Cultural Studies**
- d. **Russian Language and Cultural Studies**

Please see their individual pages for requirements

See the Web site address above for more information.

HISTORY

Chair: Marc Gallicchio, Ph.D.

Office Location: 403 Saint Augustine Center

Telephone: 610-519-4662

Website: <http://www1.villanova.edu/villanova/artsci/history.html>

Course Description Website:

<http://www1.villanova.edu/villanova/artsci/history/academic-programs/undergrad.html> /

MAJOR (33 credits)

Required Courses

- One of the specially designated core history courses (HIS 1065-1250)
 - Either HIS 2000, Investigating US History I or HIS 2001, Investigating US History II
 - At least one junior research seminar
 - History 5501 (Seminar in Historical Methodology) or History 5515 (Independent Research)
 - **At least six additional history courses of the student's choice**
 - One art history course in an area that complements one of the ten history courses. This course does not fulfill the core Fine Arts requirement.
- History majors must earn 27 credits in history beyond the specially designated core course. At least 18 credits (6 courses) must be completed at Villanova University.*

MINOR (18 credits)

For students in the College of Liberal Arts and Sciences, the 18 credit hours must include one specially designated core course. One of the following courses may also be taken for credit toward the History minor:

AAH 1101 History of Art: Beginnings to Renaissance

AAH 1102 History of Art: Renaissance to Contemporary World

History Minors must earn at least half (9 credits/3 courses) at Villanova University.

AP Credit Policy

- Students who receive AP credit must still take one of the specially designated core courses in History.
- History credit will be given for scores of 4 or 5 on any exam in U.S., European, or World History.
- AP World History – with score of 4 or 5 on exam: 3 credits for History 1040 or 1050.
- Students will receive a maximum of six (6) credits toward fulfillment of the major's

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requirements; and a maximum of three (3) from elective credits.

-AP US History – with score of 4 or 5 on exam, 3 credits for History 1002 or 1003. (Students who receive AP credit for U.S. History must still take either His 2000 or His 2001).

-AP European History – with score of 4 or 5 on exam, 3 credits for History 1021

HONORS PROGRAM

Program Director: Thomas W. Smith, Ph.D.

Associate Director: Allison Ann Payne, Ph.D.

Office Location: 106 Garey Hall

Telephone: 610-519-4650

Website: <http://www1.villanova.edu/villanova/provost/honors.html>

Course Description Website:

<http://www1.villanova.edu/villanova/provost/honors/academics/courses.html>

Acceptance: 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

Honors Degree, Thesis Track (10 Honors courses)

Requirements: The Humanities Seminar HON 2550, the Social Science Seminar HON 2560, or the Natural Science Seminar, HON 2570; at least 3 upper level Honors courses, which will include a six-credit HON 6000 and HON 6002 senior thesis; minimum 3.33 GPA.

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)

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Requirements: Five courses in Honors, at least two of which must be upper level; minimum 3.33 GPA.

For first- and second-year students, the Program offers Honors seminars in place of the core curriculum introductory courses. The Honors Program also offers upper-level seminars which fulfill degree and minor requirements in specific academic disciplines. All courses are small seminars and have in common active class participation, and intensive writing requirements.

See the Web site address above for more information.

HUMANITIES

Chair: Kevin Hughes, Ph.D.

Office Location: 304 Saint Augustine Center

Telephone: 610-519-6165

Website: <http://www1.villanova.edu/villanova/artsci/humanities.html>

Course Description Website:

<http://www1.villanova.edu/villanova/artsci/humanities/courseofstudy/currentcourses.html>

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: **HUM 2001:** God, **HUM 2002:** Human Person, **HUM 2003:** World, **HUM 2004:** Society. In their final semester students also take the Senior Symposium (**HUM 6500**). Students then take **five free electives**, three of which must be taken within the Department of Humanities.

MINOR (15 credits)

Students take two of the four Gateway courses listed above plus three electives,

two of which must be taken in the Department of Humanities. This makes a total of **five courses** required to complete the minor.

See the Web site address above for more information.

INDIVIDUALLY DESIGNED MAJOR (IDM)

Program Director: Office of the Dean

Office Location: Saint Augustine Center, Room 105

Telephone: 610-519-5969

Acceptance: An intensive proposal and approval process should be initiated no later than the second semester of freshman year. Please see the website for further details.

MAJOR (33 Credits)

An individually designed major (IDM) is motivated by your own learning goals, and guided by a roadmap that you will develop in consultation with faculty. It should not be confused with independent study, wherein a faculty member takes the lead in developing a reading and writing program. Faculty members and the established programs and departments within the College of Liberal Arts and Sciences, will be collaborative resources to pursue a unique course of study, if the established majors are deemed not to provide a pathway to specific goals. The IDM fosters a more explicit pursuit of interdisciplinary study, providing a mechanism to design a major that would intentionally integrate different methodologies, topics, disciplinary cultures, and learning styles.

CENTER FOR IRISH STUDIES

Program Director: Joseph Lennon, Ph.D., Emily C. Riley Director

Office Location: 105E Saint Augustine Center

Telephone: 610-519-4647

Website: Irishstudies.Villanova.edu

Course Description Website:

<http://www1.villanova.edu/villanova/artsci/irishstudies/undergrad.html>

MAJOR (Global Interdisciplinary Studies: Irish Studies (GIIS) (31 Credits/11 courses)

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)

One required English and one required History course are pre-requisites for completing an Irish Studies minor: either ENG 2450 or ENG 2500 and either HIS 2286 or 3216.

Irish Studies explores the history and culture of the Irish people in Ireland and the Irish diaspora from a variety of disciplines—literature, history, theater, art, politics, music, folklore, and economics. A series of two four-credit courses in the Irish language may also be taken for credit and to complete the language requirement for the College of Arts and Sciences. The program is open to students from all colleges and hosts a lively series of readings, lectures, performances, and celebrations. Interested students may also study in Ireland in a Semester Abroad program or through the Villanova Summer in Ireland Program. Details are available through the Irish Studies office.

See the Web site address above for more information.

ITALIAN STUDIES

Chair of the Department of Romance Languages and Literatures:

Carmen Peraita, Ph.D.

Program Coordinator: Luca Cottini, Ph.D.

Office Location: 303 Saint Augustine Center

Telephone: 610-519-3069

Web Site:

<http://www1.villanova.edu/villanova/artsci/romancelanglit/academics/italianstudies.html>

Course Descriptions:

<http://www1.villanova.edu/villanova/artsci/romancelanglit/academics/italianstudies/coursedescriptions.html>

MAJOR (10 courses above the intermediate level)

Majors in Italian must take 10 courses above the intermediate level, nine of which must be conducted in Italian and one RLL course taught in English, provided that the course deals primarily with Italian culture and has the ITA attribute.

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The following courses are required: ITA 1138 Advanced Grammar, or ITA 1140 Writing and Stylistics; ITA 2220 Literature and Culture I, or ITA 2221 Literature and Culture II; and ITA 3970 Research Seminar.

MINOR (4 courses above the intermediate level)

Required courses for the minor include ITA 1131 Conversation and Composition I, and ITA 1132 Conversation and Composition II, and 2 upper level courses.

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

*Majors are strongly encouraged to participate in the Villanova summer or semester program abroad in Urbino.

See the Web site address above for more information.

JAPANESE LANGUAGE AND CULTURAL STUDIES

Program Director: Chiji Akoma, Ph.D.

Office Location: 36 Garey Hall

Telephone: 610-519-6302

Website:

<http://www1.villanova.edu/villanova/arts/global/criticallangs/japanese.html>

Course Description Website:

<http://www1.villanova.edu/villanova/arts/global/criticallangs/japanese/courses.html>

MINOR (6 courses)

The minor in Japanese Language and Cultural Studies requires six courses. JPN 1111/1112; JPN 1121/1122; and two JPN electives.

The Japanese Language and Cultural Studies program offers a variety of courses that cover a multitude of areas of language and cultural study of various aspects of Japan life from traditional to popular culture, society, literature, film, and even culinary culture.

Japanese 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.

See the Web site address above for more information.

LATIN AMERICAN STUDIES

Program Director: Cristina Soriano, Ph.D.

Office Location: 446 Saint Augustine Center

Telephone: 610-519-3290

Website: <http://www.villanova.edu/villanova/artsci/latinamerstudies.html>

MAJOR (Global Interdisciplinary Studies: Latin American Studies (GLAS) (34 Credits/12 courses)

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/6 courses)

Required courses: 6 courses including 4 three-credit electives with the LAS attribute and at least 2 language courses of intermediate Spanish.

See the Web site address above for more information.

LIBERAL ARTS MAJOR

Contact: Susan Jacobs., M.A., Assistant Dean for Undergraduate Students

Office Location: 107 Saint Augustine Center

Telephone: 610-519-3900

MAJOR (30 credits/10 courses)

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: Douglas Norton, Ph.D.

Office Location: 305 Saint Augustine Center

Telephone: 610-519-4850

Website: www.villanova.edu/arts/mathematics

Course Description Website:

<http://www1.villanova.edu/villanova/arts/mathematics/academic-programs/undergrad/ugcatalog.html>

MAJOR (Mathematics) (58 credits/19 classes)

Required Courses: MAT 1500, 1505, 2500, 2600, 2705, 3300, 3400, 3500, and 5900; an approved analysis elective course, e.g. MAT 4270 or 5400, plus four additional mathematics courses numbered 3000 or higher; a two-semester natural science sequence with laboratory, e.g. PHY 2410/2411 and 2412/2413; a third science course, either three credit plus an appropriate lab or four credit, such as CSC 1051. All science courses must be at the science-major level.

MINOR: Mathematics (8 courses)

Pre-requisites for a minor: Students should declare his/her intention in sophomore year by filing an application with the Math Minor coordinator.

Required Courses: MAT 1500, 1505, 2500, plus five courses chosen from MAT 2600, MAT 2705 and MAT courses numbered 3000 or higher. Students may petition to substitute an approved upper division course (e.g. CSC 4170, ECO 3138, PHY 4202, CEE 3705) in his/her major for ONE of these five courses. To graduate with a minor, students must have at least a 2.0 GPA in their Mathematics courses.

MINOR: Statistics (5 courses/15 credits)

Pre-requisites for a minor in Statistics: MAT 1500, MAT 1505, MAT 2500.

Required Courses: MAT 4310, 4315, 5700, plus 2 electives as determined by the department. Check with the Department of Mathematics and Statistics in SAC 305 for additional information.

NOTE: The University offers multiple versions of calculus and of statistics. One cannot receive credit for two similar versions of calculus or statistics without prior approval. Please contact the department for more information.

See the Web site address above for more information.

MILITARY SCIENCE PROGRAM AND MINOR (ARMY ROTC)

Chair: LTC Justin Shaffer, U.S. Army

Office Location: Military Science Building

Web site: <http://www.armyrotc.villanova.edu>

Course Descriptions: <http://www.widener.edu/rotc>

ARMY ROTC PROGRAM: By agreement with Widener University's Department of Military Science, Villanova offers a program of study leading to a commission as a Second Lieutenant in the U.S. Army. Details are found in the Academic Programs Section of the Undergraduate Catalog.

Students can participate in the first two years of Military Science instruction (MS 101, MS 102, MS 201, MS 202) with no obligation to remain in the program or to the Army.

MINOR (18 credits)

Students who successfully complete all military science courses 101 through 402 will earn a minor in military science.

See the Web site address above for more information.

NAVAL SCIENCE PROGRAM AND MINOR (NAVY ROTC)

Chair: Col. Kenneth DeTreux, USMC

Office: 103 John Barry Hall

610-519-7380

Web site: <http://www1.villanova.edu/villanova/artsci/nrotc.html>

Course descriptions:

<http://www1.villanova.edu/villanova/artsci/nrotc/requirements.html>

Eligibility for a commission in the U.S. Navy or the U.S. Marine Corps through the NROTC program is contingent upon successful completion of required university and naval professional courses of study. Courses required by the NROTC program follow:

1. Navy Option: NS 0100, 1000, 1100, 2100, 2200, 3100, 3200, 4100, 4200, plus six credits each of Calculus (completed by end of sophomore year), Physics (completed by the end of junior year), and English (no time requirement), and, three credits each of Cultural Awareness and American Military Affairs (also no time requirement). All courses must be approved by the Naval Science Advisor.

2. Marine Option: NS 0100, 1000, 1100, 3500, 3600, 4100, 4200, and three credits of American Military Affairs, approved by the Marine Option Advisor.

3. Nurse Option: NS 0100, 1000, 1100, 4100, 4200, and six credits of English, approved by Naval Science Advisor.

MINOR:

(Navy Option) NS 0100, 1000, 1100, 2100, 2200, 3100, 3200, 4100, 4200.

(Marine Option) NS 0100, 1000, 1100, 3500, 3600, 4100, 4200.

See the Web site address above for more information.

CENTER FOR PEACE AND JUSTICE EDUCATION

Program Director: Kathryn Getek Soltis, Ph.D.

Office Location: 106 Corr Hall

Telephone: 610-519-6849

Website: <http://www1.villanova.edu/villanova/artsci/peaceandjustice.html>

MAJOR: Peace and Justice Education Major (PJ) (33 credits/11 courses)

Required Courses: GIS 2000: Introduction to Global Interdisciplinary Studies; PJ 2800: Race, Class, and Gender; PJ 2993: Internship; GIS 6500: Capstone 1: Research; GIS 6600: Capstone 2: Thesis; five electives with PJ attribute.

The major in Peace and Justice Studies is offered in collaboration with the Department of Global Interdisciplinary Studies (GIS). To complete the major, students take five required courses (PJ 2800: Race, Class, and Gender; GIS 2000: Intro to Global Interdisciplinary Studies; PJ 2993: Internship; GIS 6500: Senior Capstone 1: Research; GIS 6600: Senior Capstone 2: Thesis) and five elective courses in Peace and Justice, courses with a Peace and Justice attribute, or courses otherwise earning Peace and Justice

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credit. Electives should be determined in consultation with the program director and tailored to the student's field(s) of interest.

MINOR (18 credits/6 courses)

To complete a minor in Peace and Justice, students must take six courses, including one of the foundational courses (PJ 2250: Violence and Justice in the World; PHI 2450: Catholic Social Thought; PJ 2700: Peacemakers and Peacemaking; PJ 2800: Race, Class, and Gender; PJ 2900: Ethical Issues in Peace and Justice) and five other courses in Peace and Justice, courses with a Peace and Justice attribute, or courses otherwise earning Peace and Justice credit. Note: No more than three foundational courses may receive credit for the minor. No more than three 1-credit courses may receive credit for the minor.

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.

See the Web site above for more information.

PHILOSOPHY

Chair: Sally Scholz, Ph.D.

Office Location: 108 Saint Augustine Center

Telephone: 610-519-4690

Web site: <http://www1.villanova.edu/villanova/artsci/philosophy.html>

Course descriptions:

<http://www1.villanova.edu/villanova/artsci/philosophy/academic-programs/courses/undergraduate.html>

The philosophy department offers rigorous 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.

MAJOR (10 courses)

In addition to taking PHI 1000 (Knowledge, Reality, Self), philosophy majors

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take nine additional courses including the history of philosophy sequence (PHI 3020, 3030, and 3040) and a capstone course (PHI 5000 or 6000). With permission of the chair, students may substitute certain upper division electives for the history of philosophy sequence or the capstone course.

Students who are majoring in philosophy may, if they wish, 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 are also encouraged to 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.

See the Web site address above for more information.

PHYSICS

Chair: Michael J. Hones, Ph.D.

Office Location: 347 Mendel Science Center

Telephone: 610-519-4885

Website: <http://www1.villanova.edu/villanova/artsci/physics.html>

Course Description Website:

<http://www1.villanova.edu/villanova/artsci/physics/academic-programs/courses.html>

The Department has both a BA and a BS in Physics. The BA in Physics is for the student who wants to minor in another discipline or is planning employment or graduate studies outside the sciences in fields such as medicine, law, business, journalism, secondary school teaching, etc. Instead of the normal advanced courses in physics, the student uses these slots for the minor in another discipline. The BS in Physics is for the student who wants to be a professional physicist or go to graduate school in physics. Either major **requires 136**

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credits. There is a senior research option.

BA MAJOR : PHY 2410/11, 2412/13, 2414/15, 2416/17, 2601, 2603; 3310/11, 4000/01, 4100, 4200, 4301, 4303 and 5100 plus one PHY elective; CHM 1151/1103 and 1152; MAT 1500, 1505, 2500 and 2705; and three other approved science courses.

BS MAJOR: Requires all the PHY, CHM and MAT courses listed for the BA except for PHY 4303, plus PHY 4002/03, 4102, 4202, 5200 and 5300; one other approved physics elective and one other approved science course.

MINOR: PHY 2410/11, 2412/13, 2414/15, 2416/17, and 15 additional credits of upper level physics courses.

MINOR IN APPLIED PHYSICS FOR MATH MAJORS: MAT 4310, PHY 2410/11, 2412/13, 2414/15, 2416/17, 3310/11 and 4301/03.

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

See the Web site address above for more information.

POLITICAL SCIENCE

Chair: Matthew Kerbel, Ph. D.

Office Location: 202 Saint Augustine Center

Telephone: 610-519-4710

Website: <http://www1.villanova.edu/villanova/artsci/psc.html>

Course Description Website:

<http://www1.villanova.edu/villanova/artsci/psc/courses.html>

MAJOR (33 credits)

Four foundational courses are required: PSC 1100 (American Government); PSC 1200 (International Relations); PSC 1300 (Comparative Politics); and PSC 1400 (Political Theory). Students must also complete a research seminar (PSC 1900) upon declaring the major and the capstone senior seminar (PSC 6900). The senior seminar is restricted to Political Science senior majors. Five elective courses are required and may be taken from

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any upper division focal (2000-level) or specialized (3000-level) offerings. 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. Juniors may apply for the five year BA/MA program.

MINOR (18 credit hours):

Requirements include any two of the four foundational courses (PSC 1100, PSC 1200, PSC 1300, and PSC 1400), plus any four upper division focal (2000-level) or specialized (3000-level) offerings. Courses taken on a satisfactory/unsatisfactory basis cannot be used to satisfy requirements for the minor.

Please see the department website for details about the five year BA/MA program, certificates, and other PSC programs.

PSYCHOLOGY

Chair: Thomas C. Toppino, Ph.D.

Office Location: 334 Tolentine Hall

Telephone: 610-519-4722

Web site: <http://www1.villanova.edu/villanova/artsci/psychology.html>

Course descriptions:

<http://www1.villanova.edu/villanova/artsci/psychology/courses.html>

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.

Acceptance: The Department of Psychological and Brain Sciences offers two majors in psychology, one leading to a Bachelor of Science (B.S.) and the other leading to a Bachelor of Arts (B.A.). To declare either major, students must have completed General Psychology (PSY 1000 or HON 1811) or Introduction to Brain or Behavior (PSY 1001), or have AP credit for General Psychology. In addition, they must have a grade of C+ or higher in PSY 1000 or in PSY 1001, or have an overall minimum GPA of 3.00.

MAJOR (B.S.: 54 credits; B.A.: 31 credits)

Required Courses: For both B.S. and B.A.: PSY 1000 or PSY 1001 or HON 1811, PSY 2000, PSY 2050, PSY 2100, PSY 5150 or PSY 5250. B.S. students select seven additional psychology courses, at least five of which must be foundation courses (3000 and 4000 level courses) including two laboratory courses. B.S. students also must complete five supporting science courses (BIO 2105, BIO 2106, and CSC 1051, and either MAT 1500 and MAT1505 or MAT1312 and MAT1314). B.A. students select six additional psychology courses, at least four of which must be foundation courses (3000 and 4000 level courses) including one laboratory course. Courses taken on a satisfactory/unsatisfactory basis cannot be used to satisfy requirements for the major.

MINOR (15 credits/5 courses):

General Psychology (PSY 1000 or PSY 1001 or HON 1811) plus any combination of four additional 3-credit undergraduate courses in psychology. General Psychology is a pre-requisite for all other courses in psychology. Courses taken on a satisfactory/unsatisfactory basis cannot be used to satisfy requirements for the minor.

See the Web site address above for more information.

PUBLIC ADMINISTRATION

Chair: Dr. Catherine E. Wilson

Office Location: 484 St. Augustine Center for the Liberal Arts

Telephone: 610-519-7851

Web site: www.publicadmin.villanova.edu

Minor in Public Service and Administration (18 credits/6 courses):

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.”

Requirements for the Minor:

The minor in Public Service and Administration requires the completion of 18 credits (6 courses). All students must complete 2 required courses and 4 elective courses. Students must take PA 1050 (Public Administration) and either PA 2000 (Public Policy)

or PA 6000 (Vocation of Public Service) as their two required courses. A maximum of two elective courses may be taken outside the Department of Public Administration. See website (publicadmin.villanova.edu) for list of approved elective courses. Finally, students must include a service learning component in PA 1050. PA 1050 has been designated as optional service learning by the College of Liberal Arts and Sciences.

RUSSIAN AREA STUDIES CONCENTRATION

Program Director: Joseph Loya, O.S.A.

Office Location: 233 Saint Augustine Center

Telephone: 610-519-7243

Website: <http://www1.villanova.edu/villanova/artsci/russianarea.html>

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, history, politics, religion and art.

MAJOR (Global Interdisciplinary Studies: Russian Area Studies (GRAS) (34 Credits/12 courses)

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

CONCENTRATION (RASCON) (18 credits/6 courses)

Two semesters of Russian at the intermediate level, or demonstrated proficiency at an equivalent level, plus 12 credit hours selected from among the following: HIS 1070; 3420, 3241, 3242, 4701; PSC 2320; RUS 1131, 1132, 3412; 4110, 4120; 4130, 4140,, 4150; SAR 4007; THL 5200; and appropriate special topics courses in Economics and History as approved by the director.

See the Web site address above for more information.

RUSSIAN LANGUAGE AND CULTURAL STUDIES

Program Director: Chiji Akoma, Ph.D.

Office Location: 36 Garey Hall

Telephone: 610-519-6302

Website:

<http://www1.villanova.edu/villanova/artsci/global/criticallangs/russian.html>

Course Description Website:

<http://www1.villanova.edu/villanova/artsci/global/criticallangs/russian/courses.html>

MINOR (6 courses)

The minor in Russian Language and Cultural Studies requires six courses. RUS 1111/1112; RUS 1123/1124; and two courses beyond intermediate level (i.e. RUS 1131/1132).

The Russian Language and Cultural Studies Program offers courses that cover the study of multiple aspects of Russian language and cultural studies including literature, culture, folklore, music, film, journalism, and new media. This allows students to become familiar with Russian culture and society and the life experiences of Russians. Russian 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.

See the Web site address above for more information.

SOCIOLOGY

Chair: Robert H. DeFina, Ph.D.

Office Location: 204 Saint Augustine Center

Telephone: 610-519-4482

Web site: <http://www.villanova.edu/villanova/artsci/sociology.html>

Course descriptions:

<http://www1.villanova.edu/villanova/artsci/sociology/undergrad.html>

Acceptance: A student must have completed Introduction to Sociology (SOC 1000), with a “C+” or higher or have a minimum GPA of 3.0.

MAJOR (33 credits/11 courses)

The major in Sociology requires the completion of 11 courses (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 students has at least

15 credits toward the major.

Required courses: SOC 1000, SOC 5300, SOC 5400, SOC 6500, **one theory course** from SOC 5000 /SOC 5050 /SOC 5100, five sociology electives and one criminology elective.

MINOR (15 credits/5 courses)

The minor in Sociology requires the completion of 15 credits, including SOC 1000 and four other sociology courses from the departmental offerings except for SOC 1500, which does not count toward the minor. No course for the minor may be taken S/U, and no more than one course transferred from another university will be accepted. Minors cannot receive Sociology credit for an internship. The student must inform the chair of his or her intention to minor and request certification of the minor when it has been completed.

Sociology is a perspective for understanding human behavior, and holds that people's actions are largely a response to the conditions and situations in which they live. Human beings make decisions, but they make them under circumstances not of their own choosing. It is our mission to empower students to think critically about societies. The sociological perspective systematically analyzes human behaviors by exploring the tension between decision making and life circumstances.

See the Web site address above for more information.

SPANISH STUDIES

Chair of the Department of Romance Languages and Literatures:

Carmen Peraita, Ph.D.

Program Coordinator: Mercedes Julia, Ph.D.

Office Location: 303 Saint Augustine Center

Telephone: 610-519-7478

Website:

<http://www1.villanova.edu/villanova/artsci/romancelanglit/academics/spanishstudies.html>

Course Description Website:

<http://www1.villanova.edu/villanova/artsci/romancelanglit/academics/spanishstudies/coursedescriptions.html>

MAJOR (10 courses above the intermediate level)

College of Liberal Arts and Sciences

Majors in Spanish are required to take 10 courses above the intermediate level, including the following required courses: SPA1138 (Advanced Grammar) OR SPA1140 (Writing and Stylistics in Spanish); SPA2020 (Literature and Cultural Experience of Spain OR SPA2021 (Literature and Cultural Experience of Latin America); and SPA 3970 (Research Seminar). A total of 3 courses at the 3000 level (including SPA 3970) must be taken at Villanova, or at a departmental study abroad program in Spain or Chile. One RLL course taught in English with SPA designation, may be counted for the major but not the minor.

MINOR (4 courses above the intermediate level)

To Minor in Spanish, students are required to take four courses above the intermediate level, including SPA 1131 and 1132. One course at the 3000 level must be taken at Villanova, or at a departmental study abroad program in Spain and Chile.

Once a sequence of language courses has begun, a student may not revert to a lower-level course. Majors and minors are strongly encouraged to participate in the Villanova summer or semester program abroad in Cádiz (Spain). More information: Dr. Tomas Hidalgo Nava, or Valparaiso, Chile (Summer program only). Info: Dr. Mercedes Julia.

See the Web site address above for more information.

SUSTAINABILITY STUDIES

Program Director: Dr. Paul C. Rosier

Office Location: 441 Saint Augustine Center

Telephone: 610-519-4677

Website:

<https://www1.villanova.edu/villanova/artsci/geoenv/academicprograms/sustainabilityminor.html>

MINOR (18 credits/6 courses)

Required Courses: Seminar in Sustainability Studies

The Minor in Sustainability Studies offers students an opportunity to study one of the most pressing issues of the 21st century via an interdisciplinary program supported by professors from the schools of Liberal Arts and Sciences, Engineering, and Business. This minor is open to all undergraduate students at Villanova University. Students select two

Villanova University

courses from each of the three “stems”: Humanities, Social Science, and Technology for a total of 18 credits. Only one class may be taken elsewhere. All students must take the Seminar in Sustainability Studies. Students may count one (1) class within their major towards the minor. Students must be aware of course prerequisites when forming a plan of study.

TEACHER CERTIFICATION

Chair: Christopher Schmidt, Ph.D., Department of Education and Counseling

Office Location: 302 Saint Augustine Center

Telephone: 610-519-4620

Web site:

<http://www1.villanova.edu/villanova/arts/education/undergrad/secondaryed.html>

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. Undeclared 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 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.*

See the Web site above for more information.

THEATRE

Chair: Rev. David Cregan, O.S.A., Ph.D.

Office Location: 205 Saint Augustine Center

Telephone: 610-519-4760

Website: <http://www1.villanova.edu/villanova/artsci/theatre.html>

Course Description Website:

<http://www1.villanova.edu/villanova/artsci/theatre/AcademicPrograms/UndergraduatePrograms/course-listings.html>

Minor (5 courses and practicum)

Students may fulfill a Theatre Minor by completing five theatre courses (three required/two elective) and a theatre practicum. Interested students should request further information through the Theatre Department Office in the St. Augustine Center for the Liberal Arts, Room 205.

Any student may educate himself/herself in the art and craft of theatre through electives and through participation in the department's theatrical productions. Auditions and backstage positions are open to all undergraduates for the entire academic theatre season.

See the Web site address above for more information.

THEOLOGY AND RELIGIOUS STUDIES

Chair: Peter Spitaler, Th.D

Office Location: 203 Saint Augustine Center

Telephone: 610-519-4730

Website: <http://www1.villanova.edu/villanova/artsci/theology.html>

Course Website:

<http://www1.villanova.edu/villanova/artsci/theology/undergrad/courses.html>

TRS courses attempt to render faith(s) intelligible, meaningful, and relevant in contemporary cultural contexts – both local and global.

PRIMARY MAJOR (10 courses): Students complete the foundational course in the Core Curriculum (THL 1000), 1 research seminar, 1 capstone course, and 7 elective courses. Students choose a concentration from among 10 options, e.g., Sacred Texts, Faith & Culture Studies, Global Religious Literacy, Spirituality Studies, or Individualized Studies.

SECONDARY MAJOR (8 courses): Students complete THL 1000, 5 elective courses, 1 research seminar, 1 capstone course.

COURSES FROM OUTSIDE THE TRS DEPARTMENT: For majors, the Director of Undergraduate Programs may approve courses from outside the TRS Department (incl. overseas courses). In some concentrations, 2 of the elective courses may be in a classical or critical language. However, the total number of outside courses (required and elective courses, incl. courses taken overseas) must not exceed 4 courses for the Primary Major or 3 courses for the Secondary Major.

MINOR (6 courses): Students complete THL 1000 and 5 elective courses. The Director of Undergraduate Programs may approve 1 elective from outside the TRS Department (incl. an overseas course). In some instances, 1 of the elective courses may be in a classical or critical language. The total number of outside courses (required and elective courses, incl. an overseas course) must not exceed 2 courses.

BACHELOR/MASTER'S: The program permits the completion of the BA and the MA degrees in an accelerated time frame (normally 5 years). Expenses for 5 graduate courses are covered through a combination of undergraduate tuition (up to 4 courses) and tuition remission awarded by the Dean of Graduate Studies. Students are responsible for paying

for 5 graduate courses.

See the Web site address above for more information.

WRITING AND RHETORIC CONCENTRATION

Program Director: Karyn Hollis, Ph.D.

Office Location: 458 Saint Augustine Center

Telephone: 610-519-7872

Website: <http://www1.villanova.edu/villanova/artsci/writingrhetoric.html>

Course Description Website:

<http://www1.villanova.edu/villanova/artsci/writingrhetoric/concentrationreq.html>

MINOR (18 credits/6 courses)

- GPA Requirement = 3.0
- Students must complete 18 credit hours comprising 6 courses. Additional requirements include passing a self-administered (WebCT) exam on grammar, punctuation and style.

CONCENTRATION (24 credits/8 courses)

- GPA Requirement = 3.0
- Students must complete 24 credit hours comprising 8 courses. Additional requirements include passing a self-administered (WebCT) exam on grammar, punctuation and style, compiling a writing clip book and e-portfolio of the student's best work.

(<http://www1.villanova.edu/villanova/artsci/writingrhetoric/yourwork.html>).

This program will provide you with the writing, speaking and critical thinking skills that assure academic and career success. Peruse our web page to discover more about the CWR, a truly foundational intellectual experience. The self-administered (WebCT) exam can be found at

<http://www1.villanova.edu/villanova/artsci/writingrhetoric/concentrationreq/exam.html>

See the Web site address above for more information.

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

Michael Capella, PhD, Associate Dean, Graduate and Executive Programs

Julie Pirsch, PhD, Associate Dean of Teaching & Learning

Office: Bartley Hall 1045, Tel. 610-519-5424

Website: 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, and Marketing. Co-majors in Business Analytics, International Business, and Real Estate 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.

School of Business

VSB faculty consists over 120 full-time professors, with about eighty-five 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, Center for Global Leadership, Center for Marketing and Consumer Insights, Center for Church Management, and the Innovation, Creativity and Entrepreneurship Institute.

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 Clay Center 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 freshman is connected with a Clay Center Advisor and a Peer Advisor who are available to their advisees throughout their VSB experience. During freshman 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.

School of Business

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 from freshmen through senior year.

Freshmen must meet with either their Peer Advisor or Clay Center 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, Clay Center Advisor, and Faculty Mentor at any time throughout the year.

THE O'DONNELL CENTER FOR PROFESSIONAL DEVELOPMENT

Brenda Stover, M.S., Executive Director

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 freshman 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 freshman 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. Beginning in sophomore year, students have an opportunity to participate in the Mentor Program. 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, and Marketing. In addition, a Business Analytics co-major, an International Business co-major, and a Real Estate 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.
- ❑ The final 30 hours of one's academic program must be completed at Villanova (residency requirement). 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 one of the following tracks:

School of Business

Cohort Track – 30 Credits

HON XXXX	Two of the following:	6 cr.
	a. ACS 1000 Person and Goods H	
	b. ACS 1001 History of Economic Ideas H	
	c. PHI 1000 Knowledge, Reality, Self H	
VSBS 1015	Business Dynamics H	3 cr.
VSBS 2007	Corporate Responsibility & Regulation H	3 cr.
VSBS 2020	Competitive Effectiveness H	6 cr.
ETH 2050	Ethics and Markets H	3 cr.
HUM 3500	Business and Society H	3 cr.
VSBS 3900	Innovation and Design Practicum H	3 cr.
VSBS 4002	Strategic Thinking & Implementation H	3 cr.

Flex Track – 30 Credits

VSBS 3900	Innovation and Design Practicum H	3 cr.
VSBS 4002	Strategic Thinking & Implementation H	3 cr.
	8 Additional Honors Courses (At least one must be offered by VSB)	<u>24 cr.</u>

In addition to complete the course requirements, students must achieve a minimum of 3.33 cumulative GPA in order to earn the **Bachelor of Business Administration, Honors** degree.

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

Villanova University

PHI 1000* ²	Knowledge, Reality, and Self	3
VSF 1000	Information Technology	1
VSF 1015	Business Dynamics	3
Business Core (3 cr.)	VSF 2004 <i>or</i> VSF 2006 <i>or</i> VSF 2007 <i>or</i> VSF 2008	3

SOPHOMORE YEAR		Credits
Behavioral Science * ³		3
HIS XXXX	History Elective	3
Humanities * ⁴		3
THL 1000* ²	Faith, Reason, and Culture	3
VSF 2000	Backpack-to-Briefcase: SO Seminar	1
Business Core (9 cr.)	Remaining three required business core courses: VSF 2004 <i>or</i> VSF 2006 <i>or</i> VSF 2007 <i>or</i> VSF 2008	9
VSF2009	Principles of Finance	3
VSF 2020	Competitive Effectiveness	6

JUNIOR YEAR		Credits
ECO 3108* ¹	Global Political Economy	3
ETH 2050* ²	The Good Life: Ethics & Contemporary Problems	3
Major Electives	Three Major Courses	9
Natural Science* ⁵		3
Social or Natural Science* ⁶		3
Non Business		3
VSF 3000	Backpack-to-Briefcase: JR Seminar	1
VSF 3006	Principles of Managerial Accounting	3
VSF 3008	Operations Management	3

SENIOR YEAR		Credits
Major Electives	Three Major Courses	9
THL XXXX* ⁷	Theology Elective	3
VSF 4002	Strategic Thinking & Implementation	3
Free Electives* ⁸	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.

School of Business

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. **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.
6. **Social Science or Natural Science:** choose from Criminology, Geography and the Environment, History, Political Science, Psychology, Public Administration, Sociology, Social Science, or the Natural Sciences (as listed above).
7. **THL XXXX:** choose any core Theology elective.
8. **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 Society, Alternative Investments Society
- Beta Gamma Sigma Honor Society
- Business Analytics Society
- Business in Entertainment Society
- Beta Alpha PSI Honor Society
- Business and Leadership Society
- Business Without Borders
- Corporate Finance Society
- Economics Society
- Equity Society
- Global Investment Society
- International Business Society
- Management Information Systems Society
- Marketing Society
- Mergers & Acquisitions Society
- Multicultural Business Association
- Omicron Delta Epsilon International Economics Honor Society
- Real Estate Society
- Villanova Consulting Group
- Villanova Entrepreneurship Society
- Villanova Instructional Golf Society
- Villanova Women in Business Society
- Wall Street Society

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 of 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:	http://www1.villanova.edu/villanova/business/departments/accountancy.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: The following courses **do not count** toward **Accounting** elective course:

ACC 3430 Accounting Internship - 3 credits

ACC 3460 Accounting Internship - 6 credits

ACC 3470 Accounting CoOp

ACC 3500 Independent Study

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: Narda Quigley, PhD
Associate Chair: Ward Utter, PhD
Office: 2083 Bartley Hall, tel. 610-519-6924
Website: http://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 or Marketing.

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 courses from the following:

ECO 3137 Intro to Econometrics
MKT 2240 Marketing Analytics
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: Eric Karson, PhD
Associate Chair: Aronte Bennett, PhD
Office: 3015 Bartley Hall, tel. 610-519-4350
Website: http://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 2185 The Law of Contracts and Commercial Transactions
BL 2150 Real Estate Principles & Practices
BL 2160 International Business Law
MGT 2212 Leadership
MGT 2250 Global Corporate Social Responsibility
MGT 2360 Global Leadership
MGT 2370 Global Business Ethics

Prerequisites (may be taken concurrently with above courses):
ETH 2050 The Good Life: Ethics & Contemporary Problems

ECONOMICS

Chair: Peter Zaleski, PhD
Associate Chair: Mary Kelly, PhD
Office: 2015 Bartley Hall, tel. 610-519-4370

Website: http://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)

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. Such students must take Calculus (MAT 1320 or higher) either to satisfy their math requirement or as a free elective. In addition, students must successfully complete: ECO 1001, ECO 1002, ECO 2101, ECO 2102, MAT 1430, ECO 3137, ECO 4132, and 12 elective Economics credits numbered above 3000.

COURSE REQUIREMENTS FOR ECONOMICS MINOR:

MAT 1320, MAT 1400, or MAT 1500 - Calculus
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) for VSB students **OR** two (2) **Economics** elective courses above ECO 3000 for non-VSB students.

ENTREPRENEURSHIP

Chair: Narda Quigley, PhD
Associate Chair: Ward Utter, PhD
Office: 2083 Bartley Hall, tel. 610-519-6924
Website: http://www1.villanova.edu/villanova/business/departments/management_operations.html

COURSE REQUIREMENTS FOR ENTREPRENEURSHIP MINOR:

ENT 2020 Intro to Entrepreneurship *
ENT 2021 Entrepreneurship Marketing **
ENT 2022 Entrepreneurship Finance ***

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ENT 2023 Entrepreneurship Practicum ***

Note: * *fulfills MGT elective or a free elective*

** *may fulfill MKT elective or a free elective*

*** *fulfills a free elective*

FINANCE

Chair: David Shaffer, PhD
Associate Chair: Shelly Howton, PhD
Office: 2019 Bartley Hall, tel. 610-519-7395
Website: <http://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

The following courses **do not count** toward **Finance** elective courses:

FIN 3350 Finance Internship

FIN 3360 Independent Study – Finance

FIN 3470 Finance CoOp

COURSE REQUIREMENTS FOR FINANCE MINOR:

FIN 2227 Fixed Income Markets and Valuation

FIN 2323 Equity Markets and Valuation

Plus one (1) **Finance** elective course except FIN 3350, FIN 3360, or FIN 3470

INTERNATIONAL BUSINESS

Chair:	Narda Quigley, PhD
Associate Chair:	Ward Utter, PhD
Office:	2083 Bartley Hall, tel. 610-519-6924
Website:	http://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 or Marketing.

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:

1. Successful completion of Intermediate I and Intermediate II if French, Greek, Italian, Latin, Portuguese, or Spanish is chosen.
2. **OR** Placement beyond the intermediate levels on language placement exam administered by the Classical & Modern Languages department.
3. **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

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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:	Narda Quigley, PhD
Associate Chair:	Ward Utter, PhD
Office:	2083 Bartley Hall, tel. 610-519-6924
Website:	http://www1.villanova.edu/villanova/business/departments/management_operations.html

COURSE REQUIREMENTS FOR MANAGEMENT MAJOR:

MGT 2155	Organizational Behavior
MGT 2350	Global Business Management
MGT 3170	Data Mining

Plus three (3) **Management** elective courses

Please note: ENT 2020, Intro to Entrepreneurship, also fulfills a **Management** major elective course.

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: <http://www1.villanova.edu/villanova/business/departments/accountancy.html>

COURSE REQUIREMENTS FOR MANAGEMENT INFORMATION SYSTEMS MAJOR:

Two (2) **Management Information Systems (MIS)** courses choosing from:

- 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.
- **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:

Two (2) **Management Information Systems (MIS)** courses choosing from:

- MIS 2020 Programming for Adaptive Problem Solving
- MIS 2030 Database Management
- MIS 2040 Systems Analysis and Design

Plus one (1) **MIS** 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.

MARKETING

Chair:	Eric Karson, PhD
Associate Chair:	Aronte Bennett, PhD
Office:	3015 Bartley Hall, tel. 610-519-4350
Website:	http://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 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

For Marketing majors, the following Marketing concentrations are available:

- Business Development
- Digital Marketing

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COURSE REQUIREMENTS FOR CONCENTRATION IN BUSINESS DEVELOPMENT:

MKT 2224 Professional Selling
MKT 2225 Business Development Leadership
MKT 2120 Buyer Behavior **OR** MKT 2349 Top: Sales for Social Impact

COURSE REQUIREMENTS FOR CONCENTRATION IN DIGITAL MARKETING:

MKT 2240 Marketing Analytics
MKT 2290 Digital Marketing
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 course:
CHE 2900 Global Pharmaceutical Industry
ENT 2021 Entrepreneurial Marketing

Please Note: The following courses do not count toward the **Marketing** requirements:

MKT 3450 Marketing Internship MKT 3470 Marketing CoOp

REAL ESTATE CO-MAJOR

Chair: David Shaffer, PhD
Associate Chair: Shelly Howton, PhD
Office: 2019 Bartley Hall, tel. 610-519-7395
Website: <http://www1.villanova.edu/villanova/business/departments/finance.html>

The Real Estate co-major must be taken in conjunction with a major in Accountancy, Economics, Finance, Management, Management Information Systems or Marketing.

COURSE REQUIREMENTS FOR REAL ESTATE CO-MAJOR:

BL 2150 Real Estate Principles and Practices
RES 3150 Real Estate Investments
RES 3250 Advanced Real Estate Modeling

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RES 4150 Real Estate Development

Plus one (1) Real Estate elective course from the following:

ACC 2410 Accounting for Real Estate

ECO 3112 Public Sector Economics

ECO 3140 Urban Economics

FIN 2350 Real Estate Capital Markets

RES 2340 Contemporary Topics in Real Estate

Please Note: For Class of 2021 and beyond, if a student is a FIN and REAL co-major, then the student has an option to use either RES 2340 or FIN 2350 (*only one course from the two*) to count as a FIN EL requirement. If RES 2340 fulfills the FIN EL requirement, then FIN 2350 will not fulfill FIN major requirements.

COURSE REQUIREMENTS FOR REAL ESTATE MINOR:

BL 2150 Real Estate Principles and Practices

RES 3150 Real Estate Investments

Plus one Real Estate elective course from the following:

ACC 2410 Accounting for Real Estate

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

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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 www.tinyurl.com/ayminorapp. 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.

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

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 INSTITUTE (One Full Summer – 10 Weeks)

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

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peers from other non-business majors. SBI is taught by VSB faculty members and covers key business disciplines including economics, accounting, finance, ethics, management, marketing, and corporate responsibility. Professional development events and workshops complete 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 2005 Applied Economics (3 credits) – For those who have taken ECO 1001, will take SBI 4200 in place of SBI 2005.
- SBI 2006 Corporate Responsibility (3 credits)
- SBI 3005 Financial Management and Reporting (4 credits)
- SBI 3006 Competitive Effectiveness (4 credits)

Applicants may be current non-business students or alumni from Villanova University or from other colleges/universities. Applicants must be in good academic standing and have completed, or in the process of completing their freshman year, usually 30 credits.

SBI applications will be accepted until April 15, or until the program is full. Decisions are made on a rolling basis beginning December 1; early submission of applications is encouraged. Complete information can be found online at <http://business.villanova.edu/sbi>. Questions should be directed to The Clay Center at (610) 519-4570 or via email 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

Gary A. Gabriele, Ph.D., Dean

Gerard F. "Jerry" Jones, Ph.D., Senior Associate Dean, Graduate Studies and Research

Andrea L. Welker, Ph.D., 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

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. 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 five established research centers: Center for Advanced Communications (CAC), Center for Nonlinear Dynamics and Control (CENDAC), Villanova Center for the Advancement of Sustainability in Engineering (VCASE), Center for Energy Smart Electronic Systems (ES2), and Villanova Center for Analytics of Dynamic Systems (VCADS). The college also has extensive research programs in cellular and molecular bioengineering; computer engineering, electronics, photonics and MEMs

devices; nanotechnology, materials and manufacturing; thermal and fluid sciences; sustainable energy systems; stormwater management; and structural engineering.

MISSION STATEMENT

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 innovations 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 with the following attributes:
 - Ability to apply scientific and mathematical concepts and principles to identify, formulate, and solve problems in a real-world context
 - Ability to plan and conduct experimental investigations, and to analyze and interpret their results
 - Ability to be an effective member of a project team
 - Ability to communicate ideas and information
 - Understanding of the role of the engineering profession and technology, including appreciation of concepts drawn from the humanities and social sciences
 - Embodiment of high professional and ethical standards

College of Engineering

- Motivation and capability to acquire, evaluate, and assimilate knowledge and continue the learning experience
- Appreciation of service and other cultures by providing access to international experiences and service-learning opportunities here and abroad.

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

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
- Bioengineering (joint offering between the Colleges of Engineering, Arts and Sciences, and Nursing)
- Biomedical Engineering
- Computer Engineering
- Electrical Engineering
- Engineering Entrepreneurship
- Mechatronics
- Sustainability Studies (joint offering between the Colleges of Engineering and Arts and Sciences)

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.

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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 to 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 2017 OR LATER

A requirement for the BS degree in any engineering discipline (entering classes in the Fall or 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:

<http://www1.villanova.edu/villanova/engineering/undergrad/professionaldevelopment.html>

Freshman Year						
First Semester		Credits		Second Semester		Credits
CHM 1151	General Chemistry	4		CHM 1156	General Chemistry II for Engineers ²	4
CHM 1103	General Chemistry Laboratory I	1		ACS 1001 ¹	Moderns	3
ACS 1000 ¹	Ancients	3		EGR 1205	Interdisciplinary Projects II	3

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EGR 1200	Interdisciplinary Projects I	3		MAT 1505	Calculus II	4
MAT 1500	Calculus I	4		PHY 2400	Physics I, Mechanics	3
THL 1000	Faith, Reason and Culture	3				

NOTE ¹: This course may be taken in either semester.

NOTE ²: Students electing to major in Electrical Engineering or Computer Engineering are required to substitute ECE 1620 Engineering Programming & Applications in place of CHM 1156.

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.

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Humanities	Social Sciences
Arab & Islamic Studies Art History Classical Studies Communication English (ENG 1050, 2100-9999) Global Interdisciplinary Studies History Honors Program: (eligible Courses and Students only) Humanities Modern Languages (except speaking courses in native language) Philosophy Theatre Theology (2000 and above)	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 freshman year classes, each freshman has a designated major corresponding to the department of initial Villanova acceptance. However, there may be an opportunity to switch majors during the freshman year. Requests to switch major are considered once during the freshman year, just prior to spring break. All students will be notified of this opportunity to apply for a major change. Requests to switch major are competitive and subject to space limitations. After the freshman year, it is increasingly difficult to change majors as degree curricular requirements become more specialized. Students who wish to change their major within or to the College of Engineering after the designated freshman period must contact the chairperson of the department in which they are interested. The Chair will arrange for a review of the student's academic record. Transfers between degree programs is competitive, space dependent, and in no way guaranteed.

Engineering students who wish to change their major to an area outside of engineering must apply for admission to the dean of the college offering that program.

Students who wish to change their major to Engineering from another college within the university must contact the Associate Dean of Academic Affairs in the College of Engineering and the department chair of the desired department.

DEGREE PROGRAMS

BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING

The chemical engineer typically uses the principles of mathematics, chemistry, physics and engineering sciences, often with biology, to creatively solve technical and commercial problems arising in industries which manufacture products by chemical reactions. These solutions must respond to economic constraints as well as social, ethical, environmental and safety implications. The chemical engineer may also apply these principles in related fields in which the management of chemical transformations is important, such as preservation of the environment, pharmaceutical manufacturing, bio-engineering or the creation of new medical technology. Finally, the chemical engineer can apply understanding of fundamental principles to fields that interact indirectly with chemical technology, such as industrial management and patent law.

Mission Statement – The Chemical Engineering Department faculty will provide the educational environment and experiences that enable each student to successfully pursue their professional and personal goals and contribute to the Villanova community. Faculty and students will conduct innovative and influential research, focused in the areas of biotechnology, materials and energy, which enhances Villanova’s scholarly reputation through addressing societal needs.

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:

- Apply the underlying scientific principles and technical capabilities needed to succeed in both the traditional and emerging fields of the chemical engineering profession.
- Expand their education to advance their career, in chemical engineering or other associated fields.
- Display personal and interpersonal skills that facilitate the effective practice of their chosen profession.
- Continue to learn and grow by leveraging professional opportunities.
- Conduct themselves in a manner that recognizes their professional responsibilities to society in areas such as safety, ethics, and environmental protection.

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 sophomore, 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 a chemical 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 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 a Judeo-Christian, 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 general civil engineering or in environmental, geotechnical, structural, transportation, or water resources 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 professional and ethical members of the engineering community.
- Use communication, technical, and teamwork skills to help themselves and their employers succeed.
- Relate their personal and professional lives to the Judeo-Christian, 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 engineers are concerned with the application of both hardware and software to industrial, medicinal and recreational uses. They embed computers in other machines and systems, build networks to transfer data, and develop ways to make computers faster, smaller, safer, reliable and more capable. They create software to secure communications and e-commerce, monitor sensors and machines and present data in a meaningful way to the consumer.

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 a field of engineering that generally deals with the study and application of electricity, electronics, and electromagnetism. Electrical engineers work in a very wide range of industries and the skills required are likewise variable. Typical subfields include electronics, digital computers, power engineering, telecommunications, control systems, radio-frequency engineering, signal processing, instrumentation, and microelectronics.

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;

College of Engineering

- ❑ 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 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;
- ❑ Grow professionally and personally by pursuing or successfully completing an advanced degree, professional development courses, and/or engineering certification;
- ❑ Be actively engaged in service to their profession and their communities, consistent with the tradition of St. Augustine.

The first year of the mechanical engineering program are 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 Dynamics 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.

College of Engineering

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 <http://www1.villanova.edu/villanova/engineering/resources/policies.html>.

- Academic Standing
- Advanced Placement, Pre-Matriculated and International Baccalaureate Credit
- Appropriate Schedule
- Audit a Course
- CAPP – Degree Evaluation
- Course Overload
- Course Elsewhere
- Course Withdrawal
- Change of Major/Transfer
- Dean's List
- Declaration of Major
- Dual Majors
- Graduation
- International Studies
- Leave of Absence
- Minors
- Registration

- Repeat Freshman Year
- Resolution
- Satisfactory/Unsatisfactory Grades
- Undergraduates Enrolling in Graduate Courses

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. In addition, all freshmen are required to take EGR 1200 (Interdisciplinary Projects I) and EGR 1205 (Interdisciplinary Projects II). These courses provide both an overview and hands-on experience in all fields of engineering offered by the College.

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.

College of Engineering

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, Fluent, and ADAMS for finite element, computational fluid dynamics, and solid-body 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 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
Courses: 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
Courses: www1.villanova.edu/villanova/engineering/resources/catalog/courses/ug_ce.html

ELECTRICAL AND COMPUTER ENGINEERING

Chair: Dr. Bijan Mobasseri
Office: 411 Tolentine Hall, tel. 610-519-4970
Website: www1.villanova.edu/villanova/engineering/undergrad/majors/electrical.html
www1.villanova.edu/villanova/engineering/undergrad/majors/computer.html
Courses: www1.villanova.edu/villanova/engineering/resources/catalog/courses/un_ece.html

MECHANICAL ENGINEERING

Chair: Dr. Amy Fleischer
Office: 131 Tolentine Hall, tel. 610-519-4980
Website: www1.villanova.edu/villanova/engineering/undergrad/majors/mechanical.html
Courses: www1.villanova.edu/villanova/engineering/resources/catalog/courses/ug_me.html

COLLEGE OF NURSING

Lesley A. Perry, Ph.D. RN, Interim Dean

Anne M. Fink, PhD, RN, CNE, Assistant Dean for College and Student Services

Angelina A. Arcamone, Ph.D. RN, Assistant Dean and Director of Undergraduate Program

Office: Driscoll Hall, tel. 610-519-4900

Website: www.nursing.villanova.edu

Course descriptions: 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 generic BSN program, a BSN completion program for registered nurses, an accelerated BSN program for second degree students, an MSN program, a PhD program, a DNP 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 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. This license is transferable within the United States nationally by state. The undergraduate and graduate programs are both fully accredited by the Commission on Collegiate Nursing Education. The Nurse Anesthesia concentration in the graduate

College of Nursing

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
600 Maryland Avenue, SW
Suite 100 West
Washington, DC 20024-2571
202/651-7000
1-800-284-CERT (2378)
www.nursingworld.org/ancc/.

Commission on Collegiate Nursing
Education
655 K Street NW, Suite 750
Washington, DC 20001
Phone: (202) 463-6930
Fax: (202) 785-8320
[www.aacn.nche.edu/
Accreditation/index.htm](http://www.aacn.nche.edu/Accreditation/index.htm)

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/

MISSION

The College of Nursing 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 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 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.

Villanova University

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 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 College 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 College 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 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 Doctoral 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 also administers the Doctor of Nursing Practice Degree in Nursing (DNP) which is a practice focused doctoral program designed for the Post Masters Advance Practice Registered Nurses (APRNs) 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 1103	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
SOPHOMORE			
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.			
JUNIOR			
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
SENIOR			
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 Nursing Student Resources 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, and Dean 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 or Bio 1206 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.

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.

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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 Applicants. Graduates from diploma and associate degree nursing programs are eligible for admission. Requirements for admission include: transcripts from all academic institutions and proof of registered professional nurse licensure. Further inquiries should be directed to the College of Nursing.

Through the Clinical Decision-Making Assessment, a registered nurse student may demonstrate current nursing knowledge and earn credits in nursing. Specific policies and procedures may be obtained through the College of Nursing. Credit by examination is available through the College of Arts and Sciences for non-nursing courses. See the section on Registered Nurses, below.

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 Assistant Dean and Program Director 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 Assistant Dean and Director of the Undergraduate Program before submitting a request to the Assistant Dean and Director 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.

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The program requires some changes in the freshman course of study; any freshman who is interested should contact the Assistant Dean and Director 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 program for registered nurses who are graduates of an associate degree or diploma nursing program.

Registered nurse students achieve advanced standing in the undergraduate program through transfer of applicable college credits and through successful completion of required Clinical Decision-Making Assessment in nursing. This mechanism is described below.

State Disclosures for Distance Education Programs:

The RN-BSN Online Program 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

REQUIREMENTS

Admission requirements include:

1. Graduation from an ACEN or NLN CNEA accredited associate degree or diploma nursing program with a GPA of 2.75 or above
2. A personal statement of career goals
3. Two letters of recommendation
4. Official transcripts from the nursing program and all colleges and universities attended
5. An entrance criminal background check that includes OIG and GSA clearance, child abuse clearance and FBI fingerprinting must be submitted.

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 Current Immunizations.
2. Current CPR Certification.
3. Current R.N. License.
4. Current Malpractice Insurance Certificate.

TRANSFER OF LIBERAL EDUCATION COURSE CREDIT

Up to 50 credits in applicable liberal education courses may be transferred from accredited colleges or universities. A grade of 'C' or better must have been earned, and courses must be evaluated as equivalent to appropriate Villanova courses.

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

RN students are assigned to faculty advisors when admitted to the College.

CLINICAL DECISION-MAKING ASSESSMENT

The Clinical Decision-Making Assessment is used to earn nursing credits. This assessment may be repeated once if necessary. The assessment is NOT required for admission to the College. Contact the College of Nursing for specifics about the Clinical Decision-Making Assessment.

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 Memorial Hospital, Abington, PA
Albert Einstein Medical Center, Philadelphia, PA
Alfred I. DuPont for Children, Wilmington, DE
Belmont Center for Comprehensive Treatment, Philadelphia, PA
The Bryn Mawr Hospital, 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 Health and Hospice Services, Philadelphia, PA
Hospital of the University of Pennsylvania, Philadelphia, PA
Home Care Network, Radnor, Pa
Lankenau Hospital, Philadelphia, PA
Learning Resource Center, College of Nursing
Mercy Hospital of Philadelphia, PA
Paoli Hospital, Paoli, PA
Penn Care at Home, Philadelphia, PA
Pennsylvania Hospital, Philadelphia, PA
Presbyterian Hospital, Philadelphia, PA
St. Christopher's Hospital for Children, Philadelphia, PA
St. Mary's Hospital, Langhorne, PA
Thomas Jefferson University Hospital, Philadelphia, PA
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

Deborah J. Tyksinski, Ph.D., Dean

Sandra Kearney, M.S.C.S. Assistant Dean

Kimberly Marucci, Ed.D., Director of Curriculum and Instruction

Eileen Callahan, M.S.A., Director of Student Experience

Offices: 103 Vasey Hall

Telephone: 610.519.4300

Email: 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 non-credit 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

CPS fulfills the educational needs of thousands of men and women who are unable to or do not wish to pursue a traditional full-time day program. The academic mission is fulfilled through evening, weekend, accelerated, and, online courses. Among those served are: high school graduates who are unable to undertake a regular full-time day program but wish to undertake or complete an unfinished baccalaureate degree program; professionals who seek to update and expand their knowledge and skills; college graduates who lack undergraduate requirements for admission to graduate or professional schools or advanced certifications, high school graduates who do not qualify for acceptance as degree candidates but who seek the opportunity to prove themselves as non-matriculated students with the chance to matriculate upon the successful completion of a stipulated number of courses; and men and women of all ages who are simply interested in taking courses to enrich their personal lives. Senior citizens (age 65 and over) are eligible to enroll in undergraduate courses for personal enrichment only, at no cost.

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CPS promotes intellectual curiosity, and rigor equivalent to the traditional programs. In addition, there are comprehensive advising services and programs to assist students in planning their educational careers and academic pursuits. There are a variety of resources meant to acquaint new students with the policies, procedures and general information of CPS. These can be found via a variety of web-based resources, including on-line and on campus orientations and the CPS website at cps.villanova.edu. The Office of Student Experience within CPS, the Office of Learning Support Services, the Career Services Office, and University Counseling Center also provide additional services to students.

The degrees pursued in The College of Professional Studies are Villanova University degrees, in every respect commensurate with those offered by the full-time colleges of the University.

ADMISSION

Prospective students may apply on-line at cps.villanova.edu.

CPS admissions committee conducts a holistic review of each applicant. Admissions decisions are rendered on a rolling basis throughout the semester.

Students seeking admission into degree programs, whether online or on-campus, must submit complete records from all secondary schools and institutions of higher learning previously attended. Students must also provide proof of graduation from high school or the appropriate GED documentation. Students seeking postgraduate status must submit transcripts showing degree and graduation date or a copy of the diploma from their baccalaureate degree institution. To avoid delay, address all material to CPS.

Secondary school requirements for entrance to a specific curriculum are outlined in the University section of this Catalog. The requirement for non-matriculated status is proof of graduation from an accredited secondary school or proof of receipt of a General Educational Development Diploma.

Applicants for matriculation in a degree program will be evaluated on their previous academic records in high school and college, if applicable. Those who are not initially accepted as matriculated students (candidates in a degree program) may be accepted as non-matriculated students. Students will retain non-matriculated status until successful completion of at least 18 credit hours at Villanova at which time they will be re-evaluated for matriculation.

Students attending other institutions who are in good standing and have permission to take undergraduate courses at Villanova may apply to The College of Professional Studies, as may high school seniors with strong academic backgrounds who have permission from

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their guidance counselor or principal. Senior citizens, those aged 65 or older, may enroll in undergraduate courses for personal enrichment only, at no cost. Information on the application procedures and requirements for these particular categories may be obtained from the college administrative office.

Students applying for non-matriculated or non-degree programs should consult CPS for more information on these programs and specific certification requirements. Please visit the CPS website for the College's Non-credit Course Supplement or contact the college office at 610-519-4300.

READMISSION

A student who has not attended classes for two years or longer is considered an inactive student. To be readmitted, a student must reapply and be approved by the admissions committee. When received, the record will be reviewed, and a letter sent to the applicant indicating readmission status.

DEGREES OFFERED

The College of Professional Studies offers a Bachelor of Interdisciplinary Studies. As part of this degree, students choose one of the following majors: General Studies, Information Systems, Leadership Studies, Media & Technology or Administration and Management for Professionals

Villanova University also offers a variety of options for a Bachelor Degree which may be completed through The College of Professional Studies: examples include Computer Science, English, and History, Environmental Science, Comprehensive Sciences and others (some Liberal Arts majors may require taking courses in the daytime schedule), students should contact CPS for additional degrees and requirements for these shared programs

In 2015 The College of Professional Studies premiered three two online degree options, the Bachelor of Arts, with majors in Leadership Studies and Public Service & Administration and the Bachelor of Interdisciplinary Studies in General Studies.

In addition to these degrees, CPS offers the following post graduate, for credit, certificate programs: Certificates are available in the following programs; Accountancy Certificate, Information Systems Certificate, Leadership Studies Certificate, Pre-Health Professions Science certificate.

DEGREE REQUIREMENTS

To qualify for the Bachelor's degree, a student must successfully complete the requirements for the degree as described in this *Catalog*. Villanova University reserves the right to change program requirements without prior notice.

The Baccalaureate degree is awarded, and a student is graduated when the curriculum prescribed by the University for one or more of the various degree programs has been satisfied.

In addition to the curricular requirements, candidates for graduation must meet the following requirements:

- A minimum final cumulative quality point average of 2.0
- A minimum of half of all courses required for the degree earned at Villanova.
- A minimum of half of the requirements for the major degree program earned at Villanova.
- The final 60 credits must be earned at Villanova.
- A minimum technical quality point average of 2.0

Detailed information on all the following degree programs may be found in the specific College and Department sections of this *Catalog*; additional specific information may be obtained from The College of Professional Studies office.

BACHELOR OF INTERDISCIPLINARY STUDIES (BIS)

The Bachelor of Interdisciplinary Studies offers majors in Administration and Management, General Studies, Information Systems, Leadership Studies, and Media & Technology. This degree was developed in conjunction with the College of Liberal Arts and Sciences and has the support of the Dean and faculty of that college. It is a Villanova degree in every respect and is grounded in the humanities, as are all Villanova degree programs.

The Bachelor of Interdisciplinary Studies degree requires a total of 120 credits, with a core curriculum of 45 credits. This core curriculum provides more flexibility and choices so that adult students may select classes in line with their personal interests and experiences as well as their professional goals. The specified core curriculum applies only to the BIS degree program. Each major consists of 30-36 credits and the degree includes up to 45 credits of free electives depending on the major.

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The combined Bachelor of Interdisciplinary Studies/Master of Science in Human Resource Development (BIS/MS) program for qualified BIS General Studies or Leadership Studies majors is designed to offer a planned educational track, in an abbreviated timeframe, that will prepare students for a career in the field of human resources. At the completion of junior year, students may apply to the BIS/MS program. Students who are admitted into the BIS/MS track will be allowed to enroll in three graduate HRD courses during their senior year, and all three courses will count toward both the BIS degree and the M.S. degree in Human Resource Development. The three courses will be chosen from the following five: HRD 8006 (Metrics), HRD 8319 (Introduction to Human Resources), HRD 8425 (Organizational Psychology), PSY 8475 (Organizational Training), and PSY 8875 (Psychology of Organizational Change).

The combined Bachelor of Interdisciplinary Studies in Information Systems (BIS/IS) and Masters in Software Engineering (MS/SE) is designed to offer qualified BIS/IS students a planned educational track that will have synergistic benefits for the 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. The recommended courses are CSC 8490 (Database Systems), CSC 8540 (Software Engineering), and one additional pre-approved course. The BIS/MS Committee will review the third graduate level course for suitability. Students are encouraged to check the CPS website for program qualifications.

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 and Media & Tech Majors	The Good Life – Ethics and Contemporary Problems (Computer Ethics for IS and Media & Tech Majors)	3
American Perspectives:		3

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PSC, ECO, SOC, HIS		
Global Perspectives: PSC, ECO, SOC, HIS		3

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

BACHELOR OF INTERDISCIPLINARY STUDIES MAJOR AREAS OF INTEREST (BIS)

ADMINISTRATION & MANAGEMENT (120 TOTAL CREDITS)

ADMINISTRATION & MANAGEMENT MAJOR (10 COURSES, 30 CREDITS)

Course #	Course Title	Credits
LDR 2000	Foundations of Leadership Strategy	3
LDR 2010	Planning for Leaders	3
AMP 1100*	Foundations of Administration & Management	3
AMP 1200*	Foundations of Human Resources	3
AMP 1001*	Economics for Non-Business Majors	3
AMP 2040*	Analytics and Information Systems	3
CSC 1035	Databases for Many Majors	3
AMP 1137*	Essentials of Marketing	3
AMP 1113*	Essentials of Finance for Non-Business Majors	3
LDR 2070	Talent Management	3

CONCENTRATIONS IN ADMINISTRATION & MANAGEMENT

LEADERSHIP (5 COURSES, 15 CREDITS)

Course #	Course Title	Credits
LDR 2020	Leadership in the Community	3
LDR 2030	Leadership and Technology	3
LDR 2060	Leadership in a Borderless Economy	3
LDR 2070	Talent Management	3
LDR 5000	Capstone	3
COM 2440	Theories of Organizational Communication	3

ORGANIZATIONAL MANAGEMENT (5 COURSES, 15 CREDITS)

Course #	Course Title	Credits
AMP 2010*	Social Media Management for Professionals	3
AMP 2020*	Science of Character: Managing the Growth Mindset	3
AMP 2030*	Decision Making for Professionals	3

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AMP 2050*	Cultivating Innovation and Creative Thinking in the Workplace	3
AMP 2060*	Professional Resilience	3
COM 3441	Dialogue and Negotiation	3
COM 3444	Interviewing	3

INFORMATION TECHNOLOGY (5 COURSES, 15 CREDITS)

Course #	Course Title	Credits
MIS 3020	Enterprise Systems & Applications	3
MIS 3030	Enabling Technology in E-Business	3
CSC 2500	Survey of Information Science	3
CSC 3070	Emerging Technology Trends	3
CSC 3080	Information Security & Protection	3

ELECTIVES (10 COURSES, 30 CREDITS)

With the enhanced core curriculum and a number of electives available in the Bachelor of Interdisciplinary Studies degree program, there is the opportunity for BIS students to complete significant coursework outside their major which would complement and enhance their academic studies. Examples of these academic discipline areas may include, but are not limited to, Leadership Studies, Business, and Communication.

*MAT 1320 (Calculus I) or MAT 1500 (Calculus for Science) is highly recommended for all students seeking to attend graduate school.

** Students entering into technical degree programs should have successfully completed college-level courses in Math and English Composition.

GENERAL STUDIES (120 TOTAL CREDITS)

MAJOR (11 COURSES, 33 CREDITS)

Students with a major in General Studies must take advanced courses in the following areas: Humanities or Social Sciences.

Examples of courses in the Humanities Area are as follows: Art History, Classical Studies, Communication, Education, English, French, History, Peace and Justice, Philosophy, Spanish, Theology, and Theatre.

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Examples of courses in the Social Sciences Area are as follows: Criminology, Economics, Geography and the Environment, Global Interdisciplinary Studies, Political Science, Public Administration, Psychology, and Sociology.

ELECTIVES (13 COURSES, 42 CREDITS)

With the reduced core curriculum and a number of electives available in the Bachelor of Interdisciplinary Studies degree program, there is the opportunity for BIS students to complete significant coursework outside their major which would complement and enhance their academic studies. Examples of these academic discipline areas may include, but are not limited to, Information Systems, Leadership Studies, Business, and Communication.

INFORMATION SYSTEMS (122 TOTAL CREDITS)

INFORMATION SYSTEMS MAJOR (10 COURSES; 32 CREDITS)

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 4797	Information Systems Capstone	3

INFORMATION SYSTEMS ENVIRONMENT (5 COURSES; 15 CREDITS)

Course #	Title	Credits
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	Algorithms and Data Structures III	3
Data Communications	CSC 4900 (Computer Networks) OR MIS 3010 (Business Data Communication)	3

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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

ELECTIVES (10 COURSES, 30 CREDITS)

With the enhanced core curriculum and a number of electives available in the Bachelor of Interdisciplinary Studies degree program, there is the opportunity for BIS students to complete significant coursework outside their major which would complement and enhance their academic studies. Examples of these academic discipline areas may include, but are not limited to, Leadership Studies, Business, and Communication.

*MAT 1320 (Calculus I) or MAT 1500 (Calculus for Science) is highly recommended for all students seeking to attend graduate school.

** Students entering into technical degree programs should have successfully completed college-level courses in Math and English Composition.

LEADERSHIP STUDIES (120 TOTAL CREDITS)

LEADERSHIP MAJOR (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	
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

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+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 (15 COURSES, 45 CREDITS)

With the enhanced core curriculum and a number of electives available in the Bachelor of Interdisciplinary Studies degree program, there is the opportunity for BIS students to complete significant coursework outside their major which would complement and enhance their academic studies. Examples of these academic discipline areas may include, but are not limited to, Information Systems, Business, and Communication.

MEDIA& TECHNOLOGY (120 TOTAL CREDITS)

MEDIA AND TECHNOLOGY MAJOR (12 COURSES, 36 CREDITS)

Course #	Title	Credits
CSC 1020	Computing and the Web	3
CSC 1035	Databases for Many Majors	3
CSC 1040	Computing with Images	3
CSC 2020	Web Development & Technologies I	3
CSC 2025	Web Development & Technologies II	3
CSC 3070	Emerging Technologies	3
CSC 4710	Info. Systems Project Management	3
MIS 3030	Enabling Technology in E-Business	3
MKT 2290 +	Digital Marketing	3
COM 2300	Theories of Mass Communication	3
COM 2340	Theories of Visual Communication & Culture	3
COM 3352	Media & Technology	3

+MKT 1137 Principles of Marketing is a prerequisite for this course.

ELECTIVES (13 COURSES, 39 CREDITS)

With the enhanced core curriculum and a number of electives available in the Bachelor of Interdisciplinary Studies degree program, there is the opportunity for BIS students to

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complete significant coursework outside their major which would complement and enhance their academic studies. Examples of these academic discipline areas may include, but are not limited to, Information Systems, Business, and Communication.

* MAT 1320 (Calculus I) is highly recommended for all students seeking to attend graduate school.

** Students entering into technical degree programs should have successfully completed college-level courses in Algebra and English Composition

BACHELOR OF ARTS/BACHELOR OF SCIENCE

Students in the Bachelor of Arts or Bachelor of Science shared programs should consult the College of Liberal Arts and Sciences Departments for detailed requirements.

The Core Curriculum of the College of Liberal Arts and Sciences is applicable to shared degree programs. A description of the Core Curriculum may be found in the College of Liberal Arts and Sciences section of this *Catalog*.

ONLINE DEGREES

BACHELOR OF ARTS/BACHELOR OF INTERDISCIPLINARY STUDIES

CPS offers fully online bachelor's degree completion programs specifically designed for working professionals who have some college experience. A unique feature of this program is the weekly live classroom sessions that allow students to interact in real-time while creating a sense of community.

Students pursuing an online degree through the College of Professional Studies have the unique experience of taking courses online with on campus students and also have the flexibility to take on campus courses or seminars if they would like. Bachelor of Arts students may pursue majors in Leadership Studies and Public Service & Administration.

The Core Curriculum requirements for the Bachelor of Arts degree can be found in the College of Liberal Arts portion of this catalog. The requirements for the BIS online degree, remains the same as on campus, as shown above.

BACHELOR OF ARTS

PUBLIC SERVICE & ADMINISTRATION (122 TOTAL CREDITS)

Additionally, online Bachelor of Arts students may pursue a major in Public Service & Administration, a program developed in partnership with the Department of Public Administration of the College of Liberal Arts and Sciences.

PUBLIC SERVICE & ADMINISTRATION MAJOR (10 COURSES, 30 CREDITS)

Course #	Title	Credits
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 2040	Ethics & Leadership	3
LDR 2020	Leadership and Community	3

ELECTIVES (14 COURSES, 42 CREDITS)

With the enhanced core curriculum and a number of electives available in the Bachelor of Arts degree program, there is the opportunity for BA students to complete significant coursework outside their major which would complement and enhance their academic studies. Examples of these academic discipline areas may include, but are not limited to, Humanities, Business, Leadership, Social Science, etc.

BACHELOR OF ARTS

LEADERSHIP STUDIES (122 CREDITS)

The Core Curriculum requirements for the Bachelor of Arts in Leadership degree can be found in the College of Liberal Arts portion of this catalog.

LEADERSHIP MAJOR (10 COURSES, 30 CREDITS)

Course #	Title	Credits
LDR 2010	Strategic Planning for Leaders	3
LDR 2020	Leadership and Community	3
LDR 2030 <i>Or</i>	Leadership and Technology	3
CSC 3070	Emerging Technology Trends	
LDR 2040	Ethics and Leadership	3
LDR 2060	Leadership in a Borderless Economy	3
LDR 2070	Strategy Driven Talent Management	
COM 2440 <i>Or</i>	Theories of Organizational Communication/	3
COM 3475	Communication Challenges in Organizations	
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 (42 CREDITS)

With the enhanced core curriculum and a number of electives available in the Bachelor of Arts degree program, there is the opportunity for BA students to complete significant coursework outside their major which would complement and enhance their academic studies. Examples of these academic discipline areas may include, but are not limited to, Humanities, Business, Leadership, Social Science, etc.

POST GRADUATE FOR-CREDIT CERTIFICATE PROGRAMS

Several certificate programs are available through the College of Professional Studies. Certificate programs are designed for individuals who already have bachelor 's degrees but wish to develop expertise in a particular area. 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. Besides providing an educational opportunity for persons interested in securing careers in accounting in a diversity of environments in industry, business, and government, 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: A. Students are required to have any prerequisite courses necessary (indicated in the course description) for any particular course in the certificate program. A maximum of 2 transfer courses will be allowed. 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:		
VSF 2004	Principles of Financial Accounting	3
VSF 3006	Principles of Managerial Accounting	3
ACC 2310	Intermediate Accounting I	3
ACC 2320	Intermediate Accounting II	3
ACC 2360	Federal Income Tax	3

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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
VSF 2007	Corp Responsibility and Regulation	3
BL 2185	Law of Contracts and Sales	3
VSF 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. It is for individuals who wish to have a more formal grounding in the application of information technology and for those who want to understand the information demands on business and society. It is especially useful for students who have already completed coursework in business or liberal arts and who wish to acquire a formal understanding of the application of information technology.

Students are required to have any prerequisite courses necessary (indicated in the University Catalog) for any particular course in the certificate program. Students are not required to have a Bachelor's degree. Courses may be transferred for requirements but will not be considered for the course hours. This allows students to complete additional electives.

CERTIFICATE IN INFORMATION SYSTEMS (6 COURSES, 4 REQUIRED, 2 ELECTIVE, 18 CREDITS)

Course #	Title	Credits
Required Courses		

Villanova University

<u>Introductory Course:</u> CSC 1020 OR VSB 2006	Computing & the Web OR Strategic Information Technology	3
CSC 1051	Algorithms & Data Structures I	4
<u>Databases:</u> MIS 2030 OR CSC 4480	Database Management OR CS Principles of Database Systems	3
<u>Systems Analysis:</u> MIS 2040 OR CSC 4700	MIS 2040 Systems Analysis and Design OR CSC 4700 Software Engineering	3
Elective Courses:		
CSC 2400	Computer Systems I	3
CSC 1052	Algorithms & Data Structures II	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 STUDIES

The Certificate in Leadership Studies 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. While providing an educational opportunity for individuals interested in securing careers in management in a diversity of environments, the program also meets the needs of those who work in smaller businesses or who are self-employed. To be eligible for this certificate, a student must possess a bachelor’s degree from an institution accredited by the appropriate regional accrediting association.

CERTIFICATE IN LEADERSHIP STUDIES (5 COURSES, 2 REQUIRED, 3 ELECTIVE 15 CREDITS)

Course #	Course Title	Credits
Required Courses:		

Villanova University

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 was created to provide 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.

Students are required to have any prerequisite courses necessary (indicated in the University Catalog) for any particular course in the certificate program. Students are not required to have a Bachelor's degree. Courses may be transferred for requirements but will not be considered for the course hours. This allows students to complete additional electives.

CERTIFICATE IN PRE-HEALTH PROFESSIONS SCIENCES (9 COURSES, 37 CREDITS)

Course #	Course Title	Credits
BIO 2105	General Biology I (lab included)	4
BIO 2106	General Biology II (lab included)	4
CHM 1151 AND	General Chemistry I AND Lab	5

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CHM 1103		
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
CHM 4611	Survey of Biochemistry	3

SUMMER SESSION

The summer program at Villanova is designed to assist students in fulfilling their academic needs in a productive yet pleasant environment. Over 4500 students take courses here each summer. There are graduate and undergraduate courses in the liberal arts, sciences, engineering, education, business, and nursing. With two four-week day sessions, an eight-week evening session, internships, summer abroad programs, independent studies and weekend workshops, students are sure to find a course that fits their needs

Courses in the summer are open to visiting students from other colleges as well as Villanova's current graduate and undergraduate students. Members of the local community and adult students who wish to return to college, take a course for personal enrichment, expand their professional knowledge or enhance career options are encouraged to enroll in summer sessions. Together with our excellent faculty, summer students form a community of scholars dedicated to learning within an environment of academic excellence.

SUMMER DISTANCE LEARNING – ONLINE CLASSES

Villanova Summer Sessions offers undergraduate online courses, which allow students the opportunity to earn credit towards the completion of their degrees. These online offerings take advantage of many of the latest e-learning technologies. Accordingly, Villanova makes every effort to provide students with the proper technological assistance, allowing for complete focus on academics during Summer Sessions.

VISITING SUMMER STUDENTS

Visiting summer students from other colleges/universities need to complete an application. Students will receive an email confirmation from the Office of the Registrar with follow-up instructions. Academic advisement or the transferability of a Villanova summer course to the visiting student's college/degree program is the responsibility of the student. If students wish to reside on campus, room and board are available in our residence halls.

CURRENT VILLANOVA STUDENTS

Current Students, including Part-Time and Graduate students, are highly encouraged to register using the MyNOVA system, after obtaining their PIN from their advisor. Current students should make every effort to register via MyNOVA. For information on how to register via MyNOVA, please see below.

CPS students wishing to take a graduate course must have senior status, a 3.0 cumulative average, and permission of the instructor, course chair, advisor, student's dean, and graduate dean in order to enroll in graduate courses.

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 SUMMERSESSION.VILLANOVA.EDU.

FLEXIBLE ENROLLMENT OPTIONS

FAST FORWARD AT VILLANOVA

Villanova's Fast Forward courses are designed to help adult students move forward quickly toward graduation. These courses are scheduled as two- seven week back to back sessions throughout the fall and spring semesters. The session 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. Fall CPS students are eligible to take advantage of the accelerated Fast Forward course options unless otherwise recommended by your academic advisor.

VARIABLE COURSE LOAD

Students can vary the number of courses taken each semester, depending on their professional and personal demands. An average course load for many part-time students is two courses or six credits per semester. By utilizing our Fast Forward courses, students may take a total of four courses in a semester: two during the regular semester, and one in each of the Fast Forward sessions. Students may also pace themselves to finish their degree at the pace they are comfortable with the expert guidance our academic advising team.

EVENINGS/ WEEKENDS

Students have many options to choose from when registering for classes. CPS offers courses that that meet one night a week for 14 weeks or 1 night per week for 7 weeks, on Saturdays,, on Friday nights and Saturdays (one credit psychology seminars which are offered during the fall semester and summer session), and online through distance learning classes

DISTANCE EDUCATION

Because technology is an integral part of the modern college classroom, Villanova University also offers fully on-line classes during Summer Session as well as during the academic year.

ACADEMIC AND STUDENT POLICIES AND INFORMATION

With the exceptions and specifications listed below, students in The College of Professional Studies are governed by the same regulations and policies that apply to students in the four undergraduate Villanova Colleges. See the general University section and the individual college sections of this *Catalog* for further information on all the following. *NOTE: it is the responsibility of the student to know and observe all academic policies and regulations. Such policies may change without prior notice.*

ACADEMIC STANDING

To qualify for a bachelor's degree, a candidate must earn a cumulative quality point average of at least 2.00. CPS students who wish to take courses in the day sessions must also maintain a 2.00 cumulative quality point average. A student's record will be submitted to the Academic Standing Committee for appropriate action (ranging from probation to dismissal) if the average has fallen below 2.0. If a student is placed on probation, their

course load may be restricted, and they must achieve a specified grade point average in that semester in order to continue to be eligible for enrollment.

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.

ADVISING

CPS student experience staff and designated faculty are academic advisors for students in the CPS degree and certificate programs. Academic advisors can provide assistance in making decisions that affect academic goals. Student are recommended to consult with an advisor at least once a semester to ensure proper course selection and academic advancement. They are available during evening or daytime hours. Appointments may be arranged by contacting your advisor directly. If you need additional information about identifying your academic advisor please contact the student experience team at 610-519-4300

Note: Although advisors will do all they can to assist students, the students themselves are responsible for securing accurate and timely information about policies and procedures affecting their academic programs, for understanding the requirements of degree programs they choose, for planning for the orderly fulfillment of those requirements, and for keeping accurate records of their academic progress and transactions. Additional information and policies may be found in the University section and in the individual college sections of this Catalog.

AUDITING

Students who are not working for college credits may enroll for audit status with the consent of the Office of the Dean and the student's academic advisor. Additional information may be found in other sections of this catalog.

CHANGE OF DEGREE PROGRAM

A student who wishes to change degree programs must notify their academic advisor and submit a change of major form in writing. The form is available online via the CPS website under student information tab.

CLASS STATUS

Matriculated students (those who have been accepted into a bachelor's degree program) with under 30 credits *completed* are considered freshmen; with 30-59 credits, sophomores; with 60-89 credits, juniors; and with 90 credits or more, seniors.

DEAN'S LIST

To be included on the Dean's List, a student must be matriculated in a degree program, must achieve a 3.5 GPA, and must carry at least 6 credits per semester, none of which can be a satisfactory/unsatisfactory course. Letters of congratulations are mailed to each student who achieves this high honor. If a student so desires, a letter can also be sent to his or her employer. The Dean's List pertains to the fall and spring semesters.

GRADUATION APPLICATION

A student who expects to receive a degree is required to make an official notification to their academic advisor for the degree no later than November 1 for May completion, April 1 for September completion, and August 1 for December completion. *A prospective graduate form can be filled out via your student tab on your mynova account when you are within eligible limits to graduate.* The student's advisor will review his or her record and verify the completion of all graduation requirements.

Students may walk in graduation if they are within 9 credits of degree completion. The final course credits must be completed within the next semester in order to walk. Students interested in walking must notify their academic advisors by the above deadlines. Students who decide to walk before degree completion will not be eligible or considered for any merit awards given until they have completed all required course work.

STUDENT ACTIVITIES

Villanova offers approximately 150 different student organizations which fall under the jurisdiction of the Office of Student Development, located in 214 Dougherty Hall, 610/519-4210. For information on the various groups, visit or contact that office. CPS students are permitted to participate in any activity on campus except a varsity level sport and Greek life. CPS students also do not qualify for on campus housing.

Villanova University

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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 2017 Spring 2017 Fall 2015 Fall 2014

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 2017 Fall 2016 Spring 2016 Spring 2015

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 2017 Fall 2016 Fall 2014 Fall 2013

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 2017 Spring 2016 Spring 2014 Spring 2013

AAH 1903 Internship Elective An internship in an elective area of concentration. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2014 Fall 2012 Fall 2011

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: Spring 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Spring 2015 Fall 2013 Summer 2013

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 Fall 2005

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 2011 Fall 2010 Summer 2010 Spring 2009

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 2017 Fall 2016 Fall 2015 Fall 2013

AAH 2007 Hist. of Western Architecture Development of architectural styles from the Gothic to the contemporary, with emphasis on the modern period. (3 cr) Last Offered: Spring 2012 Spring 2008 Spring 2006 Spring 2004

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 Summer 2010

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 2017 Fall 2016 Spring 2016 Fall 2015

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: Fall 2015 Spring 2014 Spring 2013 Fall 2011

AAH 2993 Internship (3 cr) Last Offered: Fall 2016 Fall 2015 Spring 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Spring 2015 Fall 2012 Summer 2012

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 2014 Fall 2012 Fall 2009 Fall 2008

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 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 2017 Fall 2016 Summer 2016 Summer 2015

AAH 3009 Topics in Art History Selected themes or periods in the history of art examined in depth. (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

AAH 3020 Topics in Archeology Topics of interest to faculty and students. Does not fulfill Fine Arts requirement. (3 cr) Last Offered: Summer 2008

AAH 4004 Spec Top: Renais-Baroque Seminar on architecture, painting, sculpture and art theories of the Renaissance or Baroque as announced. Topics will vary depending on the instructor. (3 cr) Last Offered: Spring 2007 Fall 1999 Spring 1997

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 Spring 1998

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 Spring 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 2017 Fall 2016 Fall 2015 Fall 2014

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:

AAH 5515 Independent Research An intensive research project under individual direction. Permission of chairperson required. (3 cr) Last Offered: Fall 2017 Spring 2017 Spring 2016 Fall 2015

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 Fall 2014

ACC 2020 Special Topics Special accounting topics offered in lecture/seminar format. Permission of Department Chair. (1 cr) Last Offered:

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Fall 2014

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 2017 Spring 2017 Fall 2016 Spring 2016

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: 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 2017 Fall 2016 Spring 2016 Fall 2015

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 2017 Spring 2017 Fall 2016 Spring 2016

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: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Spring 2017 Fall 2016 Spring 2016

ACC 3500 Ind Study: Accounting (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2016 Fall 2015 Fall 2013 Fall 2012

AER 1012 Leadership Lab Last Offered: Fall 2016 Fall 2015 Fall 2014 Fall 2013

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 2017 Spring 2014 Spring 2013 Spring 2012

AER 1022 Leadership Lab Last Offered: Spring 2017 Spring 2016 Spring 2015 Fall 2014

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 2016 Fall 2015 Fall 2014 Fall 2013

AER 1041 Evol of USAF Air Space Powr 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 2017 Spring 2015 Fall 2014 Spring 2013

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 2016 Fall 2015 Fall 2014 Fall 2013

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 2016 Spring 2014 Spring 2013 Spring 2012

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 Fall 2013

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 Spring 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:

AFR 3100 Special Topics Specific topics vary each semester. (3 cr) Last Offered:

AFR 3101 Special Topics Specific topics vary each semester. (3 cr) Last Offered:

AFR 3102 Special Topics Specific topics vary each semester. (3 cr) Last Offered:

AFR 4000 Capstone Seminar (3 cr) Last Offered: Spring 2006

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 2004 Spring 2003 Fall 2002 Spring 2002

AIS 1111 Basic Arabic (3 cr) Last Offered: Spring 2004

AIS 1112 Basic Arabic II Continuation of AIS 1111. Functional use of modern standard arabic. Recitations, readings and oral drills. (3 cr) Last Offered: 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 Spring 2013

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

ARB 1123 Intermediate Arabic I Review of grammar and vocabulary. Recitations, readings and oral drills. Supplementary language laboratory work. (3 cr) Last Offered: Fall 2004 Fall 2003 Fall 2002

ARB 1124 Intermediate Arabic II Review of grammar and vocabulary. Recitations, readings and oral drills. Supplementary language laboratory work. (3 cr) Last Offered: Spring 2005 Spring 2004 Spring 2003

ARB 1125 Intermediate Arabic III Review of grammar and vocabulary. Recitations, readings and oral drills. Supplementary language laboratory work. (3 cr) Last Offered: Fall 2005 Fall 2004

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 2017 Fall 2016 Fall 2015 Fall 2014

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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 2017 Spring 2016 Spring 2015 Spring 2014

ARB 1133 Conversational Arabic I Intensive practice in conversation with emphasis on developing advance language skills in Arabic. ARB 1132 or equivalent or permission of instructor. (3 cr) Last Offered: Fall 2011 Fall 2010

ARB 1134 Conversational Arabic II Intensive practice in conversation with emphasis on developing advance language skills in Arabic. ARB 1133 or equivalent or permission of instructor. (3 cr) Last Offered: Spring 2012 Spring 2011

ARB 1141 Intro to Coll Egypt Arabic Training in the use of colloquial Egyptian Arabic, focusing on listening and speaking skills. Supplementary laboratory work and drills. (3 cr) Last Offered: Spring 2009 Fall 2008 Spring 2007 Spring 2000

ARB 2100 Arabic Lit in English Trans The major works of Arabic literature in translation. Conducted in English. Satisfies Diversity Requirement. (3 cr) Last Offered: Spring 1998

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: Fall 2017 Spring 2017 Fall 2015 Spring 2015

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: Spring 2015 Spring 2014 Spring 2013 Fall 2012

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 2017 Spring 2017 Fall 2016 Spring 2016

AS 1903 Internship Requires a 3.0 GPA for Fall and Spring Semesters and a 2.7 GPA for Summer Sessions, completion of a non credit "Arts and Science Career Exploration Workshop", and in some cases may require additional course work. (3 cr) Last Offered: Summer 2007 Spring 2007 Fall 2005 Summer 2005

AS 1906 Internship Requires a 3.0 GPA for Fall and Spring Semesters and a 2.7 GPA for Summer Sessions, completion of a non credit "Arts and Sciences Career Exploration Workshop", and in some cases may require additional course work. (6 cr) Last Offered: Summer 2007 Spring 2007 Fall 2005 Summer 2005

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 2017 Fall 2016 Fall 2015 Fall 2014

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: Spring 2017 Fall 2016 Spring 2016 Fall 2015

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Spring 2017 Spring 2016 Fall 2015

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Spring 2016 Fall 2015

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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 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 2017 Fall 2016

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 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:

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 2017 Summer 2017 Spring 2017

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 2017 Spring 2017 Fall 2016 Spring 2016

AST 1072 Birth & Death of Stars The life cycles of the stars from birth in dark, dense interstellar clouds to death in nature's most violent cataclysms. Topics include: formation of the chemical elements; effects of nearby supernovae; future of the Sun; ultimate fate of the Earth. (3 cr) Last Offered: Summer 2012 Fall 2011 Summer 2011 Fall 2010

AST 1074 Planetary Skies and Landscapes A study of the surfaces and atmospheres of other worlds and how they compare to Earth. Physical processes which shape planetary interiors and surfaces; atmosphere and climate evolution; formation of the Solar System; properties of "solar systems" around other stars. (3 cr) Last Offered: Summer 2012 Spring 2012 Summer 2011 Spring 2011

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 Last Offered: Fall 2017 Fall 2016 Fall 2015 Fall 2014

AST 2134 Observational Lab II Continuation of AST 2122. 2 Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

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 2016 Fall 2014 Fall 2012 Fall 2010

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 2017 Spring 2015 Spring 2013 Spring 2011

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 2017 Fall 2015 Fall 2013

AST 3162 HighEnergy Astrophysics Topics Classes of astronomical sources detected at ultraviolet, X-ray, and gamma-ray wavelengths and the physical processes behind these emissions: stellar coronae and stellar flares, cataclysmic binaries, supernovae, accretion disks around neutron stars and black holes, X-ray bursters, active galactic nuclei, QSO's, BL Lac objects, and gamma-ray bursters. Prereq: One year of mathematics or university level physics, plus 2120. (3 cr) Last Offered: Spring 2016 Spring 2014 Spring 2012 Spring 2011

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 2017 Spring 2016 Spring 2015 Spring 2014

AST 4122 Undergrad Research II Continuation of AST 4121. (3 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015 Fall 2014

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) Last Offered:

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) Last Offered:

BA 1001 C.E.O. Program I VSB freshman fall seminar; meets once with additional out-of-classroom requirements. Eases transition to college and aids in professional development. Last Offered: Spring 2008 Fall 2007 Spring 2007 Fall 2006

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BA 1002 C.E.O. Program II VSB freshman spring seminar; meets once with additional out-of-classroom requirements. Eases transition to college and aids in professional development. Last Offered: Spring 2009 Fall 2008 Spring 2008 Fall 2007

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 2017 Spring 2017 Summer 2016 Spring 2016

BA 2500 Communication Portfolio I Record/videotape 3-5 minute oral presentation for evaluation by Communication Department. Last Offered:

BA 4500 Communication Portfolio II Record/videotape 3-5 minute oral presentation for evaluation by Communication department. Last Offered:

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

BIO 1903 Internship Elective Open to BIO and BSC majors. (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

BIO 1906 Internship Elective Open to BIO and BSC majors. (6 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

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 Fall 2014

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) Last Offered:

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 2017 Fall 2016 Summer 2016 Fall 2015

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 2017 Spring 2016 Summer 2015 Spring 2015

BIO 2993 Internship Open to BIO and BSC majors. (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

BIO 2996 Internship Open to BIO and BSC majors. (6 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2016 Spring 2015 Spring 2014

BIO 3055 Animal Physiology The basic principles underlying how animals function and the mechanisms used to solve physiological problems. (4 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2016 Summer 2015 Spring 2015

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 2016 Spring 2015 Spring 2014 Spring 2013

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 Fall 2008

BIO 3255 Introductory Ecology Factors affecting the distribution, abundance, and interactions of organisms. Climate patterns, biomes, physiological adaptation, population dynamics, behavioral ecology, species interactions, community structure, ecosystem function, and environmental problems. Hypothesis testing using statistical analysis of data. (4 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2017 Fall 2016 Spring 2016

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 Fall 2007

BIO 3455 Histology The microscopic study and demonstration of cells, tissues and organ systems of the mammalian body. (4 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Fall 2015

BIO 3505 Invertebrate Zoology The anatomy, taxonomy, evolution, physiology, development, ecology and behavior of invertebrates. The comparative approach in both field and laboratory. (4 cr) Last Offered: Fall 2006 Fall 2005 Fall 2003 Fall 2000

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 2016 Fall 2013 Fall 2011 Fall 2009

BIO 3555 Lower Vertebrates The biology of fishes, amphibians and reptiles: systematic and morphological diversity, physiological, reproductive and behavioral adaptations, ecology, and evolution. Required field trips to representative local habitats. (4 cr) Last Offered: Spring 2011 Spring 2009 Spring 2005 Spring 2001

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Fall 2015 Fall 2014 Fall 2012

BIO 3755 Parasitology Biology of host-parasite relationships with emphasis on parasites of man and domestic animals. Methods of transmission, host response to parasites, prevention and treatment. (4 cr) Last Offered: Spring 2006 Spring 2004 Spring 2002 Fall 1998

BIO 3801 Plant Physiology Physiology and metabolism of plants: photosynthesis, respiration, hormones, photoperiodism, radioisotopes in biological research, DNA biosynthesis and metabolism during plant development. (2 cr) Last Offered: Spring 1997 Spring 1996 Spring 1995

BIO 3802 Plant Physiology Lab Photosynthesis, respiration, hormones, extraction and characterization of DNA, DNA biosynthesis, autoradiographic techniques and liquid scintillation spectrometry. (2 cr) Last Offered: Spring 1997 Spring 1996 Spring 1995

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 Fall 2006

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: Spring 2017 Fall 2016 Spring 2016 Spring 2015

BIO 3952 Special Topics in Biology LAB One credit lab in Biology. Topic to be determined by term. (1 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Summer 2016 Spring 2016

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 2016 Fall 2014 Fall 2012 Fall 2010

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 2017 Fall 2016 Spring 2016 Fall 2015

BIO 4251 Endocrine Physiol/Pharmacology Mechanisms of endocrine control of growth, metabolism, reproduction, adaptation, and behavior. The endocrine glands. (3 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015 Fall 2014

BIO 4252 Endocrine Physiol/Pharmacology Laboratory experience in endocrinology, demonstrative and analytical. (1 cr) Last Offered: Fall 2016 Fall 2015 Fall 2014 Fall 2013

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 2017 Fall 2015 Fall 2013 Fall 2012

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 2017 Spring 2016 Spring 2015 Spring 2014

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 Spring 2011

BIO 4385 Global Change Ecology Explores roles of ecology in documenting, responding, feeding back to, and mitigating human-caused changes to Earth's chemistry, geography and climate. Accompanying lab includes ecological techniques, such as carbon flux measurements, and develop independent research projects in the laboratory. Prerequisite: BIO 2105 & 2106. Course in ecology preferred or permission of instructor. (4 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015

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 2017 Fall 2015 Fall 2013 Fall 2011

BIO 4452 Field Ecol and Evol Lab Field study of organisms and ecosystems of a focal region. Trip lasting 15-20 days usually in late May to geographical area covered in BIO 4451, with focus on local habitats and conservations projects, field identification, group exercises, and independent research projects. Costs to students and timing vary with site chosen. (2 cr) Sem 2, even year. (2 cr) Last Offered: Spring 2014 Spring 2012 Spring 2010 Fall 2008

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 2017 Spring 2017 Spring 2016 Fall 2015

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 2016 Fall 2015 Fall 2014 Fall 2013

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 Spring 2007

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 Fall 2012

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: Spring 2017 Fall 2016 Spring 2016 Spring 2015

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 2017 Fall 2015 Spring 2015 Fall 2013

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 2017 Spring 2016 Spring 2015 Spring 2014

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

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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 2017 Spring 2017 Fall 2016 Spring 2016

BIO 6100 Affiliation Study Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

BIO 6401 BS/MS Independent Study 1 Supervised laboratory/field research (1 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015 Fall 2014

BIO 6402 BS/MS Independent Study 2 Supervised laboratory/field research. (1 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

BIO 6403 BS/MS Independent Study 3 Supervised laboratory/field research. (1 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015 Fall 2014

BIO 6404 BS/MS Independent Study 4 Supervised laboratory/field research. (1 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

BIO 6965 International Studies Biology Lecture/Laboratory course taken through International Studies Program. (4 cr) Last Offered:

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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 2017 Spring 2016 Spring 2015 Spring 2014

BL 2149 Cont. Topics in Business Law Contemporary issues and topics which affect the legal environment of business. (3 cr) Last Offered:

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Fall 2016 Fall 2015 Spring 2015

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 2017 Fall 2016 Fall 2015 Fall 2014

BL 3190 Indep Study & Research Study with faculty member's guidance in an area of special interest to students. (3 cr) Last Offered: Fall 2000 Fall 1999

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 Summer 2014

CBN 2900 Topics in Cog & Behav Neuro Topics in Cog & Behav Neuro: Neuroscience and ethics, Neuroeconomics, Drugs and behavior, etc. (3 cr) Last Offered:

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 2017 Fall 2016 Fall 2015

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 2017 Spring 2016

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 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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Summer 2016 Spring 2016 Summer 2015

CEE 2104 Mechanics: Statics & Dynamics Force systems; equilibrium of particles and rigid bodies; analysis of simple structures; internal forces; friction; properties of areas and volumes; kinematic and kinetic analysis of particles. (4 cr) Last Offered: Spring 2009 Fall 2008 Summer 2008 Spring 2008

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 Fall 2009

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 2017 Spring 2016 Spring 2015 Spring 2014

CEE 3704 CE Numerical & Stat Analysis Development and application of probability and statistics for solving CE problems. Development and application of numerical algorithms for CE problems: root finding, simultaneous equations, curve fitting, interpolation, integration and differentiation. (3 cr) Last Offered: Fall 2009 Fall 2008 Fall 2007 Fall 2006

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Fall 2015 Fall 2013

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

CEE 3950 Graphical Communications Expressing calculations and designs through graphical techniques. (1 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2016 Fall 2015

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

CEE 4601 CEE Professional Practice Relationships among planning, design, and construction processes for civil engineering projects. Multidisciplinary team feasibility/alternative study focusing on conceptual design. Seminars on finding employment, graduate school, professional licensure and ethics. (3 cr) Last Offered: Fall 2011 Fall 2010 Fall 2009 Fall 2008

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 Fall 2014

CEE 4606 CEE Capstone Design Project 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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Spring 2017 Fall 2016 Summer 2016

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Spring 2017 Fall 2016 Fall 2015

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:

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Spring 2017 Fall 2016 Spring 2016

CEE 4620 Green Construction Materials Components of a sustainable engineering system, life-cycle analysis, environmental impact, LEED standards, computer models, energy performance, eco-impact of construction materials. (3 cr) Last Offered:

CEE 4801 Foundation Design (CEE Senior Elective) Soil testing, site investigation, design of both shallow and deep foundations. (3 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

CGS 5910 Language Processes 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 2016

CGS 5950 Ind. Res. in Cognitive Science Supervised research project and report in a selected area of cognitive science. May be repeated for credit; however, only three hours of research can be applied toward the requirements of the concentration or minor in cognitive science. Prerequisite: Permission of the Director of the Cognitive Science Program. (3 cr) Last Offered:

CHE 2031 Intro Chemical Processes Application of physical and chemical principles to the solution of steady-state material balances. (3 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2016 Spring 2014 Spring 2012 Spring 2010

CHE 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 "greatest good" and "common good". Permission of instructor. (3 cr) Last Offered: 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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

CHE 4831 Chem Engineering Research I Independent investigation of a chemical engineering problem, under supervision of a faculty adviser, including a written comprehensive report. (Nine hours per week of independent study). (3 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015 Fall 2014

CHE 4832 Chem Engineering Research II Continuation of CHE 4831. May include further investigation of same problem or a different topic. (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2015 Spring 2013 Spring 2011

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_x and SO_x abatement, and meteorological effects. (3 cr) Last Offered: Fall 2016 Spring 2015 Spring 2012 Spring 2008

CHE 5032 Process Equip Design II Continuation of CHE 4131, with emphasis on equipment design; use of process simulators (such as AspenTech ASPEN PLUS) for process equipment design. (3 cr) Last Offered: Spring 2015 Spring 2014 Spring 2013 Spring 2012

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 2016 Fall 2014 Fall 2012 Fall 2011

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 2015 Spring 2010 Fall 1999 Fall 1998

CHE 5132 Transport Phenomena Unified study of heat, mass and momentum transport: underlying physical laws, mathematical representation of transport laws, analogies between different transport modes, estimation of transport properties, applications. (3 cr) Last Offered: Spring 2016 Spring 2014 Spring 2012 Spring 2010

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 Spring 2009

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: Spring 2017 Spring 2016 Spring 2013 Spring 2010

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 2017 Fall 2016 Spring 2016 Fall 2015

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 2017 Spring 2016 Spring 2015 Spring 2014

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: Spring 2017 Fall 2016 Fall 2014 Spring 2013

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 Spring 2014

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 2017 Fall 2015 Fall 2013 Fall 2012

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 Spring 2015

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 Fall 2011

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Summer 2017 Fall 2016 Fall 2015

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 2017 Spring 2016 Summer 2015 Spring 2015

CHI 1113 Business Chinese No Chinese language skill pre-requisite; cultural and linguistic combination; conduct in english; Mandarin Chinese and Pinyin system taught in class. (3 cr) Last Offered: Summer 2012

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 2017 Summer 2017 Fall 2016 Summer 2016

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 2017 Spring 2016 Summer 2015 Spring 2015

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 2017 Summer 2017 Fall 2016 Summer 2016

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: Summer 2017 Spring 2017 Summer 2016 Spring 2016

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 2017 Fall 2016 Summer 2016 Summer 2015

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 2017 Summer 2016 Summer 2015 Spring 2015

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 2017 Summer 2016 Summer 2015 Summer 2014

CHI 2144 Chinese Film & Novel The history and development of Chinese fiction from its beginning to the present. Taught in English, (3 cr) Last Offered: Fall 2008 Fall 2007 Fall 2006 Fall 2005

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2016 Spring 2015 Spring 2014

CHI 3414 Chinese Classical Thought Students will come to understand the basic thought, ideology, and great intellects, Sun Tzu and Confucius of life philosophy, then further examine the relationship between those classics and the ideology and philosophy of modern China. (3 cr) Last Offered:

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 2017 Spring 2017 Fall 2016 Spring 2016

CHM 1000 Profesl 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 2017 Spring 2017 Fall 2016 Spring 2016

CHM 1001 Experimental Chem I Simple syntheses and quantitative measurements; analysis of materials and separations. Some experience with modern instrumentation will be provided to demonstrate the limitations accompanying the experimental method. (1 cr) Last Offered: Fall 2010 Fall 2009 Fall 2008 Fall 2007

CHM 1004 Water Chemistry Lab Environmental water sampling and common water quality measurements including pH, alkalinity, dissolved oxygen, water hardness, bacterial content, and common water pollutants. (1 cr) Last Offered: Fall 2011 Fall 2010 Spring 2003

CHM 1007 Criminalistics Laboratory Forensic laboratory analyses: evidence collection, DNA sampling, microscopic evaluations of hair, fibers, etc., fingerprint analysis, etc. (1 cr) Last Offered: Spring 2012 Spring 2011 Spring 2008 Spring 2007

CHM 1008 Chemistry & Art Laboratory Laboratory, instrumental, and microscopic methods to analyze authenticity, age, and composition of art of all forms. (1 cr) Last Offered: Spring 2011 Spring 2010 Spring 2009 Spring 2007

CHM 1050 Chem Themes Foundation For non-science majors. Basic concepts of measurement, the S. I. system of units, structure of atoms and molecules, inorganic nomenclature, qualitative and quantitative aspects of chemical reaction, properties of gases, properties of solutions, principles of chemical equilibrium, acids and bases. The first semester in a two-semester sequence. (3 cr) Last Offered: Fall 2010 Spring 2010 Fall 2009 Spring 2009

CHM 1052 Organic and Biochemistry For non-science majors. Introduction to alkanes, alkenes, arenes, amines, carboxylic acids, amino acids, carbohydrates, proteins and major metabolic pathways. Also includes topics in nutrition and exercise. (3 cr) Last Offered: Spring 2001 Spring 1999

CHM 1054 Environmental Chemistry For non-science majors. Application of scientific laws, principles, and concepts to a basic understanding of the chemistry of the environment its use and abuse, as it is affected by the quality of the air, water and soil; and the impact of the increasing demands for the earth's limited fossil, biological and mineral resources by an exponentially growing global population. (3 cr) Last Offered: Spring 2003 Spring 2002 Spring 2001 Spring 2000

CHM 1055 Molecular Architecture For non-science majors. An historical development of the idea of three dimensional species at the molecular level; experimental verification, chiralspecies, electronically delocalized species, aromatic and anti-aromatic species, fluxional species, rigid, highly strained, unstable and metastable species. Current and future directions (e.g. "Buckyballs") as time allows. (3 cr) Last Offered: Spring 2000 Spring 1998

CHM 1056 Water The chemistry of water as well as its significance in biochemistry, geology, and the atmosphere are introduced and discussed. (3 cr) Last Offered: Fall 2011 Fall 2010 Spring 1998

CHM 1057 Chem Theme: Criminalistics For nonscience students. Introduction to the chemical aspects of forensic chemistry examining physical evidence found at a crime scene (hair, fibers, chemical residues, DNA, etc.), proper collection, preservation of evidence, and chemical principles involved in the analyses. (3 cr) Last Offered: Spring 2012 Spring 2011 Spring 2008 Spring 2007

CHM 1058 Chemistry & Art The application of chemical methods to study the origin, preservation, and authenticity of works of art. Topics include light and color, pigments and dyes, photography, ceramics, and textiles. (3 cr) Last Offered: Spring 2011 Spring 2010 Spring 2009 Spring 2007

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2017 Summer 2016 Spring 2016

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 2017 Spring 2016 Summer 2015 Spring 2015

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 2017 Fall 2016 Fall 2015 Summer 2015

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 2017 Spring 2016 Summer 2015 Spring 2015

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2017 Summer 2016 Spring 2016

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

CHM 1903 Internship Elective (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

CHM 1906 Internship Elective (6 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

CHM 1909 Internship Elective (9 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2017 Summer 2016 Spring 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2017 Summer 2016 Spring 2016

CHM 2993 Internship (3 cr) Last Offered: Summer 2017 Summer 2016 Summer 2015 Summer 2014

CHM 2996 Internship (6 cr) Last Offered: Spring 2011 Spring 2010 Spring 2009 Fall 2008

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

CHM 3312 Descript Inorganic Chem Emphasis on practical aspects of chemical and industrial processes including recovery and refining of elements and their compounds. The periodic relationship of elements will be studied along with structure, bonding and stereochemistry of inorganic chemicals. Acid-base theory and coordination chemistry will also be covered. (3 cr) Last Offered: Spring 2003 Spring 2002 Spring 2001 Spring 2000

CHM 3401 Physical Chem Lab I Use of the computer to design statistical package software for treatment of experimental data will be stressed in the two semester laboratory course. Phase and chemical equilibrium to supplement CHM. 3411 will be included. Gas chromatographic techniques will be used. (1 cr) Last Offered: Summer 2005 Summer 2004 Fall 2002 Summer 2002

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

CHM 3412 Physical Chemistry II The course will present an introduction to atomic and molecular structure and spectroscopy, chemical kinetics and chemical dynamics. Corequisites: CHM 3402 or CHM 3404 (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

CHM 3415 Physical Chem for Engineers The laws of thermodynamics applied to phase equilibria and chemical thermodynamics and the properties of substances. (3 cr) Last Offered: Fall 2002

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

CHM 3505 Analytical Chem Lab I Designed to complement CHM. 3515. Laboratory experiments involving gravimetric, titrimetric and spectrophotometric methods are used to obtain quantitative data about the composition of various samples. (2 cr) Last Offered: Fall 1999 Fall 1998 Fall 1997 Fall 1996

CHM 3506 Analytical Chem Lab II A complementary course for CHM. 3516. Emphasis on instrumental techniques to obtain quantitative data. Techniques such as spectroscopy, spectrochemical titrations, electroanalytical techniques (electrode position, polarography, coulometry, etc.) and separation techniques (gas chromatography and liquid chromatography). (2 cr) Last Offered: Spring 2001 Spring 2000 Spring 1999 Spring 1998

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

CHM 3515 Analytical Chemistry I Fundamentals of modern analytical chemistry with emphasis on data collection and analysis, evaluation of error, extensive treatment of equilibria in simple and complex systems. Examination of gravimetric and titrimetric methods. Introduction to spectroscopy. (3 cr) Last Offered: Fall 1999 Fall 1998 Fall 1997 Fall 1996

CHM 3516 Analytical Chemistry II Quantitative instrumental analysis theory and its application to the analysis of common laboratory samples, environmental samples, and forensic samples. The application of reaction rates to analytical chemistry. Topics such as optical methods, electroanalytical techniques, and chromatographic techniques are stressed. (3 cr) Last Offered: Spring 2001 Spring 2000 Spring 1999 Spring 1998

CHM 4202 Org Struct Analysis Lab Laboratory experiments involving separations by modern chromatographic techniques including thin layer, radial, flash, and high performance liquid chromatography. Multistep syntheses of organic compounds with experiments chosen from the chemical literature. Characterization of organic compounds by advanced spectroscopic methods. (2 cr) Last Offered:

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: Spring 2013 Spring 2011 Spring 2009 Spring 2008

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 2017 Fall 2016 Fall 2015 Fall 2014

CHM 4313 Solid State & Materials Chemis Emphasis on novel inorganic materials used for solid state catalysis, semi- and superconductors, ceramics, batteries and energy sources. (3 cr) Last Offered:

CHM 4314 Physical Meth in Inorganic Chm Physical characterization of inorganic complexes via nuclear magnetic resonance, vibrational and electronic spectroscopies, electron microscopies, electrochemistry and other advanced techniques. (3 cr) Last Offered: Spring 2010 Spring 2008

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 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 Fall 2002

CHM 4415 Chemistry & Light A study of the interaction of light and matter: excited states, lifetime measurements, photochemistry, lasers and laser spectroscopy. (3 cr) Last Offered:

CHM 4511 Adv Environmental Chemistry A course for chemistry majors. Fundamental principles of atmospheric, aquatic and soil chemistry. Topics include: atmospheric thermodynamics, atmospheric photochemistry, kinetics, aquatic equilibria, Earth's energy balance, soil chemistry, carbon cycle, fossil fuels, organic pollutants, global climate change. (3 cr) Last Offered: Fall 2017 Fall 2016 Fall 2006

CHM 4512 Chemical Instrumentation Topics underlying analytical instrumentation: sources, detectors, and electronics, as well as specific instrumentation applications will be discussed. (3 cr) Last Offered:

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Fall 2014

CHM 4623 Biochemistry III Integration of metabolism in organisms, membrane receptors expression of genes, gene manipulation, translation, transcription. (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

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 Special Topics in Biochemistry Topics vary from semester to semester (3 cr) Last Offered: 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: Spring 2015 Spring 2013

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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: 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. Last Offered:

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 2017 Summer 2017 Spring 2017 Fall 2016

CHM 4802 Research II Continuation of CHM 4801. (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

CHM 4803 Research III Continuation of CHM 4802. (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

CLA 1005 Literacy and Latin (3 cr) Last Offered:

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 2017

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: Spring 2017 Spring 2016 Spring 2015

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 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 2017 Spring 2016 Spring 2015 Spring 2014

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 Spring 2002

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 2016 Spring 2014 Fall 2010 Fall 2002

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 Fall 2012

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 2017 Fall 2016 Summer 2016 Fall 2015

CLA 3052 Roman Law The origins, nature, and history of Roman Law during the Republic and Empire; evolution of the court system; civil and criminal codes; judicial procedure; social, business and economic institutions and the law; government and administration of the empire. (3 cr) Last Offered:

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: Fall 2017 Spring 2014 Fall 2011 Spring 2011

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2017 Fall 2016 Summer 2016

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 2017 Spring 2017 Fall 2016 Summer 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

COM 1903 Communication Internship Supervised work/study program in radio, television, advertising, publicity or public relations. (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

COM 1906 Communication Internship Supervised work/study program in radio, television, advertising, publicity or public relations. (6 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

COM 1909 Communication Internship Supervised work/study program in radio, television, advertising, publicity or public relations. (9 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Summer 2016 Fall 2015

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2017 Fall 2016 Summer 2016

COM 2993 Communication Internship Supervised work/study program in radio, television, advertising, publicity or public relations. (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

COM 2996 Communication Internship More intensive, in depth work/study/program in radio, television, advertising, publicity or public relations. (6 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2016 Spring 2015 Spring 2013

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: Fall 2016 Fall 2015 Fall 2013 Fall 2011

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 2017 Fall 2016 Fall 2015 Spring 2014

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 2016 Summer 2009 Spring 2008 Summer 2007

COM 3205 Adv Speaking & Speechwriting Intensive study of oral style and content; introduction to rhetorical theory and criticism; utilizing these concepts to prepare and deliver speeches. (3 cr) Last Offered: Fall 2014

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COM 3206 Argumentation & Advocacy Argumentation theory and practice, emphasizing the construction of well-reasoned arguments and attacks/ defense of arguments in a variety of contexts in which argument can be used in the interest of advocacy (such topics as political lobbying, agitating for social change, human rights law, civil rights law and other advocacy issues may be explored). Instructor's permission needed to waive pre-requisites. (3 cr) Last Offered: Spring 2009 Spring 2006

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Summer 2016 Summer 2015 Summer 2013

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: Spring 2017 Spring 2014 Fall 2012 Spring 2009

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 Fall 2011

COM 3243 Performance Art Introduction to performance art, a highly diverse theatrical art form that has gained popularity in American and European performance since the 1960s. Analysis of well-known performance artists as well as creation and performance of original student pieces. Emphasis on relationships among language, visual arts, music and dance; the construction and expression of self and identity through performance; and the relationship of performance to rhetoric and social change. Previous performance experience a bonus but not required. (3 cr) Last Offered: Fall 2015

COM 3244 Folklore & Oral Traditions Genres of oral literature and an introduction to the methods and aims of folklore research. Two themes in modern folkloristics: the nature of orality in performance and the importance of cultural context. (3 cr) Last Offered:

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 Spring 2006

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 Summer 2013

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: Summer 2017 Fall 2016 Summer 2016 Summer 2015

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2016 Spring 2015 Spring 2014

COM 3303 Screenwriting Development of narrative strategies through improvisation and techniques of mediated visualization using video. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2009 Spring 2008 Spring 2007 Spring 2006

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 2007 Fall 2006

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 2017 Fall 2016 Spring 2016 Fall 2015

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 2017 Spring 2017 Fall 2016 Spring 2016

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: Spring 2017

COM 3340 Film History Evolution of film as an art form; includes the impact of technology. (3 cr) Last Offered: 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 2017 Fall 2016 Spring 2015 Spring 2011

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 Fall 2014

COM 3343 Contemporary Cinema Seminar course in which various strategies are applied to the analysis of contemporary films. (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Fall 2013

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: 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 Spring 2011

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 2016 Spring 2016 Fall 2012 Fall 2011

COM 3354 Media Criticism Analysis of contemporary film, television, music, print media and electronic media from a cultural studies perspective. (3 cr) Last Offered: Spring 2017 Fall 2015 Fall 2014 Spring 2014

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 Summer 2012

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 2017 Fall 2016 Summer 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 Fall 2010

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016

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 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: Fall 2017 Spring 2016 Fall 2015 Summer 2015

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 Fall 2011

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 2016 Spring 2011 Fall 2008

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: Spring 2017 Spring 2016 Spring 2015 Spring 2014

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 2014 Spring 2013 Spring 2012 Spring 2010

COM 3405 Health Communication The role of communication in constructing the health beliefs of individuals, interactions between providers and patients, cultural dimensions of dyadic and team encounters, mediated health messages and strategic public health campaigns. (3 cr) Last Offered: Fall 2011 Spring 2010 Spring 2009

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 2017 Fall 2016 Summer 2016 Summer 2015

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: Fall 2016 Fall 2014 Fall 2012 Fall 2010

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: Spring 2017 Fall 2016 Fall 2015

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 2017 Spring 2017 Spring 2015 Spring 2013

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: Spring 2016 Spring 2010 Spring 2008 Spring 2007

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: Spring 2017 Spring 2016 Fall 2014 Fall 2013

COM 3447 Globalization, Work, & Organiz Course focuses on changing landscape of work and organizations within context of globalization. Draws on organizational communication theories to consider various ways of theorizing globalization and how globalizing shapes meanings of work and organizational forms and practices. (3 cr) Last Offered: Spring 2010 Spring 2009

COM 3448 Multicultural Ldrshp & 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: Fall 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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) Last Offered:

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) Last Offered:

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: Spring 2016 Fall 2015 Summer 2015 Spring 2015

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

COM 5100 Directed Study Supervised project culminating in term paper. (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

COM 5150 Spec Top in Communication A topic or problem in Communication selected by the instructor. (3 cr) Last Offered: Spring 2004 Spring 2002 Fall 2000 Summer 2000

COM 5200 Topics Intensive workshops in selected areas of professional development or communication research. (1 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Spring 2017 Fall 2016 Spring 2016

COM 5600 Production Workshop One-Credit Workshops in areas of media and multimedia production. (1 cr) Last Offered: Fall 2017 Fall 2016

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015

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 2017 Spring 2016 Spring 2015

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 2017 Fall 2016 Fall 2015

COU 3500 Psychopathology in Counseling 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:

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 2017 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

CM 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 2017 Spring 2016 Spring 2014

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: 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 Fall 2013

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Fall 2016 Fall 2015 Fall 2014

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) Last Offered:

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 2017 Spring 2016 Fall 2015 Fall 2014

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) Last Offered:

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) Last Offered:

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 2017 Spring 2017 Fall 2015 Summer 2015

CRM 5000 Independent Study Supervised research project which results in a major research paper. (3 cr) Last Offered: 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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

CRM 6006 Internship Supervised work experience in a criminal justice agency. (6 cr) Last Offered:

CRM 6009 Internship Supervised work experience in a criminal justice agency. (9 cr) Last Offered:

CRM 6500 Senior Seminar This course focuses on a particular substantive area and integrates criminological theory and research methodology. (3 cr) Last Offered: Fall 2017 Spring 2017 Spring 2016 Fall 2015

CSC 1000 The Practice of Computing Anatomy of a computing system including tiny systems such as cell phones; resource management - memory, processes, file structure; network analysis - network topology, performance, privacy, security; application scripting - concepts & practices of programming. (3 cr) Last Offered: Spring 1987

CSC 1010 Programming for All A unified view of the powerful programming tools for manipulating data and the algorithms they implement; complexity and security of operations on data; alternative data structures: lists, arrays; alternative input techniques: scanning, voice. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Summer 2017 Fall 2016 Summer 2016

CSC 1024 Computing for Scientists Active learning of computing skills necessary for science students: data graphing, regression analysis, animation, symbolic computing, information search techniques, scientific report writing, Web page construction, fundamentals of programming. (1 cr) Last Offered: Fall 2003 Fall 2002 Fall 2001 Fall 2000

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 Spring 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 2017 Spring 2017 Summer 2016 Spring 2016

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 2017 Spring 2016 Spring 2015 Fall 2014

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 2014

CSC 1045 Algor, Cartoons & Animation Computer-assisted animation & its programming dialects; cartoon creation from story-boarding to product delivery; algorithms - efficiency, correctness, understanding via animation. (3 cr) Last Offered:

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 2017 Spring 2017 Fall 2016 Summer 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Fall 2016 Spring 2016 Fall 2015

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Fall 2016 Spring 2016 Fall 2015

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 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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 Fall 2009

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 Spring 2010

CSC 2053 Platform Based Computing Topics include maps, hash tables, priority queues, graphs, internet programming and security. Additional topics may include event driven programming, MVC pattern, mobile programming, and application programmer interfaces. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2016 Spring 2015

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2016 Spring 2015 Spring 2014

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: Spring 2017 Fall 2014 Fall 2013 Fall 2011

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 2017 Summer 2017 Spring 2017 Fall 2016

CSC 2996 Internship in Computing Internship in computer science open to second semester sophomores and above. Most likely, intern will participate in computer system development, maintenance, or evaluation in an environment which supports sound software engineering techniques. (6 cr) Last Offered: Fall 2001 Spring 2001 Fall 2000 Spring 2000

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 2017 Fall 2014 Spring 2014 Fall 2012

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 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 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 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 Fall 2003

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 Fall 2009

CSC 4140 Theory of Information Information and coding theory, data compression, cryptology. (3 cr) Last Offered: Spring 2005 Fall 2003

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 2017 Fall 2016 Spring 2016 Fall 2015

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 2017 Spring 2016 Spring 2015 Spring 2014

CSC 4280 Parallel Algs & Architecture Design and analysis of parallel algorithms for arithmetic, matrix operations, sorting, simulation, combinatorial and graph problems, and Fast Fourier Transform. Taxonomies of parallel architectures; interconnection networks, meshes, trees, and hypercubes; scalability and speed-up. (3 cr) Last Offered: Fall 2000 Spring 1999 Spring 1995

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 2017 Spring 2015 Spring 2010 Fall 2004

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 2015 Fall 2013 Spring 2003 Spring 2002

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 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 2017 Summer 2017 Spring 2017 Fall 2016

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 2013 Fall 2010 Spring 2008 Fall 2005

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 2017 Fall 2016 Spring 2015 Fall 2013

CSC 4550 Expert & Knowledge Systems Knowledge representation, uncertainty, automated knowledge acquisition, practical aspects of implementing expert systems. (3 cr) Last Offered:

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:

CSC 4600 Distributed Processing Data concurrency; distributed file systems and database; distributed operating systems; security; interprocess communication; directory services; process migration; process vulnerability to partial failure. (3 cr) Last Offered: Spring 1997 Spring 1995

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 2017 Spring 2015 Spring 2013 Spring 2011

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Spring 2015 Spring 2014

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: Spring 2016 Fall 2012 Fall 2007 Fall 2004

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2008 Spring 2007 Spring 2006 Spring 2005

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 Spring 2009

Villanova University

CSC 5900 Seminar in Computing Study and discussion of selected topics in computer science with presentations by individual students. May be repeated for credit if topics are different. Prerequisites may be imposed depending on the topics. (3 cr) Last Offered: Spring 1996 Fall 1995

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) Last Offered:

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: Spring 2017 Fall 2016 Spring 2016 Fall 2015

CSC 5940 Topics in Information Science Lecture presentation of selected topics in information science. May be repeated for credit if topics are different. Junior standing. (3 cr) Last Offered:

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Fall 2016 Spring 2015 Spring 2014

CST 3000 Topics Course (3 cr) Last Offered: Spring 2015 Fall 2014 Spring 2014 Fall 2013

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 2017 Spring 2016 Fall 2014 Fall 2013

CST 5900 Independent Study (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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) Last Offered:

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Spring 2017 Fall 2016 Spring 2016

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 microprocessor in assembly language. (1 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Summer 2017 Fall 2016 Summer 2016

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2017 Fall 2016 Spring 2016

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 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 2017 Spring 2017

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 2017

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2017 Fall 2016 Fall 2015

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Summer 2016 Summer 2015 Summer 2014

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 Fall 2014

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 2011 Fall 2010 Fall 2009 Fall 2008

ECE 5251 Biomedical Signal Processing Signal processing of bioelectrical signals. Cardiac, neurological, & electromyographic signal processing. Ultrasound array processing. Introduction to biomedical image processing modalities. Biomedical signal filtering, frequency analysis, detection & parameter estimation. Prerequisites: ECE 3220 or ECE 3240 and ECE 3720 or equivalent. (4 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

ECE 5255 Biomedical System Design Hands-on system-level development of various biomedical instrumentations including heart rate monitor, blood pressure measurement, pulse oximetry, using off-the-shelf sensors, available electronic modules, and a graphical programming environment and data acquisition platform. (4 cr) Last Offered: Fall 2013 Fall 2012

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 2017 Spring 2016 Spring 2015 Spring 2014

ECE 5444 Introduction to Fuzzy Logic Applications and methodologies of fuzzy logic using MATLAB. (3 cr) Last Offered: Fall 2003 Fall 2002 Fall 2001 Fall 2000

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 2017 Fall 2016 Fall 2015 Fall 2014

ECE 5451 Adv Microcontroller App Design Communications and complex inputs/outputs in ARM-based microcontroller design: Fast input/output, I²C 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 Spring 2013

ECE 5470 Topics in Computer Networks Transport protocols - TCP, UDP; Voice Over IP (VOIP) protocols - SDP, SIP, RTP, RTCP, hands-on project to implement a VOIP soft switch; Mobile wireless communications - IEEE 802.11 b/g/a family, Bluetooth; Layer 7 switching, structured and unstructured overlay networks, Peer-to-peer networks - Napster, Gnutella, Pastry. (3 cr) Last Offered: Spring 2008 Fall 2007 Spring 2007 Spring 2005

ECE 5476 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: Fall 2016 Fall 2015 Fall 2014 Fall 2013

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 2017 Spring 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 Fall 2014

ECE 5680 Photovoltaic Power Generation Nature and availability of solar energy; solar cell design, including materials selection; photovoltaic modules and arrays; inverters; stand-alone systems; grid interconnection; economic considerations. (3 cr) Last Offered: Fall 1995

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 2016 Fall 2013 Fall 2012 Fall 2010

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 2017 Spring 2014 Spring 2013 Spring 2011

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 Spring 2011

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 Fall 2014

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 Fall 2008

ECE 5810 Power Systems Three-phase circuits and power, transmission line parameters and models, transformer models, the per-unit system, power flow analysis, synchronous generator models. (3 cr) Last Offered: Spring 2006 Fall 2002 Fall 2000 Fall 1999

ECE 5815 Power System Analysis Balanced three-phase circuit analysis, three-phase power transformers, per-unit analysis, power flow analysis and control, balanced and unbalanced short-circuit analysis, power system stability. (3 cr) Last Offered: Spring 2010 Spring 2009 Spring 2007 Spring 2005

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 Spring 2014

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 2017 Summer 2017 Spring 2017 Fall 2016

ECE 5992 Elec Eng Research II Continuation of ECE 5991. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

ECO 1001 Intro to Micro The price system; demand and supply analysis; the production process; analysis of market structures. (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

ECO 1104 Environment & Economy Environmental problems and strategies to deal with them: environmental damage and economic growth; pollution and technology; pollution; air, water, and solid waste disposal. (3 cr) Last Offered: Fall 1996

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) Last Offered:

ECO 1903 Internship Elective Fulfills 3.0 free elective credits. (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

ECO 1906 Internship Elective Fulfills 6.0 free elective credits. (6 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

ECO 1909 Internship Elective Fulfills 9.0 free elective credits. (9 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Summer 2016

ECO 2137 Economic Statistics Development of research skills in economics through the application of economic methodology and statistics. Topics: descriptive statistics, estimation, hypothesis testing, regression analysis and time-series analysis. (3 cr) Last Offered: Spring 2009 Fall 2007 Fall 2006 Fall 2005

ECO 2993 Internship Fulfills 3.0 economic elective credits. (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

ECO 2996 Internship Fulfills 6.0 economic elective credits. (6 cr) Last Offered: Summer 2017 Spring 2017 Summer 2016 Spring 2016

ECO 3101 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) Last Offered: Fall 2017 Spring 2015 Fall 2012 Fall 2011

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Summer 2017 Spring 2017 Fall 2016

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: Fall 2016 Fall 2015 Spring 2015 Fall 2014

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 2017 Summer 2016 Summer 2015 Summer 2014

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 2017 Spring 2016 Fall 2014 Spring 2012

ECO 3113 Eco Found of Liberal Democracy The interaction of a market-based economy system (capitalism) and the political system based on the principles of liberal democracy. How does the concept of liberal democracy tie together the economist's view of markets as a decision-making mechanism and the political scientist's view of democratic institutions as a decision-making mechanism. (3 cr) Last Offered:

ECO 3115 Comparative Econ Systems Presentation, comparative analysis and discussion of the structure, performance, efficiency and growth aspects of various economic systems. (3 cr) Last Offered: Fall 2016 Fall 2014 Fall 2013 Fall 2012

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 2017 Spring 2017 Spring 2016 Fall 2015

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: Fall 2016 Fall 2015 Spring 2015 Fall 2014

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 2017 Spring 2017 Fall 2016 Fall 2015

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: Spring 2007 Spring 2006

ECO 3127 Econ Underdeveloped Area Structural change in the process of development; growth patterns and income distribution; determinants and role of saving, investment, technological change; strategy and methods of development planning; the role of government; social institutions. (3 cr) Last Offered: Fall 2010 Spring 2007 Fall 2002 Spring 1996

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 Fall 2011

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 Spring 2014

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 2016 Spring 2014 Spring 2013 Spring 2012

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Fall 2016 Fall 2014 Fall 2013

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: Fall 2017 Fall 2016 Fall 2015 Spring 2015

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 2017 Spring 2017 Fall 2016 Spring 2016

ECO 4200 Topics in Economics Selected topics in economics currently of interest to faculty and students. (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

ECO 4202 Econ Dev in Middle East (3 cr) Last Offered:

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: Spring 2017 Spring 2016 Spring 1996 Spring 1995

ECO 4204 Eco Lat Amer & Caribbean (3 cr) Last Offered: Spring 2014 Spring 2010 Spring 2009 Spring 2007

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 2016 Spring 1998 Spring 1996 Spring 1995

ECO 4206 Eco of Religious Orgs (3 cr) Last Offered:

ECO 4208 Public Choice The application of economic methodology to the subject of political science. (3 cr) Last Offered: Spring 1997 Fall 1996

ECO 4300 Topics in Economics Selected topics in economics currently of interest to faculty and students. (3 cr) Last Offered: Fall 2001 Summer 2001 Spring 2001 Spring 2000

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 2017 Summer 2017 Spring 2017 Fall 2016

ECO 4650 Service Learning Practicum Service experiences as an integral part of certain ECO courses. Integrates the participation requirements for the field experience with the academic requirements (readings, research paper, project, etc.) set by the instructor. Permission of the instructor required. (1 cr) Last Offered:

EDR 2220 Eff Teaching Strategies K-12 (3 cr) Last Offered:

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 Fall 2014

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Spring 2016

EDU 3251 Psych of Teaching & Learning The application of learning theory to classroom teaching. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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 Spring 2014

EDU 3254 Prin & Tech of Instruct The school curriculum; principles for selecting and using instructional materials; principles of educational measurement and evaluation; practical exercises in the use of media and materials, and in educational measurement. (4 cr) Last Offered: Spring 2007 Fall 2006 Spring 2006 Fall 2005

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: Spring 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Spring 2017 Spring 2016 Spring 2015

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 2016 Fall 2015 Fall 2014 Fall 2013

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Spring 2016 Fall 2015

EDU 3265 Global Racism in Schools Examination of theories of prejudice, assimilation, culturalism, ethnocentrism, and gender inequity to to explore historical, theoretical, and legal concepts of racism within transnational educational contexts. Structures and practices that address racism in educational systems across the globe. (3 cr) Last Offered: Fall 2008

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 Spring 2012

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 4220 Spec Meth Secondary Sch Approaches to teaching and their degrees of effectiveness; classroom management; methods applicable to the teaching of all subjects; student preparation and presentation of material for his/her own subject-matter field. (3 cr) Last Offered: Fall 2000 Spring 1999 Fall 1998 Spring 1998

EDU 4242 Special Topics: Education Work in critical analysis of selected topics in education, reflecting various historical, philosophical, and societal perspectives and methodologies. (3 cr) Last Offered:

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2015 Fall 2014 Fall 2013 Fall 2012

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 2015 Fall 2014 Fall 2011 Fall 2010

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 2015 Fall 2014 Spring 2014 Fall 2013

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 Fall 2009

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 2015 Fall 2014 Fall 2013 Fall 2012

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 2017 Summer 2016 Fall 2014 Summer 2014

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2016 Spring 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Fall 2014

EDU 4298 Student Teaching (6 cr) Last Offered: Spring 2016 Spring 2014 Spring 2013 Spring 2003

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 Spring 2009

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 2017 Summer 2017 Fall 2016 Fall 2015

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 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 2017 Spring 2017 Spring 2016 Spring 2015

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Summer 2017 Fall 2016 Fall 2015

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 2017 Spring 2017 Spring 2016 Spring 2015

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 2017 Fall 2016 Spring 2016 Fall 2015

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Summer 2017 Fall 2016 Fall 2015

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. (.5 cr) Last Offered: Fall 2017

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. (.5 cr) Last Offered:

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 2017 Fall 2016 Fall 2015 Fall 2014

EGR 1205 Egr Interdisciplinary Proj II Project-based introduction to engineering course for freshmen engineering majors. First half of semester consists of an elective interdisciplinary project. Students choose from among several of these. Second half consists of a program-specific series of topics. (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

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 Spring 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. (.5 cr) Last Offered: Fall 2017

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. (.5 cr) Last Offered:

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 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:

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 Spring 2013

EGR 2500 Solar Decathlon Project Students work on the design and development of a solar-powered house for a competition sponsored by the Department of Energy. (1 cr) Last Offered: Fall 2010 Fall 2009 Spring 2009

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. (.5 cr) Last Offered:

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. (.5 cr) Last Offered:

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: Spring 2008 Spring 2007

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: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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) Last Offered:

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. Last Offered: Summer 2017

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: Fall 2017 Spring 2017 Fall 2016 Summer 2016

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 2017 Spring 2017 Fall 2016 Fall 2015

ENG 1903 Internship Elective (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

ENG 1906 Internship Elective (6 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

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ENG 1909 Internship Elective (9 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

ENG 2000 Adv Expository Writing Practice in writing reports, reviews, arguments, description; emphasis on organization and development. (3 cr) Last Offered: Fall 2017 Summer 2017 Fall 2016 Summer 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

ENG 2005 Writing of Short Story Instruction in writing short story. (3 cr) Last Offered: Fall 2017 Spring 2017 Spring 2016 Fall 2015

ENG 2006 The Writing of Poetry Instruction in writing poetry. Limited to 15 students. (3 cr) Last Offered: Fall 2017 Spring 2017 Spring 2016 Fall 2014

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: Fall 2016 Spring 2011 Spring 2010 Spring 2009

ENG 2011 Writing the Experimental Novel Reading of a variety of experimental fictional models and application of these models to the construction of a larger experimental group novel, thus expanding students' repertoire of narrative techniques. (3 cr) Last Offered: Spring 2006

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:

ENG 2015 Business Communication The essential elements of corporate communication, with emphasis on writing. (3 cr) Last Offered: Spring 2008 Fall 2000

ENG 2020 Journalism News gathering and news writing; principles, rules and techniques of news, editorials, features. (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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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 2017 Spring 2016 Spring 2015 Spring 2014

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 Spring 2013

ENG 2042 Web Writing Theory & Practice Design and completion of web writing projects and web sites. Theoretical and critical attention to the different rhetorical situations of print and hypertext media. (3 cr) Last Offered: Spring 2009 Spring 2008 Spring 2007

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 Fall 2011

ENG 2045 Sp Top in Writing & Rhetoric Special writing and rhetoric topics selected by the instructor. (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

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 Spring 2013

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 2013 Fall 2011 Fall 2009 Fall 2008

ENG 2070 Legal Writing and Analysis Fundamentals of legal writing and analysis. (3 cr) Last Offered: Spring 2017 Spring 2015 Spring 2013 Spring 2012

ENG 2080 Hist of English Language The development of the English language from Old English to Modern English. (3 cr) Last Offered:

ENG 2101 Brit Literary Trad 1 British literature from Anglo-Saxon to the Neo-Classical periods. (3 cr) Last Offered: Spring 2017 Fall 2016 Spring 2015 Fall 2014

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 2016 Spring 2014 Spring 2013 Fall 2012

ENG 2103 Amer Literary Trad 1 American literature from the Colonial Period to the era of Walt Whitman and other writers whose lives and works largely precede the Civil War. (3 cr) Last Offered: Fall 2006 Fall 2005 Spring 2005 Fall 2004

ENG 2104 Amer Literary Trad 2 American literature from the Civil War to modern times. (3 cr) Last Offered: Summer 2012 Summer 2011 Summer 2010 Spring 2010

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Fall 2016 Fall 2015 Fall 2014

ENG 2301 Lit of Science Fiction Science fiction as a significant genre. (3 cr) Last Offered: Spring 2014 Spring 2012 Fall 2009 Fall 2008

ENG 2310 Study of Poetry Concepts of poetry with detailed analyses of selected poems. (3 cr) Last Offered: Spring 2015 Spring 2013 Summer 2001 Spring 1996

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 Spring 2001

ENG 2330 Forms of Drama Drama as a genre; the main types of European and American drama. (3 cr) Last Offered: Fall 1997 Summer 1997 Summer 1996 Spring 1996

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 Spring 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 2017 Fall 2016 Fall 2015 Fall 2014

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: Fall 2017 Summer 2017 Summer 2016 Summer 2015

ENG 2460 Irish Poetry since Yeats The major Irish poets of the last fifty years, including an initial assessment of the importance of W. B. Yeats's career, and treatment of poets such as Seamus Heaney, Derek Mahon, Thomas Kinsella, and John Montague. (3 cr) Last Offered: Fall 1999 Fall 1997 Fall 1995

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 Spring 2009

ENG 2490 Topics in Irish Studies Specific topics vary each semester. (3 cr) Last Offered: Summer 2017 Spring 2017 Summer 2016 Summer 2015

ENG 2491 Topics in Irish Studies Specific topics vary each semester. (3 cr) Last Offered: Spring 2013 Fall 2008

ENG 2492 Topics in Irish Studies Specific topics vary each semester. (3 cr) Last Offered:

ENG 2500 Irish Revival Selected readings in the drama and fiction literature of Ireland in the 20th century. (3 cr) Last Offered: Fall 2015 Spring 2015 Spring 2014 Summer 2013

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 Fall 2013

ENG 2502 African-American Lit Trad 2 African American literature from the twentieth century to today. (3 cr) Last Offered: Spring 2016 Spring 2013 Spring 2012

ENG 2505 Black Literature: Poetry The poetry of Wheatley, Harper, Dunbar, Johnson, Hughes, Brooks, Sanchez, Giovanni, Angelou, Harper, Dove, and other writers of the 18th, 19th, and 20th centuries. (3 cr) Last Offered:

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 Fall 2001

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 Spring 2007

ENG 2520 Black Lit: Short Story Short fiction by Chesnut, Hurston, Petry, Baldwin, McPherson, Williams, Walker, Morrison, Butler, and other writers of the 20th century. Diversity requirement. (3 cr) Last Offered: Fall 2015 Spring 2010 Spring 2008 Spring 2006

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 Fall 2011

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: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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 Spring 2009

ENG 2735 African Drama Study of modern African drama. (3 cr) Last Offered: 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 2014 Summer 2013 Fall 2012 Fall 2008

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ENG 2790 Topics in Lit. and Culture Specific topics vary each semester. (3 cr)

Last Offered: Summer 2017 Summer 2016 Fall 2015 Summer 2015

ENG 2791 Topics in Lit. and Culture Specific topics vary each semester. (3 cr)

Last Offered: Spring 2015 Spring 2011 Fall 2008 Spring 2008

ENG 2792 Topics in Lit. and Culture Specific topics vary each semester. (3 cr)

Last Offered: Spring 2010 Fall 2008 Fall 2007

ENG 2793 Topics in Lit. and Culture Specific topics vary each semester. (3 cr)

Last Offered: Spring 2010 Fall 2008

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: Fall 2017 Spring 2017 Fall 2016 Spring 2016

ENG 2991 English Majors in Workplace Practice and refine interviewing skills through mentored mock interviews with alumni and professionals; develop a professional narrative. RESTRICTED to English Majors and Minors only. (1 cr) Last Offered: Fall 2017

ENG 2993 Internship Internship (3 cr) Last Offered: Fall 2017 Summer 2017

Spring 2017 Fall 2016

ENG 2996 Internship (6 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017

Fall 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

ENG 3000 Intro to OE Lang & Lit Old English literary works in translation and original language. (3 cr) Last Offered:

ENG 3150 Chaucer The Canterbury Tales, Troilus and Criseyde, and additional works. (3 cr) Last Offered: Fall 2017 Fall 2016 Fall 2014 Fall 2012

ENG 3190 Medieval Brit/Ir Lit. & Cult. Specific topics vary each semester. (3 cr) Last Offered: Spring 2017 Fall 2015 Spring 2015 Spring 2014

ENG 3191 Medieval Brit/Ir Lit. & Cult. Specific topics vary each semester. (3 cr) Last Offered:

ENG 3192 Medieval Brit/Ir Lit. & Cult. Specific topics vary each semester. (3 cr) Last Offered:

ENG 3201 English Renaissance Non-dramatic literature of the English Renaissance. (3 cr) Last Offered: Spring 2006 Fall 2003 Fall 2002 Fall 2001

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ENG 3230 Eliz & Jacobean Drama Playwrights of the English Renaissance excluding Shakespeare. (3 cr) Last Offered: Spring 2011 Spring 2007 Fall 2000 Fall 1999

ENG 3250 Shakespeare A selection of plays by Shakespeare. (3 cr) Last Offered: Fall 2017 Fall 2015 Fall 2014 Fall 2013

ENG 3290 Renaissance Br/Ir Lit. & Cult. Specific topics vary each semester. (3 cr) Last Offered: Fall 2016 Fall 2014 Spring 2014 Fall 2013

ENG 3291 Renaissance Br/Ir Lit. & Cult. Specific topics vary each semester. (3 cr) Last Offered:

ENG 3292 Renaissance Br/Ir Lit. & Cult. Specific topics vary each semester. (3 cr) Last Offered:

ENG 3300 17th Cent Poetry & Prose The poetry of Donne, Jonson, Lanyer, Herrick, Herbert; essays, sermons, journals, letters, pamphlets of Bacon, Donne, Milton, and others. (3 cr) Last Offered: Spring 2005 Spring 2004 Spring 2003 Spring 2002

ENG 3350 Milton English poems and selected prose on issues of gender, politics, religion, culture. (3 cr) Last Offered: Fall 2015 Spring 2014 Fall 2011 Fall 2009

ENG 3420 18th Century British Novel Writings by Defoe, Fielding, Sterne, and others; and the Gothic novel of terror. (3 cr) Last Offered: Spring 2007 Fall 2004 Fall 2003 Spring 2002

ENG 3430 Restor & 18th cent Drama Dramatists from Dryden to Sheridan. (3 cr) Last Offered: Fall 2005 Spring 1998

ENG 3450 Dryden Swift & Pope The study of the principal works of the major Neo-Classical writers. (3 cr) Last Offered: Fall 2008 Spring 2007 Fall 2004 Fall 2002

ENG 3490 18th c. Brit/Ir Lit. & Culture Specific topics vary each semester. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

ENG 3491 18th c. Brit/Ir Lit. & Culture Specific topics vary each semester. (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2012 Spring 2008

ENG 3492 18th c. Brit/Ir Lit. & Culture Specific topics vary each semester. (3 cr) Last Offered:

ENG 3501 Early Romantic Writers Wordsworth, Coleridge and other writers of the first half of the Romantic period. (3 cr) Last Offered: Spring 2005 Spring 2004 Spring 2003 Spring 2002

ENG 3502 Later Romantic Writers Byron, Shelley, Keats and other writers of the second half of the Romantic period. (3 cr) Last Offered: Fall 2011 Spring 2009 Spring 2008 Fall 2003

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 Spring 2003

ENG 3505 Poetry & Prose 1830-1865 The poetry and prose of Carlyle, Tennyson, Browning, Newman, Arnold, and other writers of the era. (3 cr) Last Offered: Spring 2009 Fall 2007 Spring 2006 Spring 2004

ENG 3506 Poetry & Prose 1865-1900 The poetry and prose of Ruskin, Rossetti, Swinburne, Hopkins, Pater, Hardy, and others. (3 cr) Last Offered: Fall 2004 Spring 2002 Fall 2000 Fall 1998

ENG 3520 19th Cent British Novel Selected novelists from Jane Austen to Thomas Hardy. (3 cr) Last Offered: Fall 2017 Fall 2012 Spring 2010 Fall 2008

ENG 3525 Dickens Selected novels by Charles Dickens. (3 cr) Last Offered: Fall 2013 Spring 2012 Fall 2009 Spring 2008

ENG 3590 19th c. Brit/Ir Lit. & Culture Specific topics vary each semester. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

ENG 3591 19th c. Brit/Ir Lit. & Culture Specific topics vary each semester. (3 cr) Last Offered: Spring 2012 Spring 2010

ENG 3592 19th c. Brit/Ir Lit. & Culture Specific topics vary each semester. (3 cr) Last Offered:

ENG 3610 Modern British Poetry British poetry from 1900 to the present, with emphasis on Hopkins, Hardy, Yeats, Eliot, Auden, Muir, Edith Sitwell, K3 Dylan Thomas, and Philip Larkin. (3 cr) Last Offered: Spring 2007 Summer 2005 Summer 2004 Summer 2003

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 Spring 2011

ENG 3616 Irish American Drama & Film Depictions of the American Irish in popular dramas and films from colonial times to the present. Popular Irish- American actors and their appeal, the Irish-American musical stage tradition, and the cross-over from popular drama to popular films such as John Ford's *The Quiet Man* and *The Informer*. (3 cr) Last Offered: Spring 2012 Spring 2011 Spring 2010 Spring 2008

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 Spring 2009

ENG 3621 Contemp British Novel The development of the novel since World War II. (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2014 Fall 2013

ENG 3630 Modern British Drama British drama from the 1890s to the Theatre of the Absurd. (3 cr) Last Offered: Fall 2004 Fall 1999 Summer 1998 Spring 1998

ENG 3690 Br/Ir Lit. & Cult. after 1900 Specific topics vary each semester. (3 cr) Last Offered: Spring 2017 Fall 2016 Spring 2016 Fall 2015

ENG 3691 Br/Ir Lit. & Cult. after 1900 Specific topics vary each semester. (3 cr) Last Offered: Spring 2009

ENG 3692 Br/Ir Lit. & Cult. after 1900 Specific topics vary each semester. (3 cr) Last Offered:

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ENG 4001 Major Amer Writers I The masterpieces of selected American writers from early times to the Civil War era. (3 cr) Last Offered: Fall 2017 Fall 2016 Fall 2014 Spring 2014

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 Fall 2013

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 Spring 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: Spring 2007 Spring 2005 Spring 2004 Spring 2003

ENG 4501 Amer Transcendentalism An intensive analysis of Emerson, Thoreau, and other Transcendentalists. (3 cr) Last Offered: Spring 2004 Fall 2002 Fall 2000 Fall 1996

ENG 4505 Concord Writers The major works of and interactions between Concord's most celebrated writers: Ralph Waldo Emerson, Henry David Thoreau, Nathaniel Hawthorne, Bronson and Louisa May Alcott. (3 cr) Last Offered: Spring 2005 Fall 2003

ENG 4510 19th Cent Amer Poetry American poetry from its beginning to Emily Dickinson. (3 cr) Last Offered: Spring 2012 Fall 2009 Fall 2007 Fall 2005

ENG 4515 American Gothic The nature and evolution of horror writing in America from the eighteenth-century to today. (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

ENG 4520 American Novel to 1895 The genesis of the American novel. (3 cr) Last Offered: Fall 2016 Fall 2015 Fall 2014 Fall 2013

ENG 4530 The American Renaissance Pre-Civil War text, primarily from 1850-1855. (3 cr) Last Offered: Spring 2002 Fall 1996

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 Spring 2008

ENG 4590 Am. Lit. & Cult. before 1900 Specific topics vary each semester. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2012 Fall 2010

ENG 4591 Am. Lit. & Cult. before 1900 Specific topics vary each semester. (3 cr) Last Offered:

ENG 4592 Am. Lit. & Cult. before 1900 Specific topics vary each semester. (3 cr) Last Offered:

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 Fall 2002

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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 Spring 2001

ENG 4619 The Works of Edith Wharton The Works of Edith Wharton in context. (3 cr) Last Offered: Fall 2010 Fall 1999 Fall 1998

ENG 4620 American Novel 1895-1950 Representative novelists from Crane to Steinbeck. (3 cr) Last Offered: Fall 2015 Spring 2015 Summer 2013 Fall 2012

ENG 4621 Amer Novel since 1950 Novels of the late Modern Period and of the early Post- modern period. (3 cr) Last Offered: Fall 2011 Fall 2008 Spring 2006 Fall 2005

ENG 4630 American Drama to 1960 Major plays of the period. (3 cr) Last Offered: Spring 2014 Fall 2011 Summer 2010 Fall 2009

ENG 4631 Amer Drama since 1960 Major plays of the period. (3 cr) Last Offered: Fall 2014 Fall 2012 Fall 2005 Fall 2003

ENG 4635 Contemporary American Poetry Focused study of contemporary American poetry emphasizing gender, ethnicity, aesthetic principles or genre. (3 cr) Last Offered: Spring 2011 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 2003 Spring 1999

ENG 4640 Contemp Amer Women's Lit Writings by women from WW II to the present. Works by Ann Petry, Maxine Hong Kingston, Toni Morrison, Joyce Carol Oates, Kathy Acker, Bobby Ann Mason, and others. (3 cr) Last Offered: Fall 2006 Fall 2002 Fall 2001 Fall 2000

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: Fall 2004 Summer 2003 Spring 2002 Summer 2001

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 Spring 2001

ENG 4650 Amer Criminal Trial Narratives Significant Modern American narratives in the sub-form of Criminal Trials & Courts Martial. (3 cr) Last Offered: Fall 2012 Fall 2011 Fall 2010 Fall 2008

ENG 4690 Amer. Lit. & Cult. after 1900 Specific topics vary each semester. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

ENG 4691 Amer. Lit. & Cult. after 1900 Specific topics vary each semester. (3 cr) Last Offered: Spring 2016 Spring 2014 Fall 2013 Spring 2013

ENG 4692 Amer. Lit. & Cult. after 1900 Specific topics vary each semester. (3 cr) Last Offered: Spring 2014 Fall 2013 Spring 2013 Fall 2011

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 Spring 2014

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 2017 Summer 2017 Spring 2017 Fall 2016

ETH 3010 Topics in Ethics Addresses a special topic in ethics of current interest to faculty & students. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Fall 2016

FFS 1112 Introductory to 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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

FFS 1134 Business French An introduction to French business terminology and discourse related to economic, finance, and management. (3 cr) Last Offered: Fall 2017

FFS 1138 Advanced Grammar Intensive practice of spoken and written French. (3 cr) Last Offered: 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 2017 Fall 2016

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: Summer 2017 Fall 2016

FFS 1150 France and Its Culture Exploration of French society through current events. Topics studied include: the Republic, French holidays and traditions, the French education systems, and more. Prerequisite: FFS 1122 or approval from the FFS coordinator. (3 cr) Last Offered: 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) Last Offered:

FFS 2075 Introduction to French Cinema Introduction to major works of French cinema from the silent era to the 2000s. Prerequisite: FFS 1132 or approval from the FFS coordinator. (3 cr) Last Offered: Summer 2017 Fall 2016

FFS 2076 Intro To Francophone Cinema Introduction to major films from various Francophone traditions (Maghreb, Sub-Saharan Africa, Caribbean, Quebec). Prerequisite: FFS 1132 or approval from the FFS coordinator. (3 cr) Last Offered:

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. (3 cr) Last Offered: Fall 2017 Spring 2017

FFS 2221 Lit/Cult Francophone World Significant developments in the arts, society, and literature in France from the French Revolution to the present. (3 cr) Last Offered: Fall 2016

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 and approval from the FFS coordinator. (3 cr) Last Offered: Spring 2017

FFS 3025 Reading 20th-C Francophone Lit Regions may include North Africa, the Caribbean Islands and Canada. (3 cr) Last Offered:

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 approval from the FFS coordinator. (3 cr) Last Offered:

FFS 3075 Themes in French Cinema Analysis of films that deal with this topic. Prerequisites: FFS 1131 or FFS 1132 with the permission of the FFS coordinator. (3 cr) Last Offered:

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 2075 or approval from the FFS coordinator. (3 cr) Last Offered: Summer 2017

FFS 3145 The Extreme Contemporary The contemporary drama of French from its origin (King Ubu) to Beckett, Sartre, Genet, Ionesco and recent dramatists. Conducted in English. (3 cr) Last Offered: Fall 2017

FFS 3225 Readings In Maghrebi Lit Analytical readings of major texts of the French-speaking North-African traditions. Prerequisite: FFS 2220 or approval from the FFS coordinator. (3 cr) Last Offered:

FFS 3226 Readings in Caribbean Lit Analytical readings of major texts of the French-speaking Caribbean traditions. Prerequisite: FFS 2220 or approval from the FFS coordinator. (3 cr) Last Offered:

FFS 3227 Readings Sub-Saharan Afr Lit Analytical Readings of major texts of the French-speaking Sub-Saharan traditions. Prerequisite: FFS 2220 or approval from the FFS coordinator. (3 cr) Last Offered:

FFS 3228 Francophone Women's Voices Study of cultural production (literature, cinema, etc.) by women of the French speaking world. Regions may include North Africa, the Caribbean Islands and Canada. (3 cr) Last Offered: Spring 2017

FFS 3255 Themes in Poetr of Frch Express 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. (3 cr) Last Offered:

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. (3 cr) Last Offered:

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 approval from the FFS coordinator. (3 cr) Last Offered:

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 1131 or FFS1132 with the permission of the FFS coordinator. (3 cr) Last Offered: 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. (3 cr) Last Offered:

FFS 3725 Readings in 17th C Literature Analytical readings of major texts. (3 cr) Last Offered:

FFS 3765 French Classical Theatre Classical dramaturgy and modern interpretations of Corneille, Moliere and Racine. Students should have completed FFS 1131 or the equivalent. (3 cr) Last Offered:

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. (3 cr) Last Offered:

FFS 3846 The Epistolary Novel Study of 18th-century literary works in the form of letters Prerequisite: FFS 2220 or approval from the FFS coordinator. (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. (3 cr) Last Offered:

FFS 3945 Readings in 19th C Prose Analytical readings of major novels from the 19th century. Prerequisite: FFS 2220 or approval from the FFS coordinator. (3 cr) Last Offered:

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 approval from the FFS coordinator. (3 cr) Last Offered:

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) Last Offered:

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 2017 Spring 2017 Fall 2016

FFS 5900 Independent Study (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016

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 Spring 2011

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 2017 Summer 2017 Spring 2017 Fall 2016

FIN 2121 Special Topics in Finance Special finance topics offered in lecture/seminar format. Permission of Department Chair or Instructor. (1 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015

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 2017 Summer 2017 Spring 2017 Fall 2016

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: Spring 2017 Fall 2016 Spring 2016 Spring 2015

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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: Spring 2017 Spring 2016 Spring 2015 Spring 2014

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: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

FIN 2340 Contemporary Topics in Finance Contemporary issues and topics in Financial Management, Financial Markets, Investments, or International Finance. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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. (1.5 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015 Fall 2014

FIN 2343 Student-Managed Funds II (1.5 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

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: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

GEV 1050 Environmental Science I Multidisciplinary foundation in Environmental Science; first of two semester course. Science course linking environmental biology, chemistry, earth sciences, and climate change. Collection of data from lab experiments and field-based observations. (4 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016

GEV 1053 Environmental Studies II Overview of fundamental environmental topics, including themes in energy, pollution, and resources. (3 cr) Last Offered: Spring 2017

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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 2017 Fall 2016 Fall 2015 Fall 2014

GEV 1903 Internship Elective (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Summer 2016

GEV 1906 Internship Elective (6 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Summer 2016

GEV 1909 Internship Elective (9 cr) Last Offered: Fall 2017 Spring 2017 Spring 2016 Spring 2015

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

GEV 2510 Political Geography Spatial attributes of political process and structure, with an emphasis on current geo-political issues in the world. (3 cr) Last Offered:

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 2017 Fall 2016 Fall 2015 Fall 2014

GEV 2993 Internship (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

GEV 2996 Internship (6 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2017 Fall 2015 Spring 2014

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 2017 Spring 2016

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) Last Offered:

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 2016 Spring 2016 Spring 2015

GEV 3301 Fisheries Current practices and the environmental, political and social implications of this global industry. (3 cr) Last Offered:

GEV 3302 Agricultural Science Environmental implications of agriculture, incl. a scientific analysis of soil, pesticides, fertilizer, and biodiversity. (3 cr) Last Offered:

GEV 3303 Soil Science Soil, soil properties, and biota in various ecosystems with a focus on human impacts to soil mesocosm. (3 cr) Last Offered:

GEV 3304 Air Pollution Analysis of natural and human-caused environmental impacts to the atmosphere. (3 cr) Last Offered:

GEV 3305 Energy Systems Assessment of current methods for supplying energy, incl. fossil fuels, nuclear energy, and renewable energy. (3 cr) Last Offered:

GEV 3306 Alternative Energy Analysis of emerging and established alternative energies, incl. wind, solar, biofuel, and hydropower. (3 cr) Last Offered:

GEV 3307 Urban Ecosystems Complexity of urban governance and applied urban ecological policy. Lectures, case studies, readings, and discussion: interactions between political decisions and ecological outcomes in urban landscapes. (3 cr) Last Offered:

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: Spring 2017

GEV 3309 Coral Reefs Overview of the science, policy, and management issues for coral reef ecosystems in a changing world. (3 cr) Last Offered:

GEV 3310 Special Topics in Geology Topical approach to geology to include the terroir of wines, to the geology behind current events. (3 cr) Last Offered:

GEV 3395 Int'l. Studies in Env. Sci. Lecture course taken through the International Studies Program. (3 cr) Last Offered:

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 2017 Spring 2016 Spring 2015 Spring 2014

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) Last Offered:

GEV 3502 Meteorology Weather analysis and forecasting. Atmospheric processes, dynamics, and synoptic-scale systems. Data collection, weather statistics, and interpretation of modeled weather forecasts. (3 cr) Last Offered:

GEV 3510 Geo of Europe & the Euro Union Multifaceted geography of Europe: focus on physical, cultural, social, demographic, political, urban, and industrial patterns. Special dynamics of the European Union. (3 cr) Last Offered:

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 Fall 2014

GEV 3521 GIS for Urban Sustainability Review and analyze sustainability issues faced by cities. Learn GIS applications related to urban sustainability (4 cr) Last Offered:

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 2017

GEV 3525 Geography of Asia Introduction to the rich variety of peoples, cultural traditions, rapid economic development, and environment in Asia. (3 cr) Last Offered:

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 2016 Spring 2015 Fall 2014 Spring 2013

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 2015 Spring 2013 Spring 2011 Spring 2010

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 2017 Fall 2016 Fall 2015 Spring 2015

GEV 3590 Topical Research Problems Individual projects or studies in geography and the environment. (3 cr) Last Offered: Fall 2017 Fall 2016 Summer 2016 Spring 2016

GEV 3595 Int'l. Studies in Geography Lecture course taken through the International Studies Program. (3 cr) Last Offered:

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: Spring 2017 Spring 2016 Spring 2015 Spring 2014

GEV 3775 Digital Image & Airphoto Inter Concepts and techniques in digital image processing and air photo interpretation: image classification, three- dimensional photography, identification, and measurements of features from photographic imagery. (3 cr) Last Offered: Fall 2010 Spring 2010

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2015 Spring 2015 Fall 2014 Spring 2014

GEV 4321 Microbial Processes Examination of Earth's dynamic systems and the environmental consequences of environmental processes. (4 cr) Last Offered:

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 2016

GEV 4324 Wetland Science and Management Wetland flora and fauna, hydrology, soils and ecology. (4 cr) Last Offered:

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 2016

GEV 4326 Geologic Processes Geologic processes, formation of fossil fuel and ore deposits, and the environmental impact of their extraction. (4 cr) Last Offered:

GEV 4327 Process Geomorphology Processes that shape landforms. Major components of geomorphology, including fluvial, glacial, periglacial, aeolian, slope, and weathering process. (4 cr) Last Offered:

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) Last Offered:

GEV 4329 Global Change Research Advanced field and laboratory research focused on contemporary issues in environmental science. (4 cr) Last Offered:

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 2014

GEV 4331 Env. Policy & Management National and international debates of key environmental issues from policy and management perspectives. (3 cr) Last Offered:

GEV 4332 Water Resources Planning Management and planning of natural and constructed water systems. (3 cr) Last Offered:

GEV 4333 Politics and the Env. Analysis of current affairs related to the environment. (3 cr) Last Offered:

GEV 4334 Environmental Law Legal analysis of the environment, incl. seminal national and international laws. (3 cr) Last Offered:

GEV 4335 Energy Policy Policies pertaining to the extraction, supply, distribution, and use of energy. (3 cr) Last Offered:

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:

GEV 4352 Physical Geology Earth's dynamic systems and the environmental consequences of geologic processes. (3 cr) Last Offered:

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) Last Offered:

GEV 4354 Biomimicry Design and production of materials, structures, and systems that are modeled on biological entities and processes. (3 cr) Last Offered:

GEV 4355 Tropical Ecology Environmental issues unique to tropical latitudes and ecosystems. (3 cr) Last Offered:

GEV 4356 Global Change Science Advanced exploration and discussion focused on contemporary issues in environmental science. (3 cr) Last Offered:

GEV 4357 Ecosystem Ecology Integrated study of living (biotic) and non-living (abiotic) components of ecosystems and their interactions within a natural framework. (3 cr) Last Offered:

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 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) Last Offered:

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) Last Offered:

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: 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) Last Offered:

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:

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) Last Offered:

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) Last Offered:

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) Last Offered:

GEV 4550 Geographical Issues Seminar Interdisciplinary coverage of contemporary global human and environmental issues, emphasizing their complexity, analyses, and solutions. (3 cr) Last Offered:

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 2017 Summer 2017 Spring 2017 Fall 2016

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) Last Offered:

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 2017 Spring 2017 Fall 2016 Spring 2016

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. Last Offered: Fall 2017 Spring 2017

GEV 6200 Independent Study Individual projects or studies in geography & the environment. (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Fall 2016 Fall 2015 Spring 2015

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: Spring 2017 Spring 2016 Fall 2015 Spring 2015

GIS 2000 Intro to Global 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 2017 Spring 2017 Fall 2016 Spring 2016

GIS 2993 Global Studies Internship Permission of Chairperson required. (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

GIS 2996 Global Studies Internship Permission of Chairperson required. (6 cr)
Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

GIS 3000 Special Topics Study Abroad Special topics in global and interdisciplinary studies taken while studying abroad. (3 cr) Last Offered:

GIS 4000 Global Env Justice Movements Interdisciplinary seminar course will explore the epistemological, historical, environmental, and philosophical dimensions of global environmental justice movements from the 19th century to the present. (3 cr) Last Offered: Fall 2009 Spring 2009

GIS 4275 Global Religions & the State Team-taught, interdisciplinary seminar. Study of World Religion in a 21st century socio-political context. Rituals, symbols, myths & doctrinal components of Hindu, Buddhist, Jewish, Islamic & Christian traditions. Consideration of the writings of contemporary religious international figures. (3 cr) Last Offered: Spring 2010

GIS 4277 Writing Brazilian Culture The course examines through film and literature several important aspects of regional Brazilian subcultures, such as the Amazonian indigenous, the coastal African, and the inner city youth cultures, the samba schools and football as cultural practices in the context of human rights. (3 cr) Last Offered: Spring 2012 Spring 2011

GIS 4278 Pro-Seminar in Sustainability Interdisciplinary seminar course explores historical, philosophical, environmental, scientific, economic, and political dimensions of sustainability. Using scientific theory, GIS data, documentary films, historical documents, guest speakers, and other diverse source. Students will examine case studies of local, national and international sustainability initiatives. (3 cr) Last Offered: Spring 2012

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 Fall 2013

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) Last Offered:

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 4650 Globalizatn-Econ & Eth Perspec Team-taught interdisciplinary seminar. Examination of globalization in terms of economic & ethical questions. (3 cr) Last Offered:

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 4751 Cultural Studies Advanced course in cultural studies. Mastery of theoretical vocabulary & analytical thinking. Thematic foci such as definition of culture, production of cultural meaning & identity, role of cultural forms in creating & maintaining power relationships & social boundaries from a variety of perspectives. (3 cr) Last Offered: Fall 2010 Fall 2009 Spring 2008

GIS 4950 Latin Amer Studies Seminar Examines the complexity of Latin America from the American Southwest & the tropical islands of the Caribbean to the southern tip of South America. Rich & diverse cultural roots in Native American civilizations, Spain & Portugal, & Africa. Multicultural peoples & search for alternative social structures. (3 cr) Last Offered: Spring 2010 Fall 2008 Spring 2008

GIS 5000 Special Topics Intensive seminar taught by distinguished visiting faculty on a topic of global and interdisciplinary significance. (1 cr) Last Offered: Fall 2017

GIS 6000 Independent Study Individual students with specific interests will work on a supervised project. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Fall 2016 Fall 2015 Fall 2014

GIS 6600 Capstone 2: Thesis Directed research seminar focusing on the writing of the major theseis. Senior standing. (3 cr) Last Offered: Spring 2017 Fall 2016 Spring 2016 Fall 2015

GRK 1051 New Testament Greek I Essentials of the grammar, syntax and vocabulary of the Greek of the New Testament. Reading and writing of simple New Testament Greek. (5 cr) Last Offered:

GRK 1052 New Testament Greek II Essentials of the grammar, syntax and vocabulary of the Greek of the New Testament. Reading and writing of simple New Testament Greek. (5 cr) Last Offered:

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 2017 Fall 2016 Fall 2014 Fall 2012

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 2017 Spring 2015 Spring 2013 Spring 2011

GRK 1113 Intensive Intro. Ancient Greek Intensive one-semester course covering all basic skills (grammar, morphology, vocabulary) needed to translate Ancient Greek. Graduate Students (or Undergraduates with permission of Classical Studies' Department Chair). (3 cr) Last Offered:

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 2017 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 2009 Fall 2008 Spring 2008 Spring 2007

GRK 4250 Greek Historians Selections from the works of Herodotus, Thucydides, or Polybius. Fulfills advanced literature requirements. (3 cr) Last Offered: Spring 2005 Spring 2004 Spring 2003

GRK 4350 Greek Orators Selected Orations; the style and structure of the speeches, their relations to the historical occasions for which they were composed, and the contribution of rhetoric to the intellectual life of the fourth century. (3 cr) Last Offered: Fall 1997

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GRK 4450 Greek Philosophers Greek philosophical thought and its vehicle, the Greek language, based on the reading of texts in the original. (3 cr) Last Offered:

GRK 5250 Homer Introduction to Homeric Greek and a study of Homeric epics. (3 cr) Last Offered: Fall 2009 Spring 1995

GRK 5850 Greek Tragedy Selected plays, read and interpreted in the light of contemporary Greek institutions and thought, with attention to their poetic and dramatic structure. (3 cr) Last Offered:

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 2017 Spring 2017 Fall 2016 Spring 2016

GRK 5950 Greek Comedy Selected plays, read and interpreted in the light of contemporary Greek institutions and thought, with special attention to their poetic and dramatic structure. (3 cr) Last Offered:

GRK 6001 Senior Greek Capston A reading, research, and conference course on selected topics of Greek literature and history; introduction to research in classical studies. (3 cr) Last Offered:

GWS 2050 Gender and the World 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 2017 Spring 2017 Fall 2016 Spring 2016

GWS 2993 GWS Internship Internship. (3 cr) Last Offered: Summer 2017 Spring 2017 Summer 2016 Spring 2016

GWS 3000 Independent Study Approval of Gender and Women's Studies Director required. (3 cr) Last Offered: Spring 2011 Spring 2010

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 2017 Spring 2016 Spring 2015 Spring 2014

HBW 1111 Intro to Modern Hebrew I Functional use of Hebrew for students with no prior knowledge of Hebrew. Communication skills (speaking and listening), reading and writing skills. (6 cr) Last Offered: Fall 2011

HBW 1112 Intro. to Modern Hebrew II Functional use of Hebrew for students with no prior knowledge of Hebrew. Communication skills (speaking and listening), reading and writing skills. (6 cr) Last Offered:

HIN 1111 Intro to Hindustani I Functional use of Hindustani for students with no prior knowledge of Hindustani. Communication skills (speaking and listening), reading and writing skills. (6 cr) Last Offered:

HIN 1112 Intro to Hindustani II Functional use of Hindustani for students with no prior knowledge of Hindustani. Communication skills (speaking and listening), reading and writing skills. (6 cr) Last Offered:

HIS 1002 The United States to 1877 For AP and transfer credit only. Does not fulfill Arts and Sciences core history requirement. (3 cr) Last Offered: Fall 2016 Spring 2016

HIS 1003 The United States Since 1877 For AP and transfer credit only. Does not fulfill Arts and Sciences core history requirement. (3 cr) Last Offered:

HIS 1021 Hist of Western Civil II For AP and transfer credit only. Does not fulfill Arts and Sciences core history requirements. (3 cr) Last Offered: Spring 1996

HIS 1040 Themes Pre Mod World History Comparative exploration of at least three different pre-modern civilizations (pre-1750). Cultural contact and exchange; pre-modern economies, state formation; political institutions; and social structures; religion and culture; art, architecture and literature. (3 cr) Last Offered: Fall 2011 Summer 2011 Spring 2011 Fall 2010

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 Spring 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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

HIS 1070 Topics Empire and Imperialism Selected core courses on empire and practice of imperialism in different eras. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

HIS 1075 Topics in Race & Gender Selected core courses exploring issues of race and/or gender in different eras. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

HIS 1155 Topics in America & the World Selected core courses offering transnational perspectives on the development of American society. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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) Last Offered:

HIS 1165 Topics Global Perspectives Selected core courses that take a global or comparative approach to major issues. (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

HIS 1250 Top in Ancient Civilizations Selected core courses on different aspects of ancient societies. (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

HIS 1903 Internship Elective (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

HIS 1906 Internship Elective (6 cr) Last Offered: Fall 2016 Fall 2015 Spring 2015 Fall 2014

HIS 1909 Internship Elective (9 cr) Last Offered: Fall 2015 Fall 2014 Spring 2014 Fall 2013

HIS 2000 Investigating U.S. History I In-depth study of American history from the pre-Columbian period to the Civil War and Reconstruction, with a particular emphasis on engaging historical problems as a process of inquiry and interpretation. Designed especially for history majors and future teachers, but open to all students. (3 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015 Fall 2014

HIS 2001 Investigating US History II In-depth study of American history from the end of Reconstruction to the present, with a particular emphasis on engaging historical problems as a process of inquiry and interpretation. Designed especially for history majors and future teachers, but open to all students. (3 cr) Last Offered: Spring 2017 Spring 2016 Fall 2014 Spring 2014

HIS 2151 Colonial America The political, economic, social, and intellectual life of the American colonies and the clash of racial and ethnic groups in America to 1763. (3 cr) Last Offered: Spring 2015 Fall 2011 Fall 2009 Summer 2008

HIS 2161 Revolutionary & Fed Amer The colonial resistance to Great Britain; the making of the Constitution; and the continuing struggle, to 1810, to define the meaning of the Revolution. (3 cr) Last Offered: Spring 2016 Summer 2014 Fall 2012 Summer 2011

HIS 2171 Building a Nation 1800-50 The development of the Republic from the presidency of Jefferson through the Mexican War; revolutions in transportation and commerce, struggles of nationalism and sectionalism; issues of race and gender and the ferment of reform. (3 cr) Last Offered: Spring 2014 Spring 2013 Fall 2011 Fall 2010

HIS 2181 Civil War & Reconstruct A study of the causes of a war in which Americans fought Americans; the war's evolving nature and eventual outcome; the fight over the meaning and the extent of reconstruction; and the long term political, economic, and social consequences of the war and the end of slavery. (3 cr) Last Offered: Spring 2017 Spring 2015 Fall 2013 Spring 2012

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 Fall 2009

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: Fall 2017 Spring 2016 Spring 2015 Spring 2013

HIS 2202 United States since 1945 Major problems and domestic developments in the United States since 1945: reconversion, Cold War, the "Good Society" of the 1950s, turmoil of the 1960s, Vietnam War and its aftermath, contemporary challenges and problems. (3 cr) Last Offered: Summer 2012 Summer 2011 Summer 2010 Summer 2009

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 Fall 2007

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: Spring 2014 Fall 2010 Spring 2008 Fall 2006

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 Fall 2012

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 Spring 2009

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: Spring 2015 Spring 2013 Spring 2012 Spring 2011

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 Spring 2011

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 2012 Fall 2010 Spring 2010 Fall 2008

HIS 2280 Catholic Church in America Development and shaping of the Roman Catholic Church by diverse cultures of Catholicism from 1500 to the present. The first contact of Europeans and Native Americans; growth through European immigration; challenges facing the modern, multicultural Church of the present day. (3 cr) Last Offered: Spring 2010 Spring 2007 Spring 2005 Spring 2003

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 Fall 2007

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: Fall 2016 Fall 2015 Fall 2014 Fall 2013

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 2016 Fall 2015 Fall 2014 Fall 2013

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 2017 Spring 2016 Spring 2013 Spring 2012

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: Fall 2011 Spring 2010 Spring 2008

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: Spring 2017 Fall 2015 Fall 2014 Spring 2014

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 Spring 2011

HIS 2306 Culture of Indus Am 1820-1920 Cultural sources of American expansion and economic development; the effects of industrialization on patterns of life and thought and the responses of different groups to these changes. (3 cr) Last Offered: Spring 2006 Spring 1997

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: Fall 2013 Fall 2008 Spring 2007

HIS 2993 Hist Internship An internship in a local historical archive, museum, park, or library. (3 cr) Last Offered: Summer 2017 Fall 2016 Summer 2016 Fall 2015

HIS 2996 Hist Internship A more extensive internship in a local historical archive, museum, park, or library. (6 cr) Last Offered: Summer 2017 Fall 2016 Summer 2016 Fall 2015

HIS 2998 Topics in American History Selected topics in American history of interest to faculty and students. (3 cr) Last Offered: Spring 2017 Fall 2016 Summer 2016 Fall 2015

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 Spring 2007

HIS 3007 Early Mod Europe 1500-1750 The rise of Protestantism; the emergence of national monarchies; the growth of science and technology; colonial expansionism and the impact of the New World on the West; the clash of cultures with Islam and other civilizations on the peripheries. (3 cr) Last Offered: Fall 2011 Fall 2009 Spring 2006 Spring 2003

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 Fall 2010

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 Spring 2009

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 Fall 2011

HIS 3018 Pagans, Jews, and Christians Society and religion between Alexander the Great and the coming of Islam. The classical pantheon, domestic religion, magic, the imperial cult; the variety of Judaism in Palestine and the Diaspora, Judaism and the state; the rise of Christianity, the persecutions, Constantine and the conversion of the empire. (3 cr) Last Offered: Spring 2011 Summer 2010 Fall 2008 Spring 2006

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 Fall 2009

HIS 3095 Topics in Ancient History Selected topics in Ancient history of interest to faculty and students. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Summer 2015

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 Fall 1998

HIS 3115 The High Middle Ages The major western European institutions that took form during the classical period of medieval civilization and were bequeathed to modern European society. (3 cr) Last Offered: Fall 2011 Fall 2009 Fall 2007 Fall 2005

HIS 3121 The Renaissance The decline of society in the Late Middle Ages and the emergence of commercial capitalism; the disintegration of the Holy Roman Empire and the evolution of city-states and new monarchies in the fifteenth century; the crisis of the Papacy and the emergence of humanism; the Italian universities in the Late Middle Ages and the development of new tastes in literature, art, and architecture. (3 cr) Last Offered: Fall 2011 Fall 2010 Spring 2007 Spring 2006

HIS 3126 Hist of Italian Cities (3 cr) Last Offered: Spring 2015 Summer 2013 Fall 2012 Summer 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 Fall 2006

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: Fall 2012 Fall 2007 Fall 2003

HIS 3151 Eur Nationalism 1800-present Constructing nations and nationalism in Europe from the Napoleonic wars to post-Yugoslavia; competing conceptions of nationality (on the basis of race, gender, politics, culture, etc.) and resulting conflicts. (3 cr) Last Offered: Spring 2012 Fall 2010 Spring 2008 Spring 2006

HIS 3161 20th Century Europe Social, political, and cultural history of Europe from the fin de siècle to European unification; world wars and revolution, East-West divide, consumer society and popular protest. (3 cr) Last Offered: Fall 2014 Spring 2014 Spring 2012 Fall 2009

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 Fall 2006

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: Spring 2017 Spring 2015 Spring 2009 Fall 2005

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 Spring 2010

HIS 3203 Great Britain since 1815 British politics, society and culture from the triumph of Waterloo to youth culture in the post-industrial world of the Beatles. Topics include Liberalism; industrial conflict, urban poverty and radical politics; Anglo-Irish relations; degeneration and fin-de-siècle sexual anarchy; rise of Labour and Women's movements; imperialism and decolonization; race and ethnicity; film and social change. (3 cr) Last Offered: Spring 2006 Spring 2003 Spring 2001 Fall 1998

HIS 3214 Eighteenth Century Ireland Ireland from the Reformation to the Act of Union with particular emphasis on the rise and impact of the Protestant Ascendancy. (3 cr) Last Offered: Fall 2006 Fall 2000 Fall 1999 Fall 1998

HIS 3216 Ireland since 1800 The social and political history of the Irish state in the 19th and 20th centuries. (3 cr) Last Offered: Fall 2017 Summer 2017 Fall 2016 Summer 2016

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) Last Offered:

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 Spring 2010

HIS 3222 History of Modern France Major developments, problems, and policies connected with the evolution of the French nation and its empire from 1815 to the present. (3 cr) Last Offered: Fall 2006 Spring 2004 Fall 1996

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 Summer 2002

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 2017 Fall 2013 Spring 2012 Fall 2010

HIS 3240 Russian History to 1861 The development of Russia from the "rude and barbarous kingdom" of Ivan the Terrible to the great European power ruled by Catherine the Great. The political, economic and social systems of Muscovite and eighteenth-century Russia; civil wars, peasant rebellions, and foreign invasions; the reforms of Peter the Great; female monarchs in the 18th century; enlightened absolutism under Catherine the Great. (3 cr) Last Offered: Spring 2010 Fall 2008 Fall 2003

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 Spring 2011

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 2016 Fall 2014 Spring 2012 Fall 2010

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 3352 20th C European Cult & Soc Cultural modernism and the impact of modern technology, experience and representation of war, violence, and genocide; post-World War II social transformations; Americanization and Sovietization; post-industrial society and post-modern culture. (3 cr) Last Offered: Fall 2008 Fall 2005 Fall 2003

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 Spring 2005

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 Fall 2009

HIS 3995 Topics in European History Selected topics in European history of interest to faculty and students. (3 cr) Last Offered: Fall 2017 Fall 2016 Spring 2016 Summer 2015

HIS 4031 Islamic Civilization to 1800 The Islamic World from the seventh century through the eighteenth century with special emphasis on its cultural, social, and political history and contributions. (3 cr) Last Offered: Spring 2009 Fall 2006 Fall 2005 Fall 2002

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: Fall 2017 Spring 2016 Spring 2015 Spring 2014

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 Fall 2003

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: Spring 2017 Spring 2013 Spring 2012 Spring 2011

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 Summer 2012

HIS 4120 Emergence Modern Africa The impact of 19th century European colonialism on Africa; the division of Africa into European dependencies; change and continuity in African culture; the emergence of independent African nation states after World War II; their difficulties and opportunities. (3 cr) Last Offered: Spring 2007 Fall 2004 Fall 2002 Spring 2000

HIS 4195 Topics African History Selected topics in African history of interest to faculty and students. (3 cr) Last Offered: Spring 2005 Summer 1998

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 Spring 2006

HIS 4316 Intro to His of Japanese Civ A broad and basic introduction to Japanese society, culture and history from its inception to 1600 when Japan began to limit its citizen's contact with Christian nations. (3 cr) Last Offered: Spring 2008 Spring 2007

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 2015 Spring 2013 Fall 2012 Fall 2011

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 Spring 2002

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 Fall 2011

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 4360 History of Modern South Asia History of Indian subcontinent from late Mughal period through British Empire, culminating in independence and partition in 1947. Emphasis on knowledge, power and state formation; resistance, revolution, and nationalism; gender and the role of women; and post colonial legacies. (3 cr) Last Offered: Spring 2011 Spring 2006

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: Spring 2017 Spring 2015 Fall 2013 Fall 2012

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 Spring 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 to the 1780s. (3 cr) Last Offered: Spring 2014 Fall 2011 Fall 2003 Fall 2001

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 Spring 2004

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 Fall 2008

HIS 4495 Topics Latin Amer Hist Selected topics in Latin American history of interest to faculty and students. (3 cr) Last Offered: Summer 2015 Spring 2015 Summer 2014 Fall 2013

HIS 4499 Topics in World History Selected topics in world or non-western history of interest to faculty and students. (3 cr) Last Offered: Spring 2016 Summer 2013 Spring 2013 Fall 2012

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 Fall 2002

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 Spring 2011

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 Spring 2005

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 2016 Fall 2015 Spring 2013 Spring 2012

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 Spring 2003

HIS 4700 "War Lords" of WW II The military leaders of the Second World War in both the European and Pacific theaters. (3 cr) Last Offered: Summer 2007 Spring 2004 Spring 2001 Summer 2000

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 Spring 2007

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 Fall 2011

HIS 4996 Topics History of Gender Selected themes in the history of gender examined in depth. (3 cr) Last Offered: Spring 2011 Spring 2007

HIS 4997 Topics in the History of Race Selected themes in the history of race examined in depth. (3 cr) Last Offered: Fall 2008 Fall 2007

HIS 4998 Topics in Public History Selected themes in public history examined in depth. (3 cr) Last Offered: Spring 2011

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 2017 Spring 2017 Fall 2016 Spring 2016

HIS 5501 Sem in Historical Methodology Student research and reports. Seminar format. Written permission of chair required. (3 cr) Last Offered: Fall 2017 Fall 2016 Spring 2016 Fall 2015

HIS 5515 Independent Research An intensive research project under individual direction. Written permission of chair required. (3 cr) Last Offered: Spring 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 Fall 2013

HON 1002 Interdisc Humanities I: HIS Major works and ideas from the classical Graeco-Roman and Christian traditions. Emphasis on historical development. Extensive reading and writing requirements. Team-taught. (3 cr) Last Offered:

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 2017 Fall 2016 Fall 2015 Fall 2014

HON 1004 Interdisc Hum I: Soc Sci Major works and ideas from the Graeco-Roman and Christian traditions. Emphasis on social and political thought and development. Extensive reading and writing requirements. Team-taught. (3 cr) Last Offered: Fall 2002 Fall 2001

HON 1050 Interdisc Humanities II: PHI Major works and ideas from the Medieval period to the French Revolution. Emphasis on the evolution in philosophy from medieval to modern. Extensive reading and writing requirements. Team-taught. (3 cr) Last Offered: Spring 2009 Spring 2008 Spring 2006 Spring 2003

HON 1051 Interdisc Humanities II:LIT Major works and ideas from the Medieval period to the French Revolution. Emphasis on the evolution in literature from medieval to modern. Extensive reading and writing requirements. Team Taught. (3 cr) Sem 2. Two coreq: HON 1050, 1052, 1053, 1054. (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

HON 1052 Interdisc Humanities II: HIS Major works and ideas from the Medieval period to the French Revolution. Emphasis on the historical evolution in thought and institutions from medieval to modern. Team taught. (3 cr) Last Offered: Spring 2013 Spring 2005 Spring 2004 Spring 1998

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 2017 Spring 2016 Spring 2015 Spring 2014

HON 1054 Interdisc Hum II: PSC Major works and ideas from the Medieval period to the French Revolution. Emphasis on the evolution in political thought from medieval to modern. Extensive reading and writing requirements. Team taught. (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

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HON 2000 Interdisc Humanities III: PHI Major works and ideas of the 19th and 20th centuries, with emphasis on philosophy. Extensive reading and writing requirements. Team-taught. (3 cr) Last Offered: Fall 2008

HON 2001 Interdisc Humanities III: LIT Major works and ideas of the 19th and 20th centuries, with emphasis on literature. Extensive reading and writing requirements. Team-taught. (3 cr) Last Offered: Fall 1995

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 2017 Fall 2016 Fall 2015 Fall 2014

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 Fall 2010

HON 2004 Interdisc Humanit III: SOC SC Major works and ideas of the 19th and 20th centuries, with emphasis on social science thought. Extensive reading and writing requirements. Team-taught. (3 cr) Last Offered: Fall 2008 Fall 2005 Fall 2004 Fall 2003

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 2017 Fall 2016 Fall 2015 Fall 2014

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 Fall 2012

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 Fall 2012

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 Spring 2012

HON 3000 Art and Art History (3 cr) Last Offered: Fall 2004 Fall 2001 Fall 2000 Fall 1999

HON 3050 Art and Art History (3 cr) Last Offered: Spring 2008 Spring 2007 Spring 2006 Spring 2005

HON 3100 Classics (3 cr) Last Offered: Spring 2013 Fall 2003 Fall 1996

HON 3150 Classics (3 cr) Last Offered: Spring 2015 Spring 2014 Spring 2013 Spring 2012

HON 3300 Education (3 cr) Last Offered: Fall 2008 Fall 2005 Fall 1999

HON 3350 Education (3 cr) Last Offered: Spring 2001

HON 3400 Communication (3 cr) Last Offered: Spring 2010 Fall 2009 Fall 2008 Fall 2004

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HON 3450 Communication (3 cr) Last Offered: Fall 2014 Spring 2011 Fall 2010 Spring 2010

HON 3600 Literature (3 cr) Last Offered: Fall 2013 Spring 2012 Spring 2011 Spring 2010

HON 3601 Literature (3 cr) Last Offered: Fall 2013 Fall 2010 Fall 2009 Fall 2008

HON 3602 Literature (3 cr) Last Offered: Fall 2009 Fall 2007 Fall 2006 Fall 2002

HON 3650 Literature (3 cr) Last Offered: Fall 2012 Fall 2011 Spring 2011 Spring 2010

HON 3651 Literature (3 cr) Last Offered: Spring 2012 Fall 2011 Spring 2011 Spring 2010

HON 3652 Literature (3 cr) Last Offered: Spring 2009 Spring 2008 Spring 2007 Spring 2006

HON 3800 Geography (3 cr) Last Offered: Spring 1995

HON 3850 Geography (3 cr) Last Offered:

HON 4000 History (3 cr) Last Offered: Fall 2017 Fall 2010 Fall 2009 Fall 2008

HON 4001 History (3 cr) Last Offered: Fall 2012 Fall 2008 Fall 2006 Fall 2005

HON 4002 History (3 cr) Last Offered: Fall 2000

HON 4050 History (3 cr) Last Offered: Fall 2015 Fall 2014 Fall 2011 Spring 2008

HON 4051 History (3 cr) Last Offered: Spring 2013 Spring 2012 Spring 2006 Spring 2005

HON 4052 History (3 cr) Last Offered: Spring 2005 Spring 2002

HON 4100 Mathematics (3 cr) Last Offered: Spring 2014 Fall 2012

HON 4101 Mathematics (3 cr) Last Offered:

HON 4150 Mathematics (3 cr) Last Offered: Fall 2004 Fall 2003 Spring 2001 Spring 2000

HON 4151 Mathematics (3 cr) Last Offered: Fall 2011

HON 4200 Topic: Criminology Topics addressing special or emerging interests, chosen for their current importance and the specific expertise of an instructor. (3 cr) Last Offered:

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 Philosophy (3 cr) Last Offered: Fall 2012 Fall 2011 Fall 2010 Fall 2009

HON 4301 Philosophy (3 cr) Last Offered: Fall 2010 Fall 2008 Fall 2006 Fall 2005

HON 4302 Philosophy (3 cr) Last Offered: Fall 2008 Fall 2006 Fall 2004 Fall 2003

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HON 4350 Philosophy (3 cr) Last Offered: Spring 2011 Spring 2010 Spring 2009
Spring 2008

HON 4351 Philosophy (3 cr) Last Offered: Spring 2012 Spring 2011 Spring 2010
Spring 2009

HON 4352 Philosophy (3 cr) Last Offered: Spring 2013 Spring 2009 Spring 2006
Spring 2004

HON 4353 Philosophy (3 cr) Last Offered: Spring 2005 Spring 2001 Spring 2000

HON 4500 Political Science (3 cr) Last Offered: Fall 2016 Fall 2013 Fall 2012
Fall 2008

HON 4501 Political Science (3 cr) Last Offered: Fall 1999

HON 4502 Political Science (3 cr) Last Offered:

HON 4550 Political Science (3 cr) Last Offered: Spring 2015 Spring 2014 Spring
2010 Spring 2009

HON 4551 Political Science (3 cr) Last Offered: Spring 2008 Spring 2007 Spring
2006 Spring 2002

HON 4552 Political Science (3 cr) Last Offered: Spring 2002

HON 4700 Psychology (3 cr) Last Offered:

HON 4701 Psychology (3 cr) Last Offered:

HON 4750 Psychology (3 cr) Last Offered: Spring 2006 Spring 2005 Spring 2003
Spring 2002

HON 4751 Psychology (3 cr) Last Offered: Spring 2013

HON 4800 Theology & Religious Studies (3 cr) Last Offered: Spring 2012 Spring
2011 Spring 2010 Fall 2009

HON 4801 Theology & Religious Studies (3 cr) Last Offered: Fall 2015 Fall
2014 Fall 2013 Fall 2011

HON 4850 Theology & Religious Studies (3 cr) Last Offered: Spring 2014 Spring
2013 Spring 2012 Spring 2011

HON 4851 Theology & Religious Studies (3 cr) Last Offered: Spring 2015 Spring
2014 Spring 2013 Spring 2010

HON 4900 Sociology (3 cr) Last Offered: Fall 2016 Fall 2013 Fall 2005 Fall 2004

HON 4901 Sociology (3 cr) Last Offered: Fall 2005 Fall 2004 Fall 2003 Fall 2002

HON 4950 Sociology (3 cr) Last Offered: Spring 2013 Spring 2010 Spring 2006
Fall 2005

HON 4951 Sociology (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015
Spring 2013

HON 5050 Biology Advanced seminar in Biology; topics to be determined by the
instructor of record. (3 cr) Last Offered: Fall 2011 Spring 1995

HON 5051 Biology Advanced seminar in Biology; topics to be determined by the
instructor of record. (4 cr) Last Offered: Spring 1995

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HON 5052 Biology An analysis of the interplay of genetic, physiological, environmental and critical timing factors in determining the sex of an individual. Students will collect data from the primary literature of the various sub-disciplines of biology in order to develop models and testable hypotheses as to how genetic and physiological factors interact. A modified problem-based approach will be used to guide students in their comprehension of facts and generation of testable hypotheses. (4 cr) Last Offered: Fall 1996 Fall 1995

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: Spring 2010

HON 5200 Ideas and Texts Six professors from as many disciplines analyze a text of significance that has had an impact on their own intellectual development. May be repeated for credit. (3 cr) Last Offered: Spring 2004 Spring 2002 Fall 2001 Spring 2001

HON 5300 Enrichment: Topics Intensive experiential courses providing enrichment opportunities. Individual and group participation directed toward enhancing intellect and delight. (1 cr) Last Offered: Spring 2017 Spring 2000 Fall 1998 Fall 1997

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 2017 Fall 2016 Spring 2016 Fall 2015

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 2017 Spring 2017 Fall 2016 Spring 2016

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 Fall 2013

HON 5430 Performing Arts: Voice Intensive experiential courses in performance, literary, and plastic arts. Individual and group participation directed toward reflexive understanding of one's self as engaged in the process of creativity. (1 cr) Last Offered: Spring 2012 Spring 2010 Fall 2001

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 Spring 2006

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 2016 Spring 2015 Spring 2014 Spring 2013

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 2017 Spring 2017 Fall 2016 Spring 2016

HON 5470 Plastic Arts: Sculpture Intensive experiential courses in performance, literary, and plastic arts. Individual and group participation directed toward reflexive understanding of one's self as engaged in the process of creativity. (1 cr) Last Offered: Spring 2006

HON 5480 American Sign Language The structure and production of ASL, linguistic expression through face and body. Deaf culture and literature. (1 cr) Last Offered: Spring 2010 Fall 2009 Fall 2008 Fall 2007

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 2017 Spring 2017 Fall 2016 Fall 2015

HON 5500 Ind Study & Research Independent Study and Research (3 cr) Last Offered: Fall 2017 Summer 2017 Fall 2016 Summer 2016

HON 5501 Ind Study & Research Independent Study and Research (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

HON 5506 Ind Study & Res Science Independent Study and Research in Science (3 cr) Last Offered: Fall 2017 Summer 2017 Fall 2016 Summer 2016

HON 5507 Ind Study & Res Science Independent Study and Research in Science (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

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

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HON 5600 Seminar for Visiting Professor Seminar topic to be determined by visiting professor. (3 cr) Last Offered: Spring 2014 Spring 2012 Spring 2008 Spring 2007

HON 5601 Seminar for Visiting Professor (3 cr) Last Offered: Spring 2012

HON 5700 Colloquia (3 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015 Fall 2014

HON 5701 Colloquia (3 cr) Last Offered: Fall 2004 Fall 2003 Fall 2002 Fall 2001

HON 5702 Colloquia (3 cr) Last Offered: Fall 2017 Spring 2008 Fall 2006 Fall 2005

HON 5703 Colloquia (3 cr) Last Offered: Spring 2009 Spring 2008 Fall 2007 Fall 2005

HON 5750 Colloquia (3 cr) Last Offered: Fall 2011 Fall 2009 Fall 2008 Spring 2008

HON 5751 Colloquia (3 cr) Last Offered: Fall 2010 Fall 2009 Spring 2009 Spring 2008

HON 5752 Colloquia (3 cr) Last Offered: Fall 2009 Spring 2004 Spring 2003 Spring 2002

HON 5753 Colloquia (4 cr) Last Offered: Spring 2013 Spring 2011 Spring 2010 Spring 2004

HON 5999 Proseminar: Research Methods Fundamental concepts, terms, and practices of scholarly research in the humanities, including strategies for conducting exhaustive literature reviews, annotated bibliographies, and work-in-progress class presentations. Emphasis upon individual research projects in the specific disciplines of projected Senior Thesis topics. Required of students in the humanities and history who intend to pursue the six-credit Senior Thesis option. (3 cr) Last Offered: Spring 2010 Spring 2009 Spring 2008 Spring 2006

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

HS 2000 Intro:Prin & Survey Prac Course is Writing Enriched. (3 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015 Fall 2014

HS 2100 Assessment and Referral (3 cr) Last Offered: Spring 2013 Fall 2011 Fall 2010 Spring 2010

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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 Spring 2010

HS 3000 Lab Communication Skills (3 cr) Last Offered: Fall 2013 Fall 2012 Fall 2011 Fall 2010

HS 3100 Lab in Group Process (3 cr) Last Offered: Spring 2013 Spring 2012 Spring 2011 Spring 2010

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 Spring 2011

HS 3500 Gerontology (3 cr) Last Offered: Spring 2017 Fall 2015 Fall 2014 Spring 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 Fall 2014

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: Fall 2017 Spring 2017 Fall 2016 Spring 2015

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 Spring 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 Fall 2011

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 Spring 2012

HUM 1903 Internship (3 cr) Last Offered: Fall 2017 Spring 2017 Spring 2016 Spring 2015

HUM 1906 Internship (3 cr) Last Offered: Fall 2017 Spring 2017 Spring 2016 Spring 2015

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Spring 2016 Fall 2015

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: Fall 2017 Fall 2016 Spring 2016 Fall 2015

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: Fall 2017 Spring 2017 Spring 2016 Spring 2015

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 2017 Spring 2017 Fall 2016 Fall 2015

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 Spring 2008

HUM 2200 HIS: Literature & Politics How has literature affected political life and imagination? If writers can write about politics, should they enter politics and become acknowledged legislators? Students will read fiction and non-fiction. The focus will be on the political intelligence of literature. Fulfills an upper level History in the Core Curriculum. (3 cr) Last Offered: Spring 2011

HUM 2300 PSC: What is Politics What is Politics? How does it cultivate the human good? How do political actors coordinate complex activities to bring about justice? What difference would the common good make for policy decisions? What are the limits of what politics can achieve? (3 cr) Last Offered: Fall 2006

HUM 2500 HIS:Imperialism & Humanities What have been the meanings of empire for imperialist and imperialized? How can different humanities complement, enrich, and contradict each other? Theme pursued through literature, history, philosophy, theology, art, music and film. Fulfills an upper level History in the Core Curriculum. (3 cr) Last Offered: Summer 2012 Summer 2011 Summer 2008 Spring 2004

HUM 2900 Topics Specific topics vary each semester. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

HUM 2993 Internship (3 cr) Last Offered: Fall 2014 Fall 2013 Fall 2012 Fall 2010

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 Fall 2010

HUM 3000 ENG: The Catholic Imagination Investigates life as drama; investigates themes of sin, grace, redemption, creation and incarnation, how these disclose the human person. Fulfills an upper level Literature in the Core Curriculum. (3 cr) Last Offered:

HUM 3001 ENG: Lewis Tolkien & Inklings Explores the fictional, theological, and philosophic writing of C.S. Lewis, J.R.R. Tolkien, and the Inklings (Charles Williams, Dorothy L. Sayers, G.K. Chesterton, George MacDonald). Investigates the relationship between fantastic "otherworldly" fiction and human "wordly" experience. Fulfills an upper level Literature in the Core Curriculum. (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

HUM 3002 Romantic Revolutions Examines culture, religion, and politics in romantic period literature and beyond. Includes major romantic poets, important women writers, and later Victorian paths of "romantic religion." Asks fundamental questions about the role of art, transcendence, and human consciousness in social transformation. Fulfills an upper level Literature in the Core Curriculum. (3 cr) Last Offered: Spring 2007 Fall 2005

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 Fall 2008

HUM 3140 PSC: Religion and Politics The relation of religion and politics found in classical, modern, and contemporary literature especially in Christianity and Islam. Fulfills an upper level Social Science in the Core Curriculum. (3 cr) Last Offered: Fall 2005 Fall 2004

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 Fall 2006

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 3180 PHI: Faith & Reason Reflects on classical and contemporary texts dealing with relation between faith and reason. Discusses imaginative presentations of the christian worldview attempting to show how it's both reasonable and mysterious. Fulfills an upper level Philosophy in the Core Curriculum. (3 cr) Last Offered: Spring 2010 Fall 2006

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 Fall 2005

HUM 3500 PSC: Early Political Theories The relevance of the classics of political thought for understanding modern politics from the Greeks to the to the modern era. Fulfills an upper level Social Science in the Core Curriculum. (3 cr) Last Offered: Fall 2007

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 Fall 2007

HUM 3700 Political Thought of Rousseau Understandings of the human person in Locke and Rousseau, and their consequences for political order, citizenship and education -- agreements and disagreements that almost define the terms of controversy in the modern view of humanity. (3 cr) Last Offered: Fall 2011 Fall 2007

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 Spring 2009

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 Fall 2008

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 Spring 2007

HUM 4900 Courtship and the Family Human beings long for intimacy. How does one achieve it? Marriage is perhaps the most intimate relationship. How can we tell which person we ought to marry? How does one raise a family in the contemporary world? (3 cr) Last Offered: Spring 2008 Fall 2007

HUM 5000 History, Mystery, Destiny Examination of history and its meaning over the ages. Authors: Thucydides, Plutarch, Augustine, Gibbon, Marx, Foucault, and others. Class discussions, short essays, final paper. (3 cr) Last Offered: Spring 2007

HUM 5110 HIS: Utopia Oscar Wilde once said that any map of the world that does not include Utopia is not even worth glancing at. Students will study the maps of Utopia drawn up by a variety of writers from antiquity to the present. Fulfills an upper level History in the Core Curriculum. (3 cr) Last Offered: Spring 2012

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 5800 THL: Religion & Literature This course examines ways in which modern literature explores, develops, confirms and challenges concerns central to Christianity. (3 cr) Last Offered: Fall 2009 Fall 2007 Fall 2006 Spring 2006

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 Fall 2011

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 2017 Summer 2016 Summer 2015 Summer 2014

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 2017 Fall 2016 Fall 2014 Fall 2013

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 2017 Spring 2016 Spring 2015 Spring 2014

HUM 6950 Ind Study & Research (3 cr) Last Offered: Spring 2017 Fall 2016 Spring 2016 Fall 2015

INS 1020 Prin of Risk Insurance (3 cr) Last Offered:

INS 2107 Intro Statistics I (3 cr) Last Offered:

INS 2108 Intro Statistics II (3 cr) Last Offered:

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 Spring 2015

IS 2222 Topics: Irish Language Specific topics concerning the Irish language (Gaelic); topics vary by semester. (3 cr) Last Offered: Fall 2014

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 a local musicians, and field trips. Required of all students participating in the semester abroad program at NUI Galway, Ireland. (3 cr) Last Offered: Spring 2017 Fall 2016 Spring 2016 Fall 2015

IST 1100 Latin American Seminar (3 cr) Last Offered:

IST 2001 Study Abroad Programs Last Offered:

IST 2002 Study Abroad Programs (12 cr) Last Offered: Fall 2003 Fall 2002 Fall 2001 Fall 2000

IST 2003 Study Abroad Programs Last Offered: Spring 2003 Spring 2002 Spring 2001 Spring 2000

IST 3001 Jerusalem Program Last Offered:

IST 4001 International Exchange Program Last Offered: Spring 2003 Fall 2002 Spring 2002 Fall 2001

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Summer 2014

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 2017 Summer 2017 Fall 2016 Summer 2016

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: Fall 2017 Summer 2017 Spring 2017 Summer 2016

ITA 1131 Conversation & Composition I Intensive practice in conversation and composition with emphasis on developing advance language skills in Italian. Course conducted in Italian. Students should have completed ITA 1121 and 1122 or the equivalent. (3 cr) Last Offered: Fall 2017 Summer 2017 Fall 2016 Fall 2015

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: Summer 2017 Spring 2017 Spring 2016 Summer 2015

ITA 1138 Advanced Grammar Intensive practice of spoken and written Italian. (3 cr) Last Offered: 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: Fall 2016 Summer 2016 Fall 2015 Fall 2013

ITA 1141 Italy in Business An introduction to Italian business terminology and discourse related to economic, finance, and management. (3 cr) Last Offered: 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. Students should have completed 1132 or the equivalent. (3 cr) Last Offered:

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. Students should have completed 1132 or the equivalent. (3 cr) Last Offered: Spring 2017

ITA 2222 Italians in America Introduction to the cinematographic and literary images of Italians and Italian-Americans, from the great emigration to the present. (3 cr) Last Offered:

ITA 2225 Italian Music The interaction of musical performance and poetry (from opera to contemporary songwriting) and the role of music in Italian society. (3 cr) Last Offered:

ITA 2314 Italian Poetry A selection of masterpieces of Italian poetry from the origins to the present. (3 cr) Last Offered:

ITA 2324 Diversity, Gender, Race The course addresses issues of identity related to diversity mainly gender, but also race in modern Italy. (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. (3 cr) Last Offered:

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. (3 cr) Last Offered:

ITA 3074 Intro to Italian Cinema A critical introduction to the masterpieces of the Italian cinema from DeSica and Fellini to Tornatore and Sorrentino. (3 cr) Last Offered:

ITA 3075 Visual History of Italy A study of Italian history and culture with an emphasis on film, painting, and architecture. In Italian. (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. (3 cr) Last Offered:

ITA 3365 The Italian Theatre A selection of masterpieces of Italian theatre, from the Renaissance to modern times. (3 cr) Last Offered:

ITA 3366 Italian Opera Introduction to Italian opera from Monteverdi to Verdi and Puccini. (3 cr) Last Offered:

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. (3 cr) Last Offered: Spring 2017 Summer 2016 Summer 2015 Spring 2015

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 ITA 1131. May be repeated for credit if topic changes. (3 cr) Last Offered:

ITA 3455 Dante's Divine Comedy Selected readings in Italian from Dante's masterpiece. (3 cr) Last Offered:

ITA 3545 Petrarca and Boccaccio The major works of Francesco Petrarca and Giovanni Boccaccio. Students should have completed ITA 1131 and 1132 or the equivalent. (3 cr) Last Offered:

ITA 3625 The Italian Renaissance Writers, artists, intellectuals of the Humanistic age and of the Renaissance. Students should have completed ITA 1131 and 1132 or the equivalent. (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. (3 cr) Last Offered:

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. (3 cr) Last Offered:

ITA 3925 Italian Modernism Literature and art of the 20th century. Futurism, avant-gardes, Pirandello, De Chirico, Calvino and postmodernism. (3 cr) Last Offered:

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. Students should have completed ITA 1132 or the equivalent. (3 cr) Last Offered: Spring 2016 Spring 2014 Spring 2013

ITA 5900 Independent Study (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Summer 2017 Fall 2016 Summer 2016

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 2017 Spring 2017 Summer 2016 Spring 2016

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 Fall 2013

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 Spring 2014

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 Summer 2013

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2015 Spring 2014 Spring 2013

JPN 2215 Women in Asia Current interdisciplinary feminist scholarship on Asian women dealing with current status of Asian women and the various factors that shaped it. Fulfills requirement for minor in Japanese. (3 cr) Last Offered: Fall 2008 Fall 2006 Fall 2005

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 2013 Fall 2012 Spring 2008 Fall 2007

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 2017 Spring 2017 Fall 2016 Spring 2016

LA 1903 Internship Elective Permission of Program Director. Junior or Seniors with a 3.0 overall GPA only. (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

LA 1904 Global Internship Global internship course. Must secure approval of Office for Undergraduate Students (OUS) Internship Office. (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

LA 1906 Internship Elective Permission of Program Director. Juniors and Seniors with 3.0 overall GPA only. (6 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

LA 1909 Internship Elective Permission of Program Director. Junior or Seniors with a 3.0 overall GPA only. (9 cr) Last Offered: Summer 2017 Summer 2016 Summer 2015 Summer 2014

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

LA 5001 Liberal Arts Seminar Integrative seminar dealing with the relation of the social sciences and the humanities. May be viewed as similar to a "Core Seminar III" combining ancient, modern, and contemporary thought. (3 cr) Last Offered: Spring 2004 Fall 2003 Spring 2003 Fall 2002

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LA 6001 Research Individual students with specific interdisciplinary study projects will work with a particular professor on a tutorial basis. Students must have senior status. The final research paper must be approved by the professor and the director. (3 cr) Last Offered: Spring 2004 Fall 2003 Spring 2003 Fall 2002

LAS 3412 Special Topics Study of topics of special interest in Latin American Studies. Topics to be arranged. (3 cr) Last Offered: Spring 2011 Spring 2010 Fall 2006

LAS 3950 Latin American Studies Seminar (3 cr) Last Offered: Spring 2017 Spring 2015 Spring 2014 Spring 2013

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: Fall 2017 Summer 2017 Spring 2017 Summer 2016

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: Fall 2017 Spring 2017 Spring 2016 Spring 2015

LAT 1111 Introductory Latin I Basic forms, syntax and vocabulary; selected Latin prose in second semester. (3 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015 Fall 2014

LAT 1112 Introductory Latin II Basic forms, syntax and vocabulary; selected Latin prose in second semester. (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

LAT 1113 Intensive Introductory Latin Intensive one-semester course covering all basic skills (grammar, morphology, vocabulary) needed to translate Latin. (3 cr) Last Offered:

LAT 1121 Intermediate Latin I Review of Latin syntax; selected readings from prose and poetry. (3 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015 Fall 2014

LAT 1122 Intermediate Latin II Review of Latin syntax; selected readings from prose. (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

LAT 2031 Intermediate Latin I Review of Latin syntax; selected readings from prose and poetry. (3 cr) Last Offered: Fall 2004 Fall 2003 Fall 2002 Fall 2001

LAT 3001 Readings in Authors Selected readings from a variety of Latin authors. (3 cr) Last Offered: Fall 2017 Fall 2016 Spring 2016 Fall 2015

LAT 3050 Prose Composition Practice in the composition of Latin in a variety of styles. (3 cr) Last Offered:

LAT 3150 Latin Language Historical Latin grammar and syntax; the syntax of classical Latin. (3 cr) Last Offered: Fall 2001

LAT 4051 Cicero Reading of selected orations with special emphasis on the historical background. Selection from rhetorical and philosophical works and letters. (3 cr) Last Offered: Fall 2005 Spring 1997

LAT 4150 Caesar Reading and interpretation of Julius Caesar's commentaries. Fulfills advance literature requirements. (3 cr) Last Offered: Fall 2002

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LAT 4350 Livy Extensive reading in the *Ab Urbe Condita*; Livy as historian of Rome. (3 cr) Last Offered: Spring 2001

LAT 4450 Tacitus Extensive reading in the *Annales*; Tacitus as historian of the early principate. Fulfills advanced literature requirements. (3 cr) Last Offered:

LAT 4550 Suetonius Reading of the major Lives; Suetonius conception of biography, the historical and literary value of the Lives. (3 cr) Last Offered:

LAT 5050 Plautus & Terence The nature of Roman comedy. (3 cr) Last Offered: Spring 2002 Fall 1998

LAT 5250 Vergil The *Aeneid*, read and interpreted in the light of ancient poetical theory and the epic tradition; the civilized epic as a new form; Vergilian epic techniques; careful reading of selections from the *Eclogues* and *Georgics*. (3 cr) Last Offered: Fall 2000

LAT 5350 Ovid Ovid as an epic poet of the Augustan age. (3 cr) Last Offered: Spring 2017 Fall 2004 Fall 1999 Fall 1996

LAT 5450 Horace Augustan lyric and satire. (3 cr) Last Offered: Fall 2003 Spring 2000 Spring 1999 Fall 1997

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: Fall 2017 Spring 2016 Spring 2013 Fall 2012

LAT 6001 Senior Latin Capstone A reading, research, and conference course on selected topics of Roman literature and history; introduction to research in classical studies. Fulfills advanced literature requirements. (3 cr) Last Offered: Fall 2010 Fall 2009 Fall 2008 Fall 2007

LDR 2000 Foundations of Leadership Introduction to the concepts of and approaches to leadership. Historical and contemporary leadership theories. (3 cr) Last Offered: Spring 2017 Summer 2016 Spring 2016 Fall 2015

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: Summer 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2015 Fall 2014 Fall 2013

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: Fall 2017 Fall 2016 Spring 2016 Fall 2014

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 2017 Spring 2017 Fall 2016 Summer 2016

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 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 2017 Fall 2016 Spring 2016 Fall 2015

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 2017 Spring 2017

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: Fall 2017 Fall 2016 Spring 2016 Spring 2015

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 2017 Summer 2016

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 2017 Spring 2017 Fall 2016 Summer 2016

MAT 1210 Mathematical Concepts Topics selected from logic, number theory, finance, set theory, geometry, applied linear algebra, calculus. Not open to students who have completed MAT 1505. (3 cr) Last Offered: Spring 2010 Summer 2009 Summer 2007 Fall 2006

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 Fall 2015

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Summer 2017 Spring 2017 Fall 2016

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 Spring 2014

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 2017 Spring 2017 Fall 2016 Fall 2011

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 2017 Spring 2017 Fall 2016 Fall 2015

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 Spring 2010

MAT 1330 Calculus I for Business Analysis of single variable problems: problem formulation, translation between mathematical symbols and verbal descriptions, single variable modeling with real data, rates of change, techniques of differentiation, optimization, post-optimality analysis, continuous probability distributions, integrals, Fundamental Theorem of Calculus. (3 cr) Last Offered: Summer 2007 Spring 2007 Fall 2006 Summer 2006

MAT 1335 Calculus II for Business Analysis of multivariable problems: problem formulation, translation between mathematical symbols and verbal descriptions, multivariable modeling with real data, regression analysis, partial derivatives and unconstrained optimization, Lagrange multipliers and constrained optimization, matrix algebra, linear programming. (3 cr) Last Offered: Fall 2007 Summer 2007 Spring 2007 Fall 2006

MAT 1340 Single Var Optim for Soc. Sci. Solving real-world problems using single-variable math models, calculus, and technology: problem formulation, translation between mathematical symbols and verbal descriptions, single variable modeling with real data, rates of change, techniques of differentiation, optimization, post-optimality analysis, continuous probability distributions, integrals, Fundamental Theorem of Calculus, applications to everyday life. (3 cr) Last Offered: Fall 2008

MAT 1345 Multivar Optim for Soc. Sci. Solving real-world problems using multivariable models, calculus, and technology: problem formulation, translation between mathematical symbols and verbal descriptions, multivariable modeling with real data, regression analysis, partial derivatives and unconstrained optimization, Lagrange multipliers and constrained optimization, matrix algebra, linear programming, game theory, applications to everyday life. (3 cr) Last Offered:

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

MAT 1903 Internship Elective Internship Elective (3 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015 Fall 2014

MAT 1906 Internship Elective Internship Elective (6 cr) Last Offered: Summer 2017 Summer 2016 Summer 2015 Summer 2014

MAT 1909 Internship Elective Internship Elective (9 cr) Last Offered: Spring 2011 Spring 2010 Spring 2009 Spring 2008

MAT 2100 Theory of Interest Interest measurements: accumulated and present value factors, annuities certain, amortization schedules, sinking funds, bonds and related securities. (3 cr) Last Offered: Spring 1997

MAT 2310 Stat for Experimenters The design and analysis of experiments, probability distributions, basic statistical inference, analysis of variance, block designs and factorial designs. For social and natural science majors. (3 cr) Last Offered: Fall 2004 Fall 2003 Fall 2002 Spring 2002

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

MAT 2993 Internship Internship (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

MAT 2996 Internship Internship (6 cr) Last Offered: Summer 2017 Spring 2017 Summer 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Fall 2015

MAT 3305 Topics in Analysis Advanced topics selected from real analysis, complex analysis, or higher analysis. (3 cr) Last Offered: Spring 2004 Spring 2002 Spring 2001 Spring 2000

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

MAT 3505 Modern Algebra II Rings, subrings, integral domains, ideals and factor rings, ring homomorphisms, polynomial rings, fields, extensions fields, finite fields. (3 cr) Last Offered: Spring 2006 Fall 1996 Fall 1995

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 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 Fall 2012

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: Fall 2015 Spring 2013 Fall 2012 Fall 2010

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2016 Spring 2015 Spring 2014

MAT 4410 Math Modeling Model formulation, the modeling process, graphs as models, examples from the physical and social sciences, parameter estimation, experimental modeling, dimensional analysis, modeling discrete and continuous dynamic behavior, implementation. (3 cr) Last Offered: Spring 1997

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 2017 Fall 2016 Spring 2016 Spring 2015

MAT 4600 Deterministic Oper Res Deterministic methods: mathematical optimization, linear programming, formulation and solution techniques, duality, integer linear programming, transportation problem, assignment problem, network flows, dynamic programming. (3 cr) Last Offered: Fall 2011 Spring 2010 Spring 2008 Spring 1999

MAT 4610 Stochastic Oper Research Probabilistic methods: brief review of probability, transient and asymptotic properties of Markov chains, queuing models and their applications, Markov decision processes, forecasting, game theory, simulation. (3 cr) Last Offered: Fall 1997

MAT 5110 Topics in Geometry Topics selected from affine, hyperbolic, spherical, elliptic, Euclidean or projective geometry. (3 cr) Last Offered: Fall 2016 Fall 2014 Fall 2012 Fall 2010

MAT 5200 Theory of Numbers Congruences, quadratic reciprocity, Diophantine equations; applications. (3 cr) Last Offered: Spring 2017 Summer 2014 Spring 1995

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 2016 Spring 2015 Fall 2013 Spring 2012

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MAT 5500 Topology Topological equivalence, connectedness, compactness, topology of subsets of R^n , manifolds, topological embeddings, topological spaces. (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2014 Fall 2011

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 2013 Fall 2009 Spring 2008 Spring 2001

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 Fall 2014

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Fall 2016 Fall 2015 Fall 2014

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: Summer 2017 Spring 2017 Spring 2016 Spring 2015

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 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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Summer 2017 Fall 2016 Fall 2015

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Spring 2016 Fall 2015 Spring 2015

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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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 2017 Fall 2016 Fall 2015 Fall 2014

ME 3900 ME Laboratory II Test of engineering materials, experiments related to basic stress analysis, thermodynamics and materials science. (1 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

ME 4002 Solid Mechanics Lab Laboratory experiments in structure, properties and mechanics of materials. (1 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015 Fall 2014

ME 4003 Thermal Fluids Lab Laboratory experiments in thermodynamics, fluid mechanics, heat transfer, aerodynamics, engine performance, and energy conversion. (1 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015 Fall 2014

ME 4050 International Development Planning, design & impact of international service projects; understanding engineering in contemporary society & impact of development projects on low-income developing communities. Gravity-driven water networks, water quality, solid waste issues, & alternate energy options. (3 cr) Last Offered: Spring 2011 Spring 2010 Spring 2009 Spring 2008

ME 4600 Legal Problems in Engineering American legal system; fundamentals of contracts, agency and property; zoning laws and building codes; construction contracts, mechanical contracts; subcontracts and pricing; surety bonds; arbitration; machinery and equipment contracts, patents and trade secrets. Professional Development elective. (3 cr) Last Offered: Spring 2012 Spring 2011 Spring 2010 Spring 2009

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 2017 Spring 2016 Spring 2015 Spring 2014

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 Summer 2014

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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: Fall 2017 Fall 2016 Spring 2015 Spring 2014

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: Spring 2017 Fall 2015 Spring 2014 Spring 2013

ME 5110 Elements Comput. Fluid Dyn. Fundamentals of Computational Fluid Dynamics (CFD), concepts and methods for numerically solving the differential equations of fluid dynamics, solution to complex flow problems in the aerospace, automotive, electronics, environmental, and biomedical industries, use of the commercial CFD code, Fluent. (3 cr) Last Offered: Spring 2011 Spring 2010 Spring 2009 Spring 2008

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 2017 Fall 2016 Fall 2014 Fall 2013

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 Fall 2012

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) Last Offered:

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) Last Offered:

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 2017 Fall 2016 Spring 2016 Fall 2015

ME 5203 Intro to Automatic Control Modeling of dynamic systems, transfer functions, block diagrams, state vector concepts, feedback control, transient and frequency response, stability and root locus, controller design with output feedback. (3 cr) Last Offered: Spring 2011 Spring 2009 Spring 2006 Spring 2005

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 2017 Spring 2016 Spring 2015 Spring 2014

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 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 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 Summer 2005

ME 5330 EM of Nanomaterials Fundamental theories of scanning electron microscopy, energy dispersive spectrometer, and nanomaterials; operating principles for Hitachi S-4800 high resolution scanning electron microscope; hands-on experiences on secondary and backscattering images, x-ray microanalysis and characterization of nanomaterials. Limited to 15 students/seats. (3 cr) Last Offered: Spring 2010 Fall 2008

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

ME 5500 Biomechanics An introductory survey of topics from the field of biomechanics, such as joint mechanics, cellular mechanics, biomaterials, and prosthetic devices. Prerequisite: ME 2100 or permission by instructor. (3 cr) Last Offered: Spring 2017 Fall 2015 Fall 2014 Spring 2011

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2015 Fall 2013 Spring 2012 Spring 2011

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: Fall 2015 Spring 2010 Spring 2009 Spring 2008

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: Spring 2017 Spring 2016 Spring 2015 Spring 2013

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: Fall 2017 Spring 2017 Spring 2016 Fall 2015

MGT 2208 International Topics Examination of a specific international management topic, which may vary from semester to semester, as reflected in the course title (e.g., Internatl Top: Mgt in Europe). Can be used toward the elective course requirement for the VSB IB Co-Major and IB Minor and as an management elective. Junior or senior standing. (3 cr) Last Offered: Spring 2017 Fall 2016 Spring 2016 Spring 2015

MGT 2210 Small Business Mgt The environment and significance of small business in the economy, entrepreneurship, and factors leading to success or failure. Extensive focus on entrepreneurs, and writing a business plan. Senior standing. (3 cr) Last Offered: Spring 2007 Spring 2006 Fall 2004 Fall 2003

MGT 2212 Leadership Focuses on the behavioral dimension of managerial action and decision-making with emphasis on the underlying theory and ethical components of effective leadership. Individual self awareness of motivating values and effective participation on team projects emphasized. (3 cr) Last Offered: Fall 2009 Spring 2009 Fall 2008 Spring 2008

MGT 2250 Global Corp Responsibility Explores globalization and its implications for corporate social responsibility. Drawing from multiple disciplines and perspectives, students examine stakeholder claims and issues related to the environment, labor, and human rights, and analyze corporations' response to these pressures using specific cases and examples. (3 cr) Last Offered: Spring 2009 Spring 2007

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2013 Fall 2012 Spring 2012

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) Last Offered:

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 Fall 2011

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 2017 Spring 2017 Fall 2016 Spring 2016

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:

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 Summer 2013

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: Fall 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2016 Spring 2015 Spring 2014

MGT 3360 Ind Top: Entrepreneurial Exp Study with faculty member's guidance and approval in a area of special interest to student. Department chair approval required. Restricted to MGT Majors. (3 cr) Last Offered: Fall 2002

MGT 4132 Seminar in Management Study of selected topics in Management including disussion and lecture materials prepared and presented by individual students. Topics to be announced each semester, when seminar is offered. (3 cr) Last Offered:

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 2017 Spring 2017 Fall 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

MIS 3010 Business Data Communications Introduction of the fundamental concepts and terminology of data communications and networking with respect to technical and managerial aspects including: the fundamentals of telecommunication media and services, topologies and protocols in local area networks (LAN) and wide area networks (WAN), the Internet technologies (IP addressing and subnetting), Intranet/extranet applications (VPN and other encryption technologies), new trends and enabling technologies in data communications industry. (3 cr) Last Offered: Fall 2009 Fall 2008 Summer 2008 Spring 2006

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2017 Fall 2016 Spring 2016

MIS 3040 MIS Seminar Examination of the tactical, operational and strategic relationships between information technology and business models and processes and the impact on business effectiveness, MIS organization and MIS careers; considerations of integration of technology with business for a more efficient and profitable organization; connection of the pieces and processes of MIS such as communication, data application, system analysis and design, decision science. (3 cr) Last Offered: Spring 2007 Spring 2006 Spring 2005 Fall 2004

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Summer 2017 Spring 2017 Fall 2016

MIS 3331 MIS Independent Study Study with faculty member's guidance in area of special interest to student. (3 cr) Last Offered: Summer 2017 Spring 2017 Fall 2016 Summer 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2015 Spring 2013 Spring 2012

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 Fall 2013

MKT 2224 Professional Selling Stresses skills and professionalism required in intensely competitive selling environments in global markets. This courses concentrates on complex consultative selling processes required in business-to-business relationships. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Fall 2016 Fall 2015 Fall 2014

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 Spring 2014

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 Fall 2010

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 2017 Spring 2017

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

MKT 2349 Cont. Topics in Marketing Contemporary issues and topics which affect a firm's marketing strategies. (3 cr) Last Offered: Fall 2017 Summer 2017 Fall 2016 Summer 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

MKT 3350 Independent Study - Marketing Independent study under faculty guidance in an area of student's special interest. (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 Fall 2014

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 2017 Spring 2017 Summer 2016 Spring 2016

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Fall 2016 Summer 2016 Fall 2015

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Summer 2016 Fall 2015

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 2017 Spring 2017 Summer 2016 Spring 2016

MSE 2152 AST:Planet Earth Lab I 1-cr laboratory course to be taken as a co-requisite with MSE 2104 "Earth: Our Habitable World". (1 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015 Fall 2014

MSE 2153 AST:Planet Earth Lab II 1-cr laboratory course to be taken as a co-requisite with MSE 2105 "Earth: The Cosmic Connection". (1 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

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) Last Offered:

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Fall 2015

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 Summer 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 2017 Spring 2017 Summer 2016 Spring 2016

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) Last Offered:

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 2017 Spring 2017 Fall 2016 Spring 2015

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) Last Offered:

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2017 Summer 2016

MSE 2300 CHM:Alchemy, Artisanshipe& 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 2017 Spring 2016 Spring 2014

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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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Fall 2016 Spring 2016 Spring 2015

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 2017

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 2017 Spring 2017 Fall 2016 Spring 2016

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 Fall 2013

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 2017 Spring 2015 Spring 2014

Villanova University

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) Last Offered:

MSE 2506 Energy Extraction from the 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:

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 2017 Spring 2016 Spring 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2017 Fall 2016

MSE 2652 PHY:40% Solution Lab Experiments to accompany MSE 2602. (1 cr) Last Offered: Spring 2017 Spring 2016 Spring 2014

MSE 2653 PHY: Big Bang Lab Experiments to accompany MSE 2603. (1 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015 Fall 2014

MSE 2654 PHY:The Physics of Sports Lab Experiments to accompany MSE 2604. (1 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016

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 2017 Fall 2016 Fall 2015

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Fall 2013

NS 3100 Navigation The theory and technique of piloting and celestial navigation. Normally taken by juniors. (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

NS 3200 Naval Operations The maneuvering board, tactical communications, rules of the road, and seamanship. juniors. (3 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015 Fall 2014

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 2016 Spring 2014 Spring 2012 Spring 2010

NS 3600 Amphibious Operations Amphibious operations throughout history to their present role in military policy. (3 cr) Last Offered: Spring 2017 Spring 2015 Spring 2013 Spring 2011

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 2017 Fall 2016 Fall 2015 Fall 2014

Villanova University

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 2017 Spring 2016 Spring 2015 Spring 2014

NTR 2120 Principles of Nutrition Principles of normal nutrition and the interrelatedness of economics, culture and health. (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Fall 2016 Summer 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2016 Summer 2015 Summer 2014

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 2017 Summer 2017 Fall 2016 Summer 2016

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 2017 Summer 2017 Fall 2016 Summer 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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: Fall 2017 Summer 2017 Spring 2017 Fall 2016

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: Fall 2017 Summer 2017 Spring 2017 Fall 2016

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: Fall 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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: Fall 2017 Summer 2017 Spring 2017 Fall 2016

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: Fall 2017 Summer 2017 Spring 2017 Fall 2016

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: Fall 2017 Summer 2017 Spring 2017 Fall 2016

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: Fall 2017 Summer 2017 Spring 2017 Fall 2016

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: Fall 2017 Summer 2017 Spring 2017 Fall 2016

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: Fall 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

NUR 4800 Women's Health Issues Women's Health from physiological, psychosocial, political, historical and cultural perspectives. Open to non-nursing majors. (3 cr) Last Offered: Spring 2009 Fall 2004 Spring 2003 Spring 2002

NUR 4802 Issues Trend Gerontology Aging and the effects of transitions associated with aging. Emphasis is on functional assessment, chronicity and the impact of demography. Open to nursing and other majors with interest in gerontology. (3 cr) Last Offered:

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 2017 Spring 2017 Fall 2016 Spring 2016

NUR 4901 Guided Study in Nursing (2 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

NUR 4902 Guided Study in Nursing (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

NUR 4903 Guided Study in Nursing (4 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

NUR 4904 Guided Study in Nursing (5 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

NUR 4905 Guided Study in Nursing (6 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

PA 1050 Public Administration Administrative politics, law, and ethics, organizational theory and technical fields, such as budgeting, planning, and personnel. (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

PA 2000 Public Policy Theories of public policy making, national public policies, and contemporary issues. (3 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015 Fall 2014

PA 2100 City and Suburb Politics and problems in metropolitan areas of the United States. (3 cr) Last Offered:

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 2017 Fall 2016 Fall 2015

PA 5000 Special Topics Special topics in public administration. (3 cr) Last Offered: 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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2016

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 2017

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 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 2017 Summer 2017 Spring 2017 Fall 2016

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: Spring 2017 Spring 2016 Spring 2015

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2007 Fall 2006 Spring 2006 Fall 2005

PHI 2140 Phil of Criminal Justice Philosophical dimensions of criminal justice; law and morality, criminal versus civil disobedience, philosophical presuppositions of the insanity defense, philosophical problems in controlling and correcting criminal and delinquent behavior. (3 cr) Last Offered: Spring 2011 Fall 2010 Spring 2010 Fall 2009

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 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: Fall 2017 Spring 2015 Fall 2012 Spring 2011

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 Fall 2000

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2013 Fall 2010 Fall 2009 Fall 2007

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 Fall 2013

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: Fall 2017 Summer 2017 Spring 2017 Spring 2016

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 2017 Spring 2017 Spring 2016 Spring 2015

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 2017 Spring 2017 Fall 2015 Fall 2014

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 Spring 2007

PHI 2440 Amer Indian Thought & Culture Religious and philosophical concepts of personhood community, and nature; contrast of European and Euro-American Indian philosophies. (3 cr) Last Offered: Fall 2014

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 2017 Spring 2017 Fall 2016 Fall 2015

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) Last Offered:

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: Spring 2005 Fall 2004 Spring 2004 Fall 2003

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 2017 Spring 2016 Spring 2015 Spring 2014

PHI 2700 Philosophy of Science Philosophical implications of specific laws and theories; Newton's laws, energy, evolution, relativity, atomic theory. Methodological problems of observation, discovery, testing; scientific realism, revolutions in scientific thought. (3 cr) Last Offered: Spring 2006

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 2017 Fall 2012 Fall 2011 Spring 2011

PHI 2750 Philosophy of Art The principles and causes of beauty and art with special reference to the formation of art objects and the cultural context of philosophy and art. (3 cr) Last Offered: Fall 2007 Fall 2006 Spring 2006

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 Spring 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 Spring 2009

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 2010 Fall 2009 Fall 2008 Fall 2007

PHI 2910 Mysticism & Philosophy The metaphysical interpretation of God, humans and the world implicit in the writings of selected mystics; epistemological issues such as mysticism and logic, the value of mystical experience, mysticism and psychedelic experience, mysticism and ethics. (3 cr) Last Offered: Spring 2012

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 Spring 2009

PHI 2990 Topics in Philosophy (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Fall 2015

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 2017 Summer 2017 Spring 2017 Fall 2016

PHI 2996 Internship Departmentally related and academically creditable field work experience. See department chair for more information. (6 cr) Last Offered: Summer 2017 Summer 2016 Fall 2015 Summer 2015

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

PHI 3050 Kant & 19th Cent Philosophy (3 cr) Last Offered: Fall 2017 Spring 2016 Spring 2008 Spring 2007

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 2009 Spring 1997 Fall 1995

PHI 3120 Augustine & Modernity Influences of Augustine's major teachings in shaping medieval and modern thought. Augustine's position on human nature, human freedom, sin and grace, history, and the nature and end of society. (3 cr) Last Offered:

PHI 3160 History of Islamic Phil Islamic thought, concentrating particularly on Islamic medieval theology and philosophy. (3 cr) Last Offered: Spring 2017 Spring 2008 Spring 2005 Fall 2004

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PHI 3410 Thomas Aquinas Historical influences in the formation of St. Thomas' thought; specific contributions of Aristotelianism and Neoplatonism; theory of knowledge, being, persons and morality. (3 cr) Last Offered: Spring 2009 Spring 2008

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 Fall 2009

PHI 3730 American Philosophy The growth of philosophy in America, concentrating on the thinkers of the classical period, especially Peirce, James, Royce, Dewey, and Santayana. (3 cr) Last Offered: Fall 2006

PHI 3990 Topics in Hist of Philosophy (3 cr) Last Offered:

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 2017 Fall 2016 Fall 2015

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 2017 Spring 2016

PHI 4100 Plato & Aristotle Selected texts and themes from Plato and Aristotle. (3 cr) Last Offered:

PHI 4110 Metaphysics Questions regarding the nature and possibility of metaphysics; selected texts from Greek philosophy to the present. (3 cr) Last Offered: Fall 2005

PHI 4120 Philosophy of Biology Key assumptions of the contemporary sciences: the meaning of life, the relevance of science, the structure of the life sciences, the "doctrine" of DNA and molecular genetics, evolutionary theory, ecology and the "Gaia" hypotheses, and the ethical and social issues spawned by new advances in biology and molecular genetics. (3 cr) Last Offered:

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 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 2017 Spring 2016 Fall 2014 Spring 2014

PHI 4150 Philosophy & Film Analysis of selected classics and current films from the perspective of basic philosophical concepts and questions. (3 cr) Last Offered: Summer 2017 Fall 2016 Summer 2016 Fall 2015

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 2014 Fall 2011 Spring 1998 Fall 1997

PHI 4210 Environmental Philosophy (3 cr) Last Offered:

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: Spring 2008 Spring 2006 Spring 2004 Spring 2000

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: Fall 2017 Fall 2016 Fall 2015 Spring 2014

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 2017 Spring 2016 Spring 2015

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 2017 Summer 2017 Spring 2017 Fall 2016

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: Spring 2017 Fall 2016 Spring 2016 Fall 2015

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 2017 Spring 2017 Fall 2016 Spring 2016

PHY 1020 Great Ideas in Physics I General physics at a primarily conceptual level (algebra only). History and Philosophy of science, especially physics and astronomy. Topics include mechanics, optics, and relativity. Personalities include Aristotle, Galileo, Newton, and Einstein. Recommended for Arts majors. (3 cr) Last Offered: Fall 2011 Fall 2010 Fall 2009 Fall 2008

PHY 1021 Great Ideas in Physics Lab I Experiments designed to complement the topics in PHY 1020. Recommended for Arts majors. (1 cr) Last Offered: Fall 2011 Fall 2010 Fall 2009 Fall 2008

PHY 1022 Great Ideas in Phy II A continuation of Great Ideas in Physics I. Thermodynamics, earth science, electricity and magnetism, and modern theories of physics. Personalities include Joule, Maxwell, Faraday, Bohr, and Feynman. Recommended for Arts majors. (3 cr) Last Offered: Spring 2012 Spring 2011 Spring 2010 Spring 2009

PHY 1023 Great Ideas in Physics Lab II Experiments designed to complement the topics in PHY 1022. Recommended for Arts majors. (1 cr) Last Offered: Spring 2012 Spring 2011 Spring 2010 Spring 2009

PHY 1100 General Physics I Mechanics, heat and sound. Recommended for Biology majors. (3 cr) Last Offered: Fall 2017 Summer 2017 Fall 2016 Summer 2016

PHY 1101 General Physics I Lab Selected experiments in mechanics, heat and sound. Recommended for Biology majors. (1 cr) Last Offered: Fall 2017 Summer 2017 Fall 2016 Summer 2016

PHY 1102 General Physics II A continuation of PHY 1100; light, electricity and modern physics. Recommended for Biology majors. (3 cr) Last Offered: Summer 2017 Spring 2017 Summer 2016 Spring 2016

PHY 1103 General Physics II Lab Selected experiments in light and electricity. Recommended for Biology majors. (1 cr) Last Offered: Summer 2017 Spring 2017 Summer 2016 Spring 2016

PHY 1500 The Concept of Light Historical and analytical survey of the concept of light from classical to modern view points. Open to VSB and Arts majors (fulfills Arts core science requirement when taken with PHY 1501). (3 cr) Last Offered: Summer 2015 Summer 2014 Summer 2013 Summer 2012

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 2017 Summer 2016 Summer 2015 Summer 2014

PHY 2400 Physics I Mechanics Introduction to Mechanics. Designed for students in the College of Engineering. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Summer 2016

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 2017 Spring 2017 Fall 2016 Summer 2016

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 2017 Spring 2017 Fall 2016 Summer 2016

PHY 2410 University Phy:Mechanics Vectors, kinematics, and dynamics of particles, rigid bodies, and fluids. Recommended for Science majors. (3 cr) Last Offered: Fall 2017 Fall 2016 Summer 2016 Fall 2015

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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 2017 Fall 2016 Summer 2016 Fall 2015

PHY 2412 Univ Physics: Elec & Mag Electrostatics, DC circuits, magnetism, and AC circuits. Recommended for Science majors. (3 cr) Last Offered: Spring 2017 Summer 2016 Spring 2016 Summer 2015

PHY 2413 Lab: Elec & Magnetism Recommended for Science majors. (1 cr) Last Offered: Spring 2017 Summer 2016 Spring 2016 Summer 2015

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 2017 Fall 2016 Fall 2015 Fall 2014

PHY 2415 Lab: Thermodynamics Selected experiments in heat, waves and optics. Recommended for Science majors. (1 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

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 con- currently). (1 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015 Fall 2014

PHY 2603 Computational Phy Lab II Continuation of Computational Physics I. (1 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

PHY 4000 Elec & Magnetism I Electrostatics, Coulomb's and Gauss' Laws, Maxwell's first two equations, Laplace's equation and boundary value problems,

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dielectrics, currents in conductors. (3 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015 Fall 2014

PHY 4001 Elec & Magnetism I Lab Selected experiments in the field. (1 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

PHY 4003 Elec & Magnetism II Lab Selected experiments in the field. (1 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2016 Spring 2014 Spring 2012 Spring 2010

PHY 4200 Mathematical Physics I Vector and tensor analysis, matrices and determinants, infinite series, functions of a complex variable. (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

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 2017 Fall 2015 Fall 2013 Fall 2011

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Spring 2016 Spring 2015 Spring 2014

PHY 5100 Quantum Mechanics Operators, Schrodinger Equation, one dimensional problems, harmonic oscillator, angular momentum, hydrogen atom, scattering theory. (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

PHY 5200 Thermo/Statistical Mech Statistical methods, statistical thermodynamics, Ensembles, Partition functions. Quantum statistics. Kinetic theory of transport processes. (3 cr) Last Offered: Fall 2016 Fall 2014 Fall 2012 Fall 2010

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 2017 Spring 2015 Spring 2013 Spring 2011

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 2015 Spring 2014

PHY 6000 Advanced Optics Topics in geometrical and physical optics. (3 cr) Last Offered: 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:

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 2017 Spring 2017 Spring 2016 Spring 2015

PHY 6600 Supervised Study in Physics Same as PHY 6500 with increased number of hours. (3 cr) Last Offered: Fall 2016 Spring 2016 Fall 2015 Spring 2015

PHY 6700 Supervised Study Physics Same as PHY 6500 with increased number of hours. (4 cr) Last Offered: Spring 2007

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 2016

PJ 2200 Caring for the Earth The richness and diversity of Planet Earth, especially in its species forms; current forms of degradation to land, water, soil, and air, and human and animal inhabitants; economic, political, religious, cultural and social causes of global environmental problems; personal and ethical/ social justice decisions necessary to care for the Earth. (3 cr) Last Offered: Fall 2008 Spring 2008 Fall 2007 Fall 2006

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 2013 Fall 2012 Fall 2011 Fall 2010

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 2017 Fall 2016 Fall 2015 Fall 2014

PJ 2600 Catholic Social Teaching One hundred years of Catholic Social Thought. Papal encyclicals, especially *Rerum Novarum* (1891) and *Sollicitudo Rei Socialis* (1987). The pastoral letters of the American Bishops, special emphasis on the Challenge of Peace (1983) and Economic Justice for All (1986). Guest lecturers will help to show the interdisciplinary nature of Catholic teaching. (3 cr) Last Offered: Fall 2008 Spring 2008 Fall 2007 Spring 2007

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 2017 Fall 2016 Spring 2016 Fall 2014

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 2017 Spring 2017 Fall 2016 Spring 2016

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: Fall 2017 Spring 2017 Fall 2016 Summer 2016

PJ 2993 Internship Internship (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

PJ 2996 Internship Internship. (6 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

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 Fall 2011

PJ 3100 Amer. Indian Thought & Culture Historical, philosophical, religious, literary and artistic contributions of the Navajo, Sioux, Iroquois, and Hopi cultures. American Indian Art and Poetry, American Indian colonial history, American Indian tribal claims, and American Indian spirituality of the earth. Guest speakers and films. (3 cr) Last Offered: Fall 2002 Fall 2001 Spring 2000 Fall 1999

PJ 3200 Justice and Sports The benefits and problems of competition. The role and value of competition in contemporary sports, with attendant social justice issues. The importance of play to a wholistic human life. (3 cr) Last Offered: Spring 2008 Spring 2006 Fall 2005 Spring 2005

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PJ 3400 War and Morality Three traditions of moral reflection on war: "Just War" theory; Pacifism; and, the historical experience of women. Discussions focus on concrete cases (e.g., the modern world wars, Vietnam, the Persian Gulf War, Bosnia). (3 cr) Last Offered: Fall 2010 Fall 2009 Fall 2008 Fall 2007

PJ 3500 Making Peace Work Various theories of peace; describing, explaining, and predicting the occurrence of peace; conflict, peace-making, -keeping, -building. Computer simulations of peace process. (3 cr) Last Offered: Spring 2001 Spring 1997 Fall 1996 Fall 1995

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 2017 Spring 2017 Fall 2016 Spring 2016

PJ 4600 Global Poverty & Justice The challenges to creating a more just global order. The contribution of the christian theological and ethical traditions toward constructing an ethical framework appropriate for the emerging global order. Introduction to and critical examination of global institutions and policies e.g., the World Trade Organization, the World Bank, the International Monetary Fund, the United Nations and others, with an eye to their impact on reducing global poverty. (3 cr) Last Offered: Fall 2008 Spring 2008 Spring 2007 Fall 2006

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 Fall 2011

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2016 Spring 2015 Spring 2014

PJ 5200 Perspectives on US Poverty An interdisciplinary perspective on poverty in the United States, emphasizing the past thirty years. Trends in the extent and incidence of poverty. Underlying causes of poverty; policies that might be used to combat poverty. (3 cr) Last Offered: Fall 2008 Fall 2007 Fall 2006 Fall 2005

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 2016 Fall 2015 Fall 2014 Fall 2013

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 2017 Spring 2016 Spring 2015 Spring 2014

PJ 5600 Independent Study Independent Study (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

PJ 5700 The Meanings of Justice Libertarian, socialist, welfare liberal, communitarian, feminist, and multicultural approaches to justice in contemporary literature. Consideration of recent studies of social justice in Christian ethics. (3 cr) Last Offered: Fall 2001 Fall 1998 Fall 1997

PSC 1100 American Government Constitutional development; national institutions, federalism, civil rights and liberties; instruments of popular control. Prerequisite for 2100 and 5100-level courses and PSC 6900. (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Fall 2016 Fall 2015 Fall 2014

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: Fall 2017 Spring 2016 Spring 2015

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 2017 Summer 2017 Summer 2016 Fall 2015

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: Spring 2017 Summer 2016 Spring 2016 Summer 2015

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: Spring 2017 Spring 2016 Spring 2015

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 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:

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: Spring 2017 Fall 2015 Fall 2014

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 2017 Fall 2015 Fall 2014

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: Fall 2016 Fall 2015 Fall 2014

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) Last Offered:

PSC 2330 East Asian Politics Northeast Asian countries' political and economic development after World War II. (3 cr) Last Offered: Fall 2016 Fall 2015 Fall 2014

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 2017 Fall 2016 Fall 2015 Fall 2014

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: 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 2017 Spring 2017 Fall 2015

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 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 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:

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) Last Offered:

PSC 3120 Political Communication (U.S.) The role, behavior and influence of communications in American politics. (3 cr) Last Offered:

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 2016 Fall 2015 Fall 2014

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: Spring 2017 Fall 2016 Spring 2016 Fall 2014

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) Last Offered:

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:

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) Last Offered:

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) Last Offered:

PSC 3320 Russian Politics The contemporary Russian political system; political transformation from the Communist system which preceded it. (3 cr) Last Offered: 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:

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 2017 Summer 2017 Fall 2016 Summer 2016

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 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 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: Spring 2017 Fall 2016 Spring 2016 Spring 2015

PSC 4275 Topics in Internat'l Relations Topical courses in International Relations offered on occasional basis. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

PSC 4375 Topics in Comparative Politics Topical courses in comparative politics offered on occasional basis. (3 cr) Last Offered: Summer 2017 Spring 2017 Summer 2016 Spring 2016

PSC 4475 Topics in Political Theory Topical courses in political theory offered on an occasional basis. (3 cr) Last Offered: Fall 2017 Spring 2016 Fall 2015

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2016 Summer 2015

PSC 6503 Internship Elective Internship. (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

PSC 6900 Political Sci Seminar Capstone seminar on specialized topics in political science. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

PSY 1001 Intro to Brain and Behavior Examination of fundamental concepts in psychology with special emphasis on underlying neural mechanisms. Satisfies same pre-requisite requirements as PSY 1000 and is the preferred introductory psychology course for CBN majors. Cannot receive credit for both PSY 1000 and PSY 1001. (3 cr) Last Offered: Fall 2017 Fall 2016

PSY 2000 Intro Statistics Basic concepts, assumptions, and applications of descriptive statistics and inferential statistics. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

PSY 2050 Research Methods in Psy. Introduction to the reading, design, and reporting of psychological research. Writing intensive. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

PSY 2100 Sem Professional Development Overview of ethical and professional issues in psychology. (1 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015 Fall 2014

PSY 2150 Undergrad Research Experience Supervised research experience. Students may register for PSY 2150 more than once. (1 cr) Last Offered:

PSY 2400 Cross-Cultural Psychology Theory and research on cultural influences on human diversity in behavior and psychological processes. (3 cr) Last Offered: Fall 2014 Fall 2013 Fall 2012 Fall 2011

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 Spring 2015

PSY 2700 Industrial/Organizationl Psy Applications of psychological data, theories, research methods, and testing procedures to individuals in organizational settings. (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

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: Spring 2015 Spring 2014 Spring 2013 Spring 2012

PSY 2900 Special Topics Selected topics in psychology: critique of ESP, comparative psychology, forensic psychology, health psychology, the self, psychology of women, psychology of values, etc. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Fall 2016 Fall 2015 Summer 2015

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 2017 Spring 2017 Fall 2016 Spring 2016

PSY 2996 Psychology Internship Supervised work experience in agency, hospital, school, or company. Minimum 3.0 G.P.A., Psychology major. Permission of instructor. Apply in Psychology department office. Cannot be used to fulfill Psychology electives. Graded S/U. (6 cr) Last Offered: Fall 2007 Fall 2006 Fall 2005 Fall 2004

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2016 Spring 2015

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Summer 2016

PSY 3800 Clinical Psychology Fundamental concepts, basic areas of professional functioning, and contemporary issues in the mental health field. (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015

PSY 4200 Biopsychology Theoretical and laboratory examination of basic neural and hormonal processes underlying behavior. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

PSY 4500 Cognitive Psychology Theory and research on human learning, memory, and cognitive processes. Writing intensive. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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:

PSY 4700 Personality Theory & Research Contemporary theories of personality and the scientific investigation of personality variables. Intended for psychology majors. Students may not enroll in this course and PSY 3500. (3 cr) Last Offered: Spring 1998 Spring 1997 Spring 1996 Spring 1995

PSY 4800 Psychological Measurement Basic principles and problems of psychological measurement in the assessment of behavior. (3 cr) Last Offered: Summer 1998 Spring 1998 Fall 1997 Summer 1997

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 2017 Spring 2017 Fall 2016 Spring 2016

PSY 5250 Contemporary Issues in Psych Recent and emerging topics, issues, and methods in psychological science. (3 cr) Last Offered: Spring 2017 Fall 2016 Spring 2016 Fall 2015

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 2017 Summer 2017 Spring 2017 Fall 2016

RAS 6000 Senior Research Project A multi-disciplinary senior seminar or independent study which helps students integrate and expand previous study of Russia. Required of all Russian Studies Concentrators and usually taken in the second semester of senior year, stressing independent research and intensive investigation at the advanced level of a topic in Russian Studies. Permission of the director required. (3 cr) Last Offered: Spring 2007 Fall 2006 Spring 2006 Fall 2005

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. Restricted to RES co-majors and minors (3 cr) Last Offered: Fall 2017 Spring 2017

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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) Last Offered:

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) Last Offered:

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) Last Offered:

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) Last Offered:

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) Last Offered:

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 2017 Spring 2017 Fall 2016

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 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) Last Offered:

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) Last Offered:

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:

RLL 3744 Cervantes Readings in English of Cervantes' work. Taught in English. (3 cr) Last Offered:

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 2017 Summer 2017 Fall 2016 Fall 2015

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: Summer 2017 Spring 2017 Summer 2016 Spring 2016

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 2017 Fall 2016 Fall 2015 Fall 2014

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RUS 1124 Intermediate Russian II Continued development of skills employed in Intermediate Russian I. (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

RUS 1125 Intermediate Russian III Continued development of skills employed in Intermediate Russian II. (3 cr) Last Offered:

RUS 1131 Conversation Composition Advanced communication skills including reading and discussing topics on current events. (3 cr) Last Offered: Fall 2017 Fall 2016 Fall 2014 Fall 2013

RUS 1132 Advanced Convers & Comp A continuation of RUS 1131. (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

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 Summer 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 2017 Spring 1998

RUS 4120 The Russian Short Story Representative Russian short stories from Pushkin to Pasternak. Conducted in English. (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

RUS 4130 Russian Novel Major Russian novels of the 19th century, including Pushkin, Lermontov, Gogol, Turgenev, Dostoevsky and Tolstoy. Conducted in English. (3 cr) Last Offered: Fall 2001

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 2017 Spring 2017 Fall 2016 Spring 2016

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 Fall 2011

SAR 2009 Sounds of Slavic Spirit The cultural heritage of the Russian people from the chants of Muscovy to the present: Byzantine rite, varied folklore, the great romantic composers, ballet, opera, movies, the soviet experience, right down to jazz and the westernizing to the present. No prerequisites or ability to read music needed. (3 cr) Last Offered:

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 2017 Spring 2017 Fall 2016 Spring 2016

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SAR 2020 Basic Watercolor Techniques Techniques of transparent watercolor painting with concentration on still life. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

SAR 2023 Basic Acrylic Painting Basic techniques in acrylic medium with emphasis on understanding the nature of canvas and board as a vehicle, and color theory. (3 cr) Last Offered: Spring 2012

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

SAR 2115 Orchestral Music The major literature of the symphony, symphonic poem and concerto from Haydn through mid-twentieth century. (3 cr) Last Offered: Fall 2000 Fall 1999

SAR 2118 The Broadway Musical The art form of American musical theatre, beginning with roots in late 19th century operetta, the emergence of jazz, folklore, big band era, up to the present. (3 cr) Last Offered:

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2151 Intermediate Drawing Creating awareness that any final product is a result of the organization of a visual language: line, form, value, space, and shape, pattern and textures in an arrangement of areas. Permission of instructor upon submission of portfolio. (3 cr) Last Offered: Spring 2004 Spring 2003 Spring 2002

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 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 2017 Spring 2017 Fall 2016 Fall 2015

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 2017 Spring 2017 Fall 2016 Spring 2016

SAR 4008 Art as Agent of Social Change Based on the lives of four artists & how they made the connection between art & social change, creativity & compassion. (3 cr) Last Offered: Spring 2011 Spring 2010 Spring 2009 Spring 2008

SAR 5000 Independent Study (3 cr) Last Offered: Fall 2016 Spring 2010 Spring 2009 Spring 2008

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Summer 2016 Summer 2015 Summer 2014

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 2017 Summer 2016 Summer 2015 Summer 2014

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 2017 Summer 2016 Summer 2015 Summer 2014

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 Summer 2014

SBI 2107 Understanding the Bus. Context Includes the dynamic nature of organizations, economic theory & capitalism, fundamental accounting practices, intersection of business & law. Course is open to students accepted to the SBI program. (3 cr) Last Offered: Summer 2007

SBI 2108 Problem Solving & Dec. Making Includes managing essential information, measuring financial performance, understanding consumer processes, responsive strategic thinking. Course is open to students accepted to the SBI program. (3 cr) Last Offered: Summer 2007

SBI 2207 Strat. Leader. & Followership Topics include international political economy, managing in a diverse world, personal and professional ethics, systems approaches to management. Course is open to students accepted to the SBI program. (3 cr) Last Offered: Summer 2007

SBI 2208 Innov. & Creativity in 21st c. Includes entrepreneurial approaches to innovation and creativity, servant leadership and the passionate organization, visionary global management strategies, macroeconomics solutions to global problems. Course is open to students accepted to the SBI program. (3 cr) Last Offered: Summer 2007

SBI 2209 Prof. Develop. & Analyses Includes summarizing major points of view, creating a synthesis for discussion, reality-testing this perspective, world-class presentation of ideas. Course is open to students accepted to the SBI program. (3 cr) Last Offered: Summer 2007

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 2017 Summer 2016 Summer 2015 Summer 2014

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 2017 Summer 2016 Summer 2015 Summer 2014

SBI 3101 Managerial Economics Use of economic concepts and tools to determine managerial strategies that efficiently allocate scarce resources within the firm to optimize the value of the firm. (3 cr) Last Offered:

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Fall 2016 Summer 2016

SCI 2993 Internship Elective Permission of Program Director. Junior or senior Comprehensive science students with 3.0 QPA only. (3 cr) Last Offered: Fall 2017 Summer 2017 Fall 2016 Summer 2016

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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 2017 Summer 2017 Fall 2016 Summer 2016

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 2017 Summer 2017 Fall 2016 Summer 2016

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 Summer 2013

SCSC 1050 Independent Study Independent Study of selected interdisciplinary topic in social science. (3 cr) Last Offered: Summer 2014 Fall 2013 Summer 2012 Fall 2011

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 2017 Spring 2016 Spring 2015

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 2017 Spring 2017 Fall 2016 Spring 2016

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) Last Offered:

SOC 1000 Intro to Sociology Introduction to the analysis of social behavior, emphasis on socialization, collective and group behavior. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Summer 2016

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: Fall 2017 Summer 2017 Spring 2017 Fall 2016

SOC 1903 Internship Elective (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

SOC 1906 Internship Elective (6 cr) Last Offered: Fall 2012 Spring 2012 Fall 2011 Spring 2011

SOC 1909 Internship Elective (9 cr) Last Offered: Spring 2012 Spring 2011 Spring 2010 Spring 2009

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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 Fall 2014

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2016 Spring 2016 Fall 2015 Spring 2015

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 2017 Spring 2017 Fall 2016 Spring 2016

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: Spring 2017 Fall 2016 Spring 2016 Fall 2015

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 Spring 2011

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 Spring 2011

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 Fall 2013

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: Fall 2017 Fall 2016 Spring 2016 Fall 2014

SOC 2993 Internship Internship (3 cr) Last Offered: Fall 2017 Summer 2017 Fall 2016 Summer 2016

SOC 2996 Internship Internship (6 cr) Last Offered: Fall 2012 Summer 2012 Spring 2012 Fall 2011

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: Spring 2015 Spring 2010 Fall 2004 Spring 2003

SOC 3400 Medical Sociology Sociocultural patterns in illness and accidents; social structure of training in medical professions; relations of practitioner with patients, community and society; sociocultural variation in treatment and in use of medical facilities. (3 cr) Last Offered: Fall 2017 Fall 2006 Fall 2004 Fall 2003

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 Fall 2012

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 2017 Fall 2016 Spring 2016 Fall 2015

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 2017 Spring 2017 Fall 2016 Fall 2015

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: Fall 2004 Spring 2004 Fall 2003 Spring 2003

SOC 3750 Human Populations The composition of and change in human populations; analysis of fertility; mortality and migration; emphasis on current population, principles, problems and policies as well as practical applications. (3 cr) Last Offered: Fall 2004 Spring 2000 Spring 1999 Spring 1998

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 2017

SOC 3900 Social Inequality Development and influence of class structures; emphasis upon modern stratification systems and their relation to community and societal power structures. (3 cr) Last Offered: Spring 2012 Fall 2010 Summer 2010 Spring 2010

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 2017 Summer 2017 Spring 2017 Fall 2016

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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: Spring 2017 Spring 2016 Spring 2015 Fall 2013

SOC 5000 Nature & His of Soc Thry The nature of sociological theory and the major theoretical developments which have shaped the field of sociology. (3 cr) Last Offered: Fall 2010 Spring 2010 Spring 2009 Spring 2008

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 2017 Fall 2016 Fall 2015 Spring 2012

SOC 5100 Contemp Thry & Research Significant contemporary contributions to sociology theory and research. (3 cr) Last Offered: Spring 2017 Spring 2015 Fall 2014 Spring 2014

SOC 5300 Data Analysis-Social Scientist (3 cr) Last Offered: Spring 2017 Spring 2016 Fall 2014 Spring 2014

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 2017 Fall 2016 Fall 2015 Summer 2015

SOC 6000 Independent Study Supervised project or research culminating in research report or major paper. (3 cr) Last Offered: Spring 2017 Spring 2016 Fall 2012 Summer 2012

SOC 6500 Seminar Advanced course for seniors focusing on particular substantive area; topics rotate. (3 cr) Last Offered: Fall 2017 Spring 2017 Spring 2016 Fall 2015

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 2017 Summer 2017 Fall 2016 Fall 2015

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Fall 2016 Fall 2015 Fall 2014

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 2017 Summer 2017 Spring 2017 Fall 2016

SPA 1132 Conversation & Composition II Regular practice in conversation and composition with review of grammar and continuing work on language skills in Spanish. Students should have completed SPA 1131 or the equivalent. (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

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: Fall 2017 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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Fall 2016 Fall 2015 Fall 2014

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. (3 cr) Last Offered: Summer 2017 Summer 2016

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. (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. (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. (3 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015

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. (3 cr) Last Offered: Spring 2017 Summer 2016 Spring 2016

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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. (3 cr) Last Offered: Fall 2014

SPA 2993 Community Interpre. Internship A community-based experience helping lawyers translate & interpret for the Philadelphia Hispanic community. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

SPA 3025 Faces of Modernity Study of artistic trends in twentieth century Spain. (3 cr) Last Offered: Spring 2017 Summer 2015

SPA 3044 Contemp. Peninsular Narrative Representative trends in 20th century Spanish novels. Students should have completed 1132 or the equivalent. (3 cr) Last Offered: Fall 2017

SPA 3045 Short Story Examines the short fiction in all its forms in the Hispanic literary tradition. Prerequisite 1132 or equivalent (3 cr) Last Offered: Summer 2017

SPA 3046 The Latin American "Boom" The contemporary novel and short story Borges, Cartazar, Asturias, Fuentes, Machado de Assis, Rulfo, Garcia Marquez. (3 cr) Last Offered:

SPA 3054 Latin American Poetry The development of Spanish-American poetry from colonial times to the present. Satisfies Diversity Requirement. Students should have completed 1132 or the equivalent. (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. Students should have completed 1132 or its equivalent. (3 cr) Last Offered: 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. (3 cr) Last Offered: Fall 2017 Fall 2016

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. (3 cr) Last Offered: 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. Students should have completed 1132 or its equivalent. (3 cr) Last Offered:

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. . (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

SPA 3484 Medieval Frontiers The Cid and other major works of the Spanish Middle Ages: early lyric, epic, ballad, prose. Students should have completed 1132 or the equivalent. (3 cr) Last Offered: Spring 2016

SPA 3485 Nature in Medieval Culture La naturaleza en la culture 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. (3 cr) Last Offered:

SPA 3654 Early Modern Poetry Evolution of spiritual and literary transcendence in Spain beginning with Garcilaso de la Vega's Platonist perspective, followed by Fray Luis de Leon as Spain's foremost ascetic voice and Augustinian biblical scholar and renaissance poet, and culminating with San Juan de la Cruz as perhaps Spain's greatest mystic, theologian and lyric poet. (3 cr) Last Offered: Spring 2017

SPA 3744 Cervantes An interdisciplinary approach to Cervantes's work. Students should have completed 1132 or the equivalent. (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. Students should have completed 1132 or the equivalent. (3 cr) Last Offered:

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. (3 cr) Last Offered:

SPA 3970 Research Seminar Principles and techniques of literary research. Overview of major Spanish and Spanish-American authors and representative works. Students should have completed 1132 or the equivalent. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

SPA 5900 Independent Study in Spanish Supervised study, activity or research. May be taken more than once. Prerequisite: Intermediate Spanish or above. Prior approval of chair and instructor. (3 cr) Last Offered: Fall 2017 Spring 2016 Spring 2015 Fall 2014

THL 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 2017 Spring 2017 Fall 2016 Spring 2016

THL 2021 Theatre in Philadelphia (3 cr) Last Offered: Spring 2014 Spring 2008 Spring 2007 Spring 2006

THL 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 Spring 2004

THL 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 2017 Summer 2017 Spring 2017 Fall 2016

THL 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 2017 Spring 2010 Fall 2005 Spring 2004

THL 2032 Elements of Dance The broad range of dance styles, dance theory, vocabulary, and body placement. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

THL 2033 Advanced Elements of Dance Expanded study of dance styles, dance theory, vocabulary, and body placement. (3 cr) Last Offered: Spring 2017 Spring 2016 Spring 2015 Spring 2014

THL 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 2017 Spring 2015 Spring 2012 Spring 2010

THL 2040 Theatre Practicum Significant and responsible participation in the department's production program. Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

THL 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 2017 Fall 2016 Fall 2015 Fall 2014

THL 3006 Shakespeare on Stage Applies the acting and design techniques of Shakespeare's theatre - architecture, lighting, special effects, and rehearsal practices - to the contemporary stage. Choose to act, direct, or design for the final project, a series of site-specific performances on campus. No experience necessary (3 cr) Last Offered: Spring 2011 Spring 2007 Spring 2005 Spring 2004

THL 3007 Playwriting (3 cr) Last Offered: Spring 2017 Fall 2015 Fall 2014 Spring 2006

THL 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

THL 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

THL 3011 Asian Theatre To understand Asian artistic style and practice through viewing performances, examining aesthetics, and studying plays. (3 cr) Last Offered:

THL 3020 Teaching of Acting A laboratory course for teachers of dramatic arts at the junior and senior high school levels. Emphasis is on the development of teaching skills, including exercises in movement, improvisation and scene study. (3 cr) Last Offered:

THL 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 2017 Spring 2017 Fall 2016 Summer 2016

THL 4010 Scenography (3 cr) Last Offered:

THL 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: Spring 2013

THL 4014 Women and Theatre The contribution of women artists to the American theatre, discussing the particular social issues, and the pertinent historical perceptions and problems encountered by women in the arts. (3 cr) Last Offered:

THL 4020 Directed Studies in Theatre Reading and practical work in a specialized area of theatrical production or scholarship under the direction of a faculty artist or scholar. (3 cr) Last Offered: Fall 2010 Fall 2009 Summer 2009 Summer 2003

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 2017 Summer 2017 Spring 2017 Fall 2016

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: Fall 2017 Summer 2017 Spring 2017 Fall 2016

THL 2050 Old Testament Survey Critical analysis of Old Testament texts. Historical and archaeological focus with attention to theory and practice of exegesis (text, source, form, redaction, literary, narrative, rhetorical methods). Emphasis on the structure, historical development continuing vitality of texts and their contribution to the Old Testament teaching concerning Creation, Covenant, Ten Commandments, Exodus, Conquest, Prophets, apocalyptic literature, etc. (3 cr) Last Offered: Spring 2011 Fall 2010 Fall 2009 Fall 2008

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 Fall 2005

THL 2200 Hebrew Prophets Isaiah, Jeremiah, Ezekiel and "the 12"; the meaningfulness of the Prophets in today's world; Hebrew Wisdom Literature; influence of Egyptian and Greek culture. Prerequisite: Introductory bible course or permission of instructor (3 cr) Last Offered: Spring 2012 Spring 2009 Fall 2008 Spring 2008

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 Fall 2011

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 Spring 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. Diversity; cross-listed with Women's Studies. (3 cr) Last Offered: Fall 2015 Spring 2014 Fall 2013 Spring 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: Spring 2017 Spring 2015

THL 2470 New Testament Ethics Exploration of New Testament ethical traditions. (3 cr) Last Offered:

THL 2480 New Testament Spirituality Study of New Testament spiritual writers and traditions. (3 cr) Last Offered: Fall 2013 Spring 2013 Fall 2012 Fall 2011

THL 2490 Themes in Biblical Studies Interdisciplinary approach to biblical texts. Critical exegesis of biblical texts. (3 cr) Last Offered: Spring 2016

THL 2500 Themes Ancient Christianity Early Christian writings, controversies, councils and events growth of Christianity from persecution to official acceptance in the Roman Empire; God, creation, evil, Jesus Christ, Church, Christian living, Holy Spirit, culture. (3 cr) Last Offered: Spring 2009 Fall 2008 Fall 2006 Spring 2006

THL 2525 Themes Medieval Christianity Medieval Christian writings, controversies, and events. (3 cr) Last Offered: Spring 2005 Summer 2004 Fall 2001 Spring 1999

THL 2550 Themes Modern Christianity Modern Christian writings, controversies, and events. (3 cr) Last Offered: Fall 2016 Spring 2000 Fall 1999 Fall 1995

THL 2590 Themes Historical Theology Selected topics in historical theology. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2015 Spring 2015

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 2017 Fall 2016 Spring 2016 Spring 2013

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 (3 cr) Last Offered: Spring 2017 Spring 2015 Fall 2013 Spring 2013

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 (3 cr) Last Offered: Fall 2014

THL 3100 Christian Anthropology The relationship between God and the human person from a variety of view points: human origins; the purpose of life; the problem of evil and the human condition; salvation as divinization - insights and approaches of recent writers. (3 cr) Last Offered: Fall 2015 Spring 2015 Fall 2014 Spring 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: Spring 2017 Spring 2016 Fall 2013 Fall 2012

THL 3250 Problem of Evil Formulations of the problem and historical attempts to solve it. (3 cr) Last Offered: Summer 2017 Summer 2016 Fall 2014 Spring 2014

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: Fall 2014 Summer 2014 Summer 2013 Fall 2012

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 2016 Fall 2015 Fall 2014 Fall 2013

THL 3510 Marriage in the Christian Trad Christian marriage in the third millenium; scriptural, historical, legal, sacramental, and moral issues. (3 cr) Last Offered: Fall 2015 Spring 2015

THL 3550 Presence and Absence of God Thesisism and the atheistic critiques of the nineteenth and twentieth centries; the problem of God in western culture; contemporary retrieval of the doctrine of God as Trinity. (3 cr) Last Offered: Fall 2016 Spring 2016 Fall 2015 Spring 2015

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 Spring 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: Fall 2017 Spring 2017 Fall 2006 Fall 2005

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 Spring 2014

THL 3790 Themes Theological Studies Exploration of issues of theological nature. (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Fall 2016

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 Spring 2005

THL 4200 Ethics of Life and Death Explorations of selected issues in biomedical ethics (e.g., abortion, euthanasia). (3 cr) Last Offered: Fall 2017 Spring 2016 Fall 2015 Spring 2015

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 Fall 2000

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 2014 Spring 2013 Fall 2012 Spring 2012

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 4490 Themes Christian Ethics Select topics in Christian ethics. (3 cr) Last Offered: Spring 2017 Fall 2016 Fall 2015 Fall 2014

THL 4500 Augustinian Spirituality Study of spirituality of Augustine and of Augustinian spiritual writers and traditions. (3 cr) Last Offered: Spring 2017 Summer 2016 Spring 2016 Summer 2014

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: Spring 2017 Spring 2016 Fall 2015 Spring 2014

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) Last Offered:

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Spring 2017 Fall 2016 Summer 2016

THL 5100 Heritage of Judaism Development of the religious tradition of the Jewish people; the Torah, the Talmud and other commentaries; Jewish ideals in ethnic literature. (3 cr) Last Offered: Spring 2012 Spring 2011 Spring 2010 Fall 2009

THL 5150 Islam: History, Thought, Culture Islam: history and development; beliefs and rituals; sects and intellectual movement. Diversity, Africana Studies, concentration or minor in Arab/Islamic Studies (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2015

THL 5160 Islamic Mysticism Islamic Mysticism: sources; development and principles; contribution and influence. Diversity, concentration or minor in Arab/Islamic Studies. (3 cr) Last Offered: Spring 2017 Spring 2013 Fall 2011 Spring 2007

THL 5170 Islamic Philosophy & Theology Islamic relationalism and the crisis of moderate and conservative Muslim theologians; the dialectical struggle between Islamic philosophy and theology. Diversity, concentration or minor in Arab/Islamic Studies. (3 cr) Last Offered: Spring 2015 Fall 2012 Fall 2010 Spring 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. Diversity, concentration or minor in Arab/Islamic Studies. (3 cr) Last Offered: Spring 2014 Fall 2009 Spring 2003 Spring 1997

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. Diversity; Russian Concentration. (3 cr) Last Offered: Fall 2017 Fall 2016 Fall 2015 Fall 2014

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 Fall 2010

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 Fall 2008

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 Fall 2007

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) Last Offered:

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 Spring 2009

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: Spring 2016 Spring 2015

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) Last Offered:

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: Fall 2017 Spring 2017 Fall 2016 Spring 2016

THL 5800 Religion and Literature Religious attitudes and experience in contemporary literature. (3 cr) Last Offered: Spring 2017 Fall 2016 Spring 2016 Spring 2015

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 (3 cr) Last Offered: Fall 2017 Spring 2017 Spring 2016

THL 5850 Women in Rel & Society Examination of women's experiences in religious traditions with special emphasis on Christianity. Diversity, Women's Studies. (3 cr) Last Offered: Fall 2013 Fall 2012 Spring 2012 Spring 2011

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 Summer 2010

THL 5999 Themes Faith and Culture Select topics on issues concerning the intersection of religion, society, and culture. (3 cr) Last Offered: Fall 2017 Fall 2015 Spring 2015 Fall 2014

THL 6000 Topics in Theology or Religion Course work in theological or religious studies topics. (3 cr) Last Offered: Fall 2017 Summer 2017 Spring 2017 Summer 2016

THL 6001 Themes in Religious Studies Themes in religious studies taken by Villanova students studying overseas. (3 cr) Last Offered:

THL 6050 Internship Supervised experience in an approved context (e.g., social service, teaching, etc). (3 cr) Last Offered: Fall 2016 Spring 2016 Fall 2015 Spring 2015

THL 6051 Internship Supervised experience in an approved context (e.g., social service, teaching, etc). (6 cr) Last Offered: Fall 2016 Fall 2015 Fall 2014

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) Last Offered:

THL 6200 Service Learning Practicum Service or immersion experiences as an integral part of certain Theology/Religious studies courses. The practicum integrates the participation requirements for the field experience with the academic requirements (readings, research paper, project, etc) set by the instructor. Permission of the instructor. (1 cr) Last Offered: Spring 1997

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 2017 Fall 2016 Fall 2014 Spring 2014

THL 6400 Independent Study Permission of chairperson required. (3 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Summer 2016

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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 2017 Spring 2016 Spring 2015 Fall 2013

UNIV 1001 Academic Self-Management Introduction to skills required for a successful career at college, including: time management, understanding learning styles, reading, studying, notetaking, taking advantage of resources. (1 cr) Last Offered: Fall 2004 Fall 2003 Fall 2002 Fall 2001

VEXP 1000 The Leadership Experience Exploration of leadership and personal growth in first year college experience. (1 cr) Last Offered: Fall 2017 Spring 2017 Fall 2016 Spring 2016

VEXP 1001 Health & Wellness A workshop style course stressing all aspects of health: social, physical, intellectual, career, emotional, and spiritual. Study and application of skills of health-conscious living; work with health and wellness professionals on campus including personal trainers, yoga instructors, and nutritionists. (1 cr) Last Offered: Fall 2009 Fall 2005

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: Spring 2018 Fall 2017 Spring 2017 Fall 2016

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 Fall 2011

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 Spring 2011

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 Fall 2010

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 2017 Fall 2016 Fall 2015 Fall 2014

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: Fall 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 Spring 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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Spring 2017 Fall 2016 Spring 2016

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 2017 Summer 2017 Spring 2017 Fall 2016

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 2017 Summer 2017 Spring 2017

VSBS 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 Fall 2013

VSBS 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 2017 Spring 2017 Fall 2016 Spring 2016

VSBS 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 VSBS students and Business Minors. (3 cr) Last Offered: Fall 2016 Spring 2016 Fall 2015

VSBS 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

VSBS 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 2017 Spring 2017 Fall 2016 Spring 2016

VSBS 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 2017 Spring 2017 Fall 2016 Spring 2016

VSBS 3001 VSBS 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

VSBS 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 2017 Summer 2017 Spring 2017 Fall 2016

VSBS 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 2017 Summer 2017 Spring 2017 Fall 2016

VSBS 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

VSBS 3500 Special Topics in Business Contemporary issues and topics impacting the business environment. (3 cr) Last Offered: Fall 2017 Summer 2017 Fall 2016 Summer 2016

VSBS 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 2017 Fall 2016 Spring 2016 Fall 2014

VSBS 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 2017 Summer 2017 Spring 2017 Fall 2016

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