

Villanova University

VILLANOVA UNIVERSITY CATALOG

**UNDERGRADUATE STUDIES
2012 - 2013**

**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://www.villanova.edu/vpaa/office/catalog/> 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

August
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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 World-Wide 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, 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 2011 or fall 2012 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: 2012-2013

Fall Semester (2012)

Aug. 23-26 (Th-Sun)	New Student Orientation and Registration
Aug. 25 (Sat)	Saturday Classes begin for Part-Time Studies
Aug. 27 (M)	Classes Begin
Aug. 31 (F)	Last day for requesting Satisfactory/Unsatisfactory
Sept. 3 (M)	Last day for dropping and/or adding classes
Sept. 3 (M)	Labor Day - No Classes
Sept. 14-16 (Fri-Sun)	Parents' Weekend
Sept. 20-23 (Thurs-Sun)	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)	Advising Begins
Oct. 26-28 (Fri-Sun)	Homecoming
TBA	Registration Begins for Spring 2013
Nov. 2-4 (Fri-Sun)	Special Olympics
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)	A Friday Class Day – follows a Friday Schedule for UG Day Classes only
Dec. 13 (Th)	Final Day of Classes
Dec. 14 (F)	Reading Day
Dec. 15-21 (Sat-F)	Final Examinations (No exams on Sunday)

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Spring Semester (2013)

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)	Martin 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 2013
Mar. 27 (W)	Easter Recess begins after last class
Apr. 2 (Tu)	Classes Resume
Apr. 3 (W)	Last Day for Authorized Withdrawal without Academic Penalty (WX)
Apr. 30 (Tu)	A Friday Class Day – follows a Friday Schedule for UG Day Classes only.
May 1 (W)	A Monday Class Day – follows a Monday Class Schedule for UG Day Classes only.
May 2 (Th)	Final Day of Classes
May 3 (F)	Reading Day
May 4-10 (Sat-Fri)	Final Examinations (No exams on Sunday)
May 18-19 (Sat-Sun)	Baccalaureate and Commencement

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 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.

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

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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.

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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, Associate of Science in Natural Science.
- ❑ 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

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.S.A, or B.B.A. and B.A, or B.A. and B.S.. – must choose which degree to take – unless they have completed 43 or more additional credits beyond the greater of the two program credit requirements, in which case they may receive two degrees and two diplomas. Multiple majors, regardless of college, will appear on a

student's transcript. 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, Human Services, 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 Part-Time 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 the Computing Sciences Accreditation Board, a specialized accrediting body recognized by the Council for Higher Education Accreditation. 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). All five degree programs of the College of Engineering have been accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology.

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

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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 306 Old Falvey.

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 SERVICES

The Career Services Office assists individuals with assessing career interests, planning careers, and developing the skills to successfully pursue career plans. Career Services partners with academic advising in the four colleges to link career advising, internship programs, professional development, and placement services. Individual counseling is supplemented by workshops and career programs. Interest tests are administered and interpreted. Employment services include a campus interview program with over 350 employers, a resumé referral system, and a job listing service. The website provides extensive information on careers, materials on various job search topics, and registration information for graduate school admission tests. Staff counselors and career assistants look forward to working with you. The office is located in Garey Hall.

CENTER FOR UNDERGRADUATE RESEARCH AND FELLOWSHIPS

The Center for Undergraduate Research and Fellowships provides comprehensive advisement for students who pursue prestigious national scholarship and fellowship opportunities, including the Truman, Goldwater, Udall, Fulbright, Marshall, Rhodes scholarships and fellowships awarded by the National Science Foundation, Hughes, Mellon, and Ford foundations. A mentoring program is administered by the Center for Undergraduate Research and Fellowships and begins as early as an undergraduate student's first year. In recent years, nearly 300 students have received formal recognition from these various national scholarship programs.

The center also administers the Villanova Undergraduate Research Fellows Program which is designed to provide financial support for independent student research. The Faculty Undergraduate Research Council determines funding allocations to be awarded as stipends for student researchers and faculty collaborators, as well as funding available for supplies, travel, and conference support. In recent years, nearly 100

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Villanova undergraduates have received funding for research performed in collaboration with university professors that has been published in peer-reviewed scholarly journals and presented at national and international conferences. The center 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 a semester average of 3.5 in the College of Engineering, 3.5 in the College of Nursing, 3.5 (for both semesters) in the College of Liberal Arts and Sciences, and 3.5 in the School of Business with no non-passing or missing grades on the semester report.

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 (www.pbk.villanova.edu/) 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 (www.students.villanova.edu/phikappaphi). Phi Kappa Phi is an honor society whose objective is the recognition and encouragement of superior scholarship in all academic disciplines.
- ❑ Alpha Sigma Lambda (www.villanova.edu/vpaa/parttime/about/alpha.htm). 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) provides computing, information, and network services to the entire campus community. A campus-wide network for data, voice, and video communication provides phones, data and cable TV connectivity for students, faculty, and staff. Phone, cable and high-speed data connectivity is extended to all residence hall rooms. Citrix and VPN service 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, and the Connelly Center and Mendel lounges, totaling over 170 workstations. The labs are open 18-24 hours a day with consultants on duty to assist students. All computers support general-purpose applications such as word processing, spreadsheets, graphics and data base management systems (Microsoft Office suite) plus course-specific software.

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

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and learning resources, video and audio streaming studios, video teleconferencing, web and podcasting and access to Internet 2. All 170+ classrooms are equipped with cable TV and internet access, wireless and multi media teaching technologies.

The TechZone located in Vasey Hall assists students with University provided laptop computers. Technical support is complemented by Web based documentation. In addition to the TechZone, UNIT operates the University Help Desk and provides technical support and service from 8am to 8pm M-F by calling (610) 519-7777.

User-ids are assigned to students prior to their arrival on campus that provide access to email and other student designated computing resources. All students have a default Web page created for them and a personalized portal gives them 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 smart card (WildCard). The Wildcard is a photo identification card that is required for all Villanova students, faculty and staff. The Wildcard allows convenient, effective, and secure access to all card related services. These services include personal identification, facilities access and access monitoring, debit transactions processing, 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 a text messaging feature 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, pagers, smart phones and PDA devices. (Note: Parents can sign up for alerts, too.)

INTERNATIONAL STUDIES

Each year hundreds of Villanova students go overseas for a summer, a semester, or a year to continue their academic work. Villanova offers students a wide variety of different locations around the world to choose from and programs for Engineering, Nursing, Business, and Arts and Sciences. The Office of International Studies helps students identify opportunities and facilitates the process of enrollment in overseas programs. Visit our website, drop by our office in Middleton Hall, or give us a call at (610) 519-6412.

LEARNING COMMUNITIES

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.

- ❑ the intentional pairing of a student's academic course assignment in the *Augustine and Culture Seminar* (a class all freshmen take) and the student's housing assignment.
- ❑ the opportunity to form a close community inside and outside of the classroom, with faculty, hall mates and classmates.
- ❑ an option to explore a theme or interest of the students in the first year seminar and living with people who share that interest.
- ❑ a holistic integrated approach to a student's intellectual, personal, social, moral, and spiritual development.

Examples of themes/interests are Leadership; Healthy Living; Environmental Leadership; Global Community; Justice: from Adam to Eve; Pursuit of Excellence; and Arts and Culture. Commuter sections of Leadership are available.

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 weekly study skill workshops, study groups and homework help sessions for selected courses, academic coaching, accommodation support for students with disabilities, and study skills consultation.

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

Falvey Memorial Library is the gateway to academic information resources and services for students, faculty and staff. The physical library collection includes more than 750,000 printed volumes including books and historical runs of major academic journals. Web-accessible resources include approximately two hundred twenty general and discipline-specific research databases, approximately ten thousand full-text electronic journals, and extensive microfilm and audiovisual collections. Online collections also include almost 500,000 digital volumes encompassing the corpus of English-language books from the earliest days of the movable type printing press through the early 19th century. Beyond Villanova's collection, the regional EZBorrow system in which the university participates provides one-stop searching and access to over 35 million books from academic libraries across Pennsylvania and New Jersey. In addition, materials can be requested from libraries world-wide through interlibrary loan. With Pulling Law Library, Falvey shares in a selective depository status for federal government documents.

The historical record of Villanova University is available in University Archives on the fourth floor. Special Collections, located on the second floor, has examples of early printed books, the Joseph McGarrity Irish Studies Collection, Early Catholic Americana, and the Augustiniana Collection. Many rare and unique items from Special Collections are also accessible via the Villanova University Digital Library.

The library provides a wide range of services to the university community, including reference and research assistance, interlibrary loan, course reserve materials (print and digital), and the acquisition, organization and maintenance of print & online collections pertinent to university curricula and research activities. Web accessible library resources include VUFind (the online catalog), general and scholarly research databases and full-text journals and e-books, e-mail request forms, interactive (chat-based) reference assistance, and subject-oriented research guides. Approximately 80 public workstations are available in the library, for searching the Web, sending and reading email, and using a wide variety of university-licensed software. The library also provides wireless network access, laptop PCs for in-library use, and ports for connecting personal laptops to the network at a variety of locations throughout the building.

Unique study opportunities are also available at Falvey Library, including a "learning café" with food and beverage service (Holy Grounds) and 24-hour accessibility for students. Throughout the building, comfortable couches and chairs which complement the tables and carrels are available for individual study. The Kolmer Group Study Rooms are available on the third and fourth floors.

In addition to its primary mission of supporting the academic needs of students and faculty, the library also provides a wide range of "co-curricular" intellectual and cultural programming to the campus, including a lecture series that brings distinguished speakers into the stacks for informal talks, book and research talks at which faculty present the fruits of their intellectual labor to the Villanova community at large, occasional literary readings by regional and national poets and writers, and annual presentations of distinguished undergraduate research.

MATHEMATICS LEARNING AND RESOURCE CENTER

The Mathematics Learning and Resource Center (MLRC) provides an environment where students can obtain help with freshman and sophomore level math classes, work on group projects, study independently, and use computer lab facilities. The MLRC computer lab has 13 computers capable of running the mathematical software currently being used in math courses offered at Villanova. There is also a comprehensive collection of tutorial software, videos, and books which students may use for review or independent learning. The Center is located in 211 Falvey Library, tel. (610)519-6572 or (610)519-5193 for voice mail messages.

NATIONAL SCHOLARSHIPS

Villanova University provides comprehensive advisement for students who pursue prestigious national scholarship and fellowship opportunities, including the Truman, Goldwater, Udall, Fulbright, Marshall, Rhodes, Gates Cambridge, and National Science Foundation. A mentoring program is administered by the Center for Undergraduate Research and Fellowships and begins as early as an undergraduate student's first year. In recent years, over seventy students have received formal recognition from these various national scholarship programs.

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. The Gallery also enhances the educational experience by collaborating with academic departments in offering exhibits such as carved masks and totems from the Yoruba culture of West Africa, watercolors from China, Batiks from Byelorussia, and paintings by contemporary artists of the Caribbean. Free public outreach programs include hands-on art workshops for under-served children, young people and adults.

ATHLETICS AND RECREATION

Villanova student-athletes compete in eleven varsity sports for men and thirteen varsity sports for women. Faculty, staff and students have access to fitness centers, intramural and extramural competition in a wide variety of sports, swimming, and club sports (see www3.villanova.edu/recreation).

CAMPUS MINISTRY

Reflecting the traditions of Roman Catholic and Augustinian spirituality, the Villanova Campus Ministry engages every aspect of University life through prayer, liturgy, community service, leadership development, and pastoral care. More specifically, Campus Ministry:

- ❑ Offers programs centered on Christian living, social justice, liturgy, and preparation for the sacraments with an emphasis towards creating and eliciting Christian community on campus;
- ❑ Works with all members of the Villanova community to build spiritual awareness and growth, initiates programs in response to the gospel values of the Catholic Christian tradition; and
- ❑ Encourages the development of student leadership as a priority reflecting the student's significant role both now and for the future of the Church and society.

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. Appointments can be made in person or by phoning 610/519-4080. A recorded message giving the schedule of Liturgies is available at 610/519-4080. Detailed information on Campus Ministry activities, including programs for community service and leadership and for student involvement in liturgical celebrations, and information concerning other religious denominations' services and locations, 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, referral, and study skills counseling. 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; 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 psychologist specializing in substance abuse counseling.
- 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.

OFFICE OF HEALTH PROMOTION

The mission of Health Promotion at Villanova University is to:

- Provide evidence-based health resources;
- Facilitate opportunities for students to build skills that empower them to make healthy lifestyle choices; and
- Instill a sense of personal responsibility for individual health and its impact on the health of the community.

Health Promotion fulfills its mission through its campus-wide programming, first year learning community, POWER peer education and academic internship program, communication vehicles such as Stall Street Journal, web and print resources, one-on-one

consultation, and free non-credit courses in healthy eating and exercise. 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 visit our web site.

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. 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. 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).

MULTICULTURAL AFFAIRS

The Center for Multicultural Affairs works to enrich the Villanova undergraduate learning experience by making available to all students the opportunity to engage in a rich variety of activities promoting cross-cultural awareness and understanding. We accomplish this task by offering learning resources and structured learning experiences to the entire Villanova University community. Our ultimate goal is to help all Villanovans learn to live empathetically in community with one another. The Center for Multicultural Affairs is located in Dougherty Hall, Room 102; call (610) 519-4075.

The main programs are:

- ❑ **Academic Advancement Program (AAP)** The purpose of this program is to provide an educational opportunity for students from the Delaware Valley area who meet certain academic and economic criteria. The AAP admits highly motivated students whose high school credentials suggest that they can, with academic support, successfully matriculate at Villanova University. At Villanova, these students are given support in counseling and tutoring to enable them to demonstrate their potential to succeed in college. The pre-college component offers a three-credit freshman English course, math, reading/study skills, general sciences classes, and critical thinking workshops. 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):** The Center for Multicultural Affairs offers comprehensive integrated services to all in-coming students. The ACTIVE program is designed to help students make the transition between high school and college successfully. In Phase One, *Freshman Retention*, the program is intended to help students develop an academic plan through a review grades and teacher feedback, tutoring, and counseling (academic, personal and financial). In Phase Two *Sophomore Engagement* the programs help students develop strategies for academic and personal success. Topics for discussion include: selection of major, cultivating leadership potential and communication skill development. In addition to course specific tutoring, students are guided to begin thinking about plans for their future including careers, graduate school, and internships. Anyone seeking information about this program should call Charisma Presley at 610-519-7316.
- ❑ **St. Thomas of Villanova Scholars Program (STOVs):** The purpose of STOVs is to retain and graduate students entering Villanova University whose academic career will be enriched by access to coordinated services designed to facilitate academic success and timely graduation. The program begins with a rigorous three-week summer academic emersion program. Once the school year begins, the academic progress of STOV students is monitored with follow-up programs and services provided. For more information about the program contact The Center for Multicultural Affairs at 610-519-4075.
- ❑ **Student Outreach and Diversity Initiatives:** The Center for Multicultural Affairs 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 make contact with Assistant Director Charisma Presley whose office is located in Dougherty 102, tel. 610/519 7316.

MUSIC ACTIVITIES

The Music Activities Office promotes, maintains, and supervises the efforts of student performing groups on the Villanova campus. These groups include: the University Bands (Concert, Marching, Pep and Jazz); Orchestra; Twirlers; Dance Team; Flag Squad; Villanova Singers; Villanova Voices; Gospel Ensemble; Chamber Choir; Dance Ensemble; Nova Jhoom and Nova Dhadkan (Indian dancers); Student Musical Theater and Student Theater. Each organization is under the musical direction and supervision of a staff professional. The MAO also supports independent student run ensembles.

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Information about musical opportunities can be obtained by contacting the Music Activities Office on the lower level of St. Mary's Hall (610/519-7214).

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 Disabled Student Advisor to request accommodations (call 610-519-4095). The office is located on the second floor of the Connelly Center.

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. Transfer students are not guaranteed on-campus residency. The University leases one floor of a residence hall at Rosemont College in an effort to accommodate some students (seniors and transfers) who desire housing, but are not otherwise eligible to reside on the Villanova University campus.

All housing contracts are for a full academic year. Students who terminate their housing contracts prior to the end of the academic year, but who remain enrolled at the University will be assessed a Cancellation Fee of \$300. The fee is not applicable in the case of official withdrawal, removal by way of formal judicial action by the University or for departure due to participation in a study abroad program.

More information on residential facilities may be obtained by contacting Residence Life, Kennedy Hall (610-519-4154) or by visiting our website.

STUDENT DEVELOPMENT

The Office of Student Development oversees the administration of over 200 student organizations at Villanova. Its aim is to provide a co-curricular program emphasizing leadership skills in order to help co-ordinate students' free time with their study and education. These organizations foster common interests among students and assist

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students in gaining leadership skills that complement the skills learned in the University academic programs. The interest areas represented at Villanova include: governance, programming, publications, politics, fraternities and sororities, academics, cultural activities, honor societies and special interest groups (yearbook, radio station, tech crew, etc.) A complete listing of organizations and information on how to join can be found in the Office of Student Development, 214 Dougherty Hall (610/519-4210).

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 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.

TRANSCRIPTS

Students may obtain transcripts of their records from the Office of the Registrar, Tolentine 202, either in person, by writing to the office or via their NOVASIS account. Telephone requests cannot be accepted. Two weeks' notice is required. Official transcripts bear the seal of the University and the signature of the Registrar. Those given or mailed 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.

UNIVERSITY SHOP

The Villanova University Shop is the institutionally owned 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: course books,

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reference and trade books, insignia sportswear and gift items, personal and convenience products and academic supplies.

VETERANS

The Registrar's Office (Room 202, Tolentine Hall) serves as a liaison between the University and the Veterans Administration, except in the case of Law students who deal with the Law School Registrar.

Students (veterans) who will be enrolling in the college for the first time must contact the Office of the Registrar to file their application with the Veterans Administration. After the student has registered for the appropriate courses, the enrollment certification will be forwarded 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 from the Office of the Registrar. The veteran must submit the completed form together with the course information to the Office of the Registrar. The enrollment certification will then be forwarded to the Veterans Administration to secure payment of benefits to the veteran.

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 on such nationally standardized tests as the SAT and ACT (which must include the Writing section); participation in extracurricular and community service activities; guidance 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, age, physical disability or family financial status. There are no quotas for any of the groups mentioned, but in selecting candidates whose academic qualifications are approximately equal, some preference may be given to children of alumni or faculty/staff members, athletes and residents of geographical areas not strongly represented in the student body.

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 for 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	4		

College of Engineering

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

College of Nursing

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

Elective units acceptable in all colleges

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

HEALTH AFFILIATION PROGRAM

Villanova University has accelerated Health Science Affiliation programs with a number of institutions including the Drexel University School of Medicine, Thomas

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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. The BS/MD program at Drexel University is available only to U.S. citizens and permanent residents and are not available to transfer students.

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. The Committee on Admission reserves the right to admit or defer any candidate for Early Action.

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 7. 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. All information in support of an applicant's candidacy for admission should be on file by January 7. 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 (freshman, 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:

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- ❑ Complete the on-line Common Application with the Villanova Supplement 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 the College Board's fee waiver program.)
- ❑ 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 submission is preferred and will expedite to processing of the student's application, but paper copies can be processed). The completed application must be received by Villanova no later than November 1 for Early Action, Honors Program consideration, and Health Affiliation Programs and January 7 for Regular Decision consideration.
- ❑ Take the SAT or ACT (which must include the writing section) and have the results 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 (Dean of Students Transfer Evaluation), 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 into the College of Liberal Arts and Sciences and the Villanova School of Business. Students interested in transferring into the College of Nursing and the College of Engineering must have maintained at least a 2.50/4.00 cumulative grade point average.

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. In the College of Liberal Arts and Sciences a cumulative average of 3.00 and two semesters at the previous institution are prerequisites for acceptance. 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

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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.

PRE-MATRICULATED COLLEGE CREDIT

College-level work completed prior to high school graduation may be awarded transfer credits upon receipt of the following: (1) an official letter from the high school principal, guidance 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; and (3) 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.

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 7.

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: American History (07); Art (14 or 15); Art /Art History (13); Biology (20); Calculus (66 or 68); Chemistry (25); Computer Science (31 or 33); Economics (34 or 35); English (36 or 37); Environmental Science (40); European History (43); French (48 or 51); German (55); Latin (60 or 61); Physics (80 or 82); Political Science (57 or 58); Psychology (85); Spanish (87 or 89); Statistics (90). A grade of 3 or higher is awarded credit as follows: Arts and Sciences and Engineering, tests 31, 66, 68; Villanova School of Business 68, Nursing, tests 07, 25, 31, 43, 66, 68, 80, 82. Chemistry majors only receive credit for a score of 5 in test 25.

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; German A; History: Americas; History: Europe; 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 450, 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, 2012 - 2013

UNDERGRADUATE COLLEGES AND PROGRAMS

TUITION (Per Year) ¹

NOTE: All entering freshmen will be issued a laptop computer and software. This cost is included in tuition. At the conclusion of the sophomore year this computer will be returned and during the summer the student will receive a new laptop computer and software. Upon completion of the degree program the second laptop will become the property of the student.

	Tuition	Per Credit Rate	General Fees *	Student Health Fees
All Undergrad Colleges	42,150	\$1,760	\$300	\$290

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	\$145/semester
General University Fees	\$150/semester
Nursing Pre-Licensure Exam Fee	\$105/semester
Room (Depending on Accommodations)	\$2,643-3,833/semester
Board (Depending on Meal Plan)	\$1,310-2,875 (\$670-1,070 for commuters) /semester
Reinstatement Fee	\$250
Late Payment Fee ²	\$100
Returned Check Charge	\$30
Monthly Service fee for Past-due Accounts	\$5/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.

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

TUITION FOR INTERNATIONAL STUDIES

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

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

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

PART-TIME STUDIES, TUITION AND FEES, 2011-2012

Application Fee (Non-refundable)	\$25
Tuition (Evening Courses Only):	
Liberal Arts, Education	\$510 (per credit)
Science, Nursing, Non-matriculated, Visitors, Post graduates	\$510(per credit)
School of Business ¹	\$550 (per credit)
Tuition (Day Courses Only 1-11 Credits) ²	
Liberal Arts	\$780 (per credit)
School of Business	\$810 (per credit)
Science, Nursing, Non-matriculated, Visitors, Post graduate	\$780 (per credit)
General University Fee	\$ 15/semester
Technology Fee ³	\$100/semester
Reinstatement Fee	\$250
Late Payment Fee ⁴	\$100
Monthly Services Fee for Past Due Accounts	\$5/month
Returned Check Charge	\$30
Parking Fee ⁵	\$50

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¹ Beginning Fall 1999, a technology curriculum was instituted for all evening business administration and accountancy majors. Rental of a notebook computer is included in the tuition fee. Contact Part-Time Studies for details.

² Any student carrying 12 or more credits of all day classes or 12 or more credits of any combination of day/evening classes will be charged the full-time undergraduate fourth year rate which is listed above.

³ For Non-matriculated and Post-graduate students taking business courses. Includes rental of notebook computer.

⁴ A Late Payment fee is charged to any account which is not paid in full by the official first day of class.

⁵ 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 grants, loans, and student employment. In addition to these need-based programs, Villanova offers several merit-based scholarships which are granted irrespective of students' needs.

SCHOLARSHIPS

Listed below are scholarship programs awarded by the University to entering freshmen. The academic requirements for these scholarships can be found on the web page for the Office of Financial Assistance (www.villanova.edu/enroll/finaid).

Presidential Scholarships. The Presidential Scholarship is awarded to students who have demonstrated academic achievement and active participation in their school and the broader civic community. Successful candidates are awarded this renewable scholarship, which covers full tuition, general fee, room, board (up to the 19 meals-per-week plan) and books for eight consecutive semesters. Students must be nominated by the chief academic officer of their high school (principal, president, headmaster), guidance counselor or an official school designee. They can also be nominated by a representative from a home school entity or non-profit educational organization dedicated to helping disadvantaged high school students with the college search process.

Nominees will be expected to show evidence of superior academic performance as reflected by their high school course selection and grade point average, as well as a high level of achievement on the SAT or ACT. Candidates will also be assessed in terms of leadership, civic engagement, ability to respond effectively to adversity, creativity, and expertise in a specific field, with consideration given to a student's demonstrated financial need. 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 2012 entering freshman class was 4.19 (on a 4.00 scale) and the average combined SAT score (Critical Reading and Math) was 1450 with ACT scores that were similar in competitiveness.

Each year, a number of historically underrepresented students who have demonstrated leadership in their ability to make significant contributions to the academic and social cultures within their schools and communities are awarded Presidential

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Scholarships. Students who are African American/Black, Latino/Hispanic, American Indian/Native Alaskan, Asian/Pacific Islander or are the first in their family to pursue a college education or who come from a low income family (normally Pell Grant eligible), would be considered to be historically underrepresented.

For more information regarding the Presidential Scholarship Program and the nomination process, visit the following web sites: Office of Undergraduate Grants and Awards 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. The Villanova Scholarship is awarded on the basis of exemplary academic achievement and accomplishments outside of the classroom. In order to be eligible for consideration, students will need to be enrolled in a rigorous curriculum, rank in the top 5% of their graduating class (if rank is reported) or have a minimum grade point average of 3.85 on a 4.00 weighted scale (if rank is not reported) and a minimum combined SAT of 1380/1600 or a composite score of 31/36 on the ACT. All grade point averages and class rank information is taken cumulatively at the end of the sixth semester of high school, and all standardized tests must be taken no later than October of the senior year. This competitive program provides partial tuition scholarships that are renewable for a total of eight regular semesters. Preference may be given to students with demonstrated financial need. Based on the most recent applicant pool (students enrolling as freshmen in the Fall, 2012 semester), scholarship recipients averaged a 4.17/4.00 GPA on a weighted scale and 1454/1600 on the SAT or a 33/36 composite on the ACT.

In order to be considered for a Villanova Scholarship a student must submit a completed application for admission (including SATs/ACTs taken no later than November) by December 1st and finalists will be required to participate in the Villanova Alumni Interview Program.

All recipients will be notified on or before April 1.

Commuter Scholarships. Partial tuition scholarships are awarded each year to outstanding students commuting from their families' homes that have demonstrated superior academic achievement and have exemplary SAT or ACT scores with a preference given to students who have a demonstrated financial need. Candidates for the Commuter Scholarship must apply to the University as commuting students to be eligible for consideration. 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 semesters, 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 freshmen starting in the 2016-2017 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 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 valued at \$12,500 per year will be granted to an entering freshman. This scholarship is renewable for a total of eight consecutive regular semesters. 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 and the Villanova Supplement for Undergraduate Admission, which must be received in our office no later than January 7. In addition, candidates must complete a Goizueta Scholarship application (found on the Admission website) and submit it to the Office of University Admission by February 7. The selection committee will review qualified applicants and will notify the recipient by April 1.

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.

Air Force ROTC/Villanova Scholarship. Level 2 scholarship recipients who meet academic qualifications set by the University may be nominated by the Air Force to have their Level 2 scholarship awarded by the United States Air Force, raised to Level 1, and meet the full cost of tuition by means of state and federal grants and University funds. Up to five awards are made annually to entering freshmen selected by the University from those who are nominated by the Air Force. The student is responsible for the first year base through federal, state and family resources. To be eligible for consideration, a candidate must meet all minimum academic requirements of the Villanova Scholarship.

Army ROTC/Villanova Scholarship. For recipients selected by the Army ROTC program, Villanova grants up to five scholarships. Villanova University agrees to fund

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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 meet all minimum academic requirements of the Villanova Scholarship.

Naval ROTC/Villanova Scholarship. The University provides grants to NROTC scholarship recipients who are designated by the Navy. Traditionally underrepresented students who have been awarded a three-year NROTC award will receive a full tuition scholarship from the University for their freshmen year. Villanova also offers a limited amount of partial scholarships 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 Villanova Scholarship.

All scholarship recipients are required to complete the CSS PROFILE and a Free Application for Federal Student Aid (FAFSA) each year. Funds received by the student from federal and state grant programs will be combined with University funds to equal the scholarship amount.

STUDENT FINANCIAL AID

To apply for all types of student aid (federal, state and institutional), prospective students must file the Free Application for Federal Student Aid (FAFSA) and the College Scholarship Services (CSS) Financial Aid PROFILE. To receive priority consideration for financial aid, applicants must file the FAFSA and CSS PROFILE by February 7th. Additionally, signed copies of the student's and custodial parents' and stepparent's (if applicable) prior year 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 by March 1. Late applicants will be aided only if funds remain available. Transfer students should consult the Office of Financial Assistance website for application deadlines.

All returning undergraduate students wishing to reapply for federal, state or institutional financial aid must file the Renewal FAFSA. Returning students who are new financial aid applicants must file an original FAFSA. Returning undergraduate students who began their academic program at Villanova University during the 2010-2011, 2011-2012 or 2012-2013 academic year must also complete the College Scholarship Services (CSS) Financial Aid PROFILE. Both new and renewal applicants who are not Pennsylvania residents should file the appropriate application for State Grant consideration in their home state. Students who began their academic program at Villanova University prior to the 2010-2011 academic year must complete the Villanova University Institutional Financial Aid Application (available through the Office of Financial Assistance website) and return it to the Office of Financial Assistance (Kennedy Hall, second floor). All applicants need to submit signed copies of the student's and custodial parents, and stepparent's (if applicable) prior year U.S. or Puerto Rico Tax Returns, W-2 form(s) and 1099 forms by April 30. Late applications will be aided only if funds remain available.

Throughout the application process students are to check on the completeness and status of their application via MyNOVA. Additionally, award eligibility is posted to MyNOVA. Returning Undergraduate and Graduate students will be sent an email indicating their award is available to be viewed on MyNOVA. Freshmen and transfer

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students will be sent their original award notice via regular mail and can also view their award on MyNOVA. 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 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 is an institutional grant based on financial need. 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 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 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 Pell Grants.

Federal Supplemental Educational Opportunity Grant (SEOG). This is a Federal grant administered by the educational institution based on financial need. Only undergraduate degree candidates are eligible. Priority consideration is given to Pell Grant recipients.

Federal Perkins Loan. This is a federal loan based on financial need for students accepted/enrolled in an undergraduate or graduate degree program. The 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 are not able to award Federal Perkins Loan funds to graduate students.

Federal Nursing Student Loan. This is a federal loan based on financial need for students accepted/enrolled in an undergraduate nursing program. The Nursing 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.

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-

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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 Financial Assistance website (www.finaid.villanova.edu).

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, 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 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) 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 3.4% for the Federal Direct Subsidized Loan and 6.8% for the Federal Direct Unsubsidized Loan. A fee will be charged on each 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 7.9%. The Federal Direct PLUS Master Promissory Note can be obtained from the U.S. Department of Education at www.studentloans.gov. A Villanova University PLUS Application and the FAFSA must also be completed.

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. Many 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.

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

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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.

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.

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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.

Financial aid will not be provided retroactively with the exception of the Direct Subsidized/Unsubsidized and Direct PLUS Loans which may be awarded retroactively to the semester(s) in which standards were not met.

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

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

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

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

A student may only be granted one semester of Financial Aid Probation during their academic career.

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

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

Reinstatement is not automatic. The student is responsible for making certain that the grades and credits completed have been properly posted 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) 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:

- Unsubsidized Federal Direct Loan
- Subsidized Federal Direct 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.

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. For completed 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 on the various Federal Title IV Funds including the Federal Direct Stafford Loan. 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.

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.

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 from the prior year, W-2 form(s) and 1099 form(s).
- Transfer of financial data from the IRS Data Retrieval Tool or submission of US 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) prior year 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

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members and Public Assistance Letters must be submitted to the Office of Financial Assistance.

- ❑ Villanova University Institutional Financial Aid Application for returning students who began their academic program before the 2010-2011 academic year.
- ❑ College Scholarship Services (CSS) PROFILE for prospective students and students who began their academic program during the 2010-2011 academic year or later.

IRS DATA RETRIEVAL TOOL

Recently, 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 previous year's 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 FAFSA PIN number, 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 PIN number 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 your displayed tax information from the IRS into your FAFSA
5. Check your FAFSA to make sure that the applicable figures populated from the IRS website

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 US Tax Return Transcript to the Villanova University Office of Financial Assistance. Students and parents may request an official copy of their 2011 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.

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 Academic Affairs. The Office of Academic Affairs 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

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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, or Nursing 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.

6. A student who has been dismissed from Liberal Arts and Sciences, School of Business, Engineering, or Nursing may only apply for admission to the part-time Bachelor of Interdisciplinary Studies (BIS) program after two semesters (including the summer) have elapsed since the student was dismissed from the University.

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. 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. 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 record of any student whose cumulative or semester quality-point average falls below 2.00 will be reviewed by the Academic Standing Committee for appropriate action. Students in science or engineering whose technical course quality-point average falls below 2.00 will also come before the committee (technical courses include all science, mathematics and engineering courses). Typically the student will either be placed on academic probation or dismissed.

A student on academic probation will normally be allowed only one semester to achieve the required quality-point average. While on academic probation, the student is limited to a schedule of five courses and is ineligible to participate in any extracurricular activities. In the College of Liberal Arts and Sciences a student on probation is required to do the following:

- ❑ You are required to meet with your academic advisor during the drop/add period to discuss your probationary status. With your advisor, you will decide on an appropriate plan for the semester that will assist you to be academically successful.
- ❑ You will follow this plan.
- ❑ You are required to pass each course, of three or more credits, and earn a C+ (2.33) or better in each course.

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

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

COMPLAINTS ABOUT FACULTY AND GRADES

Villanova University has a set of procedures for resolving student complaints about faculty performance or about grades. A student who has concerns about either of these issues should, if at all possible, discuss the problem directly with the faculty member. If this is not possible, the student should contact the faculty member's department chair or program director who will provide the student with a copy of the procedures and, if the

student wishes, review the process involved. If the student is, for good reason, reluctant to contact the department chair, the student may also contact the Dean of the faculty member's college. The procedures are also online under Student Services and Information on the Academic Affairs 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. Enforcement of such attendance policies lies with those instructors. Where possible, students should inform their instructors if they plan to be late or absent from class.

Excused absences for all students include the following: approved athletic participation or participation in approved academic events; official university business; approved field trips; certified serious illness; death in the immediate family; or approved placement activities. An absence card, available from the Office of the Dean of the student's college, must be completed and presented to the Dean with appropriate documentation. This should be done before the absence, if possible, but at any rate no later than 4:30 p.m. on the day the student returns to classes. Excused absences allow the student to make up tests and do not count toward a failure in the course for first year students. Absence from class does not release the student from work assigned.

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.

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 (www.vpaa.villanova.edu), which discusses issues such as plagiarism and other unacceptable academic behaviors. This document is included in *The Blue Book*:

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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 VPAA's web site.

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

STUDENT RECORDS POLICY

Villanova University, in accordance with the Family Educational Rights and Privacy Act (FERPA) of 1974, as amended, has adopted this Student Records Policy to address the following issues with respect to education records: (1) disclosure of directory information; (2) confidentiality of personally identifiable information; and (3) student rights to inspect, review and seek amendment of their records. In general, education records are defined as records maintained in any form by the University that are directly related to a student.

I. Disclosure of Directory Information

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

II. Confidentiality of Personally Identifiable Information

All personally identifiable information contained in student records other than directory information is considered confidential information. This information includes, but is not necessarily limited to: academic evaluations; general counseling and advising records; disciplinary records; financial aid records; letters of recommendation; medical or health records; clinical counseling and psychiatric records; transcripts, test scores, and

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other academic records; and cooperative work records. “Personally identifiable information” means that the information includes: (a) the name of the student; (b) the address of the student; (c) a personal identifier such as social security number; or (d) a list of personal characteristics or other information that would make the student’s identity easily traceable.

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

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

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- (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:

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

IV. Inspection and Review Rights; Right to a Hearing

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

- Confidential letters and statements of recommendation placed in a student's record before January 1, 1975, or confidential letters and statements of recommendation to which students have waived their rights of access.*
- Financial records of the parents of the student or any information contained in those records.
- Those portions of a student's records that contain information on other students.
- Those records listed in Section III above.

* 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.

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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.

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.

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

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

The below section refers to both graduate and undergraduate courses:

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

*Occasionally students will encounter conflicts in the examination schedule such that two of a student's examinations are scheduled at the same time or three examinations are scheduled on the same day. In the event of such a conflict, the student must notify the instructor at least seven days in advance of the scheduled exam. The instructor will make alternative arrangements for the student to complete the examination. In resolving conflicts, multiple section exams should take precedence over exams for a single section, and courses in the major should take precedence over non-major courses. Extraordinary difficulties encountered in effecting such an arrangement will be resolved by the dean of the student's college.

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

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*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. The grade report at the end of the semester is part of the student's permanent record. 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

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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.

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 automatically becomes 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.

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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.

RESIDENCE REQUIREMENT FOR GRADUATION

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

SCHOLASTIC LOAD

A student must take a minimum of 12 credits a semester to be a full-time student. Permission to take fewer than 12 credit hours may be obtained in exceptional circumstances with the written approval of the Dean. A normal scholastic load is defined by the program set forth in this catalog. In the Villanova School of Business and the College of Liberal Arts & Sciences, students with a G.P.A. over 3.0 may sign up for an overload with registration for the sixth course possible only after the main registration period is over. No special approval would be needed.

POLICY ON UNDERGRADUATES ENROLLING IN GRADUATE COURSES

Undergraduates may take graduate courses, provided they meet the standards set down by each college: e.g., senior standing (in terms of credits, not in terms of years at Villanova), grade point average, and appropriate permissions (advisor, dean, chair, course instructor). The College of Nursing may exempt certain students from the “senior standing” requirement for a limited number of courses that juniors may take. Colleges are urged to compile a list of graduate courses that may and may not be taken, and this list should be available to students upon request. Colleges will ensure that proper advising is provided to undergraduate students with respect to taking graduate courses.

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

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.

Villanova University

- ❑ 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 @ www.villanova.edu/vpaa/office/calendar.htm), 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.** 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

Villanova University

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.

Villanova University

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

- ❑ **Withdrawal from the University.** Students who wish to leave and who do not plan to return to the University should request a Withdrawal. Official withdrawal from the University must be authorized by the Dean of the appropriate college. In order to affect an official withdrawal, a student must submit to the Dean a formal letter, or the appropriate college form, and then have an interview with the Dean. The letter of withdrawal may be countersigned by the student's parents or legal guardian. The parents or guardians may, if they wish and if authorized by the student, submit the official letter of withdrawal. Students who request an official withdrawal during the semester may be eligible for refund of some or all of the tuition paid for that semester (see policy above on Refunds). A student who has withdrawn from the University who wishes to return, must apply directly to the college the student wishes to attend (admission is granted at the sole discretion of the dean of that college).

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

COLLEGE OF LIBERAL ARTS AND SCIENCES

Jean Ann Linney, Ph.D., Dean

A. Maria Toyoda, Ph.D., Associate Dean for Interdisciplinary Studies and Global Initiatives

Joseph Orkwiszewski, Ph.D., Associate Dean for Baccalaureate Studies

Barry Selinsky, Ph.D., Associate Dean for Research and Faculty Development

Thomas W. Smith, Ph.D., Associate Dean and Director of the Honors Program

Robert Blanchard, B.A., Assistant Dean for External and College Relations

Trudi Tedjeske, M.A., Assistant Dean for Undergraduate Students

TBD., Director of Communications

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E-mail Dean: **asdean@villanova.edu**

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

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

THE INSTRUCTION OF BEGINNERS

St. Augustine

HISTORY

The College of Liberal Arts and Sciences of Villanova University was founded by the Augustinian Order in 1842. The College traces its origins to old St. Augustine's Church in Philadelphia, which the Augustinians founded in 1796, and to its parish school, St. Augustine's Academy, established in 1811.

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

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

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

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

Today, the College continues to offer a variety of educational programs that are aimed at the total growth of the individual and which prepare students for viable careers. Graduates of the College have taken their place in almost every field of endeavor, serving in education, business, government, law, medicine, and research, where they make vital contributions to the communities and the world in which they live.

ACADEMIC MISSION

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

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

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

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

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

College of Liberal Arts and Sciences

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.

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.

College of Liberal Arts and Sciences

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.

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 Judaeo-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.

College of Liberal Arts and Sciences

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://www1.villanova.edu/villanova/artsci/undergrad/ous.html>

Trudi Tedjeske..... Assistant Dean, Undergraduate Students
Michael Hones.....Associate Director
Elizabeth Springuel.....Assistant Director
Gina Talley..... Coordinator, Social Media & Special Events
Michele Grimes.....Senior Administrative Assistant
Kathleen Moore.....Operations Manager
Shelley Beierschmitt.....Data Manager

Villanova University

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, Director
R. Edel Lukens, Associate Director
Kathleen Matkowski, Records Assistant
107 St. Augustine Center for the Liberal Arts
610-519-3900
<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

Karen Graziano, Director
107 St. Augustine Center for the Liberal Arts
610-519-3900
<http://www1.villanova.edu/villanova/artsci/undergrad/ous/profdevt.html>

College of Liberal Arts and Sciences

Leadership and 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. Leadership and Professional Development consists of the following areas: Professional Development and Law School Advising.

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*.

The Law School Advising Program educates students about the requisite skills for a career in law. Students attend workshops and work with the Law School Advisor to ascertain their interest in law, develop their skills, prepare for and complete the application process, and evaluate law schools.

BRIDGE SOCIETY

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, to inspire both student professional development and alumni institutional development, as well as 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, and gives Arts & Sciences students the opportunity to explore potential career paths and meet alumni & employers in their fields of interest.

INTERNSHIPS

TBA, Director

Luisa Ruggieri, Administrative Assistant

107 St. Augustine Center for the Liberal Arts

610-519-3900

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

The Internship program provides resources, including individual meetings, workshops, and events, to assist students as they explore professional possibilities. Through experiential learning opportunities provided by internships students can refine their career interests, hone their professional skills, and gain invaluable experience in a variety of diverse fields. Through the internship program students can earn credit through their major, minor or concentration for relevant workplace opportunities, or earn elective credit for work experience unrelated to their primary coursework.

UNDECLARED SCIENCE ADVISING

Joseph Orkwiszewski, 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>

Science Undeclared 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.

D. HEALTH PROFESSIONS ADVISING

Louise Russo, Advisor
143 Mendel Science Center
610-519-4833

<http://www1.villanova.edu/villanova/artsci/undergrad/health/about.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 Advisor (HPA) for information on pre-requisite requirements, pre-admittance examinations, and application procedures.

Information sessions related to career exploration, program specifications, and application preparation by the HPA and presentations by Admissions Directors from professional schools are held throughout the academic year to enhance applicant knowledge and application quality (<http://www1.villanova.edu/villanova/artsci/undergrad/health/events.html>). The HPA Office works closely with alumni healthcare professionals to provide internship and shadowing opportunities and to participate in mock interview sessions. The HPA supports activities hosted by the pre-medical, pre-dental, and pre-veterinary student organizations and assists the student leadership council of the pre-medical honor society, Alpha Epsilon Delta, to develop academic-enrichment activities for pre-health students including application workshops, undergraduate research open houses, and health-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

College of Liberal Arts and Sciences

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

DEGREE PROGRAMS

Bachelor of Arts with majors in:

Arab and Islamic Studies
Art History
Classical Studies **
Communication **
Criminal Justice
Cultural Studies
Economics
Education **
English
Environmental Studies
French and Francophone Studies
Gender and Women's Studies
Geography
Global Interdisciplinary Studies
History
Humanities
Italian
Latin American Studies
Liberal Arts
Liberal Studies **
Philosophy
Physics**
Political Science **
Psychology **
Sociology

Villanova University

Spanish Studies **

Theology and Religious Studies **

Bachelor of Science with majors in:

Astronomy and Astrophysics

Biology **

Biochemistry

Chemistry **

Comprehensive Science

Computer Science **

Environmental Science

Mathematics **

Physics

INTERDISCIPLINARY CONCENTRATIONS

Africana Studies

Augustine in Dialogue with Faith and Culture

Cognitive Science

Asian Studies

Ethics

Irish Studies

Peace and Justice Education

Russian Area Studies

Writing and Rhetoric

MINORS

In addition to most of the above, minors are also available in:

Aerospace Studies (Air Force ROTC)

Arabic

Business

Chinese

Ethics

Japanese

Military Science (Army ROTC)

Naval Science (Navy ROTC)

Russian

Sustainability Studies

Theater

Bachelor of Arts, Honors

Bachelor of Science, Honors

** Indicates the opportunity for integrated Bachelor's/Master's program

College of Liberal Arts and Sciences

See the Majors, Interdisciplinary Concentrations, and Minors Section 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.

PHI BETA KAPPA

Phi Beta Kappa is the national honors society 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.

Villanova's College of Liberal Arts and Science became one of the colleges to shelter a chapter when the Sigma Chapter of Phi Beta Kappa was installed at Villanova in April 1986. The Phi Beta Kappa standards reflect the highest ideals of liberal education at the College.

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.

In choosing candidates for election, the Chapter seeks 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 the 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.

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 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.

A. SUMMARY OF CORE CURRICULUM COURSE REQUIREMENTS

I. Foundational Courses

- a. Augustine and Culture Seminar (2 courses)
- b. Theology and Religious Studies (2 courses)
- c. Philosophy (1 course)
- d. Ethics (1 course)

II. Languages (2 courses)

III. Mathematics or Statistics (1 course)

IV. Sciences (2 courses with laboratories)

V. Sophomore Literature and Writing Seminar (1 course)

VI. History (1 course)

VII. Social Sciences (2 courses)

VIII. Fine Arts (1 course)

Diversity Requirement

All students must complete two diversity courses.

B. CORE CURRICULUM REQUIREMENTS

I. FOUNDATIONAL COURSES

AUGUSTINE AND CULTURE SEMINAR (ACS) SEQUENCE (2 COURSES)

College of Liberal Arts and Sciences

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. 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.

THEOLOGY AND RELIGIOUS STUDIES (2 COURSES)

The foundational course, THL 1000 Christian Faith and Life, introduces students to Christian thought and practice through the academic lenses of theological and religious studies disciplines. In particular, students engage the Christian tradition and its sacred texts through biblical, systematic theological, ethical, historical, spiritual, ministerial or world religion perspectives – each with their own methods of analyzing theological and religious phenomena.

The second course, though not considered a foundational course, is required for the Core and can be chosen from a variety of offerings, analyzes the central beliefs and practices of Roman Catholicism, focuses on the phenomenon of religion as it operates in human history as well as in contemporary culture, or evaluates the significance of theology/religion for personal and collective ecological, political, economic, social, and cultural life.

PHILOSOPHY (1 COURSE)

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

ETHICS (1 COURSE)

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

II. LANGUAGES (2 COURSES)

Language proficiency 1) at the intermediate level is required at Villanova for languages offered through the Humanities Department (Latin) or the Department of Romance Languages and Literatures (French, Italian, Portuguese, Spanish), or 2) at the introductory level for languages offered through the Humanities Department (ancient Greek) and the Institute for Global Interdisciplinary Studies (Arabic, Chinese, Irish, Japanese, or Russian.) Normally, this is achieved through taking two courses. 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. LATIN ALPHABET LANGUAGE COURSES
- B. NON-LATIN ALPHABET LANGUAGE COURSES
- C. ADVANCED PLACEMENT
- D. COMPREHENSIVE EXAMINATION (PROFICIENCY EXAM)
- E. PETITION FOR EXEMPTION DUE TO DOCUMENTED LANGUAGE PROFICIENCY
- F. CREDIT BY EXAM

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

Students selecting this option must take two courses at the intermediate level or above in any Latin alphabet based language. Students who studied French, Italian, Portuguese, 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 who are interested in a Latin alphabet based language with no prior experience in the language will be required to take the two-semester introductory course sequence before registering for the intermediate level courses that fulfill the core language requirement.

For additional information on online placement exams or to take the online test, please visit: <http://www.villanova.edu/artsci/romancelanglit/about/langrequirements>

For additional information on Latin or to complete the Latin Placement Questionnaire, please visit:

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

OPTION B: FOREIGN LANGUAGES USING A NON-LATIN ALPHABET (CRITICAL LANGUAGES)

Students selecting this option must take a two- semester intensive course sequence at the introductory level. Examples of non-Latin alphabet course offerings include ancient Greek, Arabic, Chinese, Irish, Japanese, and Russian. Students should note that these courses are typically six credits and meet five days a week, though not always. Student should contact individual departments with any questions regarding placement in these languages.

For additional information regarding critical languages, please visit:

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

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

OPTION C: ADVANCED PLACEMENT

Students may satisfy the Core Curriculum language requirement by attaining a score of four or better on the applicable Advanced Placement Exam. Exams that fulfill this requirement and the course equivalency are listed on the Advanced Placement table later in this book. Any questions regarding Advanced Placement credit should be directed to the Office for Undergraduate Students in SAC 107.

OPTION D: 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 certain dates during the summer (2012: July 11 and August 22) and students must register in advance at the website address below. The deadline for a proficiency exam is noon the day before the exam. If the student is deemed proficient by achieving a grade of C or better on the proficiency examination, the student may then satisfy the Core Curriculum language requirement by taking two free electives. Comprehensive proficiency examinations are scheduled online at <https://sp.artsci.villanova.deansoffice/Lists/CoreCurriculumLanguageRequirement/NewForm.aspx> and registration requires a Villanova username and password.

OPTION E: 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 & Sciences may petition for an exemption from the Core language requirement. This may be done by submitting a written request for exemption and 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. If a student is deemed proficient through the petition process, the Core Curriculum language requirement can then be satisfied by taking two free electives. Petitions and supporting documentation should be submitted to the Office for Undergraduate Students in SAC 107.

OPTION F: 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 in SAC 107.

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

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 with additional questions regarding the Core Language requirement should speak with their Faculty Advisor, if they have additional questions or concerns they should be directed to the Office for Undergraduate Students in St. Augustine Center, 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.

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

V. LITERATURE AND WRITING SOPHOMORE SEMINAR (1 COURSE)

All students in their sophomore year take a literature and writing seminar course. These courses are designated by the appropriate Sophomore Literature 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, Psychology, or Sociology, which are designated by the appropriate attribute.

Students majoring in Economics, Education, Geography and the Environment, Political Science, Psychology, or Sociology fulfill the Core Social Science requirement through the requirements for their major.

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.

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

College of Liberal Arts and Sciences

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.

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 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 first year students reach Villanova by mid-July. If the scores are received before first year classes begin, a representative from OUS will communicate with the student and authorize the Registrar's Office to post the appropriate credit to the academic record. For scores received after classes begin, this representative will simply direct the Registrar to add any credit that the Registrar approves. AP credits appear in the "Transfer Credit" area of the student record.

Incoming students who have taken Advanced Placement (AP) or International Baccalaureate Higher Level (IB) exams should inform their Academic Advisor and should report to 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.

The guidelines for granting credit for courses that are equivalent are shown on the following page. 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.

College of Liberal Arts and Sciences

Advanced Placement 2012-2013	Score of 3		Score 4 or 5	
	Courses	Cr.	Courses	Cr.
American History –(07)			HIS 2000 HIS 2001	3 3
Biology – (20)			BIO 2105 BIO 2106	4 4
Calculus AB – (66)			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
Classics: Vergil & Caesar– (60)			LAT 1121 LAT-1122	3 3
Computer Science A – (31)			CSC 1051	4
Economics: Micro – (34)			ECO 1001	3
Economics: Macro – (35)			ECO 1002	3
English Language and Composition – (36)			ENG 1050	3
English Literature & Composition – (37)			ENG 1050	3
European History – (43)			HIS-3095 HIS-3995	3 3
Environmental Science – (40)			BIO 1555	4
History of Art – (13)			AAH 1101 AAH 1102	3 3
Modern Language French – (48) or (51)	Placement Only		FRE 1121 FRE 1122	3 3
Human Geography – (53)			GEV 1001	3
Modern Language German – (55)	Placement Only		GER 1121 GER 1122	3 3
Modern Language Italian– (62)	Placement Only		ITA 1121 ITA 1122	3 3
Japanese Language & Culture (64)			JPN-1111 JPN-1112	6 6
Modern Language Spanish – (87) or (89)	Placement Only		SPA 1121 SPA 1122	3 3
Physics C: Mechanics – (80)			PHY 1100 PHY 1101	3 1
Physics C: Electromag – (82)			PHY 1102 PHY 1103	3 1
Political Science – (57)			PSC 1100	3
Political Science – (58)			PSC-1875	3
Psychology – (85)			PSY 1000	3
Statistics – (90)			MAT 1230	3
World History – (93)			HIS 1040 HIS 1050	3 3

Villanova University

INTERNATIONAL BACCALAUREATE CREDIT AND				
<i>Course Equivalence</i>				
NOTE: CREDIT IS ONLY GIVEN FOR HIGHER LEVEL EXAMS				
SUBJECT	SCORE OF 5	CR	SCORE OF 6 OR 7	CR
ANTHROPOLOGY			SOC 2100, SOC 4000	6
BIOLOGY			BIO 2105, BIO 2106	8
CHEMISTRY			CHM 1151, CHM 1152	8 OR 10*
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	PLACEMENT	0	FRE 1121, FRE 1122	6
GEOGRAPHY	GEV 1001	3	GEV 1001	3
GERMAN A2 OR B	PLACEMENT	0	GER 1121, GER 1122	6
HISTORY AMERICAS		0	HIS 2000, HIS 2001	6
HISTORY EUROPE		0	HIS 3095, HIS 3995	6
ITALIAN A2 OR B	PLACEMENT	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 3000	3
PHILOSOPHY	PLACEMENT	0	PHI 1050, PHI 2950	6
PHYSICS			PHY 2410/11, PHY 2412/13	8
PSYCHOLOGY			PSY 1000	3
SPANISH A2 OR B	PLACEMENT		SPA 1121, SPA 1122	6

- *Sample of lab work needed for approval of lab courses CHM 1103 and CHM 1104*

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.

1. Health Professions, one of the following sequences:

- Preferred: MAT 1310 and 1315, Calculus for Life Science Applications
- MAT 1320 and 1325, Calculus for Liberal Arts
- MAT 1500 and 1505, Calculus

2. The Sciences

- Biology: MAT 1310 and 1315
- Chemistry, Computer Science, Comprehensive Science, Mathematics, Physics: MAT 1500 and 1505

3. Naval Science, one of the following sequences:

- MAT 1500 and 1505, Calculus
- MAT 1320 and 1325, Calculus for Liberal Arts
- MAT 1310 and 1315, Calculus for Life Science Applications

4. Business Minor

- MAT 1230 and 1235, Introductory Statistics I and II

5. Liberal Arts Students

- One or more Math or Statistics courses. Any course labeled MAT will fulfill the core requirement, as well as CSC 1300, Discrete Structures.

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. University Academic policies can be found in the Villanova University Catalog, Undergraduate Studies, located at <http://catalog.villanova.edu/>. For more detailed information concerning the College's policies see the Undergraduate Handbook, the *Enchiridion*, on the College's Web site: www.villanova.edu/artsci/college/publications.

Please note: the College incorporates all University policy and procedures outlined in the University Catalog.

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.

Here are brief descriptions of College-specific policies. More information on all College policies and procedures may be obtained in the Office for Undergraduate Students (SAC 107).

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. Normally, 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 labs.* 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. No paperwork is required.

Students with a GPA lower than 3.0 taking Japanese, Chinese, Arabic, or Russian to fulfill their language requirement or in Military Science, Naval Science, Aerospace Studies or Education may have to enroll for more than 17 credits in a given semester and therefore 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://www.villanova.edu/artsci/college/academics/undergrad/challengeexam/>.

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 week 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. The drops do not appear on a student's transcript. After this period, students may withdraw from courses (WX with approval during WX period, W after WX period) but may not add a course. These courses will appear on the student's transcript.

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. Transfer credit will be accepted only from institutions that are accredited by higher education regional accrediting agencies. For current Arts and Sciences students, all courses for transfer must be approved before the course is taken.

Online and Distance Learning Courses

The prior approval form to allow students to take DL courses is available in the Office for Undergraduate Students. Students may not take an online course at another institution if the same course is offered online by Villanova. Students studying abroad may not take Distance Learning courses in addition to their approved curriculum.

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 Director.

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.

MAJORS, INTERDISCIPLINARY CONCENTRATIONS, AND MINORS

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: Captain Matthew Hbler (mhubler@sju.edu)
Office: Department of Aerospace Studies
Saint Joseph's University
610-660-3190; rotc@sju.edu

Participation in a one through four-year program leads to a commission as a Second Lieutenant in the Air Force. Scholarships are available in any major. Air Force Reserve Officer Training Corps participation is available through a cross-enrollment agreement with St. Joseph's University.

MINOR: The minor in Aerospace Studies is offered to any student completing the courses of study listed below. Students must receive approval from the Professor of Aerospace Studies. Students desiring a minor in Aerospace Studies must declare this choice no later than the add/drop period of their seventh semester. Students successfully completing the following requirements will have a minor in Aerospace Studies transcribed on their student record.

See the Web site address above, and the undergraduate student handbook, the *Enchiridion*, for more information.

AFRICANA STUDIES CONCENTRATION

Director: Dr. Crystal J. Lucky
Office: 36 Garey Hall
Tel. (610) 519-4640
Web site: www.villanova.edu/artsci/africanastudies/

CONCENTRATION: The Africana Studies Concentration combines an introductory core, a number of electives, and an integrating seminar for a total of 21 credits.

MINOR: The Africana Studies Minor combines an introductory core and a number of electives for a total of fifteen credits. The list of approved electives is available from the Africana Studies office.

See the Web site address above for more information.

ARABIC MINOR

Director: Dr. Maghan Keita
Coordinator: Dr. Sayed Omran
Office: 34 Garey Hall
Web site: www.villanova.edu/artsci/global/criticallangs/arabic/
Telephone: (610) 519-6996

MINOR: The minor in Arabic Language and Cultural Studies requires four courses in Arabic language through the intermediate level (ARB 1111-Basic Arabic I/ARB 1112-Basic Arabic II, and ARB 1121-Intermediate Arabic I/ARB 1122-Intermediate Arabic II).

In addition, the minor requires two elective courses that can be selected from the following:

ARB 1131 Intensive Arabic I
ARB 1132 Intensive Arabic II
ARB 1141 Introduction to Colloquial Egyptian Arabic
ARB 2100 Arabic Literature in English Translation
ARB 2141 Arab-Andalusian Legacy
ARB 2142 Arab Culture
ARB 3412 Special Topics

See the Web site address above for more information.

ARAB AND ISLAMIC STUDIES

Director: Dr. Hibba Abugideiri
Office: St Augustine Center for the Liberal Arts Room 430
Telephone: (610) 519-4683
Web site: www.villanova.edu/artsci/arabislamic/

The Arab and Islamic Studies is open to students in all colleges and offers an interdisciplinary course of study that emphasizes the complexity and diversity of the Arab and Islamic world. The program serves undergraduates interested in advanced professional studies as well as careers in government or business in the field.

Major: 21 credits, in addition to demonstrating proficiency through at least the intermediate level of Arabic language, normally achieved through two intermediate level Arabic courses.

Minor in Arabic and Islamic Studies: (15 credits)

See the Web site address above for more information.

ART HISTORY

Chair: Dr. Marc Gallicchio, Chairperson
Office: 403 St. Augustine Center for the Liberal Arts
Tel. (610) 519-4660
Web site: www.villanova.edu/artsci/history/undergrad/arhistory/
Course descriptions: www.artsci.villanova.edu/courses/art_history

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

MAJOR: Art History majors must complete a total of 10 courses, which include a required introductory core of four courses.

MINOR: Students seeking a minor in Art History are required to earn at least 15 credit hours in art history, six of which must be the two survey courses (AAH 1101 and 1102), plus 3 credit hours in Studio Art.

See the Web site address above for more information.

ASIAN STUDIES CONCENTRATION

Director: Dr. Joanna Rotté
Office: SAC 277 (Joyce Harden, Office Manager x4640)
Website: <http://www1.villanova.edu/villanova/artsci/asian.html>

The Asian Studies Concentration is an interdisciplinary program open to students in all degree programs in all four undergraduate colleges. The goals of the program are to equip students with basic competence in the history, politics, philosophies, languages, art, and cultures of the region; to provide understanding and appreciation of the region's diversity; and through teaching basic research skills, to offer a deeper comprehension of a particular problem, theory, event, or aesthetic of the region.

Academic Program Overview: Students are required to take a minimum of 24 credit hours in the following areas:

- Two semesters of an Asian language at the intermediate level
- One Core Course providing an overview of the region (HIS 4320 or PSC 4500)
- Five Elective Courses (see course catalog for choices). Courses taken in approved overseas studies programs may count toward the Concentration at the discretion of the Director.

Please see the Website for more information.

ASTRONOMY AND ASTROPHYSICS

Chair: Dr. Edward Fitzpatrick
Office: 456 Mendel Science Center
Tel. (610) 519-4820
Web site: <http://www.villanova.edu/artsci/astronomy/>
Course descriptions: www.artsci.villanova.edu/courses/astronomy

The Astronomy and Astrophysics major is designed to prepare students for graduate studies in Astronomy and related fields. The major combines rigorous academic preparation with a strong research component, which usually culminates in the presentation of original research results at national-level astronomical conferences. In addition, both the major and the minor – as combined with the strong humanities focus of

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the University's Core Curriculum – provide outstanding preparation for careers in science journalism and science education, as well as for essentially any technically-based career.

MAJOR: 87 credits including courses in physics, mathematics, computer science, and meteorology. Students completing the major will also qualify for a minor in physics.

MINOR: The astronomy minor is available to all students and requires 24-26 credits, including courses in physics, mathematics, and meteorology, plus any prerequisites for the required courses.

See the Web site address above for more information.

CONCENTRATION: AUGUSTINE IN DIALOGUE WITH FAITH AND CULTURE

Chair: Dr. Kevin Hughes

Office: 304 St. Augustine Center for the Liberal Arts

Tel. (610) 519-7300

Web site: www.artsci.villanova.edu/augustinianconcentration

This is an interdisciplinary program, open to all students in all degree programs. Students must complete the required 18 hours for the concentration in addition to fulfilling the requirements of their major. They will maintain a portfolio of all the papers they have written throughout their course of studies in the Concentration.

At the end of their first semester senior year, they will undergo an oral exam which both reviews the course material they have taken thus far, as well as lays the groundwork for the research they will undergo in their capstone experience. The oral examination will be administered by three professors: the Director of the Concentration, and two professors who have taught them during their course of studies for the Concentration.

See the Web site address above for more information.

BIOCHEMISTRY

Program Co-Directors: Dr. Janice Knepper; Dr. Barry S. Selinsky

Office: 215 Mendel Science Center

Tel. (610) 519-4840

Web site: www.villanova.edu/artsci/biochem

Course descriptions: www.villanova.edu/artsci/biochem/courses/undergrad

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

MAJOR: CHM 1151/1103; 1152/1104; 2211/2201 (or 3211/3201); 2212/2202 (or 3212/3202); 3417; 3514/3503; 4621/4622/4623/4603; MAT 1500/1505 (or 1300/1305); PHY 2410/2411 (or 1100/1101); PHY 2412/2413 (or 1102/1103); BIO 2105/3351/4505. In addition, Biochemistry majors must complete one Chemistry elective and one Biology elective.

RESEARCH OPPORTUNITIES: The Biochemistry program offers two mechanisms for participation in research by the undergraduate major. Departmental fellowships for 8-10 weeks of summer research are funded by industrial and government sources. Recipients of these fellowships carry out a research project under the direction of a faculty member. In addition, students are encouraged to enroll in research for academic credit during the school year (CHM 4801, 4802, 4803, or BIO 6509, 6609).

See the Web site address above for more information.

BIOLOGY

Chair: Dr. Russell M. Gardner

Office: 147 Mendel Science Center

Tel. (610) 519-4830

Web site: www.villanova.edu/artsci/biology/

Course descriptions: www.artsci.villanova.edu/courses/biology

MAJOR: Thirty-six credits in Biology, including BIO 2105, 2106, 3351, at least five Biology laboratory courses at the 3000-level and higher, and 5100 or a *Capstone* course. 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 laboratory must be chosen from each of the following areas: Ecology/Evolutionary/Population Biology, Organismal Biology, and Cellular/ Molecular Biology.

MINOR: Twenty-three credits Biology, including BIO 2105 and 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 Biology credits at Villanova and achieve a minimum QPA of 2.0.

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Note: Courses numbered 7000 to 7999 are open to seniors with a QPA of 3.0 or higher. Third-year students with a QPA of 3.4 or higher may be eligible for enrollment in these courses with the approval of the Department of Biology.

COMBINED BS/MS IN BIOLOGY: Five-year double-degree program. For the undergraduate B.S. degree, complete undergraduate requirements for Biology major, including cognate sciences and math (see above), the Core curriculum, and up to 9 credits of Biology at the graduate level. M.S. degree requirements include an additional 11 credits of graduate course work and 10 graduate research credits culminating in a research thesis. Apply before entering or in first year and a half after starting major.

See the Web site address above for more information.

(GENERAL) BUSINESS MINOR

School: Villanova School of Business (VSB)

Associate Dean: Melinda German

Tel. (610) 519-5532

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

Students enrolled in other colleges of the University may apply to seek a General Business Minor through the Villanova School of Business (VSB).

Students must attend an information session held by VSB before applying. Information sessions are held at least once a month. Dates and times are posted at the start of the fall and spring semesters.

Applications are available through the Clay Center at VSB (Bartley Hall 1054) and online at <http://www.villanova.edu/business/undergrad/forms.htm>. The application deadline is May 1st. Business Minor applications are reviewed once per year after spring grades are posted. Students are notified in late May. Acceptance is determined on a competitive basis.

All business courses must be taken at Villanova. Microeconomics, Macroeconomics, and the Statistics requirement may be taken elsewhere. Preapproval by the Clay Center at VSB is necessary.

The required business courses for a General Business Minor for students in the Class of 2012 are:

ECO 1001	Intro to Microeconomics
ECO 1002	Intro to Macroeconomics

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VSB 1000	Information Technology (1 cr.)
VSB 1001	Business Dynamics I
VSB 1002	Business Dynamics II
VSB 2010	Financial Management & Reporting ¹ (6 cr.)
VSB 2020	Competitive Effectiveness ¹ (6 cr.) Statistics Requirement ²

1. Pre-requisites: VSB 1000, VSB 1001, VSB 1002, ECO 1001, ECO 1002. MAT 1235 (or VSB 2005) is the pre-requisite or co-requisite for VSB 2010.

2. Statistics may be fulfilled by successfully completing:

- BIO 3105 Biostatistics and Experimental Design OR
- MAT 1230 and MAT 1235 Intro Statistics I and II OR
- ECO 2137 Economics Statistics OR
- MAT 4310 Statistics Methods OR
- MAT 1430 Business Statistics may substitute for MAT 1230 and
- MAT 1235, the statistics sequence, if a student has successfully completed a calculus course.
- Please Note: Statistics is waived for Engineers and Math Majors.

Students who successfully complete the General Business Minor may then pursue an additional VSB minor in Accounting, Business Law and Governance, Economics, Entrepreneurship, Finance, International Business, Management Information Systems, Marketing, or Real Estate. **Additional coursework may be required.**

Students in the General Business Minor program must meet with a Business Minor advisor in the Clay Center before registering for VSB courses.

CHEMISTRY

Chair: Dr. Wm. Scott Kassel
Office: 215 Mendel Science Center
Tel. (610) 519-4840
Web site: www.villanova.edu/arts/chemistry

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The Chemistry major, accredited 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. Extensive opportunities for faculty-mentored undergraduate research are available for all students.

MAJOR: CHM 1000; 1311/1301; 1512/1502; 3511/3501; 3211/3201; 3212/3202; 3311/3301; 3411/3403; 3412/3404; 4611; MAT 1500/1505; PHY 2410/2411; 2412/2413. In addition, Chemistry majors must select a minimum of two Chemistry electives and one Chemistry lab elective.

MINOR: CHM 1151/1103; 1152/1104; 2211/2201; 2212/2202. In addition, Chemistry minors must select a minimum of three courses (along with appropriate laboratories) from any 3000 level courses or higher.

See www.villanova.edu/arts/chemistry/undergrad/minor for details.

BIOCHEMISTRY CONCENTRATION: The curriculum is identical to the Chemistry major except for the following: CHM 4611 and one Chemistry elective are replaced by CHM 4621/4622/4603. Three semesters of Biology are required: BIO 2105; 2106; and a molecular based biology course.

COMBINED BS/MS IN CHEMISTRY: CHM 1000; 1311/1301; 1512/1502; 3211/3201; 3212/3202; 3511/3501; 3311/3301; 3411/3403; 3412/3404; 4611; 4801; MAT 1500/1505; PHY 2410/2411; PHY 2412/2413. In addition, students must complete six graduate courses, three graduate research courses, and defend a research thesis.

RESEARCH OPPORTUNITIES: The Chemistry Department offers two mechanisms for participation in research by the undergraduate major. Departmental fellowships for 8-10 weeks of summer research are funded by industrial and government sources. Recipients of these fellowships carry out a research project under the direction of a faculty member. In addition, students are encouraged to enroll in research for academic credit during the school year (CHM 4801, 4802, 4803).

See the Web site address above for more information.

CHINESE MINOR

Director: Dr. Maghan Keita

Coordinator: HaiLin Zhou

Office: 39B Garey Hall

Telephone: 610-519-9852

Web site: <http://www.villanova.edu/arts/global/criticallangs/chinese.html>

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MINOR: The minor in Chinese Language and Cultural Studies requires four courses in Chinese language through the intermediate level (CHI 1111-Basic Chinese I/CHI 1112 - Basic Chinese II, and CHI 1121-Intermediate Chinese I/CHI 1122 - Intermediate II).

CHI 1111-Basic Chinese I
CHI 1112- Basic Chinese II
CHI 1121- Intermediate Chinese I
CHI 1122-Intermediate Chinese II
CHI 1131-Advanced Chinese I
CHI 1132-Advanced Chinese II
CHI 1133-Advanced Chinese III
CHI 1134-Advanced Chinese IV

In addition, the minor requires two elective courses that can be selected from the following:

CHI 1131-Advanced Chinese I
CHI 1132-Advanced Chinese II
CHI 1133-Advanced Chinese III
CHI 1134-Advanced Chinese IV
CHI 2134-Chinese Culture
CHI 2144-Chinese Film & Novel
CHI 3412-Chinese Special Topics
CHI 1113-Business Chinese
CHI 3413-Chinese Calligraphy
CHI 3414-Chinese Classical Thought

See the Web site address above for more information.

CLASSICAL STUDIES

Chair: Dr. Kevin Hughes
Office: 304 St. Augustine Center for the Liberal Arts
Tel. (610) 519-6165
Web site: <http://www.villanova.edu/artsci/classical/>

MAJOR: A major in Classical Studies requires a minimum of 10 courses (minimum 30 credits) in a combination of courses in the classical languages and courses in English on classical civilization. Students may choose one of three concentrations:

Latin, Classical Languages, and Classical Civilization. Details on the requirements of each concentration may be obtained from the Classical Studies Program office.

MINOR: A minor in Classical Studies requires a minimum of 6 courses (minimum 18 credits) in one of two concentrations: Classical Languages or Classical Civilization. The Classical Languages concentration requires four courses in Latin or Greek. The Classical Civilization track does not require but may include courses in Latin or Greek. Certain courses relating to Classical Studies offered by other departments may, upon approval, count toward the major or minor.

FIVE YEAR B.A./M.A. PROGRAM: This 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.

CORE REQUIREMENTS: The Classical Studies program offers courses which may satisfy certain core curriculum requirements. For example, CLA 2051 *Cities of Ancient Greece* and CLA 2052 *Rome: The Ancient City* and other such classical archaeology courses satisfy the Fine Arts core requirement, and certain CLA 3040 courses, such as *Women the Classical World*, *Women in Greek Tragedy*, etc., satisfy one of the diversity requirements.

LANGUAGE REQUIREMENT: Students may fulfill their Foreign Language core curriculum requirement with two semesters of Latin above the introductory level (or two semesters of Ancient Greek at any level). Students who have never taken Latin (or who have taken minimal Latin) should take Introductory Latin I & II before taking the intermediate courses.

For more information on the major, minor, language placement, etc., please see the Web site above, or contact Director of Undergraduate Classical Studies, Dr. Andrew G. Scott, at andrew.g.scott@villanova.edu.

See the Web site address above for more information.

COGNITIVE SCIENCE CONCENTRATION

Director: Dr. Charles L. Folk

Office: 252 Tolentine Hall

Tel. (610) 519-7464

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

Cognitive Science is a basic and applied science with the primary goal of explaining intelligent behavior, whether exhibited by humans, animals, or machines. The purpose of the Cognitive Science Program is to offer an interdisciplinary course of study related to intelligent systems emphasizing the perspectives of psychology, computer science, philosophy, biology, and engineering. The program offers both a concentration and a minor to students in all of the University's undergraduate colleges.

College of Liberal Arts and Sciences

CONCENTRATION: The concentration requires seven courses, a five-course proscribed core, and two electives.

MINOR: the Minor requires five courses. Note: Course selections for the minor must include approved courses in three of the following five disciplines: Psychology (PSY), Computer Science (CSC), Philosophy (PHI), Biology (BIO), and Electrical/Computer Engineering (ECE).

See the Web site address above for more information.

COMMUNICATION

Chair: Dr. Maurice Hall

Office: 28 Garey Hall

Tel. (610) 519-4750

Website: www.villanova.edu/artsci/communication/

Course Descriptions:

<http://www.artsci.villanova.edu/courses/communication.html>

Acceptance: Two of the Introductory courses (see below) and a minimum GPA of 2.5 are required to declare the major.

MAJOR (Class of 2009 and beyond): Thirty-six credit hours are required. COM 1000, Survey of Communication Studies, COM 1100, Public Speaking, and COM 1200, Introduction to Communication Research, are entry-level required courses and should be taken in the freshman and/or sophomore years.

Either COM 4001, Qualitative Research in Communication, or COM 4002, Quantitative Research in Communication, should be taken in the junior year or prior to taking the required capstone, COM 5050, Senior Project. COM 1200 is a prerequisite for COM 4001/4002.

After enrolling in COM 1000, 1100, and 1200, 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 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 in the Communication Department main office and on the departmental Web page.

Students wishing to design their own specialization will choose to take any two (2) courses at the Theory level, five (5) courses at the Advanced Topics level (from three

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different specializations), and all required courses. *Note: Some specializations will 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 (Students in the College of Liberal Arts and Sciences only): Survey of Communication Studies (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.*

MINOR (Students in VSB only): Survey of Communication Studies (COM 1000), plus Theories of Organizational COM (COM 2440) and three courses from a list which includes the following: Business & Professional Communication; Leadership, Negotiation, and Dialogue; Globalization, Work, and Organizations; Teambuilding and Small Group Communication; Public Relations; Gender and Communication, Intercultural Communication; and Communication and Conflict. *Courses not on this list will only count toward the minor in exceptional circumstances and require the Department's Chair's written permission. In order to qualify for the Business Communication Minor, students must have a minimum GPA of 2.75 or above, and receive a final grade of C or higher in COM 1000.*

See the Web site address above for more information.

COMPREHENSIVE SCIENCE

Director: Dr. Robert Styer

Office: 372 St. Augustine Center for the Liberal Arts

Tel. (610) 519 4845

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

MAJOR: 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.

The following courses are required of Comprehensive Science majors:

BIO 2105/2106 General Biology I and II

CHM 1151/1103 General Chemistry I and Laboratory

CHM 1152/1104 General Chemistry II and Laboratory

CSC 1051 Algorithms and Data Structures I

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MAT 1500/1505 Calculus I and II
PHY 2410/2411 University Physics:
Mechanics and Laboratory

One Physics course selected from the following:

PHY 2412/2413 University Physics:
Electricity & Magnetism and Lab
PHY 2414/2415 University Physics:
Thermodynamics and Lab

One Mathematics course selected from the following:

MAT 2500 Multivariable Calculus
MAT 2705 Differential Equations with
Linear Algebra
CSC 1300 Discrete Structures

One Statistics Course, e.g., MAT 4310 Statistical Methods

Additionally, students must complete at least seven (7) science electives with appropriate laboratories 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 follow:

Bio-Chemistry Biology
Chemistry Cognitive Science
Environmental Science Pre-Dental
Mathematics Pre-Medical
Physics Pre-Optometry

See the Web site above for more information.

COMPUTER SCIENCE

Chair: Dr. Robert E. Beck
Office: 161 Mendel Science Center
Tel.: (610) 519-7307
Web site: csc.villanova.edu

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, paving the way for entry into the only technical discipline that a National Science Foundation survey shows has more available jobs than graduates to fill them. The program emphasizes team-based systems design and problem solving, including team work over several time zones, so that its graduates can become key

members of development groups. The program is designed to develop the total person, one with intellectual curiosity, mature judgment, a thirst for life-long learning, and a commitment to the betterment of society.

MAJOR: CSC 1051, 1052, 1300, 1700, 1800, 2053, 2400, 2405, 3990, 4170, 4700, and 4790 plus three departmentally approved elective courses; MAT 1500, 1505, and statistics for computing; PHI 2180; a two semester science sequence with co-requisite laboratories selected from an approved set of courses in Astronomy, Biology, Chemistry, Environmental Science, or Physics; and two more approved mathematics, science or engineering courses. The major in computer science is accredited by the Computing Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

MINOR: CSC 1051, 1052, 2400 or ECE 3445, CSC 1300, CSC 1700, CSC 2053, and two elective courses chosen from the list of approved courses available from the department office or department web site.

MINOR IN INFORMATION SCIENCE: 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 IN INFORMATION SYSTEMS: 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 IN MEDIA AND TECHNOLOGY: 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.

See the Web site address above for more information.

CRIMINAL JUSTICE

Chair: Dr. Robert DeFina

Director: Dr. Thomas Arvanites

Office: 287 St. Augustine Center for the Liberal Arts

Tel. (610) 519-4774

Web site: www.villanova.edu/artsci/sociology/undergrad/criminaljustice

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Acceptance: To be accepted as a Criminal Justice major applying students must have earned a “C” or better in CRJ 1000, Introduction to Criminal Justice. A student must allow three full semesters after declaration of the major to complete all requirements.

The Criminal Justice Major is an interdisciplinary program designed to provide students with an understanding of the causes, social functions, societal reactions, nature and application of criminal law. Rather than a technical program which focuses on applied skills (e.g. vocational skills), our program will emphasize the justice component. This program will educate students in diverse theories exploring the many social dimensions of crime and effectiveness (and implications) of current criminal justice policies.

Required Courses:

CRJ 1000 Introduction to Criminal Justice
CRJ 3000 Criminology
CRJ 3200 Police and Society
CRJ 3300 Criminal Courts
CRJ 3400 Penology and Corrections
CRJ 5100 Criminological Theory
CRJ 6500 Senior Seminar

One of the following:

CRJ 5200 CJ Research, Methods and Statistics
SOC 5300 Data Analysis for Social Scientists
SOC 5400 Applied Research Methods

Two Approved Electives

Requirements for a Minor in Criminal Justice (5 courses)

Required courses are Intro. to Criminal Justice (CRJ 1000) and Criminology (CRJ 3000 or SOC 3000), and three other criminal justice courses chosen from the offerings of the department. Philosophy of Criminal Justice (PHI 2140) is strongly recommended as one of the three elective courses. The student must inform the chair of his or her intention to minor and request certification of the minor when it has been completed.

See the Web site address above for more information.

CULTURAL STUDIES

Director: Dr. Silvia Nagy-Zekmi
Office: 348 St. Augustine Center for the Liberal Arts
Silvia.nagyzekmi@villanova.edu

Web site: <http://www1.villanova.edu/villanova/arts/culturalstudies.html>

The interdisciplinary major in Cultural Studies (CST) is designed for undergraduate students who wish to combine the strengths of various departments in the College of Liberal Arts and Sciences. Students are expected to be highly motivated, self-disciplined, intellectually curious, and able to assume responsibility to build—with the help of the advisor—a distinctive set of courses while satisfying the requirements of the program.

The major in Cultural Studies offers a unique opportunity to students with diverse interests in social studies and humanities. Students will work closely with the advisor to construct an individually tailored interdisciplinary curriculum that will result in an intellectually challenging as well as satisfying academic experience.

Structure

Requirements: 10 courses 30 credits

Combining disciplinary electives (5 courses) in any of the following areas: Communication, English, and studies in other languages and literatures, History, Philosophy, Political Science, Sociology, Theology, with specific CST seminars (2 courses) and other required courses in 3 areas (1 course each area), students will complete a major in Cultural Studies.

1. Seminars: (6 credits, 2 courses)

A. Intro to Cultural Studies: CST 2100 (3 credits)

Theoretical basis of cultural studies is covered; students are introduced to the most common methods of research in cultural studies.

B. Capstone seminar CST 4100: (3 credits)

Seniors will take the capstone seminar on the application of different theoretical approaches to the study of different cultural phenomena and praxis. In this seminar students will demonstrate their knowledge and research skills acquired throughout the course of study by undertaking a major research project (a senior thesis) that will be placed in their portfolio.

2. Other required courses (9 credits, 3 courses) one course from of each group (other qualifying courses are announced each semester on the CST website)

A. Representation of Culture (3 credits, 1 course)

COM 2300 - Theories of Mass Communication, **or** ENG 2041 - Theory and Practice of Travel Writing, **or** SOC 2100 - Cultural Anthropology

B. Identity and Race (3 credits, 1 course)

PJ 2800 - Race, Class, & Gender, **or** SOC 3600 - Race & Ethnic Relations, **or** HIS 4997 - Race-Global Perspective

C. Identity and Gender (3 credits, 1 course)

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GWS 2050 - Gender and the World **or** SOC 3500 - Sociology of Gender **or**
HON 4050 - 001 HIS: Global Persp Women & Gender

**Any of these courses not taken as one of the three required courses in this category may be taken as an elective.*

3. Electives: Please see the CST website for a current list of elective courses.

ECONOMICS

Chair: Dr. Wen Mao
Office: 2015 Bartley Hall
Tel. (610) 519-4370
Web site: www.villanova.edu/artsci/eca

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.

BACHELOR OF ARTS IN ECONOMICS: Students in the College of Liberal Arts and Sciences who specialize in Economics earn the degree of Bachelor of Arts in Economics. There is a minimum GPA requirement of 2.5 for a student to declare an Economics major. Such students must take Calculus (MAT 1320 or higher) either to satisfy their math requirement or as a free elective. They should take ECO 1001 and ECO 1002. Either ECO 1001 or 1002 can count toward one of the three Core Social Science core requirements in the freshman or sophomore year. In addition, students must successfully complete: ECO 2101, 2102, VSB 2005, or ECO 2137 (or equivalent), 3132 (to satisfy the college research requirement), 4132, and 12 elective Economics credits (courses numbered above 3000). 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: Students must take Calculus (MAT 1320 or higher), and complete a total of 18 credits consisting of ECO 1001, 1002, 2101, 2102, and two elective courses with course numbers ECO 3000 or above.

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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

Chair: Dr. Edward G. Fierros

Office: 302 St. Augustine Center for the Liberal Arts

Tel. (610) 519-4620

Web site: www.villanova.edu/artsci/education/

The Department of Education and Counseling secondary teacher education program seeks to develop prospective teachers able to meet the demands of teaching in a variety of school environments, public and private, urban and suburban. Provisions for professional competencies and teacher certification include a thorough grounding in the liberal arts, a substantial concentration in an area of specialization and a study of the foundations, principles and methods of education.

NOTE: In addition to the Education major, it is recommended that students earn a second major in their teaching area. Education majors must come to the Department each semester for advising.

ADMISSION REQUIREMENTS: Secondary Certification candidates apply the first semester of their sophomore year in anticipation of completing 47 or 48 credits that semester. Application requirements include a minimal 2.8 GPA, six credits in English and mathematics respectively, two letters of recommendation from professors, and an essay. For a complete listing of requirements, see the Undergraduate Student Handbook, the *Enchiridion*.

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, three one-credit workshops on special education, 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 of the subject matter courses in their field of specialization.

PENNSYLVANIA TEACHER CERTIFICATION: Students are required to have a GPA of 3.0 at graduation; three, one-credit education workshops; and are also required to successfully complete the state mandated Praxis series of examinations and have taken three, one-credit workshops in special education.

AREAS OF CERTIFICATION:

Biology Citizenship Spanish
Chemistry Social Studies French
General Science Communication German
Mathematics English Italian
Physics Latin

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

See the Web site address above for more information.

ENGLISH

Chair: Dr. Evan Radcliffe
Office: 402 St. Augustine Center for the Liberal Arts
Tel. (610) 519-4630
Web site: www.villanova.edu/artsci/english/

MISSION: The English Department's mission is based on the belief that skillful, self-conscious reading, writing, and thinking form the foundation for a well-examined life well-lived. We seek to develop rigorous yet creative forms of analysis and expression that help us comprehend our own and others' cultures and values. As teachers, students, and scholars, we aspire to create a community that celebrates imaginative approaches to living and explores language's and literature's potential to order and transform the world.

MAJOR: Eleven courses (thirty-three hours) in advanced English courses (numbered 2000 or above) including:

- Junior Research Seminar (English 2250)
- Two courses in British/Irish literature pre-1800 from two of three areas: (1) Medieval; (2) Renaissance (to 1649); (3) Restoration and Eighteenth Century.
- Two courses in literature after 1800: one in British/Irish literature and one in American literature. One of these courses must be in 19th century literature and one must be in literature after 1900.

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- Senior Seminar (English 5000)
- Five electives

English majors must take the Junior Research Seminar before they complete their junior years. The English Department recommends that they consider taking it as sophomores.

British Literary Tradition I (English 2101) is not required, but the English Department recommends that English majors take it early, since it introduces writers, texts, and issues that are crucial to most subsequent courses. British Literary Tradition 1 and 2 (2101, 2102) and American Literary Tradition 1 and 2 (2103, 2104) can operate as free electives with a maximum of two permitted toward the major.

MINOR: Fifteen hours including:

- At least one course from the British/Irish literature offerings (mostly 3000-level courses).
- At least one course from the American literature offerings (mostly 4000-level courses).
- At least three electives from the English departmental offerings (numbered 2000 or above).

See the Web site address above for more information.

ENVIRONMENTAL SCIENCE AND STUDIES

Chair Dr. Francis A. Galgano Jr.
Office: Mendel Science Center G-67-D
Telephone: 610-519-3337
Web site: <http://www.villanova.edu/artsci/geoenv/academics/>

Environmental programs at Villanova include the: Environmental Science major, Bachelor of Science; the Environmental Studies major, Bachelor of Arts; and the Environmental Studies Minor. The Department of Geography and the Environment administers each academic program.

Bachelor of Science, Environmental Science major (130 credit hours): Environmental Science is an interdisciplinary major that integrates physical and biological sciences, (including but not limited to Ecology, Physics, Chemistry, Biology,

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Soil Science, Geology, Atmospheric Science, and Geography) with the study of the environment, environmental systems, and the solution of environmental problems. Environmental science provides an integrated, quantitative, and interdisciplinary approach to the study of environmental systems. Students enrolled in this new and dynamic major will learn how to monitor the quality of the environment, interpret the impact of human actions on ecosystems, and develop strategies for restoring natural systems.

For more information about the Environmental Science major and required courses, see our Web site:

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

Bachelor of Arts, Environmental Studies major (125 credit hours): Environmental Studies is the academic field that systematically examines human interaction with the environment. This is a broad and exciting multidisciplinary field of study that includes the examination of the natural and built environment, along with the sets of relationships between them. This major differs from environmental science and ecology because it focuses more on human interactions and environmental policy, and it includes study in associated subjects, such as: politics, law, economics, sociology, planning, pollution control, natural resources, and the interactions of human beings and nature. This is an exciting and important major because society needs educated people capable of addressing current and future environmental problems from a holistic approach that emphasizes linkages between human and natural systems.

For more information about the Environmental Studies major and required courses, see our Web site:

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

The Environmental Studies Minor: The Minor promotes an interdisciplinary approach to environmental issues and sustainable development. The Minor is open to students from all colleges and all majors. The minor requires completion of Environmental Science I and II (GEV 1050 and 1051) along with 1 course from each of the following categories: Environmental Policy and Management, Natural Sciences and Geo-Techniques, and Social Sciences and Humanities. A more detailed description of the minor and required courses can be found on our Web site (<http://www1.villanova.edu/villanova/artsci/geoenv.html>). Contact Dr. Lisa Rodrigues for more information.

Research Opportunities. The department offers several means by which undergraduate students can participate in research projects. A competitive department summer research fellowship is available to environmental majors. The fellowship funds 6-8 weeks of summer research under the guidance of a faculty member. In addition, environmental faculty offer paid research assistance positions to undergraduates during

the summer for those students interested in working in an active research lab and developing a research project.

See the Web site address above for more information.

ETHICS CONCENTRATION AND MINOR

Director: Dr. Mark Doorley

Associate Director: Dr. Brett Wilmot

Office: Room 104, St. Augustine Center for the Liberal Arts

Tel. (610) 519-4692

Fax. (610) 519-8026

Web site: www.villanova.edu/artsci/ethics/

The University believes that issues of ethics and values are at the heart of every human endeavor. In addition to regular requirements in the sciences and humanities, the College of Liberal Arts and Sciences and the Villanova School of Business require each student to take a special multidisciplinary course in ethics, typically in the sophomore year. The purpose of this course is to give students the opportunity to examine and discuss both ethical theories and their applications to contemporary moral issues. This course is designed to contribute to the implementation of Villanova's mission statement which states that, as a Catholic institution Villanova both emphasizes the values of the Jewish and Christian humanistic traditions and concerns itself with all value systems.

CONCENTRATION: The Ethics Concentration offers students an opportunity to pursue in-depth an intellectual discipline that studies human character and conduct. 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 Environment. In each of these tracks students must take two required courses and two elective courses. The tracks and track courses can be found on our website. Students take six (6) courses to complete the concentration. Concentrators must also fulfill the service requirement.

Required Courses for All Tracks: ETH 2050/HON 2050 and ETH 4000

Service component: A minimum of 100 hours of approved service, including work with the poor or otherwise marginalized members of our society and/or work related to building a sustainable world environment. This component affords students the opportunity to engage in practical moral inquiry. The student, in conjunction with the program 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.

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Ethics Minor: The Ethics Program offers an ethics minor that is open to all undergraduate students at Villanova University. The rationale for this academic program is based on two pillars. First, Villanova University prides itself on presenting an educational alternative built around a clear ethical core, in particular, the moral teachings of the Catholic Church. An ethics minor allows students to pursue the study of ethics explicitly and in depth as part of their undergraduate education but without committing to the more extensive demands of a concentration. This minor contributes directly to the mission of the university. Second, a focus on ethics not only benefits students' intellectual and moral development and contributes to the public perception of the university but also has tangible benefits for students as they apply for graduate studies, fellowships, and jobs on completion of their studies.

Academic Requirements: ETH 2050/HON 2050 is the gateway course for the ethics minor. Ordinarily, a student must earn a B or better in ETH 2050/HON 2050 to be eligible for the minor. Generally, a student will declare the minor after completing ETH 2050/HON 2050. In discussion with the faculty of the Ethics Program, the student will create a course of study that pursues a thematic program or question that the student identifies. To complete the requirements for the Ethics Minor, a student must prepare an E-Portfolio which will collect representative written work that he or she has done for the courses taken in pursuit of the minor, including the work for ETH 2050/HON 2050. A student is required to complete two upper-level ethics courses in theology and two upper-level ethics courses in philosophy. Each semester the courses that will count toward the minor will be marked in the Master Schedule.

See the Web site address above for more information.

FRENCH AND FRANCOPHONE STUDIES

Chair: Dr. Mercedes Juliá

Coordinator: Dr. Seth Whidden

Office: 343 St. Augustine Center for the Liberal Arts

Telephone 610-519-5468

Web site:

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

MAJORS: Majors in French and Francophone Studies are required to take ten courses above the intermediate level (1122). Once a student has completed a language course (numbered 1111 through 1132), s/he may not take a lower level course. The following three courses are required for all majors in French and Francophone Studies:

FRE 1138 or FRE 1140

FRE 2211 or FRE 2212

FRE 3970

MINORS: For a minor in French, four courses above the intermediate level in the language are required.

The Department of Romance Languages and Literatures may also offer literature courses in English translation. Such courses may be used to fulfill a Humanities elective; however, they may not be used toward credit requirements for a language major or minor.

Students may obtain up to six credits through the Villanova summer program abroad in France.

See the Web site address above for more information.

GEOGRAPHY

Chair: Dr. Francis A. Galgano Jr.

Office: Mendel Science Center G-67-D

610-519-3337

Web site: www.villanova.edu/artsci/geoenv/

Geography is the science that studies patterns on the Earth's surface and the processes that cause them. Geographers study things such as land features, weather, climate, 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—not merely where objects are, but how they have changed and come to be. 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.

The major is dynamic, focuses on critical global trends, and has applicability to a wide variety of fields in government, science, education, business, and engineering. Individual programs are formed around major geographic problems and world regions. The department offers course work in four areas: (1) human systems analysis; (2) geographical techniques; (3) regional analysis; and (4) environmental analysis and human dimensions of global environmental change.

MAJOR: At least 10 courses in geography. The distribution is given below:

- Foundation Courses (13 credits): GEV 1001 (International Approaches to Geography), 1500 (Physical Geography), and 1750 (Geography Techniques), and 4700 (Geographic Information Systems)

- Regional Geography (3 credits): Any one of five regional courses (i.e., Europe, North America, Asia, Africa, and the Middle East)

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- Research Seminar (3 credits): GEV 2500 (Global Change in Local Places)
- Senior Seminar or Independent Study (3 credits): GEV 6200
- Geography Electives (9 credits): Any focused program developed from the remaining 1000, 2000, 3000, 4000, 5000, and 6000 series courses

MINOR: Requirements are: GEV 1000 introductory courses (3 credits); 3000 Regional courses (3 credits); GEV 4700 Geographic Information Systems (4 credits); and 6 credits from any combination of the 1000, 2000, 3000, 4000, series courses.

Majors and minors who meet certain academic standards are eligible for membership in the Eta Lambda chapter of Gamma Theta Upsilon, the International Geographic Honors Society, which annually sponsors activities, lectures, and field trips. Internships designed for geography majors are also available. Geography students participate in professional conferences and student paper competitions in regional professional societies.

See the Web site address above for more information.

GENDER AND WOMEN'S STUDIES

Co-Directors: Dr. Jean Lutes and Dr. Lisa Sewell
Office: 488 St. Augustine Center
Telephone: 610-519-3815
Website: www1.villanova.edu/villanova/artsci/gws
Course Description Website:
www1.villanova.edu/villanova/artsci/gws/academics/courses

MAJOR (30 credits)

Specific required courses: 2050, 3000, and 5000

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. The Major requires students to take 10 courses, including the following three courses: GWS 2050 (Gender and the World); a research seminar in Feminist Theory and Methodology, which can be satisfied by GWS 3000 (Independent Study) or equivalent courses in other disciplines with the approval of the GWS director; and GWS 5000 (Integrating Seminar). GWS majors must also take seven electives, at least two of which must be in the social sciences and two in the humanities. 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.

MINOR (18 credits)

Specific required courses: 2050 and 5000

Elective courses for the major and minor may be taken in a variety of departments. Electives must be designated with the GWS attribute on the NOVASIS Master Schedule and/or be approved by the GWS director.

Please see Web site address above for more information.

GERMAN

Chair: Dr. Mercedes Juliá

Program Coordinator: Dr. Charles Helmetag

Office: 303 St. Augustine Center for the Liberal Arts

Tel. (610) 519-7794

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

MAJOR AND MINOR: Due to lack of enrollment, the major and minor in German has been discontinued at Villanova. New majors or minors are not permitted at this time. Only intermediate 1 and 11 will be offered this academic year 2012-2013 and will be discontinued afterwards.

See the Web site address above for more information.

GLOBAL INTERDISCIPLINARY STUDIES

Director: Dr. Maghan Keita

Offices: 36 Garey Hall

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

MAJOR: The Institute for Global Interdisciplinary Studies provides a unique and dynamic course of study that consists of 12 courses comprising 36 credit hours for the completion of the major. The 12-course sequence has as its center a five-seminar core that consists of the Proseminar: Introduction to Global Interdisciplinary Studies, the Junior Research Seminar, and the Senior Capstone Colloquium. In addition, in the Senior year, Thesis I and II are required. These courses are mandatory.

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In addition to these, the student will choose two other seminars to complete the core. All seminars will be team-taught and capped at 17 students. Seminars are open to the University population at large; however, Global Studies majors will receive priority. The remaining element of the IGIS curriculum will be satisfied by the selection of five more courses, seminar, and/or lecture-discussion, in areas of the student's choosing, which correspond to the student's individually designed plan of study. Currently, there are approximately 200 courses from which a student might choose.

All students majoring in Global Interdisciplinary Studies must complete the College of Liberal Arts and Sciences language requirement of proficiency in the language of their choosing at the level designated by the College for the language of choice. Language choices for Global Interdisciplinary Studies majors will complement their selected areas of studies. The choice of language, along with the overall course of study, will be augmented by a mandatory semester abroad that will focus on language and cultural immersion.

Student initiative and responsibility are central to the design and the completion of a successful course of study as an Institute for Global Interdisciplinary Studies major. In conjunction with the Institute director and a faculty mentor of each student's choosing, the student will create her/his own major. The major will be tailored to the interests of the individual student. Students will be in ongoing consultation with the director and their mentor to refine the course of study.

MINOR: While the Institute offers no minor per se, minors are possible within the area of Critical Language and Cultural Studies for Arabic, Chinese, Japanese, and Russian. These can also be had in conjunction with the various Area Studies programs. Information concerning the requirements for these minors can be found on their respective pages. In addition, students interested in minoring in those areas should consult their Web sites. These can be accessed through the Institute for Global Interdisciplinary Studies Web site, as well.

See the Web site address above for more information.

HISTORY

Chair: Dr. Marc Gallicchio, Chairperson
Office: 403 St. Augustine Center for the Liberal Arts
Tel. (610) 519-4660
Web site: <http://www.villanova.edu/artsci/history/>

MAJOR: History majors must earn 27 credits in history beyond one of the specially designated core History courses in the new core curriculum. Effective Fall 2011, the ten courses required for the major now must include:

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- One of the specially designated core History courses
- 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.

MINOR: History minors are required to earn 18 credit hours in history. For students in the College of Liberal Arts and Sciences, the 18 credit hours must include one of the specially designated core History courses.

The following courses may also be taken for credit toward the History major or minor:

- AAH 1101 History of Art: Beginnings to Renaissance
- AAH 1102 History of Art: Renaissance to Contemporary World

See the Web site address above for more information.

HONORS PROGRAM

Director: Dr. Thomas W. Smith

Office: 106 Garey Hall

Tel. (610) 519-4650

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

Course descriptions:

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

The University Honors Program is a comprehensive four-year curriculum of small seminars designed to foster the free and open exchange of ideas among students and faculty. Honors courses emphasize extensive reading and writing, and attempt to develop the critical abilities of judgment and analysis. Innovative courses include team-taught seminars and seminars given by visiting professors. All Honors courses are enriched by a variety of lectures, cultural events, and social activities.

The Honors Program Degree, Thesis Track and Non-Thesis Track, is available to students of all colleges, as is the Honors Program Minor.

College of Liberal Arts and Sciences

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 QPA). Individual Honors courses are open to all Villanova students who have at least a 3.0 overall QPA or will bring a special expertise to the course, contingent upon class size limitations.

Honors Degree, Thesis Track: Ten Honors courses, including:

- The Humanities Seminar HON 2550, the Social Science Seminar HON 2560, or the Natural Science Seminar, HON 2570.
- A six-credit HON 6000 and HON 6002 senior thesis, and
- Three upper level courses, which may be used to fulfill core requirements.

Honors Degree, Non-Thesis Track: Ten Honors courses, including:

- An Oral Comprehensive Examination in their major field in the senior year,
- Three upper-level courses in a primary major or area of academic interest, which may be used to fulfill core requirements.

Honors Program Minor

- Five courses in Honors, at least two of which must be upper level.

All Honors Program certifications require a minimum overall QPA of 3.33. Honors classes may be used to fulfill Arts and Sciences requirements and electives for students in all of the undergraduate colleges. For first- and second-year students, the Program offers Honors seminars in place of the core curriculum introductory courses in the humanities and social sciences. Some students are invited to take multi-credit, team taught interdisciplinary seminars (HON 1000, 1050, 2000 series), which examine the major works of Western and World Civilization in place of regular core requirements. This Honors core for students pursuing the degree culminates with specially designed seminars on methodology, current issues, and ethical questions in the humanities (HON 2550), social sciences (HON 2560), or natural sciences (HON 2570).

On the advanced level, the Honors Program offers a variety of seminars that include traditional themes of enduring significance, timely issues of concern, and interdisciplinary studies not available elsewhere in the college. All have in common small student enrollment, active class participation, and intensive writing requirements. Specific offerings change from semester to semester to reflect the interests of faculty and students in the Program. All upper-level seminars also fulfill major, concentration, and minor requirements in specific academic disciplines.

See the Web site address above for more information.

HUMANITIES

Chair: Dr. Kevin Hughes

Office: 304 St. Augustine Center for the Liberal Arts

Tel. (610) 519-6165

Web site: www.humanities.villanova.edu

The Department of Humanities offers an integrated, interdisciplinary curriculum structured around fundamental human questions. This is available to Humanities majors as well as to students at Villanova University generally. In many cases, Humanities courses will fulfill certain requirements for the Core Curriculum of the College of Liberal Arts and Sciences.

MAJOR: The Humanities major requires the completion of 10 courses. Four Gateway Courses are required of all majors, which are: HUM 2001: God, HUM 2002: Human Person, HUM 2003: World, HUM 2004: Society. Students then take five free electives, three of which have to be taken within the Department of Humanities. Finally, in senior year, Humanities majors take HUM 6500: Senior Symposium.

MINOR: Students must take two of the four Gateway Courses: HUM 2001, HUM 2002, HUM 2003, HUM 2004 plus three electives two of which must be taken in the Humanities Department.

See the Web site address above for more information.

IRISH STUDIES CONCENTRATION

Director: Dr. Joseph Lennon

Office: 455 St. Augustine Center for the Liberal Arts

Tel. (610) 519-4647

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

Irish Studies explores the history and culture of the Irish people in Ireland and in the diaspora from different perspectives – literature, history, theatre, art, politics, film, language, and music. The program is open to students from all colleges. Interested students may also study in Ireland in a Semester Abroad program, with the Villanova in

Ireland Summer program at NUI Galway, or through the new Exchange Program with the Abbey Theatre. Details are available in the Irish Studies Office or on the website.

CONCENTRATION: Fifteen credits including two core courses – ENG 2500 and either HIS 3216 or HIS 2286 – and any three of the following: AAH 3007; ENG 2450, 2460, 2470, 2490, 3615, 3616; HIS 3200, 3214; IS 1111, 1112; and PSC 4950; and HON 3650, 5601.

See the Web site address above for more information.

ITALIAN

Chair: Dr. Mercedes Juliá

Program Coordinator: Dr. Gaetano Pastore

Office: 303 St. Augustine Center for the Liberal Arts

Tel. (610) 519-4696

Web site:

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

MAJORS: Majors Italian Studies are required to take ten courses above the intermediate level (1122). Once a student has completed the first course in a sequence of language courses (those numbered 1111 through 1132), s/he may not take a lower level course). This does not apply to upper level courses (above 1132). The following three courses are required for all majors in Italian Studies:

ITA 1138 or ITA 1140

ITA 2211 or ITA 2212

ITA 3970

MINORS: For a minor in Italian, four courses above the intermediate level in the language are required.

The Department of Romance Languages and Literatures may also offer literature courses in English translation. Such courses may be used to fulfill a Humanities elective; however, they may not be used toward credit requirements for a language major or minor.

Students may obtain up to six credits through the Villanova summer program abroad in Italy.

See the Web site address above for more information.

JAPANESE MINOR

Chair: Dr. Maghan Keita

Coordinator: Dr. Masako Hamada

Office: 34B Garey Hall

Web site:

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

Telephone : 610.519.4701

MINOR: The minor in Japanese Language and Cultural Studies requires four courses in Japanese language through the intermediate level (JPN 1111-Introduction to Japanese I/JPN 1112-Introduction to Japanese II, and JPN 1121-Intermediate Japanese I/JPN 1122-Intermediate Japanese II).

In addition, the minor requires two elective courses that can be selected from the following:

JPN 1131 Advance Japanese I

JPN 1132 Advance Japanese II

JPN 1133 Advanced Japanese III

JPN 1134 Advanced Japanese IV

JPN 2100 Japanese Literature in English Translation

JPN 2102 Japanese Film

JPN 2115 Women in Asia

JPN 2143 Japanese Animation: Art, Culture & Communication

JPN 2144 Japanese Culinary Culture

JPN 3412 Special Topics

See the Web site address above for more information.

LATIN AMERICAN STUDIES

Director: Dr. Satya Pattnayak

Office: 273 St. Augustine Center for the Liberal Arts

Tel. (610) 519-4773

Web site: www.villanova.edu/artsci/latinamerstudies/

Latin American Studies is an interdisciplinary program that provides two degrees: a Major and a Minor. It is open to all students in the University's four undergraduate colleges.

College of Liberal Arts and Sciences

MAJOR: Requirements for the New Latin American Studies Major (10 courses with a minimum of 30 credits)

1. Language Requirement (2 courses)

In addition to satisfying the College requirement of Intermediate Spanish or Intermediate Portuguese language, students will have to satisfy 2 courses of advanced Spanish or advanced Portuguese language or literature courses. Native speakers of Spanish and Portuguese may request a language waiver and, if granted, will have to take two electives instead.

2. One Capstone Seminar (LAS 3950 or LAS 6500)

3. Three Thematic courses

a. One in the Humanities (THL-5990, THL-3740, THL-4600, SPA-2143, SPA-2212, SPA-3412, PHI-2160, ENG-2041, SPA-2213, SPA 2214 or SPA-2215).

b. One course in the Social Sciences (ECO-4220, ECO-4200, PSC-4875, PSC-5800, SOC-3600, SOC-3750, or SOC-4000).

c. One course in Latin American History (HIS-4415, HIS-4420, HIS 4410, or HIS-4495).

4. One Research Methods (ECO-3132, SPA-3950, HIS-5501, COM-4001, COM-4002, PSC-1900, PSY-4050, SOC-5200, SOC-5300 or SOC-5400). This requirement satisfies the College's sophomore/junior research requirement.

5. Electives (3 courses) Students can take any 3 courses listed under "electives" on the program Web site or advertised in other printed material. Electives may include "Internship" (LAS-5000) and/or "Independent Study" (LAS-6000).

6. Study Abroad (one semester) Students are mandated to spend a semester abroad at a university in Latin America and can acquire linguistic skills, engage in cultural immersion, and complete course requirements. From a semester abroad, a maximum of 4 courses may be counted towards the major. Students are strongly encouraged to complete the semester abroad requirement during the sophomore or junior year.

MINOR: A total of 21 credits are needed for a Minor. Students must take two intermediate level courses in Spanish or Portuguese language, a required seminar (LAS 3950 or LAS 6500), and four other courses from the list displayed on the program Web site.

See the Web site address above for more information.

LIBERAL ARTS MAJOR

Contact: , Associate Dean for Interdisciplinary and Global Initiatives
Office: 105 St. Augustine Center for the Liberal Arts
610-519-4600

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 is granted by special permission from the Associate Dean for Interdisciplinary and Global Initiatives. Please visit the office for more details.

MATHEMATICS AND STATISTICS

Chair: Dr. Douglas Norton
Office: 305 St. Augustine Center for the Liberal Arts
Tel. (610) 519-4850
Web site: www.villanova.edu/artsci/mathematics/

FRESHMAN CALCULUS: Prospective first year Villanova students who have completed a year's study of calculus in high school should take the College Board Advanced Placement test for possible credit for the first course at Villanova.

MAJOR: MAT 1500, 1505, 2500, 2600, 2705, 3300, 3400, 3500, and 5900; an approved analysis elective course, e.g. MAT 3305, 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 3 credit plus an appropriate lab or 4 credit, such as CSC 1051 (all science courses must be at the science-major level).

MINOR: MAT 1500, 1505, 2500, 2600, plus four courses chosen from MAT 2705, and courses numbered 3000 or higher. Students may petition to substitute an approved upper division course (e.g., CSC 4170, ECE 3720, ECO 3138, PHY 4202, CEE 3704) in his/her major for **'one'** of these four courses. To graduate with a minor, students must have at least a 2.0 Q.P.A. in their Mathematics courses.

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 Jon Peterson, U.S. Army
Office: Military Science Program
Web site: www.armyrotc.villanova.edu
Course descriptions: 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 United States Army. Details are found in the Academic Programs Section of the Undergraduate Catalog.

COURSES OF STUDY:

MS 101 Leadership and Personal Development 1 credit
MS 102 Introduction to Tactical Leadership 1 credit
MS 201 Innovative Team Leadership 2 credits
MS 202 Foundations of Tactical Leadership 2 credits
MS 301 Adaptive Tactical Leadership 3 credits
MS 302 Leadership in Changing Environments 3 credits
MS 401 Developing Adaptive Leaders 3 credits
MS 402 Leadership in a Complex World 3 credits
MS 499 American Military History 3 credits

MINOR: Students who successfully complete all military science courses 101 through 402 (18 credit hours) 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. Stephen D. Marchioro, USMC
Office: 103 John Barry Hall
Tel. (610) 519-7380
Web site: www.nrotc.villanova.edu

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 are as follows:

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.

PEACE AND JUSTICE CONCENTRATION & MINOR

Director: Dr. Kathryn Getek Soltis

Office: 106 Corr Hall

Tel. (610) 519-6849

Web site: www.villanova.edu/arts/peaceandjustice/

CONCENTRATION: Twenty-four credit hours, including all requirements for the minor, plus two additional Peace and Justice courses, 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 concentration.*

MINOR: Eighteen credit hours, including one of the following foundational courses: PJ 2250 Violence and Justice in the World, PHI 2450 Catholic Social Teaching, 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.*

See the Web site above for more information.

PHILOSOPHY

Chair: Dr. John Carvalho

Office: 108 St. Augustine Center for the Liberal Arts

Tel. (610) 519-4690

Web site: www.philosophy.villanova.edu

MAJOR: In addition to fulfilling the College Core Requirement, PHI 1000: Knowledge, Reality, Self, students can complete the requirements for a Philosophy Major by taking 10 more Philosophy courses. These courses must include the following:

(1) Three courses in the History of Philosophy sequence:

- PHI 3020 History of Ancient Philosophy
- PHI 3030 History of Medieval Philosophy
- PHI 3040 History of Early Modern Philosophy

(With the approval of the Chair of the Department, upper-division electives in Ancient, Medieval, and Modern Philosophy, as well as Topics courses offered in Philosophy and Honors, may substitute for the courses in this sequence.)

(2) Five additional upper-division electives (course numbered 2010 or higher)

(3) Two capstone courses in one of the following combinations

(A) One course numbered PHI 5000: Advanced Seminar in Philosophy and One course numbered PHI 6000: Research Seminar

(B) Two courses numbered PHI 5000: Advanced Seminar in Philosophy

Students choosing to complete the capstone requirement with option (A) follow the Thesis Path to the major.

On this path, the five additional upper-division electives are all “free,” and the guide to the major is the Thesis submitted to fulfill the requirements for PHI 6000: Research Seminar. The topic for the Thesis is worked out by the student in consultation with a full-time member of the Philosophy Department faculty who serves as an advisor. Preparations for the thesis project should begin in the semester before its expected completion.

Students choosing to complete the capstone requirement with option (B) follow the Track Path to the major.

On this path, at least three of the five additional upper-division electives must come from courses assigned to one of seven Tracks: Cognitive Studies, Continental Philosophy, Cultural Studies, History of Philosophy, Philosophy and Religion, Pre-Law, Social & Political Philosophy and Ethics. The guide to the major on this path is the Track and the courses assigned to it. Any remaining electives are “free.”

MINOR: Students can minor in Philosophy by taking any five upper-division courses (numbered 2010 or higher) offered by the Philosophy Department including PHI 1000, required to complete the College Core Requirement, but including no more than two courses from the following list: PHI 1000, PHI 2010, PHI 2030, PHI 2115, PHI 2150.

DOUBLE MAJORS: Because of the interdisciplinary nature of Philosophy studies, the Department welcomes and encourages students who want to combine their philosophy major with a major in another discipline. In order to facilitate this goal, Philosophy double majors can count (with the permission of the Chair of the Philosophy Department) up to two cognate or related courses from the second major toward fulfilling the Philosophy Major requirements.

See the Web site address above for more information.

PHYSICS

Chair: Dr. Philip Maurone
Office: 347 Mendel Science Center
Tel. (610) 519-4860
Web site: www.villanova.edu/artsci/physics/

Physics: The Fundamentals of Matter, Energy, Space, Time, and Interactions
Physics is an experimental science in which its practitioners investigate nature at the most fundamental level on scales ranging from subatomic distances to the size of the universe. It is a quest to understand the origin and behavior of all forces: forces that account for the observed stability and in some cases instability of the atomic nucleus; forces that account for the stability of the atom; and forces that account for the stability of matter and the large scale structure of the universe.

In this sense, it is the most fundamental of the physical sciences, and the successful physics student will be adept at solving problems using techniques that probe the fundamental building blocks of nature. Being trained to analyze phenomena at the most fundamental level makes the physics major versatile.

Therefore, the student who successfully completes the degree in physics will not only be well prepared for graduate studies in physics, but also for employment in research oriented industries or study in professional fields.

Requirements

The B.S. in Physics

For the student who wants to be a professional physicist or go on to graduate school in physics. The minimum requirement is 136 credits. There is a senior research option.

The B.A. in Physics

For students who want to minor in another science or engineering or who are 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 candidate uses these slots for the minor in another area. The minimum requirement is 136 credits.

The Minor in Physics

The Physics Department offers a minor in physics to qualified students whose major area of study lies outside of physics. In general, a student in any area of study, other than physics, may obtain a minor in physics. Sixteen credits in the University Physics sequence, Physics 2410-2417, and 15 additional credits of upper-level physics electives

The Minor in Applied Physics for Math Majors

All the Math courses required for the Math degree, plus MAT 4310, PHY 2410/11 through PHY 2416/17, PHY 3310/3311, and PHY 4301/4303.

The details of all the above programs, including course descriptions, can be found at the Web site listed above.

POLITICAL SCIENCE

Chair: Dr. Matthew R. Kerbel

Office: 202 St. Augustine Center for the Liberal Arts

Tel. (610) 519-4710

Web site: www.villanova.edu/artsci/psc/

MAJOR: Thirty credit hours in political science courses are required for a major including American Government (PSC 1100), International Relations (PSC 1200), research seminar (PSC 1900), and a senior seminar (PSC 6900), restricted to Political Science senior majors.

Elective courses are divided into three areas:

- American Government and Public Law (2000 and 3000 level)
- Comparative Government and International Relations (4000 and 5000 level), and
- Political Theory and Behavior (6000-6875)

Villanova University

Political Science majors must take one course from each area in order to meet our 1-1-1 distribution requirement. With the exception of internships (up to 6 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. A Junior may apply for the five year BA / MA program.

CERTIFICATES and CONCENTRATIONS WITHIN THE MAJOR: A political science major may choose to earn one or more certificates or concentrations within political science in International Relations, Comparative Politics, Pre-Law, [American Politics](#), Public Administration, Political Theory, and National Security Studies. Students satisfying the requirements for these receive a document testifying to this with their diploma at graduation. The certificate or concentration does not appear on the student's transcript.

Please see <http://www.villanova.edu/artsci/psc/> for details about the five year BA / MA program, certificates, and other PSC programs.

MINOR: Fifteen credits consisting of American Government (PSC 1100), International Relations (PSC 1200), plus any three advanced PSC courses numbered 2000 and above will earn a student a minor in Political Sciences. With the exception of a 3 credit internship, 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.

PORTUGUESE

Chair: Dr. Mercedes Juliá

Program Coordinator: Celeste Mann

Office: 303 St. Augustine Center for the Liberal Arts

610-519-7478

Web site:

<http://www1.villanova.edu/villanova/artsci/romancelanglit/spanishandportuguesestudies/portuguesestudies.html>

The College will offer Introductory Portuguese I, and Intermediate Portuguese I during fall 2012 and Introductory Portuguese II and Intermediate Portuguese II in spring 2013. Four semesters of Portuguese (1111,1112, 1121 and 1122) will satisfy the College's requirement for foreign languages. The Portuguese requirements are just like that of Spanish.

College of Liberal Arts and Sciences

Latin American Studies is funding this initiative with close co-sponsorship from the Chair of the Department of Romance Languages and Literatures, Mercedes Juliá, Ph.D. For more information, please contact Dr. Satya Pattnayak at satya.pattnayak@villanova.edu, or the Department of Romance Languages website:

<http://www1.villanova.edu/villanova/artsci/romancelanglit/spanishandportuguesestudies/portuguesestudies.html>

See the Web site address above for more information.

PSYCHOLOGY

Chair: Dr. Thomas C. Toppino

Office: 334 Tolentine Hall

Tel. (610) 519-4722

Web site: www.villanova.edu/artsci/psychology/

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: To choose psychology as a major, a student must have completed General Psychology (PSY 1000 or HON 1811) or have AP credit for General Psychology. In addition, a student must have a grade of C+ or higher in General Psychology or have an overall QPA of 3.00 or higher. Because of course prerequisites, students should expect that completion of the major will require at least four semesters after their formal declaration of the major.

MAJOR: PSY 1000 General Psychology plus 28 additional credits including PSY 4000 Statistics, 4050 Research Methods, 4100 Foundations of Modern Psychology or 4125 Contemporary Issues in Psychology, 4150 Seminar in Professional Development, 4200 Physiological Psychology, 4500 Cognitive Psychology, and 12 elective credits (four electives), excluding courses taken on a satisfactory/unsatisfactory basis. PSY 4000 Statistics and 4050 Research Methods are prerequisites for many upper level Psychology courses (PSY 4100 and above). Students who contemplate majoring in psychology may begin the major early by taking PSY 1000 General Psychology, plus any elective courses for which PSY 1000 General Psychology is the only prerequisite.

MINOR: PSY 1000 General Psychology plus any combination of 12 undergraduate credits in psychology, excluding courses taken on a satisfactory/unsatisfactory basis.

General: PSY 1000 General Psychology is a prerequisite for all other courses in psychology.

See the Web site address above for more information.

ROMANCE LANGUAGES AND LITERATURES

Chair: Dr. Mercedes Juliá

Office: 303 St. Augustine Center for the Liberal Arts

Tel. (610) 519-4680

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

MAJORS: Majors in French and Francophone Studies, Italian, or Spanish are required to take ten courses above the intermediate level (1122). Once a student has completed the first course in a sequence of language courses (those numbered 1111 through 1132), s/he may not take a lower level course). This does not apply to upper level courses (above 1132).

The following three courses are required for all majors in French and Francophone, Italian and Spanish Studies:

1138 or 1140

2211 or 2212

3970

MINORS: For a minor in French, Italian or Spanish, four courses above the intermediate level in the language are required.

The Department of Romance Languages and Literatures may also offer literature courses in English translation. Such courses may be used to fulfill a Humanities elective; however, they may not be used toward credit requirements for a language major or minor.

Students may obtain up to six credits through the Villanova summer program abroad in Rennes, France, Urbino, Italy or Cádiz, Spain.

Students may obtain six credits through Villanova summer programs abroad in France, Germany, Italy, Chile, and Spain.

See the Web site address above for more information.

RUSSIAN AREA STUDIES CONCENTRATION

Director: Dr. Lynne Harnett
Office: 437 St. Augustine Center for the Liberal Arts
Tel. 610/519-7219
Web site: www.artsci.villanova.edu/russian/

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 exciting and complex country's language, culture, history, politics, religion and art.

CONCENTRATION: Two semesters of Russian at the intermediate level, or demonstrated proficiency at an equivalent level, plus fifteen credit hours selected from among the following: HIS 3240, HIS 3241, 3242, 4701; PSC 4401, 5351; RUS 1131, 1132, 3412, 4110, 4120, 4130, 4140, 4150, 5900; SAR 4007; THL 5510; and appropriate special topics courses in Economics as approved by the director. In addition, students are required to produce a senior research project. This research project offers an opportunity for students to synthesize knowledge obtained in the electives as they engage a topic of particular interest.

See the Web site address above for more information.

RUSSIAN MINOR

Director: Dr. Maghan Keita
Coordinator
of Russian Program: Dr. Boris Briker
Office: 37A St. Augustine Center for the Liberal Arts
Telephone: (610) 519-6952
Web site: <http://www.villanova.edu/artsci/global/criticallangs/russian.html>

MINOR: The minor in Russian Language and Cultural Studies requires four courses in Russian language through the intermediate level: RUS 1111-Introduction to Russian I, RUS 1112-Introduction to Russian II, RUS 1123- Intermediate Russian, RUS 1124- Intermediate Russian II. In addition, the minor requires two courses above the Intermediate level, such as: RUS 1131 Conversation & Composition, RUS 1132 Advanced Conversation & Composition, RUS 5900 Russian: Independent Study.

Courses taught in English do not satisfy the requirements for a Minor in Russian unless special permission is given by the Director of IGIS.

Courses taught in English include:

RUS 3412 Special Topics: Russian Film
RUS 3412 Special Topics: Russian Culture in Context (Study Abroad Course)
RUS 4120 The Russian Short Story
RUS 4130 The Russian Novel
RUS 4140 The Russian Novel II

See the Web site address above for more information.

SOCIOLOGY

Chair: Dr. Robert DeFina
Office: 204 St. Augustine Center for the Liberal Arts
Tel. (610) 519-4482
Web site: www.villanova.edu/artsci/sociology/

Acceptance: To select Sociology as a major a student must have earned a “C” or better in SOC 1000, Introduction to Sociology. Because of the major requirements, students must allow three full semesters after the declaration of the major to complete all requirements.

- **Required Courses:**

SOC 1000 Introduction to Sociology
SOC 6500 Senior Seminar

- **One of the following:**

SOC 5000 Nature and History of Sociological Theory
SOC 5050 Sociological Theory and Research
SOC 5100 Contemporary Theory and Research

- **One of the following:**

SOC 5300 Data Analysis for Social Scientists
SOC 5400 Applied Research Methods in Sociology
CRJ 5200 Criminal Justice Research and Statistics

- **Six Sociology or Criminal Justice electives** (not including CRJ 1000, CRJ 3300, CRJ 3350, or CRJ 5100.)

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MINOR: SOC 1000 and four other courses chosen from the offerings of the department. The student must inform the chair of his or her intention to minor and request certification of the minor when it has been completed.

A student may take an internship in a field setting in the second semester of the junior year or during the senior year. Students should consult with the Chair and Director of the Internship Program.

See the Web site address above for more information.

SPANISH

Chair: Dr. Mercedes Juliá

Program Coordinator: Dr. Salvatore Poeta

Office: 303 St. Augustine Center for the Liberal Arts

Tel. (610) 519-7831

Web site:

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

MAJOR: Majors in Spanish are required to take ten courses above the intermediate level (1122). Once a student has completed the first course in a sequence of language courses (those numbered 1111 through 1132), s/he may not take a lower level course). This does not apply to upper level courses (above 1132).

The following three courses are required for all majors in Spanish: SPA 1138 or SPA 1140; SPA 2211 or SPA 2212; and SPA 3970.

MINORS: For a minor in Spanish, four courses above the intermediate level in the language are required.

The Department of Romance Languages and Literatures may also offer literature courses in English translation. Such courses may be used to fulfill a Humanities elective; however, they may not be used toward credit requirements for a language major or minor.

Students may obtain up to six credits through the Villanova summer program abroad in Cádiz, Spain or Valparaíso, Chile.

See the Web site address above for more information.

TEACHER CERTIFICATION

Chair: Dr. Edward Garcia Fierros
Department of Education and Counseling
Office: 205 St. Augustine Center for the Liberal Arts
610-519-4620
Web site: <http://www.villanova.edu/artsci/education/teachercert/>

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 three, one-credit workshops in 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 Praxis 1 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. Upon successful completion of the major required certification courses, special education workshops, and the Praxis I, and II exams, the student will be eligible for certification.

See the Web site above for more information.

THEATRE MINOR

Chair: Rev. David Cregan, O.S.A.
Office: 205 St. Augustine Center for the Liberal Arts
Tel. (610) 519-4760
Web site: www.villanova.edu/artsci/sociology/

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MINOR: 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 St. Augustine Center for the Liberal Arts, Rm. 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: Dr. Peter Spitaler

Office: 203 St. Augustine Center for the Liberal Arts

Tel. 610/519-4730

Web site: www.villanova.edu/artsci/theology/

The major, minor and 5-year programs emphasize a broad understanding of Christian and non-Christian theological and religious traditions in the context of contemporary religious and cultural pluralism. Students embark on an academic journey that incorporates analyses of the central beliefs and practices of the Christian tradition with a particular emphasis on Roman Catholicism, an examination of the phenomenon of religion as it operates in human history and in contemporary culture, and an evaluation of the significance of theology and religion for personal and collective ecological, political, economic, social, and cultural life.

MAJOR: Thirty-three credit hours inclusive of the two foundational courses. Courses include five required courses, four elective courses, one research seminar and one advanced seminar.

The **Five Required Courses** include

- one course in Biblical Studies (THL 2000 to THL 2480).
- one course in Historical Studies (THL 2500 to THL 2900).
- one course in Theological Studies (THL 3100 to THL 3795).
- one course in Christian Ethics or Spirituality (THL 4100 to THL 4690).
- one course in Religion (THL 5100 to THL 5285).

Students choose the **Four Elective Courses** from all theology and religious studies course offerings. Students may select a minimum of three elective courses to develop a

concentration. The remaining fourth course is a free elective. Students may select one elective course from another department that complements their program.

One of the required courses is offered as a **Research Seminar** during the Junior or Sophomore year. The **Advanced Seminar** is offered during the Senior year.

Because studying theology and religion are interdisciplinary ventures the department encourages and welcomes **Double Majors**. To facilitate studies in diverse fields of inquiry, students may count up to two associated or related courses from the second Major toward fulfilling the theology and religious studies major requirements.

Students who enroll in the **5-Year BA/MA program** take up to four graduate courses in their Junior and Senior years. They replace four undergraduate elective courses and count toward both degrees.

MINOR: Eighteen credit hours inclusive of the two foundational courses. Students are encouraged to develop concentrations that complement their major or otherwise diversify their academic and professional portfolios (for example in theological ethics, Christian spirituality or ministry). The foundational courses are prerequisite for all other theology and religious studies courses.

See the Web site address above for more information.

WRITING AND RHETORIC CONCENTRATION

Director: Dr. Karyn Hollis

Office: 458 St. Augustine Center for the Liberal Arts

Tel. (610) 519-7872

Web site: www.villanova.edu/arts/writingrhetoric/

ACCEPTANCE: Students must have a 3.0 average or better to enroll in the concentration. An entrance essay must be submitted and will be scored in terms of purpose, content, style and organization. A base score must be attained.

The Concentration in Writing and Rhetoric provides students with a programmatic option for developing excellence in writing and speaking skills. The Concentration is open to students from all colleges in all majors.

CONCENTRATION: By the end of the first semester in the Concentration, students will have studied for and passed a self-administered WebCT exam covering principles of Standard Edited English, a style sheet, and other rules of grammar, punctuation and mechanics.

By the end of the student's senior year, a "capstone" portfolio will be submitted to the director representing the range and quality of the student's writing. This portfolio will

College of Liberal Arts and Sciences

be in the format of a “clip book” suitable for presentation to potential employers and will contain any published materials the student has written while in the Concentration. A similar E-Portfolio of student work displayed on the Internet is also required.

To successfully complete the Concentration, students must achieve a 3.0 average in their Concentration courses. Students must complete 24 credit hours. All courses are to be writing enriched or writing intensive, including: Three courses in Writing Practice at the intermediate or advanced level from the list of approved courses; two courses in theory of composition, history of language, rhetorical theory or history and critical theory; two writing enriched or writing intensive upper-level English courses; and one practicum course

MINOR: 18 credit hours in advanced courses, numbered 2000 or above. All courses are to be writing enriched or writing intensive, including: three courses in writing practice from the approved list; two courses in theory of composition, rhetorical theory or critical theory; and one writing enriched or writing intensive English literature course at the 2100 level or above.

See the Web site address above for more information.

VILLANOVA SCHOOL OF BUSINESS

Patrick G. Maggitti, Dean

Dennis R. Kuhn, Senior Associate Dean

Melinda B. German, Associate Dean, Undergraduate Business Programs

Madonna H. Sutter, Associate Dean, External Relations

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 Father Joseph C. Bartley. 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 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. In addition, an International Business co-major and a Real Estate co-major are also available and must be taken in conjunction with another business major. Graduate programs include the Executive MBA, MBA - Flex Track, MBA – Fast Track, Master of Taxation jointly with the Villanova Law School, Master of Accountancy, Master of Science in Finance, Master of Science in Church Management, and a JD/MBA program offered jointly with the Villanova School of Law.

The undergraduate and graduate business programs of VSB are fully accredited by AACSB International - the Association to Advance Collegiate Schools of Business. In addition, the accounting program is separately accredited by the AACSB and, as such, is among a select number of accounting programs so designated.

VSB faculty consists of 100 full-time professors, with about ninety percent holding the terminal degree in their area of expertise. Approximately 40 adjunct professors drawn from industry are also part of the faculty contingent. The faculty is widely recognized for its excellence in teaching, research, and professional service.

School of Business

The school is also home to prestigious business research centers including the Center for Business Analytics, Center for Global Leadership, Center for Innovation, Creativity, and Entrepreneurship (ICE Center), Center for Marketing and Public Policy Research, Center for the Study of Church Management, and the Daniel M. DiLella Center for Real Estate.

MISSION

The Villanova School of Business (VSB) seeks to be 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.

OBJECTIVES

We seek to develop students who are responsive to new and changing environments, effective in crafting creative solutions to complex problems; in essence, adaptive problem solvers. The four strategic pillars form the curriculum framework for the development of *The Learning Environment* within VSB.

- **Technological Competence**
- **Ethics and Social Responsibility**
- **Innovation**
- **Global Mindset**

THE CLAY CENTER AT VSB

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 undergraduate 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

Villanova University

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

During the summer, The Clay Center connects each incoming freshman with a VSB Peer Advisor and a Clay Center Advisor. Peer Advisors and Clay Center Advisors work together to provide guidance on the general adjustment from high school to college, course selection, registration, curricular planning, major selection, and study abroad opportunities. During the sophomore year, upon selection of their majors, students are assigned a VSB Faculty Advisor in their area of study as an additional source of help and information. VSB Faculty Advisors are available to provide guidance on defining and reaching educational goals in a given field of study as well as to answer questions pertaining to curricular planning and other academic options.

CAREER AND PROFESSIONAL DEVELOPMENT

The Clay Center at VSB 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. Examples of program offerings include Career Choices Week, Practice with the Pros, Fashion Marketing Day in NYC, Ad Agency Tour in NYC, Interviewing on Wall Street Panel Presentation, NY Finance TREK, and Careers in Corporate Finance and Corporate Accounting Panel Presentation, to name a few.

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 focusing on career exploration, job search skills and development of soft skills. In freshman year, Backpack-to-Briefcase is embedded in

School of Business

the freshman Business Dynamics course; during sophomore and junior year, students enroll in a one-credit course each year.

INTERNSHIP AND CoOp

Experiential education is an integral part of the VSB curriculum. VSB encourages every undergraduate student to participate and complete **at least one** business internship or CoOp experience as a means of gaining “real world” experience and applying knowledge gained in the classroom. Participation in a part-time or full-time internships and CoOp experience provides students with valuable opportunities to:

- Make the connection between business theory and practice;
- Gain insights into career interests and “test the waters” before committing to a specific career path or profession;
- Explore what it is really like to work in a particular industry or organization on a daily basis;
- Develop a competitive edge by having proven business experience to offer future full-time employers; and
- Earn a full-time job offer with an internship employer, as many organizations utilize their internship programs as a pipeline for entry-level hires.

The Clay Center at VSB provides assistance to students around a variety of experiential education opportunities. The **Rise to the Top: Internships & CoOps Educational Series** informs students of available opportunities, prepares them to actively participate in the internship search, and provides appropriate support along the way.

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, an International Business co-major and a Real Estate co-major are also available and must be taken in conjunction with another business major.

MINORS FOR BUSINESS MAJORS:

VSB students may pursue a minor in various business disciplines. See course requirements listed under *Academic Areas* for more detailed information.

NON BUSINESS MINOR 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.

BACCALAUREATE DEGREE REQUIREMENTS

The requirements for the Bachelor of Business Administration (BBA) 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 and 50% of major course 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.

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	Intro to Microeconomics * ¹	3
ECO 1002	Intro to Macroeconomics * ¹	3
ENG 1050	The Literary Experience * ²	3
MAT 1400	Business Calculus	4
MAT 1430	Business Statistics	4
PHI 1000	Knowledge, Reality, and Self	3
VSB 1000	Information Technology	1
VSB 1001	Business Dynamics I	3
VSB 1002	Business Dynamics II	3

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SOPHOMORE YEAR		Credits
Behavioral Science	* ³	3
ETH 2050	Ethical Traditions & Contemporary Life * ²	3
THL 1000	Christian Faith and Life	3
VSB 2000	Backpack-to-Briefcase: SO Seminar	1
VSB 2006	Strategic Information Technology	3
VSB 2007	Corporate Responsibility & Regulation	3
VSB 2008	Business Analytics	3
VSB 2010	Financial Management & Reporting	6
VSB 2020	Competitive Effectiveness	6

JUNIOR YEAR		Credits
Humanities	* ⁴	3
ECO 3108	Global Political Economy * ¹	3
HIS XXXX	History Elective	3
Major Electives	Three Major Courses	9
Natural Science	* ⁵	3
Social or Natural Science	* ⁶	3
VSB 3000	Backpack-to-Briefcase: JR Seminar	1
VSB 3006	Principles of Managerial Accounting	3
VSB 3008	Operations Management	3

SENIOR YEAR		Credits
Major Electives	Three Major Courses	9
THL XXXX	* ⁷	3
VSB 4002	Strategic Thinking & Implementation	3
Free Electives	Five Free Electives* ⁸	15

1. **ECO 1001, ECO 1002, and ECO 3108:** are not included in the technical GPA calculation.
2. **ENG 1050, ETH 2050,** and all **VSB** courses must be taken at Villanova.
3. **Behavioral Science:** choose from PSY 1000 or any SOC.
4. **Humanities:** choose from Art & Art History, Classical Study, English, Humanities, Languages*, Philosophy, Studio Art & Music, or Theater. *If a student completed 2 years of a language 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 or GEV 1051). A science lab is not required.
6. **Social Science** or **Natural Science:** choose from Criminal Justice, Geography and the Environment, History, Political Science, Psychology, Sociology, Social Science, or the Natural Sciences (as listed above).
7. **THL XXXX:** choose any Theology elective with a course number of 2000 or above.
8. **BL 2185** is recommended for ACC majors who want to sit for CPA certification.

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 (Villanova School of Business). 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; the first two must be contiguous (fall/spring).

Applications for the Academic Year Business Minor program are reviewed once per year after spring grades are posted. Acceptance is determined on a competitive basis. Students are required to attend an information session held by VSB before applying. Dates and times of information sessions are posted at the start of the fall and spring semesters.

Applications are available through The Clay Center at VSB (Bartley Hall 1054) and online at <http://www.villanova.edu/business/undergrad/forms.htm>. 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 businessminor@villanova.edu.

All Academic Year Business Minor courses must be taken at Villanova. Microeconomics, Macroeconomics, and the Statistics requirement may be taken elsewhere. Preapproval 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 (1 cr.)
VSB 1001	Business Dynamics I ¹
VSB 1002	Business Dynamics II ¹
VSB 2010	Financial Management & Reporting ² (6 cr.)
VSB 2020	Competitive Effectiveness ³ (6 cr.)
	Statistics Requirement⁴

1. **VSB 1000, VSB 1001, VSB 1002** must be taken in sequence and within the same academic year.
2. Prerequisites for **VSB 2010** are: VSB 1000, VSB 1001, VSB 1002, ECO 1001, and ECO 1002. Statistics is a pre or co-requisite for VSB 2010.

School of Business

3. Prerequisites for **VSF 2020** are: VSB 1000, VSB 1001, VSB 1002, ECO 1001, and ECO 1002.
4. The statistics requirements may be fulfilled by one of the following options:
MAT 1230 and MAT 1235 OR
BIO 3105 and any calculus course OR
MAT 1430 and any calculus course OR
MAT 4310 (MAT1505 is a pre-req)
*** The statistics requirement is waived for Engineering 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, Economics, Entrepreneurship, Finance, International Business, Management Information Systems, Marketing, or Real Estate. **Additional coursework may be required prior to enrolling in any upper-level coursework.** See course requirements listed under *Academic Areas* 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 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 business law. 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 1000 Professional Success (1 credit)
- SBI 1001 Business Fundamentals (1 credit)
- SBI 2005 Applied Economics (3 credits)
- 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 January 15, so early submission of applications is encouraged. Complete information can be found online at <http://www.villanova.edu/business/sbi/>. Questions should be directed to The Clay Center at (610) 519-5951 or via email sbi@villanova.edu.

Villanova University

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, Economics, Entrepreneurship, Finance, International Business, Management Information Systems, Marketing, or Real Estate. **Additional coursework may be required prior to enrolling in any upper-level coursework.** See course requirements listed under *Academic Areas* for more detailed information.

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 International Studies Office (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 by The Clay Center at VSB.

ORGANIZATIONS

The objectives of collegiate education include proper social development and social leadership. Accordingly, Villanova University offers to the students a variety of extracurricular and co-curricular activities - religious, athletic, social, and cultural. Student activities are under the jurisdiction of the Dean of Students, the Dean's staff, and the Faculty Moderator of the individual organization. VSB sponsors the following organizations: Accounting Society, Beta Gamma Sigma Honor Society, Business in Entertainment Society, Beta Alpha PSI Honor Society, Business and Leadership Society, Business Without Borders, Economics Society, Equity Society, Financial Management Association, Fixed Income Society, Gamma Phi Honor Society, International Business

Society, Management Society, Management Information Systems Society, Marketing Society, Mergers & Acquisitions Society, Multicultural Business Association, Omicron Delta Epsilon International Economics Honor Society, Real Estate Society, Villanova Entrepreneurship Society, Villanova Technical Analysis Group, and Villanova Women in Business 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 AREAS

ACCOUNTANCY & INFORMATION SYSTEMS

Chair:	Dr. Michael Peters
Office:	3019 Bartley Hall, tel. 610-519-4340
Website:	www.villanova.edu/business/facultyareas/accounting

ACCOUNTANCY

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

Plus two (2) **Accounting** elective courses from the following:

ACC 2320 Intermediate Accounting II

ACC 2340 Accounting Information Systems

ACC 2360 Federal Income Tax

ACC 2410 Accounting for Real Estate

ACC 2420 International Accounting

ACC 2430 Auditing

ACC 2450 Advanced Accounting

ACC 2470 Cost Accounting, Analysis and Control

ACC 2480 Advanced Taxes

MANAGEMENT INFORMATION SYSTEMS

COURSE REQUIREMENTS FOR MANAGEMENT INFORMATION SYSTEMS MAJOR:

MIS 2020 Programming for Adaptive Problem Solving

MIS 2030 Database Management

MIS 2040 Systems Analysis and Design

Plus any three (3) **MIS** elective courses 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 3090 Special Topics in MIS

COURSE REQUIREMENTS FOR MANAGEMENT INFORMATION SYSTEMS MINOR:

MIS 2020 Programming for Adaptive Problem Solving

MIS 2030 Database Management

MIS 2040 Systems Analysis and Design

ECONOMICS

Chair: Dr. Wen Mao
Office: 2015 Bartley Hall, tel. 610-519-4370
Website: www.villanova.edu/business/facultyareas/economics

COURSE REQUIREMENTS FOR ECONOMICS (ECC) MAJOR:

ECO 2101 Macro-Economic Theory

ECO 2102 Micro-Economic Theory

Plus one of the following options:

Option #1: ECO 3132 Research Methods
ECO 4132 Senior Seminar
and two (2) **Economics** elective courses with course number of 3000 or above (except ECO 3108)

Option #2 ECO 3137 Intro to Econometrics
and 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 (or VSB 2005), ECO 3132, ECO 4132, and 12 elective Economics credits numbered above 3000. Students may receive a Specialization certificate by choosing to specialize in one of the following areas – (Business Economics, Global Economics, Human Resources, or Pre-Law) by taking, as part of their 12 Economic credits, three courses within their specialty and focusing their seminar paper (ECO 4132) on that specialty area.

COURSE REQUIREMENTS FOR ECONOMICS MINOR:

MAT 1310, 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 **Economics** elective course above 3000 (except ECO 3108) for VSB students **OR** two (2) **Economics** elective courses above ECO 3000 for non-VSB students.

FINANCE

Chair: Dr. David Shaffer
Office: 2019 Bartley Hall, tel. 610-519-7395
Website: www.villanova.edu/business/facultyareas/finance

FINANCE

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 **OR** two (2) **Finance** elective courses *plus* one of the following:
ACC 2310 Intermediate Accounting I
ECO 2101 Macro-Economic Theory
ECO 2102 Micro-Economic Theory
ECO 3137 Intro to Econometrics

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

REAL ESTATE

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

COURSE REQUIREMENTS FOR REAL ESTATE CO-MAJOR:

BL 2150 Real Estate Principles and Practices
RES 3150 Real Estate Investments

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RES 3250 Advanced Real Estate Modeling

RES 4150 Real Estate Development

Plus one of the following:

ACC 2410 Accounting for Real Estate

ECO 3140 Urban Economics

FIN 2350 Real Estate Capital Markets

COURSE REQUIREMENTS FOR REAL ESTATE MINOR:

BL 2150 Real Estate Principles and Practices

RES 3150 Real Estate Investments

Plus one of the following:

ACC 2410 Accounting for Real Estate

ECO 3140 Urban Economics

FIN 2350 Real Estate Capital Markets

MANAGEMENT & OPERATIONS

Chair:

Dr. Daniel Wright

Office:

2083 Bartley Hall, tel. 610-519-6924

Website:

www.villanova.edu/business/facultyareas/management

MANAGEMENT

COURSE REQUIREMENTS FOR MANAGEMENT MAJOR:

MGT 2155 Organizational Behavior

MGT 2350 Global Business Management

MGT 3160 Business Decision Making

Plus three (3) **Management** elective courses (ENT 2020, Entrepreneurial Management, also fulfills a **Management** elective course.)

INTERNATIONAL BUSINESS

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

COURSE REQUIREMENTS FOR INTERNATIONAL BUSINESS CO-MAJOR:

MGT 2350 Global Business Management

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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 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	International Marketing and Trade

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.

One (1) international-related History or international-related Social Science selected from Geography and the Environment, History, Psychology, Political Science, or Sociology.

Language Requirement:

- Successful completion of placement beyond the intermediate levels on language placement exam administered by Villanova University, **OR**
- Two semesters of a foreign language (minimum 6 credits) at or above intermediate level if French, German, Greek, Italian, Latin, Portuguese, or Spanish is chosen, **OR**
- Two semesters at the introduction level if Arabic, Chinese, Hebrew, Hindustani, Japanese, or Russian is chosen. If a student took two years or more of Arabic, Chinese, Hebrew, Hindustani, Japanese, or Russian in high school, then the student must complete the intermediate II of the language to satisfy the language requirement for IB co-major.

Villanova pre-approved international experience (minimum of 6 weeks).

COURSE REQUIREMENTS FOR INTERNATIONAL BUSINESS MINOR:

MGT 2350 Global Business Management

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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 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	International Marketing and Trade
	Or other Approved IB Electives

Please note: IB minors **are required** to take an international course in their major discipline if such course is offered. An international course in each major is required if a student has more than one major. This course will also satisfy a major elective requirement. Also, ECO 3108 (Global Political Economy) is a core requirement and does not fulfill an IB minor requirement.

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**

BUSINESS ANALYTICS

COURSE REQUIREMENTS FOR BUSINESS ANALYTICS MINOR:

MGT 3170 Data Mining
MIS 3060 Business Intelligence and Performance Measurement

Plus one of the following:

ECO 3137 Intro to Econometrics
MIS 3020 Enterprise Systems and Applications
MIS 3050 CRM & Data Analytics
MKT 2349 Contemporary Topics in Marketing: Database Marketing

ENTREPRENEURSHIP

COURSE REQUIREMENTS FOR ENTREPRENEURSHIP MINOR:

- ENT 2020 Entrepreneurial Management *
- ENT 2021 Entrepreneurial Marketing **
- ENT 2022 Entrepreneurial Finance ***
- ENT 2023 Entrepreneurial Practicum ***

Note: * *may fulfill MGT elective or a free elective*

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

*** *fulfills a free elective*

MARKETING & BUSINESS LAW

Chair:	Dr. P. Greg Bonner
Office:	3015 Bartley Hall, tel. 610-519-4350
Website:	www.villanova.edu/business/facultyareas/marketing

MARKETING

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 Advertising Management
- MKT 2224 Professional Selling
- MKT 2225 Sales Management
- MKT 2230 Marketing of Services
- MKT 2235 Sports Marketing
- MKT 2280 International Marketing
- MKT 2290 Interactive Marketing
- MKT 2349 Contemporary Topics in Marketing
- MKT 4132 Integrated Marketing Campaigns

In addition, **one** of the following will also fulfill a marketing major course:

- CHE 2900 Global Pharmaceutical Industry
- ENT 2021 Entrepreneurial Marketing
- MGT 3170 Data Mining
- MIS 3050 CRM & Data Analytics

COURSE REQUIREMENTS FOR MARKETING MINOR:

Three **Marketing** elective courses, one must be:

MKT 2120 Buyer Behavior **OR** MKT 2197 Marketing Research

In addition, **one** of the following will also fulfill a marketing minor course:

CHE 2900 Global Pharmaceutical Industry

ENT 2021 Entrepreneurial Marketing

MGT 3170 Data Mining

MIS 3050 CRM & Data Analytics

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

MKT 3450 Marketing Internship

MKT 3470 Marketing CoOp

BUSINESS LAW & CORPORATE GOVERNANCE

COURSE REQUIREMENTS FOR BUSINESS LAW & CORPORATE GOVERNANCE MINOR:

BL 2185 The Law of Contracts and Commercial Transactions

BL 2135 The Business Entity: Law, Governance, & Ethics

Plus one of the following courses:

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):

VSB 2007 Corporate Responsibility and Regulation

ETH 2050 Ethical Traditions & Contemporary Life

COLLEGE OF ENGINEERING

Gary A. Gabriele, Ph.D., Dean

Gerard F. "Jerry" Jones, Ph.D., Associate Dean, Academic Affairs

Stephen Jones, Ph.D., Associate Dean, Student and Strategic Programs

TBD, Associate Dean, Graduate Studies and Research

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 (after The Catholic University of America, 1896, Manhattan College, 1896, and the University of Notre Dame, 1897). 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. The undergraduate programs of Chemical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, and Mechanical Engineering (all of the undergraduate engineering programs at Villanova) are accredited by the Accreditation Commission (EAC) of ABET (Accreditation Board for Engineering and Technology), 111 Market Place, Suite 1050, Baltimore, MD 21202-4012 – telephone (410) 347-7700. The College of Engineering is dedicated to supporting the research activities of its faculty and students. This research is conducted through cooperation with government and industry. The college has three research centers: Center for Advanced Communications (CAC), Center for Nonlinear Dynamics and Control (CENDAC), Villanova Center for the Advancement of Sustainability in Engineering (VCASE), and an NSF I/UCRC on Energy Efficient Electronic Systems. The college also has extensive research programs in the thermal and fluid sciences, structural engineering, nanotechnology, bioengineering, sustainable energy systems, and storm water management.

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 stressing:

- ❑ Excellence in teaching
- ❑ Faculty development through research and professional activities
- ❑ Emphasis on 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 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
 - Development of high professional and ethical standards
 - Motivation and capability to acquire, evaluate, and assimilate knowledge and continue the learning experience
 - Access to service-learning and service-learning travel to the U.S. and many parts of the world.

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 of Chemical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, and Mechanical Engineering (all of the undergraduate engineering programs at Villanova) are accredited by the Accreditation Commission (EAC) of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012 – telephone (410) 347-7700.

DEGREE REQUIREMENTS

The undergraduate engineering curriculum provides the foundation for careers in engineering as well as the basis for further study in engineering and other professions such as law, medicine, business and management. Courses of study concentrate on mathematics, physics, chemistry, engineering science, and engineering analysis and design within a particular engineering discipline.

The curriculum places special emphasis upon developing oral and written communication skills, and it offers opportunities to develop an appreciation of the social sciences and humanities, and the flexibility to pursue minors. Courses in the humanities are included in each curriculum to make the student engineer more fully aware of social responsibilities and better able to consider non-technical factors in the engineering decision making process. Extensive hands-on laboratory experience leads to required projects for all seniors to ensure professional preparation in the fundamentals of the design process within the real constraints of problem solving. In order 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. In order 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 2011 OR LATER

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
EGR 1200	Interdisciplinary Projects I	3		MAT 1505	Calculus II	4
MAT 1500	Calculus I	4		PHY 2400	Physics I, Mechanics	3
THL 1000	Christian Faith and Life	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 ELECTIVE REQUIREMENTS IN HUMANITIES AND SOCIAL SCIENCE

In addition to required Freshman Year courses and specified courses for each degree program, candidates for degrees in engineering must successfully complete 12 credits from the following:

- THL 1000 Christian Faith and Life, normally taken in Freshman Year as part of the Core Curriculum.
- One 3-credit Theology course at the 2000 level or above.
- Two additional 3-credit courses chosen from among the following:
 - o Theology (THL) courses at the 2000 level or above
 - o Any Philosophy (PHI) course
 - o Any Peace and Justice (PJ) course
 - o ETH 2050 Ethical Traditions and Contemporary Life
 - o EGR 2001 Engineering: The Humanistic Context

Note: one of these two 3 credit courses must be fulfilled by an Ethics course. Refer to departments' specific lists of Ethics courses for options.

ELECTIVES

All students select their remaining humanities and social science electives from among the courses listed in the University catalog and offered by the following departments.

Humanities	Social Sciences
Arab & Islamic Studies Art History (except skills courses) Classical Studies Communication (except skills courses) English (Literature) History Honors Program: eligible Students only Humanities Modern Languages (except speaking courses in native language) Philosophy Theatre (except skills courses) Theology (2000 and above)	Economics Geography and the Environment * Humanities: HUM designated PSC Peace and Justice Political Science Psychology Sociology Gender and Women's Studies * * Selected courses

Courses primarily emphasizing skills (such as acting, painting, sculpting, public speaking, etc.) are not acceptable. Students should consult their Department Chair.

DECLARATION OF MAJOR

All engineering students are enrolled in a common freshman year curriculum with the exception of a second semester science requirement which is program dependent. By the end of February of freshman year, all freshman engineering students are required to declare their major field of study, i.e., Chemical, Civil, Computer, Electrical, or Mechanical Engineering.

Engineering students who wish to change their major within the College of Engineering must contact the chairperson of the department in which they are interested. The Chair will arrange for the review of the student's academic record and notify the student of the decision. The department will then notify the College of the change for its records. Students who are unsure of which major they would like to enroll in should arrange to meet with their academic adviser to discuss their options.

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.

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 where 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.

Program Educational Objectives - Consistent with the University's Augustinian Mission that values broadly-educated, and well-rounded individuals, the Program Educational Objectives of the Chemical Engineering Department are to produce Chemical Engineering graduates who:

- ❑ Apply the scientific principles underlying technology and possess the technical skills needed to contribute to the chemical engineering profession immediately at an entry level.
- ❑ Enter related professions, should they choose to do so, including professions that require further education.
- ❑ Display personal and interpersonal skills, such as effective communication and multidisciplinary team interactions, that facilitate the effective practice of their profession.
- ❑ Recognize the importance of, and have the ability to, engage in lifelong learning.
- ❑ Continue to learn and grow professionally, and who take advantage of professional opportunities as they arise to enhance their career.

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 skill in chemical engineering design - the solving of non-routine, open-ended problems requiring the exercise of judgment, and constrained by economic, 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 www.engineering.villanova.edu/che/.

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: Our mission is to provide our students with a high quality, contemporary, broad-based civil engineering education within a Judaeo-Christian, humanistic context preparing our students for professional practice, graduate study, and life-long learning.

Program Educational Objectives - Upon graduation from the Civil Engineering program at Villanova University, graduates are prepared to:

- Use their broad-based civil engineering backgrounds to perform as entry-level engineers in general civil engineering or in environmental, geotechnical, structural, transportation, or water resources engineering.
- Enter graduate school in the disciplines listed above or closely related disciplines, as well as other fields such as business and law.
- Continue the process of life-long learning as required for long-term personal and professional growth.
- Recognize their professional and ethical responsibilities to society as members of the engineering professional community.
- Use communication, computer, and teamwork skills to help themselves and their employers succeed.
- Relate their personal and professional lives to the Judaeo-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 www.villanova.edu/engineering/departments/civil/.

BACHELOR OF SCIENCE IN COMPUTER ENGINEERING

The Program Educational Objectives of the Computer Engineering program are to produce graduates who:

- can use their knowledge, analytical, and design skills to generate and validate appropriate solutions to practical real world problems.

College of Engineering

- ❑ can communicate and work effectively with others having different roles or responsibilities.
- ❑ continue to develop their professional knowledge and skills throughout their career.
- ❑ have successful careers, and practice their chosen discipline with professionalism, care, and integrity.

The curriculum is structured to provide a thorough foundation in the fundamentals of computer engineering. Design and analysis are emphasized throughout the curriculum, using a project-based structure to teach students how to learn on their own and in teams, and synthesize new engineering solutions by using their knowledge and analytical skills. Great importance is placed on developing oral and written communications skills. The curriculum also provides opportunities for an increased awareness of the broader implications of technology and of the social responsibilities of the profession. These Program Educational Objectives are met by satisfying the following outcomes:

- A. An ability to apply knowledge of mathematics, science, and engineering
- B. An ability to design and conduct experiments, as well as to analyze and interpret data
- C. An ability to design a system, component, or process to meet desired needs
- D. An ability to function on multi-disciplinary teams
- E. An ability to identify, formulate, and solve engineering problems
- F. An understanding of professional and ethical responsibility
- G. An ability communicate effectively
- H. The broad education necessary to understand the impact of engineering solutions in a global and societal context
- I. A recognition of the need for, and an ability to engage in life-long learning
- J. A knowledge of contemporary issues
- K. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Further details of these educational objectives and the program outcomes are available at the website of the Electrical and Computer Engineering Department.

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: www.engineering.villanova.edu/ec/

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

The Program Educational Objectives of the Electrical Engineering program are to produce graduates who:

- can use their knowledge, analytical, and design skills to generate and validate appropriate solutions to practical real world problems.
- can communicate and work effectively with others having different roles or responsibilities.
- continue to develop their professional knowledge and skills throughout their career.
- have successful careers, and practice their chosen discipline with professionalism, care, and integrity.

The curriculum is structured to provide a thorough foundation in the fundamentals of computer engineering. Design and analysis are emphasized throughout the curriculum, using a project-based structure to teach students how to learn on their own and in teams, and synthesize new engineering solutions by using their knowledge and analytical skills. Great importance is placed on developing oral and written communications skills. The curriculum also provides opportunities for an increased awareness of the broader implications of technology and of the social responsibilities of the profession. These Program Educational Objectives are met by satisfying the following outcomes:

College of Engineering

- A. An ability to apply knowledge of mathematics, science, and engineering
- B. An ability to design and conduct experiments, as well as to analyze and interpret data
- C. An ability to design a system, component, or process to meet desired needs
- D. An ability to function on multi-disciplinary teams
- E. E. An ability to identify, formulate, and solve engineering problems
- F. F. An understanding of professional and ethical responsibility
- G. G. An ability communicate effectively
- H. The broad education necessary to understand the impact of engineering solutions in a global and societal context
- I. A recognition of the need for, and an ability to engage in life-long learning
- J. A knowledge of contemporary issues
- K. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Further details of these educational objectives and the program outcomes are available at the website of the Electrical and Computer Engineering Department.

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: www.engineering.villanova.edu/ec/

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

Mechanical Engineers are concerned with applying the principles of solid mechanics, fluid mechanics, thermodynamics, heat transfer, material science, dynamics and control to the analysis and design of machines and systems of all types. In applying this technical knowledge, 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 The department is committed to provide a strong educational experience in the discipline of mechanical engineering, which at the same time, is sufficiently broad to prepare the students adequately for the societal and professional aspects of their careers. Students will be educated to be professionally competent and socially responsible.

Program Educational Objective

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;
- apply their knowledge and skills to successfully practice professions other than mechanical engineering if they desire;
- advance in their chosen career paths by utilizing their technical, communication, interpersonal, and leadership skills;
- demonstrate the desire for enhancing their personal and professional growth by making progress toward, or successfully completing an advanced degree, and/or 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 two years of the mechanical engineering program are devoted to laying a foundation of mathematics, physical science, and the general engineering sciences. The junior and senior years are devoted primarily to mechanical engineering topics. The required courses span the field of mechanical engineering, and career/ME electives provide the opportunity to pursue specific areas of the discipline in greater depth. The student chooses three courses (9 credit hours) of technical electives plus an additional three credits of a career/free elective. The 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.

All mechanical engineering students are required to take at least two of the elective courses offered by the department, designated as the ME elective in the program of studies. Ordinarily students will take three or more such courses, designated career/ME electives and one other course, designated the career/free elective, which can be any three credit course. However, the career/ME and the career/free elective slots may be applied

to a minor or concentration in Liberal Arts & Sciences or to a minor in Business. The specific courses must be selected in conjunction with the appropriate departmental office and the student's academic adviser. Requirements for a minor are set by the appropriate department. Any course which meets a mechanical engineering curriculum requirement and also a requirement for a concentration or minor may be counted for both.

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 career 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: www.engineering.villanova.edu/me/

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 www.villanova.edu/engineering/resources/policies/

- Academic Standing
- Advanced Placement, Pre-Matriculated and International Baccalaureate Credit
- CAPP – Degree Evaluation
- Course Overload
- Course Elsewhere
- Course Withdrawal
- Change of Major
- Dean's List
- Declaration of Major
- Dual Majors
- Graduate Courses/Programs
- Graduation
- International Studies
- Leave of Absence

- Minors
- Registration
- Repeat Freshman Year
- Resolution of Academic Problems
- Satisfactory/Unsatisfactory Grades
- Undergraduate Students Taking a Graduate Course

ADVISING

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 chosen major. If the student continues with the major s/he chose 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 should 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 a 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 order to make a more-informed choice of a major field of study. Given the common freshman year in the College of Engineering, students select their majors just before pre-registration in the Spring semester. 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 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.

College of Engineering

Dean's Award for Academic Achievement: This award was established to recognize the outstanding academic performance of undergraduate engineering students. To be eligible an undergraduate student must be a senior, majoring in engineering, with a cumulative grade point average of at least 3.50 at the end of the Fall term, who will graduate within the current academic year.

Dean's Award for Meritorious Service: This award was established to recognize exceptional service to the College of Engineering by undergraduate engineering students. To be eligible nominees must be senior engineering students who are 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: In order 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 has computer labs reserved for use exclusively by engineering students. Access to the workstations in these labs is provided 24 hours a day, 7 days a week, with proper authorization of the student's Wildcard. The College also provides Terminal Services which allows students to run Engineering software remotely. Students are issued wireless laptop computers as part of their curricula. New computers are issued every two years. Support of the program 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 installed on each of the student's laptop computers for his/her use throughout their programs. In addition to this, each department has its 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 these computers throughout the College. For example, the Chemical Engineering Department uses ASPEN-PLUS for simulation of its process systems. 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 maintains modern laboratory facilities to support the Bachelor of Science in Chemical Engineering curriculum. Experiments in the two Chemical Engineering Laboratory courses range from the demonstration of fundamental principles in bench-scale or pilot plant equipment, to hands-on experience with fully integrated, industrial scale process equipment. In addition, the department maintains extensive general-purpose laboratory capabilities for those students who carry out an experimental investigation as part of their Senior Research project.

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 materials (soils, concrete, and steel), the environment, geology, structures, fluid mechanics and hydraulics. The department’s newest facility, the Structural Engineering Teaching and Research Lab, opened in May 2005. The building provides 5,000 sq ft of useable floor space to test full-scale structural members up to 90 feet in length. The building includes two smaller laboratories for testing construction materials under various environmental conditions. The facility supports undergraduate instruction as well as both undergraduate and graduate research.

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

In order 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.

College of Engineering

More information on the many student organizations can be found at: <http://www1.villanova.edu/villanova/engineering/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. Randy Weinstein
Office: 217 White Hall, tel. 610-519-4950
Website: www.villanova.edu/engineering/departments/chemical/
Courses: www.villanova.edu/engineering/departments/chemical/undergrad/catalog.htm

CIVIL AND ENVIRONMENTAL ENGINEERING

Chair: Dr. Ronald A. Chadderton
Office: 139 Tolentine Hall, tel. 610-519-4960
Website: www.villanova.edu/engineering/departments/civil/
Courses: www.villanova.edu/engineering/departments/civil/undergrad/catalog.htm

ELECTRICAL AND COMPUTER ENGINEERING

Chair: Dr. Pritpal Singh
Office: 411 Tolentine Hall, tel. 610-519-4970
Website: www.villanova.edu/engineering/departments/electrical/
Courses: www.villanova.edu/engineering/departments/electrical/undergrad/catalog.htm

MECHANICAL ENGINEERING

Chair: Dr. C. Nataraj
Office: 131 Tolentine Hall, tel. 610-519-4980
Website: www.villanova.edu/engineering/departments/mechanical/
Courses: www.villanova.edu/engineering/departments/mechanical/undergrad/catalog.htm

COLLEGE OF NURSING

M. Louise Fitzpatrick, Ed.D. RN, Dean

Lesley Perry, Ph.D. RN, Associate Dean

Rose M. O'Driscoll, M.S.N. RN, Assistant Dean for Administration

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 program is accredited by the Council on Accreditation of Nurse Anesthesia Educational Programs. The Continuing Education Program is accredited as a provider of Continuing

Villanova University

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
One Dupont Circle, NW, Suite 530
Washington, DC 20036
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.

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

College of Nursing

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 administrators of nursing and health services, 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 administrators of nursing and health services, 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 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>c redits</i>	<i>Spring Semester</i>	<i>c redits</i>
CHM 1131	3	CHM 1134	3
CHM 1103	1	CHM 1108	1
ACS 1000	3	ACS 1001	3
NUR 1101	2	NUR 1103	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	NTR 2120	3
NUR 2104	2	NUR 2106	2
NUR 2105	1	NUR 2107	2
PSY 2200	3	MAT 1250	3
Elective	3	Soc. Studies Elective*	3
*Must be selected from the areas of History, Political Science, or Economics in consultation with the student's major adviser.			
JUNIOR			
NUR 3112	6	NUR 3116	6
NUR 3113	6	NUR 3117	6
NUR 3108	3	NUR 3110	3
NUR 3030	3	PHI 2115	3
SENIOR			
NUR 4101	6	NUR 4102	6
NUR 4103	6	NUR 4107	6
NUR 4130	2	NUR 4110	5
THL Elective**	3		

**2000 level or above is recommended

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 2107. 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.

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

College of Nursing

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 2104, NUR 2106, NUR 3112, NUR 3116, NUR 4101, NUR 4102, and NUR 4110.

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.

BSN*Express* 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 must successfully complete, in sequence, courses in the nursing major as indicated in the curriculum plan.

Students who are not successful in the first clinical rotation in NUR 3117, NUR 4103 and NUR 4107 may not progress to the second clinical rotation. This will necessitate repeating the course.

The College of Nursing reserves the right to place on probation or withdraw any student whose performance is deemed unsatisfactory.

Students for whom English is not the primary language or not the language spoken in the home will be encouraged to bring translation dictionaries to their examinations and be given extended time on tests. 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 the NCLEX-RN examination.

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.

In the event that, due to poor high school preparation, additional time is necessary for the student to complete the requirements towards graduation, the student will be viewed as being in a five-year program. Satisfactory progress will be viewed accordingly.

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 a series of nursing examinations and clinical validation, 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

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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 or Assistant Dean for Administration 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.

INTERNATIONAL STUDIES

The College of Nursing, in conjunction with the Office of International Studies, is pleased to offer a variety of opportunities for a Nursing major to study in an overseas university during her/his course of studies.

The College of Nursing has established a year-long study abroad program with the University of Manchester, Manchester, England. Students in this program spend their entire sophomore year in England. The courses transfer to Villanova as the sophomore year of the nursing curriculum and students graduate on time with their classmates.

The program requires some changes in the freshman course of study; any freshman who is interested should contact the 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 International Studies. 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 International Studies, 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

Registered nurse students achieve advanced standing in the undergraduate program through transfer of applicable college credits and through successful completion of required validation exams in nursing* and optional challenge exams in selected liberal education courses. Each of these mechanisms is described below.

REQUIREMENTS

An entrance criminal background check that includes urine drug test, 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 and Laboratory Studies
2. Current CPR Certification including resuscitation and choking measures for baby, child and adult with one man and two-man team rescue procedures.
3. Current Pennsylvania R.N. License.
4. Current Malpractice Insurance Certificate.

TRANSFER OF LIBERAL EDUCATION COURSE CREDIT

Up to 61 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.

CREDIT BY EXAMINATION (LIBERAL EDUCATION COURSES)

Selected liberal education courses may be challenged through the University's Credit by Examination Program. RN students may challenge up to 12 credits in liberal education in accord with the policies and procedures of that program. Information is available from faculty advisors or directly from the Director of the Credit by Exam program, 105 St. Augustine, 610-519-4600. The application process is the responsibility

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of the student and must be completed two weeks before the exam date. Signatures on the application must be obtained from the Assistant Dean in Nursing and the Chair of the department in which the exam is taken. Syllabi for all challengeable courses are on file in the Reserve Room, Falvey Library.

ADVISEMENT

RN students are assigned to faculty advisors when admitted to the College. Each semester, prior to the University's pre-registration period for the following semester, the advisor contacts students to meet for advisement. These meetings are critical for the communication and planning needed to assure that students progress efficiently and successfully through the program. Students are responsible for attending these meetings and for initiating other contacts with their advisor as indicated by students' individual circumstances.

CLINICAL VALIDATION EXAMS IN NURSING

*Clinical Validation Examination. This exam is administered at the conclusion of NUR 3000/3005. It is delivered using web-based case studies; students are able to perform a virtual physical exam. Guidelines for the exam are provided early in the semester in which NUR 3000 and 3005 are scheduled, and practice time with this program is provided. The exam is evaluated as pass or fail and may be repeated once if necessary. The exam must be passed to progress in the program.

**BSN PROGRAM FOR RN STUDENTS
COURSE/CREDIT REQUIREMENTS (129 credits)**

**PHYSICAL
SCIENCES/MATH
21 Credits**

Anatomy & Physiology8 cr.
Organic/Biochemistry.....4 cr.
Microbiology or
Cell Biology and Genetics ...3 cr.
Nutrition3 cr.
Statistics.....3 cr.

**HUMANITIES
21 Credits**

English/Literature 3 cr.
Philosophy-Health Care Ethics.3 cr.
Religious Studies 6 cr.
Humanities Electives 9 cr.

**SOCIAL/BEHAVIORAL
SCIENCES
12 Credits**

General Psychology 3 cr.
Developmental Psychology..3 cr.
Introductory Sociology3 cr.
Electives3 cr.

**NURSING
68 Credits**

Nursing Credit Transfer.... 24 cr.
Clinical Validation
Examination*..... 20 cr.
NUR 3000/3005*..... 4 cr.
NUR 3110**..... 3 cr.
NUR 4102..... 6 cr.
NUR 4107..... 6 cr.
NUR 4110..... 5 cr.

**FREE ELECTIVES
7 Credits**

TOTAL CREDITS - 129

****NOTE:** BSN candidates take NUR 3110; MSN candidates may take NUR 8904 after completing a course in statistics.

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
Brooke Glen Behavioral Institute, Fort Washington, PA
Broomall Presbyterian Village, Broomall, PA
The Bryn Mawr Hospital, Bryn Mawr, PA
Children's Hospital of Philadelphia, Philadelphia, PA
Crozer-Chester Medical Center, Chester, PA
Delaware County Memorial Hospital, Drexel Hill, 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 Fitzgerald Hospital, Darby, PA
Mercy Hospital of Philadelphia, PA
Mercy Suburban Hospital, Norristown, PA
Methodist Hospital, Philadelphia, PA
Montgomery Hospital, Norristown, PA
Paoli Hospital, Paoli, PA
Penn Care at Home, Philadelphia, PA
Pennsylvania Hospital, Philadelphia, PA
Presbyterian Hospital, Philadelphia, PA
Riddle Memorial Hospital, Media, 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.

HEALTH AND WELLNESS CONCENTRATION

The Health and Wellness Concentration encompasses an understanding of the concepts of healthy living and nutrition and the knowledge of the changing health care system. The knowledge obtained in this concentration can be applied to studies in the areas of social sciences, business and psychology. Requirements for the minor include NUR 2200, NTR 2120 and NUR 7085. Students then choose one of the following courses to complete the requirement: NUR 4800, NUR 4802, NUR 7081, NUR 7082, NTR 7120. The concentration requirement is 12 credits and is open to all non-nursing majors. Students must have junior status to take the 7000 level courses.

PART-TIME STUDIES

Mary B. Bustamante, M.B.A., Director
TBD, Associate Director

HISTORY AND OBJECTIVES

For over 90 years, the Division of Part-Time Studies has fulfilled the educational needs of thousands of men and women who were unable to or did not wish to pursue a regular full-time day program. Among those it serves 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 school or who are seeking initial secondary school teacher certification or additional endorsements for secondary school certification; 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, but they are not charged for tuition. They may register AFTER the drop/add period, which is the first week of the semester, in courses in which the enrollment limit has not been reached.

Part-Time Studies provides comprehensive advising services at registration time and throughout the year to assist students in planning their educational careers and academic schedules. To acquaint new students with the general regulations of and services provided by the Part-Time Studies division and the University, a variety of web-based resources, including an on line orientation and a virtual campus tour are available via the Part-Time Studies web site at www.parttime.villanova.edu. The University Counseling Center and the Career Services Office provide additional services to the Part-Time Studies student.

Although Part-Time Studies mainly serves the part-time student, it is possible, with permission, for a student to take a full-time course load after two semesters. Even on a part-time basis, however, a Part-Time Studies student can, with approved transfer credits, complete a baccalaureate program in three to five years. With permission of the Director or academic advisor, Part-Time Studies students may enroll in day classes.

Requirements for admission, advancement, and graduation are the same as those prevailing in the full-time undergraduate colleges. As a result, matriculated students may

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petition to transfer from Part-Time Studies to one of the full-time colleges without loss of credit.

The degrees pursued in Part-Time Studies are Villanova University degrees, in every respect commensurate with those offered by the full-time colleges of the University. The business programs are accredited by the American Assembly of Collegiate Schools of Business (AACSB). The Computer Science program is accredited by the Computing Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

ADMISSION

Application forms for admission to part-time undergraduate study are available online at www.partime.villanova.edu. Applications may also be obtained from the Director, Part-Time Studies, Villanova University, 800 Lancaster Avenue, Villanova, Pennsylvania 19085.

Students seeking admission into degree programs (matriculated status) must submit complete records from all secondary schools and institutions of higher learning previously attended. Students seeking postgraduate status must submit transcripts showing degree and graduation date or a copy of the diploma from their baccalaureate degree institution. Students applying for non-matriculated (non-degree program) status must submit secondary school records indicating graduation or proof of receipt of a state equivalency diploma. To avoid delay, address all material to Part-Time Studies. Applicants for matriculated status are requested to have a set of complete records on file at least four weeks prior to registration in order to be evaluated in advance of enrollment. Registration as a non-matriculated student is suggested in those cases where transcripts are delayed.

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 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 Part-Time Studies as may high school seniors with strong academic backgrounds who have permission from their

Part-Time Studies

guidance counselor or principal. Senior citizens, those aged 65 or older, may enroll in undergraduate courses for personal enrichment only without the payment of tuition. Information on the application procedures and requirements for these particular categories may be obtained from the Part-Time Studies office.

READMISSION

A student who has not attended classes in Part-Time Studies for two years or longer is considered an inactive student. To be readmitted, a PTS application form, from the PTS office in 107 Vasey Hall, must be completed. When the form is received, the record will be reviewed, and a letter sent to the applicant indicating readmission status.

DEGREES OFFERED

In October 2002, a new degree, the Bachelor of Interdisciplinary Studies was approved by the Villanova Board of Trustees. This degree is offered in the evening for Villanova adult students. As part of this degree, students will choose one of the following majors: General Studies, Information Systems, Leadership Studies or Media & Technology.

Villanova University also offers the following programs of study for the Bachelor's Degree which may be completed through Part-Time Studies: Accountancy, Business Administration, Computer Science, Education (Secondary Education, Teacher Certification), English, General Arts, and History, (some Liberal Arts majors may require taking courses in the day time schedule).

In addition to the Bachelor's degree, the following programs are available: Associate of Arts, Accountancy Certificate, Business Administration Certificate, Information Systems Certificate, Leadership Studies Certificate, Pre-Health Professions Science Certificate, and Secondary Teacher Certification.

DEGREE REQUIREMENTS

To qualify for the Bachelor's degree, a student must complete successfully 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.

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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 30 credits (senior year) must be earned at Villanova.
- A minimum technical quality point average of 2.0 (science and business degrees).

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 Part-Time Studies office.

BACHELOR OF INTERDISCIPLINARY STUDIES

The Bachelor of Interdisciplinary Studies offers majors in 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 30-33 credits and the degree includes up to 42 credits of free electives depending on the major.

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 these students a planned educational track, in an abbreviated timeframe, that will prepare them for a career in the field of human resources. At the completion of their Junior year, these 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).

Part-Time Studies

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 their senior year with all three counting toward both the BIS/IS degree and the MS/SE. The recommended courses are CSC 8490 (Database Systems), taken in place of CSC 4480 (Database Management), CSC 8540 (Software Engineering), and one additional pre-approved course. The BIS/MS Committee will review the third graduate level course for suitability.

BACHELOR OF INTERDISCIPLINARY STUDIES CORE CURRICULUM (45 CREDITS)

Humanities in Augustinian Tradition (3 courses; 9 credits)

ACS 1000	Ancients	3
PHI 1000	Knowledge, Reality, Self	3
THL 1000	Christian Faith and Life	3

Civic and Ethical Leadership (3 courses; 9 credits)

ETH 2050	Ethical Tradition	3
American Perspectives: PSC, ECO, SOC, HIS		3
Global Perspectives: PSC, ECO, SOC, HIS		3

Communication and Writing Skills (2 courses; 6 credits)

COM 1100/COM 1101	Public Speaking/Business Communication	3
ENG 1050	The Literary Experience	3

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Cultural Appreciation (2 courses; 6 credits)

Fine Arts		3
Modern Language/Culture, Theatre, Film, Literature		3

Quantitative and Scientific Literacy (2 courses; 6 credits)

Natural Science		3
MAT 1260		3

Core Electives (3 courses; 9 credits)

Advanced Courses:	Advanced courses in these subjects must be numbered 2000 and above.	
History, Philosophy, Theology, English, Communication, Fine Arts, Social Science		3
		3
		3

BACHELOR OF INTERDISCIPLINARY STUDIES/GENERAL STUDIES MAJOR (33 CREDITS)

Students with a major in General Studies must take advanced courses in one of the following areas: Humanities, Social Sciences, or Independent General Studies (self-defined academic program). Humanities Area: Art History, Classical Studies, Communication, Education, English, French, German, History, Peace and Justice, Philosophy, Spanish, Theology, Theatre. Social Sciences Area: Economics, Geography, Political Science, Psychology, Sociology.

ELECTIVES (42 CREDITS)

With the reduced core curriculum and 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.

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BACHELOR OF INTERDISCIPLINARY STUDIES/INFORMATION SYSTEMS MAJOR

Information Systems (10 courses; 32 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)

Examples of Application Areas Include:

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)	
MIS 3030	Enabling Technology in E-Business	3
CSC 1600	Operating Systems	3
CSC 4490	Data Warehousing and Mining	3
ECE 5477	Computer Communications Security	3

Electives (30 credits)* With the reduced core curriculum and 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) is highly recommended for all students seeking to attend graduate school.

BACHELOR OF INTERDISCIPLINARY STUDIES/LEADERSHIP STUDIES MAJOR (30 CREDITS)

LDR 2000	Foundations of Leadership	3
LDR 2010	Strategic Planning for Leaders	3
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
LDR 5000	Leadership Capstone Course	3

Electives (45 credits) With the reduced core curriculum and 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, Bachelor of Interdisciplinary Studies/Leadership Studies Major (30 credits)

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BACHELOR OF INTERDISCIPLINARY STUDIES/MEDIA & TECHNOLOGY MAJOR (36 CREDITS)

CSC 1020	Computing and the Web	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
Databases	MIS 2030 Database Management <i>or</i> CSC 1035 Databases for Many Majors	3
CSC 4710	Info. Systems Project Management	3
MIS 3030	Enabling Technology in E-Business	3
MKT 2290	Interactive Marketing	3
COM 2340	Theories of Visual Communication & Culture	3
COM 3352	Media & Technology	3
COM 2300	Theories of Mass Communication	3

Electives (39 credits)* With the reduced core curriculum and 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.

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

BACHELOR OF ARTS/BACHELOR OF SCIENCE

Students in the Bachelor of Arts program in Part-Time Studies may major in Education, English, History, or General Arts. The degree requirements may be found under the departmental listings contained in this Catalog. Within the Bachelor of Arts degrees, minors are available in Business, Communication, Computer Science, Education, English, History, Media & Technology, Philosophy, Political Science and Sociology and Theology.

The Core Curriculum of the College of Liberal Arts and Sciences is applicable to these majors offered in Part-Time Studies: Bachelor of Arts in General Arts, Education, English, and History, and Bachelor of Science in Computer Science. A description of the

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Core Curriculum may be found in the College of Liberal Arts and Sciences section of this *Catalog*. For the Bachelor of Arts Degree in General Arts, General Arts with a Business Minor, English, History, and 40 courses and a minimum of 122 credits are required. For the Bachelor of Science in Computer Science, 41 courses and a minimum of 129 credits are required. For the Bachelor of Science in Education, course and credit requirements vary according to the subject area of certification. The twelve subject areas available for certification are: Biology, Chemistry, Communication, English, French, General Science, German, Latin, Mathematics, Physics, Social Studies, and Spanish. Required courses in some subject areas, including student teaching, are available during day times only. *Day classes are billed at the day tuition rates.*

ASSOCIATE OF ARTS

The Associate of Arts Degree program is designed for students who are not seeking a baccalaureate degree but still wish to follow a specific curriculum. The Associate of Arts Degree program may be completed in half the time it normally takes to complete the baccalaureate program. The program requires 20 courses and a minimum of 60 credits. At least half of the credits (30) must be taken at Villanova. A 2.0 cumulative GPA is required to attain the A.A. Students completing the program with a 2.0 average may continue toward the Bachelor of Arts without loss of credit.

Subject	Credits
ENG 1050	3
Foreign Language 1121, 1122	6
HIS 1050	3
Mathematics/Natural Science (3 courses; 10 credits)	10
ACS 1000, 1001 Augustine and Culture Seminars	6
PHI 1000	3
THL 1000	3
ETH 2050	3
Fine Arts (1 course; 3 credits) Designated Courses Only	3
Social Science (1 course; 3 credits)	3
Free Electives (6 courses; 18 credits)	18

BACHELOR OF SCIENCE IN ACCOUNTANCY

The B.S. in Accountancy requires a minimum of 41 courses and 125 credits. Details are to be found in the Villanova School of Business section of this Catalog.

BACHELOR OF BUSINESS ADMINISTRATION

The Bachelor of Business Administration requires a minimum of 41 courses and 125 credits. The following courses are required.

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FRESHMAN YEAR

<i>Courses</i>	<i>credits</i>	<i>Courses</i>	<i>Credits</i>
VSB 2006	3	ENG 1050	3
ECO 1001, 1002	6	MAT 1500, 1505	8
PHI 1000	3	ACS 1000, 1001	6
VSB 2007	3		

SOPHOMORE YEAR

ACC 1101, VSB 3006	6	VSB 2005	3
Social Science ¹	3	HISTORY ²	3
COM 1101	3	THL 1000	3
ENG elective	3	Free Elective	6
ETH 2050	3		

¹Social Science: choose from Geography, Sociology, Political Science, Psychology.

²History: choose from any course in the department.

JUNIOR YEAR

FIN 1113	3	Major Courses	6
MGT 1102	3	Natural Science ³	3
VSB 3008	3	Non-business Electives ⁴	6
MKT 1137	3		
ECO 3108	3		

³Natural Science: choose from AST, BIO, CHM, GEV 1050 or GEV 1051, or PHY.

⁴Accounting majors take a third required accounting course during the junior year in place of a non-business elective course.

SENIOR YEAR

Humanities ⁵	3	THL Elective	3
Major courses ⁶	12	Social/Natural Science ⁷ /History Elective	3
VSB 4002	3	Free Electives	6

⁵Humanities: choose from Art History, Classical Studies, English, Modern Languages, Philosophy or Theatre.

⁶Accounting majors: it is recommended that BL 2185 be substituted for one free elective.

⁷Choose from Geography, Political Science, Psychology, Sociology, Natural Sciences, or History.

CERTIFICATE PROGRAMS

Several certificate programs are available through Part-Time 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:

Accountancy Certificate. The Accountancy Certificate 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: ACC 1101, VSB 3006, ACC 2310, 2320, 2360, 2430 and six electives from the following courses: ACC 2340, ACC 2450, ACC 2470, ACC 2480, VSB 2007, BL 2185, FIN 1113. 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 4 courses, specifically Principles of Financial Accounting and Principles of Managerial Accounting, Corporate Responsibility and Regulation and Principles of Finance will be allowed in transfer. All remaining upper-level courses in the certificate program must be completed at Villanova.

Business Administration Certificate. The Business Administration Certificate provides business-related knowledge and skills and is especially useful to individuals with bachelor's degrees in General Arts or other non-business majors who wish to acquire expertise in business areas. The program also meets the needs of individuals 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.*

Eight courses must be completed: four specifically required and four electives from the approved list of electives, which represent more advanced treatments of the required courses. Students are required to have any prerequisite courses necessary (indicated under the course description) for any particular course in the certificate program. A maximum of 2 courses (6 credits) will be allowed in transfer. No other course substitutions will be permitted.

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The *required courses* are: ACC 1101, VSB 3006 , ECO 1001 or 1002; MGT 1102;

The *elective courses* must be chosen from the following:

ACC 2310, 2320, 2340, 2430, 2450, 2460, 2470,
BL 2135, 2150, 2170, 2185
ECO 1001 or 1002 (the one not taken for the required course) 2110, 3106, 3108
FIN 1113, 2323
MGT 2153, 2155
MKT 1137, 2220, 2225, 2277, 2280
VSB 2005, 2007, 3008

Information Systems Certificate. The Information Systems Certificate 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 course work in business or liberal arts and who wish to acquire a formal understanding of the application of information technology.

To receive a Certificate in Information Systems from Villanova University, six courses must be completed: four are specifically required, and two are chosen from the approved list of electives.*

The *required courses* are: CSC 1020/VSB 2006, CSC 1051, MIS 2030/CSC 4480, MIS 2040/CSC 4700

The *elective courses* must be chosen from the following: CSC 2020, CSC 2025, CSC 2400, CSC 1052, CSC 4710, CSC 3070, CSC 3080, CSC 2500, MIS 3020, MIS 3030

*Students are required to have any prerequisite courses necessary (indicated in the University Catalog) for any particular course in the certificate program.

Leadership Studies Certificate. The Leadership Studies Certificate 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.

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To receive a Certificate in Leadership Studies from Villanova University, five courses must be completed: two are specifically required, and three are chosen from the approved list of electives.

The *required courses* are: LDR 2000 and LDR 2010.

The *elective courses* must be chosen from the following:

LDR 2020, LDR 2030, LDR 2040

PSY 2700

COM 3490 (Organizational Communication) COM 3490 (Leadership in a Borderless Economy)

COM 3490 (Negotiation and Decision Making)

Pre-Health Professions Science Certificate. 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 receive a Certificate in Pre-Health Professions Science from Villanova University, eight required courses must be completed. BIO 2105, BIO 2106, CHM 1151/1103, CHM 1152/1104, CHM 2211/2201, CHM 2212/2202, PHY 1100/1101, PHY 1102/1103.

A maximum of two courses (no more than 10 credits) which have been completed within the last five years may be transferred.

Secondary Teacher Certification. Students who possess a Bachelor's degree and want to pursue Teacher Certification on a part-time or full-time basis should apply through the Office of Part-Time Studies. The twelve subject areas which can be pursued at Villanova are: Biology, Chemistry, Communication, English, French, General Science, German, Latin, Mathematics, Physics, Social Studies, and Spanish. Details on Secondary Teacher Certification can be found in the College of Liberal Arts and Sciences section of this catalog.

NON-MATRICULATED AND POSTGRADUATE STUDENTS

A student may enroll in Part-Time Studies without seeking a degree. Such students are classified as *non-matriculated students* or *postgraduate students*.

Postgraduate students are students who have already earned a bachelor's degree and are not seeking a second degree but merely taking undergraduate courses. These students are free to enroll in day or evening classes at Villanova through Part-Time Studies. Available space in day classes, however, may restrict their curricular options.

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Non-matriculated students have not yet earned a bachelor's degree but seek to take college courses for a variety of reasons. Such students include those who:

- ❑ Want to take college courses to develop a particular expertise or for purposes of personal enrichment.
- ❑ Have applied for degree status but with current academic records have not been accepted. Such students may need to remedy deficiencies or establish their academic qualifications before applying or reapplying for degree programs. The conditions to be met before their records will be reevaluated are specified in the letter from the PTS Admissions Office.
- ❑ Have applied for degree status, but the credentials presented have been inadequate to enable the Admissions Committee to render a positive decision. These students are generally advised to pursue, as non-matriculated students, the program for which they requested admission, and to compile at least 18 credits, thus demonstrating their ability to complete the program requirements. After the students complete the 18 credits, they may request reevaluation.

Non-matriculated students or postgraduate students who wish to change to matriculated status must apply and complete the appropriate request form in the Part-Time Studies office. Students will be responsible to see that the PTS Admissions Committee has all necessary credentials for consideration of their requests (See the section on Admission, above).

Generally, non-matriculated students are urged to request degree status if possible rather than accumulate a large number of credits without any specific goals. Thirty credits should be taken as a guide in this regard.

Non-matriculated and postgraduate students must maintain good academic standing by carrying at least a 2.00 cumulative quality point average.

CONTINUING STUDIES PROGRAMS

The Continuing Studies division offers in-class professional development and certificate programs to approximately one thousand (1,200) students each year. Courses (and certifications) are offered in a variety of subject areas: human resource management (PHR®, SPHR®, GPHR®), facilities management (FMP®), sustainability (SFP®), payroll administration (FPC®, CPP®) project management (PMP®, CAPM®), fundraising (CFRE®), English as a Second Language, treasury management (CTP®), management accounting (CMA®), internal auditing (CIA®), supply chain management (SPSC®), and alcohol and drug counseling (CAC). The courses are offered on campus and at various corporate sites throughout the tri-state area.

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Continuing Studies also provides training opportunities at corporate, governmental and non-profit worksites. In addition to the above courses, additional areas of interest include business analysis, agile project management, business communications and leadership.

The Continuing Studies Paralegal Studies Certificate Program is designed to train qualified individuals in the theory and philosophy of the law and the ethics of legal practice. Student gain the necessary practical skills to enable them to effectively assist lawyers and executives in providing a wide range of legal services to corporations, governmental agencies, law firms and businesses. The Paralegal Program is approved by the American Bar Association (ABA).

The Continuing Studies Office, in partnership with BISK Education, offers Project Management, Human Resources, Six Sigma, IT Security, Contract Management, Leadership, Business Intelligence, and a variety of other non-credit certificate programs via distance learning to approximately twelve thousand (12,000) students a year.

For more information on these programs, contact the Office of Continuing Studies at 610-519-4310. The Continuing Studies Office is located on the Ground Floor of Stanford Hall.

FLEXIBLE ENROLLMENT OPTIONS

FASTFORWARD AT VILLANOVA

Villanova's FastForward courses are designed to help adult students move forward quickly toward graduation. These courses are scheduled on seven Saturday mornings or afternoons and weekday evenings, for a class period of 3 1/2 hours, and are supplemented with on-line instruction. FastForward 1 is held from late August till the middle of October, FastForward 2 from mid-October to mid-December, FastForward 3 from mid-January through late February, and FastForward 4 from March to late April. FastForward courses may also be available on weekday evenings.

Each course can be completed in only half a semester but is a complete three-credit class with fewer on campus class hours. Additionally, the Part-Time Studies FastForward Track allows adult students to complete three courses during the fall and spring semesters—two back-to-back FastForward courses and one, one-night a week course—while never taking more than two classes at one time.

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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 per semester. By utilizing our FastForward courses, students may take a total of four courses in a semester: two during the regular semester, and one in each of the FastForward sessions. Students who take four courses in fall, four in spring, and two in the summer, will complete ten courses per year (the same amount as a full-time day student). Additionally, students who enter with 60 credits may take advantage of the FastForward Track which makes it possible to complete the Bachelor of Interdisciplinary Studies degree program in three years.

EVENINGS/ WEEKENDS

Students can choose classes that meet one night a week for 14 weeks, on Saturdays for seven weeks with additional online instruction (FastForward), or on Friday nights and Saturdays (one credit psychology seminars which are offered during the fall semester and summer session).

SUMMER SESSION

Students who wish to quicken the pace of their degree program can continue studies year-round by attending summer classes. Villanova offers an eight-week summer evening session that runs from the end of May through the end of July.

DISTANCE EDUCATION

Because technology is an integral part of the modern college classroom, Villanova University also offers fully online 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 Part-Time 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. Part-Time Studies 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.

ADDRESS CHANGES

Important mailings are sent to students throughout the academic year. It is essential that all students keep the PTS office informed of any change in their permanent home address and/or mailing address. Otherwise, we cannot be responsible for students not receiving material through the mail. Change of Address forms are available in the PTS office, 107 Vasey Hall. Students must check their Villanova email and Novasis accounts for information from the Registrar and other offices. Important dates and information are also listed on the Part-Time Studies website at www.parttime.villanova.edu.

ADVANCED ACADEMIC CREDIT

In addition to the provisions for advanced academic credit listed in each College's section of this *Catalog*, Part-Time Studies students may gain credit by examination by means of the College Level Examination Program (CLEP) administered through 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 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.

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ADVISING

The Director and Associate Director of Part-Time Studies are responsible for academic advising. They are available during evening or daytime hours. Appointments in the office or via telephone may be arranged through the Part-Time Studies office (610/519-4300).

Accountancy	Ms. Mary Bustamante
Accountancy Certificate	Ms. Mary Bustamante
BIS/General Studies	Ms. Mary Bustamante
BIS/Information Systems	Ms. Nancy Bercich
BIS/Leadership Studies	Mr. James Johnson
BIS/Media & Technology	Ms. Nancy Bercich
Business Administration	Ms. Mary Bustamante
Business Administration Certificate	Ms. Mary Bustamante
Computer Science	Dr. Georgi Japaridze
Education, Teacher Certification	Dr. John Durnin
English, Liberal Arts, History	Ms. Mary Bustamante
Non-Matriculated and Assoc. of Arts	Ms. Mary Bustamante
Postgraduates	Ms. Mary Bustamante

Each student is assigned an academic advisor who may be contacted for assistance in making those decisions that affect academic goals. The student should consult with an advisor at least once a semester to insure proper course selection and advancement in his program. *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 Director of Part-Time Studies 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 request the change on a form available in the Part-Time Studies office.

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.

DROP AND ADD

Students may make changes in their schedules during the Drop and Add period -- the first five class days of each semester. To eliminate a course, add a course, or both, a student must obtain a drop/add form in the PTS office, complete the information, and secure the academic advisers signature. To change only evening courses, the student may leave the form in the PTS office. To change day courses, students must take the completed and signed form to the Registrar's Office or on-line, via Novasis. The Registrar's Office then will send a revised copy of the schedule. If the information is not accurate, the student should contact the PTS office for assistance. *NOTE:* In order not to be charged for a class, it must be dropped officially from the schedule *before* the start date of classes listed in the Academic Calendar.

FINANCIAL PLANNING

Villanova offers several easy-payment options to our students as well as payment by Discover, Visa or MasterCard. Students may also elect to use an alternate payment plan, for a small fee, whereby they pay their tuition in scheduled increments over the course of the semester.

Another valuable resource for students can be their employers, many of whom will pay tuition for their employees who attend Villanova. Students who are employed either

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full or part-time should check their company's policy and take advantage of that benefit if it is available to them.

The Villanova Tuition Employer Billing Plan is an agreement between the employer of a Villanova student and Villanova University. With this agreement, the employer guarantees that Villanova will receive tuition re-imbursement payments for the employee and in turn, Villanova will bill the employer, not the individual student. Villanova has a variety of employers who take advantage of this plan for their employees.

A list of scholarships, local and national, for adult part-time students is available in the PTS office or on line at www.parttime.villanova.edu.

GRADUATION APPLICATION

A student who expects to receive a degree is required to make official application 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 card* can be obtained from the Part-Time Studies Office or on the Part-Time Studies website. *This is an extremely important procedure.* The student's advisor will review his or her record and verify the completion of all graduation requirements.

PARKING

Parking permits may be purchased at the Department of Public Safety (Farrell Hall, 824 Lancaster Avenue). Instructions for web based parking registration may be found at publicsafety.villanova.edu/parking.html. Further information is available from the University Parking Office (610/519-6990). All students who utilize Villanova parking lots must have a current parking permit.

PERSONAL SAFETY

Students are requested to report all *Crimes* and *Emergencies* immediately to the Department of Public Safety (610-519-4444). Individuals who desire an escort or other assistance should call 610/519-6979.

REGISTRATION

All new students who have been accepted by Part-Time Studies and currently enrolled students in good standing are eligible for registration. It is the student's responsibility to see that they select courses in accordance with the requirements of their program and in consultation with their academic advisor.

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Students are encouraged to register early, whether in person, via Novasis, by mail, or by *Fax*. Further information may be obtained from the fall or spring brochures, summer catalog, the Part-Time Studies web site at www.parttime.villanova.edu, or by contacting the Part-Time Studies office.

NEW STUDENT ORIENTATION AND ADDITIONAL SUPPORT

Part-Time Studies offers assistance to help students become acquainted with the resources on campus and to aid in the transition to academic life. All of these resources are now available to part-time students via the PTS website at parttime.villanova.edu. Information is also always available through the Part-Time Studies Office in Vasey Hall, 107. The Part-Time Studies Office conducts a new student orientation in mid-August for incoming students.

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. PTS students are allowed to participate in any activity on campus except a varsity level sport.

The *NiteLine*, the newspaper published for PTS students, serves as a vehicle for disseminating news of interest to the Part-Time Studies student body.

TRANSFER OF CREDITS

Transfer provisions are described under "Admissions" in the University section of this *Catalog*. Applications for transfer into Part-Time Studies should be made in the Part-Time Studies Office. PTS students who wish to take courses at other institutions should seek the approval of the Director or Associate Director of PTS as to the particular institution they wish to attend and as to the particular course(s) they wish to take.

UNIVERSITY SENATE

The University Senate, an advisory group to the University President and the Board of Trustees, includes representation from Part-Time Studies. Junior class standing is a requirement for eligibility to serve as the Part-Time Studies representative. Students who may be interested in serving in the Senate should contact the Director, Part-Time Studies.

WITHDRAWAL FROM A COURSE

After the drop/add period, which is the first week of classes, any student who is unable to complete a course and wishes to terminate attendance in that course must do so through the official withdrawal procedure. *Discontinuance of attendance or notice to the instructor does not constitute official withdrawal.*

Students are required to notify the Part-Time Studies office promptly, either in writing or by completing the appropriate form in the Part-Time Studies office. A phone call to the PTS office is not acceptable. If the student withdraws in person, the date on the form will be considered the official withdrawal date. If the student withdraws via letter, the postmark date on the letter will be considered the official withdrawal date.

After the last date for Authorized Withdrawal, approximately three and one-half weeks after mid-term break, a student may petition for withdrawal without penalty only for valid reasons. To do so, a student must submit a signed Request for Authorized Withdrawal, signed by the professor and/or laboratory instructor, along with the standard form for the Dean's review.

If a student is granted the Authorized Withdrawal, the course remains on his transcript but the designation WX will appear in the grade column. WX signifies that the withdrawal was approved, and there is no grade given or calculated for that course. A student who leaves class without officially withdrawing will continue to incur absences and will receive the final grade of Y (unauthorized withdrawal) which is calculated as an F in the grade point average.

DIRECTORY

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- DAVID W. DINEHART, 1998; B.S.C.E., 1991, M.S.C.E., 1992, Bucknell University; Ph.D., 1998, University of Delaware. *Professor, Civil and Environmental Engineering*
- EDMUND J. DOBBIN, O.S.A., 1987; A.B., 1958, Villanova University; M.A., 1962, Augustinian College; M.S., 1964, S.T.L., 1968, The Catholic University of America; S.T.D., 1971, University of Louvain, Belgium. *President Emeritus; Professor, Theology and Religious Studies*
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- MARK DOORLEY, 1997; B.A., 1984, St. Alphonsus College; M.Div., 1988, Washington Theological Union; Ph.D., 1994, Boston College. *Director, Ethics Program*
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- ALAN A. DREW, 2008; B.A., 1993, California State University, Long Beach; M.F.A., 2004, University of Iowa Writers' Workshop. *Assistant Professor, English*
- JOSEPH DRURY, 2011; B.A., 1999, Lady Margaret Hall, Oxford University; M.A., 2002, Queen Mary, University of London; Ph.D., 2008, University of Pennsylvania. *Assistant Professor, English*
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- MASAKO HAMADA, 1989; B.A., 1970, Shirayuri Women's College (Tokyo); M.S., 1985, University of Pennsylvania; Ed.D., 2002, Columbia University. *Associate Professor, Global Interdisciplinary Studies*
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- WM. RAY HEITZMANN, 1969; B.S. in Ed., 1964, Villanova University; M.A.T., His. And Soc. Sc., 1966, The University of Chicago; Ph.D., 1974, University of Delaware. *Professor Emeritus, Education and Counseling.*
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- KARYN L. HOLLIS, 1990; B.A., 1971, M.A., 1978, University of Texas; Ph.D., 1986, University of Southern California. *Associate Professor, English*
- MICHAEL J. HONES, 1969; B.S., 1964, College of the Holy Cross; Ph.D., 1970, University of Notre Dame. *Professor, Physics*
- AHMAD HOORFAR, 1988; B.S., 1975, University of Tehran; M.S., 1978, Ph.D., 1984, University of Colorado. *Professor, Electrical and Computer Engineering*
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- GREGORY HOSKINS, 2005; B.A., 1992, The College of Wooster; M.A., 1994, University of Oregon; M.A., 2000, Fordham University; Ph.D., 2005, Villanova University. *Lawrence C. Gallen Fellow in the Humanities, Villanova Center for Liberal Education*
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- PAUL PASLES, 1999; B.A., 1990, University of Pennsylvania; M.A., 1994, Ph.D., 1997, Temple University. *Professor, Mathematics and Statistics*
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- BERNARD F. REILLY, 1955; A.B., 1953, Villanova University; M.A., 1955, University of Pennsylvania; Ph.D., 1966, Bryn Mawr College. *Professor Emeritus, History*
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- MICHAEL P. RUSSELL, 1992; B.S., 1980, M.S., 1984, San Diego State University; Ph.D., 1990, University of California, Berkeley. *Professor, Biology*
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- SRIDHAR SANTHANAM, 1989; B.Tech., 1984, Indian Institute of Technology; M.S., 1986, Ph.D., 1989, Arizona State University. *Professor, Mechanical Engineering*
- JOHN E. SANTOMAS, 1994; B.A., 1988, M.A., 1990, Villanova University. *Instructor, Mathematics and Statistics*
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- MARGUERITE K. SCHLAG, 2003; B.S.N., 1968, Villanova University; M.S.N., 1970, Case Western Reserve University; Ed.D., 1985, Rutgers, The State University of New Jersey. *Assistant Dean and Director of Graduate Programs, College of Nursing; Associate Professor, Nursing*
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- DONALD E. SHAW, 1969; B.S., 1962, M.A., 1963, Ph.D., 1967, University of Toronto. *Professor Emeritus, Physics*
- SHEARER, DEBRA, 2011; B.S., 1995, LaSalle University; M.S., 1997, Drexel University; Ph.D., 2008, Rowan University. *Clinical Assistant Professor, Nursing*
- COLLEEN SHEEHAN, 1986; B.S., 1977, Eisenhower College; M.A., 1979, Ph.D., 1986, Claremont Graduate University. *Professor, Political Science*
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- LAUREN E. SHOHET, 1995; B.A., 1986, Oberlin College; B.Mus., 1987, Oberlin College Conservatory; M.A., 1990, Ph.D., 1994, Brown University. *Luckow Family Endowed Chair in English Professor, English*
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- MARY BETH SIMMONS, 2000; B.A., 1988, M.F.A., 1996, University of Iowa. *Director, Writing Center*
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- EDWARD M. SION, 1975; B.A., 1968, M.A., 1969, University of Kansas; Ph.D., 1975, University of Pennsylvania. *Professor, Astronomy and Astrophysics*
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- CRISTINA SORIANO, 2011; B.A. 1999, Universidad Central de Venezuela; M.A., 2005, Ph.D., 2011, New York University. *Assistant Professor, History*
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- PETER SPITALER, 2003; B.A., 1990, Pontifica Studiorum Universitas Salesiana; B.S., 1992, Katholische Stiftungsfachhochschule München; M.A. Theologische Fakultät; Th.D., 2003, Ludwig Maximilian Universität. *Associate Professor, Theology and Religious Studies*
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- STEPHEN A. STUMPF, 2000; B.S., 1971, Rensselaer Polytechnic Institute; M.B.A., 1972, University of Rochester; M.Phil., 1978, Ph.D., 1978, New York University. *Fred J. Springer Endowed Chair in Business Leadership, Professor, Management & Operations*
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- ANNIKA THIEM, 2007; Vordiplom, 1999, Diplom, 2002, University of Tubingen; M.A., 2004, University of California; Th.D., 2004, University of Tubingen. 2008, University of California *Assistant Professor, Philosophy*
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- QI WANG, 2006; B.A., 1997, Beijing University; M.A., 2000, Kent State University; Ph.D., 2006, University of Maryland. *Assistant Professor, Communication*
- XIAOFANG WANG, 2006; B.S., 1991, Nankai University; M.S., 1994, Beijing University of Technology; Ph.D., 2006, New Jersey Institute of Technology. *Assistant Professor, Electrical and Computer Engineering*
- BURKE T. WARD, 1977; A.B., 1969, Villanova University; J.D., 1975, Seton Hall Law School; LL.M., 1978, New York University. *Professor, Marketing & Business Law*
- INGEBORG L. WARD, 1966; B.S., 1960, Westhampton College; M.S., 1965, Ph.D., 1967, Tulane University. *Professor Emeritus, Psychology*
- O. BYRON WARD, JR., 1966; B.A., 1958, Duke University; M.A., 1961, University of Richmond; Ph.D., 1968, Tulane University. *Professor Emeritus, Psychology*
- CATHERINE WARRICK, 2006; B.A., 1992, University of Notre Dame; M.A., 1994, University of Denver; Ph.D., 2002, Georgetown University. *Associate Professor, Political Science*
- RENYA REED WASSON, 1992; B.A., 1987, Johns Hopkins University; A.M., 1989, Ph.D., 1992, Brown University. *Visiting Instructor, Economics & Statistics*
- AMY K. WAY, 2012; B.A., 2004, University of North Carolina; M.A., 2008, Arizona State University; Ph.D., 2012, Arizona State University; *Assistant Professor, Communication*

Villanova University

- THOMAS P. WAY, 2002; B.A., 1984, University of Maryland; M.S., 1997, Ph.D., 2002, University of Delaware. *Associate Professor, Computing Sciences*
- JUANITA WEAVER, 2004 B.G.S., 1989, Indiana University; M. Div., 1992, Goshen Biblical Seminary. *Visiting Instructor, Communication*
- ELAINE H. WEBSTER, 1986; B.A., 1965, Marywood College; M.Ed., 1970, Rutgers University. *Assistant Professor, Economics & Statistics*
- CAROL TOUSSIE WEINGARTEN, 1985; B.A., 1970, Barnard College of Columbia University; M.S., 1972, New York Medical College; M.A., 1976, Ph.D., 1986, New York University. *Associate Professor, Nursing*
- RANDY D. WEINSTEIN, 1998; B.S., 1993, University of Virginia; Ph.D., 1998, Massachusetts Institute of Technology. *Professor, Chemical Engineering*
- CAROL A. WEISS, 1998; A.B., 1964, Brandeis University; M.Ed., 1969, Northeastern University; Ph.D., 1990, University of Pennsylvania. *Director, Villanova Institute for Teaching and Learning; Associate Professor, Instructional Development*
- KELLY WELCH, 2004; B.A., 1996, University of CA at Irvine; M.S., 1999, Ph.D., 2004, Florida State University. *Associate Professor, Sociology & Criminal Justice*
- ANDREA L. WELKER, 1999; B.S.C.E., 1991, M.S.C.E., 1993, Drexel University; Ph.D., 1998, University of Texas at Austin; P.E. (PA). *Associate Professor, Civil and Environmental Engineering*
- AARON P. WEMHOFF, 2008; B.S., 2000, University of Virginia; M.S., 2002, Ph.D., 2004, University of California, Berkeley. *Assistant Professor, Mechanical Engineering*
- WILLIAM J. WERPEHOWSKI, 1980; B.A., 1975, Princeton University; M.A., 1977, M.Phil., 1978, Ph.D., 1981, Yale University. *Professor, Theology and Religious Studies*
- ROBERT N. WEST, 1994; B.S., 1976, Bentley College; M.B.A., 1981, Boston University; Ph.D., 1988, University of Southern California. *Assistant Professor, Accountancy & Information Systems*
- NATHANIEL B. WESTON, 2008; B.A., 1997, Hampshire College; Ph.D., 2005, University of Georgia. *Assistant Professor, Geography & the Environment*
- JAMES R. WETZEL, 2005; B.A., 1982, Princeton University; M.A., 1986, Ph.D., 1990 Columbia University. *The Augustinian Endowed Chair in the Thought of St. Augustine; Professor, Philosophy*
- CRAIG M. WHEELAND, 1990; B.A., 1979, The University of South Carolina Aiken; M.P.A., 1981, The University of South Carolina; Ph.D., 1989, The Pennsylvania State University. *Associate Vice President for Academic Affairs; Professor, Political Science*
- SETH A. WHIDDEN, 2003; B.A., 1991, Union College; M.A., 1994, The Ohio State University; A.M., 1997, Ph.D., 2000, Brown University. *Associate Professor, Romance Languages and Literature*
- ALAN M. WHITMAN, 1988; B.S.M.E., 1958, M.S.M.E., 1959, Ph.D., 1965, University of Pennsylvania; P.E. (PA). *Professor Emeritus, Mechanical Engineering*
- PETER WICKS, 2011, B.A. 1999, Oxford University; 2001, MPhil., Cambridge University; 2010 Ph.D., University of Notre Dame; *Catherine of Siena Teaching Fellow, Ethics Program*
- R. KELMAN WIEDER, 1984; B.A., 1974, Amherst College; M.A., 1978, University of Missouri-Columbia; Ph.D., 1982, West Virginia University. *Professor, Biology*

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- BETTE WILDGUST, 1997; Diploma, 1968, Montgomery Hospital School of Nursing; B.A., 1981, Ottawa University; M.S.N., 1997, Villanova University. *Program Director, Anesthesia Program; Clinical Assistant Professor, Nursing*
- JOYCE S. WILLENS, 1986; Diploma, 1976, Reading Hospital School of Nursing; B.S.N., 1983, Villanova University; 1984, M.S.N., University of Pennsylvania; Ph.D., 1994, University of Maryland. *Assistant Professor, Nursing*
- BRETT T. WILMOT, 2002; B.A., 1993, Reed College; A.M., 1994, Ph.D., 2002, The University of Chicago. *Associate Director, Ethics Program*
- CATHERINE E. WILSON, 2005; B.A., 1994, Villanova University; M.A., 1997, Georgetown University; Ph.D., 2003, University of Pennsylvania. *Assistant Professor, Political Science; Associate Professor, Villanova Center for Liberal Education*
- JAMES M. WILSON, 2008; B.A., 1998, University of Michigan; M.A., 2001, University of Massachusetts; Ph.D., 2006, University of Notre Dame. *Assistant Professor, Humanities*
- JAMES W. WILSON, 2008; B.S., 1992, Bates College; Ph.D., 1998, Columbia University. *Assistant Professor, Biology*
- MARK A. WILSON, 2008; B.A., 1997, St. Louis University; M.A., 2002, Ph.D., 2007, Indiana University. *Post Doctoral Fellow, Ethics Program*
- DEBORAH WIMMER, 1985; B.S.N., 1971, University of Michigan; P.N.P., 1975, Rutgers University; M.S.N., 1983, Villanova University. *Clinical Assistant Professor, Nursing*
- REBECCA LYNN WINER, 1996; B.A., 1989, Wellesley College; M.S.T., 1990, Oxford University; M.A., 1992, Ph.D., 1996, University of California (Los Angeles). *Associate Professor, History*
- TERESA G. WOJCIK, 2008; B.S., 1997, Temple University; M.A. Education, 1999, Villanova University; Ph.D., 2005, University of Pennsylvania. *Assistant Professor, Education and Counseling*
- ANDREW J. WOLDAR, 1985; B.S., 1976, The City College of New York; M.S., 1978, Ph.D., 1984, Ohio State University. *Professor, Mathematics and Statistics*
- FRANCIS W. WOLEK, 1983; B.S., 1957, Colorado School of Mines; M.B.A., 1962, D.B.A., 1967, Harvard University. *Professor Emeritus, Decision and Information Technologies*
- MIRON J. WOLNICKI, 1984; M.A., 1973, Ph.D., 1980, University of Lodz, Poland. *Associate Professor, Economics & Statistics*
- EMORY H. WOODARD, IV, 2000; B.A., 1993, University of Virginia; M.A., 1995, Ph.D., 1998, University of Pennsylvania. *Associate Professor, Communication*
- P. DANIEL WRIGHT, 2004; B.A., 1995, James Madison University; MBA, 2001, Ph.D., 2004, Indiana University. *Associate Professor, Management & Operations*
- QIANHONG WU, 2005; B.E., 1993, Huazhong University of Science and Technology; M.S., 1999, The Chinese Academy of Sciences; M.S., 2004, Ph.D., 2005, The City University of New York. *Associate Professor, Mechanical Engineering*
- DENNIS D. WYKOFF, 2006; B.S., 1993, University of California, Davis; Ph.D., 1999, *Associate Professor, Biology*
- ROSALIND WYNNE, 2005; B.S., 1999, Norfolk State *Associate Professor, Electrical and Computer Engineering*
- JIE XU, 2008; B.A., 2001, M.A., 2004, Nanjing University (China); Ph.D., 2008,

Villanova University

- TIANXIA (TINA) YANG, 2009; B.A., 1996, University of International Business and Economics; M.B.A. and M.S., 1999, University of Miami; Ph.D., 2005, University of Georgia. *Assistant Professor, Finance*
- JONATHAN YATES, 2005; B.A., 1991, Kennesaw State University; Th.M., 1997, Dallas Theological Seminary; M.A., 2000, Ph.D., 2005, Catholic University of Louvain. *Assistant Professor, Theology & Religious Studies*
- JOSEPH R. YOST, 1998; B.S.E., State University of New York at Syracuse; M.S.C.E., 1985, Ph.D., 1994, University of New Hampshire; P.E. (NH). *Associate Professor, Civil and Environmental Engineering*
- MATTHEW J. YOUNGMAN, 2012; B.S., 1998, Pepperdine University; Ph.D., 2007, Johns Hopkins University; *Assistant Professor; Biology*
- PETER A. ZALESKI, 1987; B.A., 1982, St. Joseph's University; M.A., 1983, Temple University; Ph.D., 1988, University of Maryland. *Professor, Economics & Statistics*
- FARID ZAMANI, 1984; B.S., 1976, M.S., 1979, Pahlavi University (Iran); Ph.D., 1984, Ohio University. *Associate Professor, Physics*
- SUZANNE T. ZAMEROWSKI, 1979; B.S., 1968, Temple University; M.S.N., 1979, University of Pennsylvania; Ph.D., 1993, New York University. *Associate Professor, Nursing*
- CHARLES E. ZECH, 1974; B.A., 1969, St. Thomas College; M.A., 1971, Ph.D., 1973, University of Notre Dame. *Professor, Economics & Statistics*
- HAI LIN ZHOU, 2007; B.A., 1993, Hosei University; M.A., 1995, Ph.D., 2002, Waseda University. *Visiting Assistant Professor, Global Interdisciplinary Studies*
- DANIEL J. ZIEGLER, 1961; B.S., 1960, Villanova University; M.A., 1961, Ph.D., 1968, Temple University. *Professor Emeritus, Psychology*
- BARBARA H. ZIMMERMAN, 2000; B.A., 1961, University of Pennsylvania; M.S., 1970, University of Maryland. *Instructor, Computing Sciences*
- DEANNA L. ZUBRIS, 2002; B.S., 1995, University of Rochester; Ph.D., 2000, California Institute of Technology. *Associate Professor, Chemistry*
- ANTHONY ZYGMONT, 1963; B.E.E., 1959, Villanova University; M.S.E.E., 1963, Drexel University; Ph.D., 1971, University of Pennsylvania; M.S.C.S., 1988, Stanford University; P.E. (PA). *Professor, Electrical and Computer Engineering*

COURSE LISTING

AAH 1101 His West Art: Ancient - Med Art & architecture in Europe, the Mediterranean (esp. Greece & Rome,) & the Middle East in prehistoric, ancient, & medieval periods, with introduction to issues & themes of art history. (3 cr) *Last Offered: Fall 2012, Summer 2012, Fall 2011, Fall 2010.*

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 2011, Spring 2011, Fall 2010, Spring 2010.*

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 2012, Fall 2010, Fall 2009, Fall 2008.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

AAH 1903 Internship Elective An internship in an elective area of concentration. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Fall 2011, Spring 2010, Spring 2009.*

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: Summer 2012, Spring 2012, Summer 2011, Summer 2010.*

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 2012, Fall 2008, 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 2011, Fall 2008, Summer 2007, Summer 2005.*

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, Fall 2010, Spring 2008, Spring 2006.*

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 2012, Summer 2011, Summer 2010, Summer 2009.*

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 2012, Spring 2011, Spring 2010, Summer 2009.*

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 2011, Spring 2009, Spring 2008.*

AAH 2993 Internship (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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: Fall 2012, Summer 2012, Summer 2011, Fall 2009.*

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 2012, Fall 2009, Fall 2008, Spring 2007.*

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: Fall 2012, Summer 2012, Spring 2012, Summer 2011.*

AAH 3009 Topics in Art History Selected themes or periods in the history of art examined in depth. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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

AAH 4000 Senior Thesis Independent research projects under the guidance of a department faculty member. Passing grade depends on student thesis acceptable to two faculty members. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

AAH 4003 Spec Topics: Ancient-Medieval Seminar on selected topics in ancient or medieval art as announced. Topics will vary depending on the instructor. (3 cr) *Last Offered: Summer 1998, Fall 1997, Spring 1997, Fall 1996.*

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: Fall 2010, 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 2012, Spring 2002, Spring 2000, Spring 1998.*

AAH 4007 Special Topics Seminar on advanced topics in modern painting, sculpture, and architecture. This course will cover European and American art of the period from 1750 to the present day. Reports and research paper required. Pre-requisite: AAH 2004 or permission of instructor. (3 cr) *Last Offered: Fall 2008, Fall 2004, Spring 2004, Spring 2003.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

AAH 5515 Independent Research An intensive research project under individual direction. Permission of chairperson required. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

ACC 1102 Prin of Managerial Accounting (3 cr) *Last Offered: Summer 2010, Spring 2010, Fall 2009, Summer 2009.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

ACC 2340 Accounting Info 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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012.*

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 2012.*

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: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

ACC 2460 Federal Income Tax (3 cr) *Last Offered: Summer 2012, Spring 2012, Fall 2011, Summer 2011.*

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 2012, Spring 2012, Fall 2011, Fall 2010.*

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 2012, Spring 2012, Fall 2011, Fall 2010.*

ACC 3300 Special Topics in Accounting Contemporary issues and topics in Financial Reporting, Strategic Cost Management, Auditing, Systems, and Entrepreneurship. (3 cr) *Last Offered: Fall 2006, Spring 2006, Fall 2005, Summer 2005.*

ACC 3350 Fraud Examination The focus of the course is on the pervasiveness and causes of fraud, methods for investigating fraud within organizations, and what organizations can do to prevent and detect fraud. The successful completion of the course provides a basic understanding of various types of fraud, the fraud triangle, fraud prevention and internal control, fraud detection and investigation techniques, financial statement fraud, fraud against organizations, bankruptcy and divorce fraud, fraud in e-commerce, and the legal elements and resolution of fraud. (3 cr) *Last Offered: Spring 2010, Spring 2009, Summer 2008, Spring 2008.*

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 2012, Summer 2012, Fall 2011, Summer 2011.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

ACC 3500 Ind Study: Accounting (3 cr) *Last Offered: Summer 2012, Spring 2012, Summer 2011, Spring 2011.*

ACC 4132 Seminar in Accounting Study of selected topics in Accounting 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:*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2011, Fall 2010, Fall 2009, Fall 2008.*

AER 1012 Leadership Lab (cr) *Last Offered: Fall 2011, Fall 2010, Fall 2009, Fall 2008.*

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 2012, Fall 2011, Spring 2011, Spring 2010.*

AER 1022 Leadership Lab (cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2011, Fall 2010, Fall 2009, Fall 2008.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2011, Fall 2010, Fall 2009, Spring 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2011, Fall 2010, Fall 2009, Fall 2008.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

AIS 4100 AIS Seminar (3 cr) *Last Offered: Fall 2012, Spring 2010, Spring 2008, Spring 2007.*

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 2012, Summer 2012, Fall 2011, Summer 2011.*

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: Summer 2012, Spring 2012, Summer 2011, Spring 2011.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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. (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

ARB 1132 Intensive Adv Arabic II Advanced communication skills including reading and discussing topics on current events. Supplementary language laboratory work. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

ARB 1133 Conversational Arabic I Intensive practice in conversation with emphasis on developing advance language skills in Arabic. (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. (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 2010, Fall 2009, Spring 2009, Fall 2008.*

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 2141 Arab-Andulasian Legacy The impact of the Arab period on the Iberian Peninsula from the historical, cultural and literary viewpoints. (3 cr) *Last Offered:*

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ARB 2142 Arab Culture 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 2012, Spring 2012, Fall 2011, Spring 2011.*

ARB 3412 Special Topics Advanced study of topics of special interest in Arabic literary and/or cultural studies. May be repeated for credit if topic changes. Fulfills core requirements for Arabic minor. (3 cr) *Last Offered: Fall 2012, Fall 2007, Spring 2007, Fall 2006.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

ART 2110 Studio Art (3 cr) *Last Offered:*

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.*

ASL 1111 Intro to Amer Sign Language I Functional use of American Sign Language for students with no prior knowledge of ASL and Deaf Culture. (3 cr) *Last Offered: Fall 2011.*

ASL 1112 Intro to American Sign Lang II A continuation of ASL I with increase understanding and knowledge of the ASL through description, classified and facial. Each unit has student/instructor interaction and information on grammar, comprehension and Deaf Culture. (3 cr) *Last Offered: Fall 2011.*

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 2012, Fall 2011.*

ASPD 2000 Prof Dev for Arts & Sciences Designed for sophomores who want the tools to explore personal and professional opportunities in the Liberal Arts & Sciences as they make decisions about the academic major. (1 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012.*

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: Fall 2012, Fall 2011.*

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 2012, Spring 2012, Fall 2011.*

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 2012, Spring 2012, Fall 2011.*

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: Spring 2012, Fall 2011.*

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.*

AST 1050 Planet Earth I Earth as a planetary member of the Solar System. Characteristics, history of formation, dynamics, and evolution of the solar system. Emphasis on the fundamental scientific principles at work throughout the universe. (3 cr) *Last Offered: Fall 2011, Fall 2010, Fall 2009, Fall 2008.*

AST 1051 Planet Earth Lab I Laboratory to accompany Planet Earth I. Astronomical observations and principles of experimentation both with real physical experiments and computer simulations. (1 cr) *Last Offered: Fall 2011, Fall 2010, Fall 2009, Fall 2008.*

AST 1052 Planet Earth II A continuation of AST 1050 (Planet Earth I). (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

AST 1053 Planet Earth Lab II A continuation of AST 1051 (Planet Earth II). (1 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

AST 1072 Birth & Death of Stars A study of the life cycles of the stars from their birth in dark, dense interstellar dust clouds to their deaths in nature's most violent cataclysms with a focus on stars and humanity, the formation of the chemical elements, the effects of nearby supernovae, the future of the Sun and the ultimate fate of Earth, and the question of planetary systems around other stars. Co-requisite for Arts students: AST 1073 (3 cr) *Last Offered: Summer 2012, Fall 2011, Summer 2011, Fall 2010.*

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AST 1073 Stellar Lab Laboratory focuses on stellar and galactic problems. Co-requisite: AST 1073, 2122 or 2120. *(1 cr) Last Offered: Summer 2012, Fall 2011, Summer 2011, Fall 2010.*

AST 1074 Planetary Skies and Landscapes The surfaces and atmospheres of other worlds and how they compare to Earth with a focus on the physical processes which mold their landscapes and both generate and modify their gaseous atmospheres. The geology and meteorology of planets and their moons; the role of destructive collisions versus accretion and re-compaction. The effects of collisions with asteroids and comets, their role in mass extinctions, and in the possible formation of atmospheres and oceans; the search for planets and life in our solar system and beyond. Co-requisite for Arts students: AST 1075. *(3 cr) Last Offered: Summer 2012, Spring 2012, Summer 2011, Spring 2011.*

AST 1075 Planets Lab A continuation of Astronomy Lab I that focuses on planetary and solar system problems. Co-requisite: AST 1075 or AST 2121. *(1 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. Restricted to VSB students, satisfying their 1-semester Natural Science requirement. *(3 cr) Last Offered: Fall 2012, Spring 2012, Fall 2011.*

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:*

AST 1101 The Solar System *(3 cr) Last Offered:*

AST 1102 Exploration of the Universe *(3 cr) Last Offered:*

AST 1131 Astronomy Laboratory I *(1 cr) Last Offered:*

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. Non-Astronomy majors may elect AST 1073 as a lab. *(3 cr) Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

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. The manner with which comets and meteorites reveal the structures of the primitive solar system. Open to science, engineering and math majors. Non-Astronomy majors may elect AST 1075 as a lab. *(3 cr) Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

AST 2122 Galaxies and Cosmology The universe beyond the solar system: galactic structure, galactic evolution, and the current cosmological models of the large scale structure of the universe. Prerequisite or Corequisite: MAT 1500 or above. Non Astronomy majors may elect AST 1073 as a lab. (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

AST 2133 Observational Lab I Astronomical instruments, methods of observing, reduction of observations, and discussion of astronomical data. Observations include CCD imaging, spectroscopy, and photoelectric photometry using the observatory reflector and Schmidt telescopes. Two hours per week in the laboratory in addition to the observing time necessary to complete the assigned projects. Corequisite or prerequisite: AST 2120. (2 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

AST 2134 Observational Lab II Continuation of AST 2122. (2 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

AST 3121 Directed Studies I Studies in selected areas under the direction of a staff member. (2 cr) *Last Offered:*

AST 3122 Directed Studies II Studies in selected areas under the direction of a staff member. (2 cr) *Last Offered:*

AST 3131 Sem Astro & Astrophysics Seminar on special topics in Astronomy and Astrophysics. (1 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Fall 2010, Fall 2008, Fall 2006.*

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 2012, Spring 2011, Spring 2009, Spring 2007.*

AST 3152 Astrodynamics Problems dealing with orbit determination, artificial satellites, space travel and related subjects. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2008.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

AST 4122 Undergrad Research II Continuation of AST 4121. (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

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. (cr) *Last Offered: Spring 2008, Fall 2007, Spring 2007, Fall 2006.*

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. (cr) *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 2012, Spring 2012, Summer 2011, Spring 2011.*

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

BA 3000 VSB Washington Internship (3 cr) *Last Offered: Fall 2005.*

BA 4500 Communication Portfolio II Record/videotape 3-5 minute oral presentation for evaluation by Communication department. (cr) *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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

BIO 1181 Cell Biology 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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Summer 2012, Fall 2011, Summer 2011.*

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: Summer 2012, Spring 2012, Summer 2011, Spring 2011.*

BIO 1505 Biology for Today Biology of cells, comparative animal physiology, genetics, reproduction and development, evolutionary biology and ecology. Experimental approaches used by biologists in problem solving. Writing assignments on the interpretation of science presented in the news media. Open to Arts sophomores. (4 cr) *Last Offered: Summer 2012, Fall 2011, Summer 2011, Fall 2010.*

BIO 1555 Environmental Science Fundamentals of ecology; energy use and alternatives for the future; mineral resources; population, food nutrition, hunger; air and water pollution; pesticides; waste disposal; global warming; oil spills. (4 cr) *Last Offered: Spring 2003, Spring 2002, Spring 2001, Summer 1998.*

BIO 1605 Heredity & Human Affairs Genetic variation in humans and human populations including metabolic diseases, chromosomal aberrations and cancer. Genetic aspects of biotechnology, biodiversity and environmental hazards. (4 cr) *Last Offered: Summer 2012, Spring 2012, Summer 2011, Spring 2011.*

BIO 1625 How Microbes Rule the World How microbes benefit humans through the recycling of elements and their uses in food and fuel production, water purification and detoxification of wastes. Microbes as the causative agents of disease and as agents to produce lifesaving cures through biotechnology. (4 cr) *Last Offered: Spring 2012, Fall 2011, Spring 2011, Fall 2010.*

BIO 1655 Human Physiology - Body Works The principles and mechanisms underlying how the human body functions, with emphasis on physical fitness. (4 cr) *Last Offered: Summer 2012, Spring 2012, Summer 2011, Summer 2010.*

BIO 1705 Life in the Sea Fundamentals of chemical, physical, and geological oceanography and their relationship to the evolution of marine organisms. The biology and ecology of marine algae, invertebrates, fishes and marine mammals. The ecological dynamics of marine habitats including saltmarshes, coral reefs and the deep sea. (4 cr) *Last Offered: Fall 2007, Fall 2006, Fall 2005, Spring 2001.*

BIO 1785 Plants and Civilization Introduction to basic plant structure and function, the roles of plants in ecosystems, and plant-human interactions (including water pollution, agriculture, human nutrition, herbal medicine). Laboratories include experiments that complement topics in lectures. (4 cr) *Last Offered: Fall 2012, Spring 2011, Spring 2010, Spring 2009.*

BIO 1885 Special Themes in Core Biology A selected theme on some aspect of biology. Topics will be announced for upcoming semester. Specific information will be available in the department office. (4 cr) *Last Offered: Spring 2011, Fall 2010, Spring 2007.*

BIO 1903 Internship Elective Open to BIO and BSC majors. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

BIO 1906 Internship Elective Open to BIO and BSC majors. (6 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

BIO 1909 Internship Elective Open to BIO and BSC majors. (9 cr) *Last Offered: Fall 2007, Fall 2006, Fall 2005, Fall 2004.*

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 2012, Summer 2012, Fall 2011, Summer 2011.*

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: Summer 2012, Spring 2012, Summer 2011, Spring 2011.*

BIO 2993 Internship Open to BIO and BSC majors. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

BIO 2996 Internship Open to BIO and BSC majors. (6 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

BIO 3011 Animal Behavior Causation, development, ecology, evolution of behavioral patterns, behavioral genetics, neuroethology, communication, foraging territoriality, mating systems, parental behavior, social organization. Emphasis on ultimate explanations. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

BIO 3012 Animal Behavior Lab Methods for observing behavior and for collection, statistical analysis, and interpretation of behavioral data. Exercises in lab and field, discussion, and small-group independent research projects. (1 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

BIO 3055 Animal Physiology The basic principles underlying how animals function and the mechanisms used to solve physiological problems. (4 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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: Summer 2012, Spring 2012, Summer 2011, Spring 2011.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

BIO 3225 Intro to Electron Microscopy Introduction to specimen production for and use of scanning and transmission electron microscopes. (4 cr) *Last Offered: Fall 2009, Fall 2008, Fall 2006, Fall 2004.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 prerequisites may be taken concurrently. (4 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2011, Fall 2009, Fall 2007, Fall 2005.*

BIO 3455 Histology The microscopic study and demonstration of cells, tissues and organ systems of the mammalian body. (4 cr) *Last Offered: Spring 2012, Spring 2010, Spring 2009, Spring 2008.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2011, Fall 2009, Fall 2007.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

BIO 3605 Microtechnique The principles and basic methods of preparing specimens for microscopic study; major techniques and recent developments. (4 cr) *Last Offered:*

BIO 3651 Non-vascular Plants Physiology, comparative evolutionary trends, ecology, and morphology of Monera, photosynthetic Protists, Bryophytes, Fungi, and Lichens. (2 cr) *Last Offered: Spring 1997, Spring 1996, Spring 1995.*

BIO 3652 Non-vascular Plants Lab Physiological experimentation and microscopic study of Monera, photosynthetic Protists, Bryophytes, Fungi, and Lichens. (2 cr) *Last Offered: Spring 1997, Spring 1996, Spring 1995.*

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 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 2012, Spring 2010, Fall 2006, Summer 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 2012, Fall 2011.*

BIO 3952 Special Topics in Biology LAB Lab to accompany BIO 3950: Special Topics course. Topic to be determined by term. Three hours laboratory per week. (1 cr) *Last Offered: Spring 2012.*

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 2012, Fall 2010, Spring 2008, Spring 2001.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

BIO 4251 Comp Endocrinology Mechanisms of endocrine control of growth, metabolism, reproduction, adaptation, and behavior. The endocrine glands. (3 cr) *Last Offered: Fall 2012, Fall 2010, Fall 2009, Spring 2007.*

BIO 4252 Comp Endocrinology Lab Laboratory experience in endocrinology, demonstrative and analytical. (1 cr) *Last Offered: Fall 2012, Fall 2009, Spring 2007, Spring 2006.*

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: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2008.*

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 2012, Spring 2011, Spring 2009, Spring 2007.*

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 2011, Fall 2009, Fall 2008, Fall 2006.*

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 2012, Spring 2010, Fall 2008, Spring 2007.*

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: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2008.*

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: Summer 2012, Summer 2011, Spring 2010, Spring 2009.*

BIO 4940 Topics in Biology Current topics in biology. Topics will be announced on a semester-by-semester basis. Typically has a course at the 3000-level as a prerequisite. Specific information will be available in the department office. (2 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011.*

BIO 4950 Advanced Topics in Biology Coverage of current topics in biology. Topics will be announced on a semester-by-semester basis. Typically has a course at the 3000-level as a prerequisite. Specific information available in the departmental office. (3 cr) *Last Offered: Fall 2012, Spring 2012.*

BIO 4952 Advanced Topics in Biology LAB Lab to accompany BIO 4950: Advanced Topics course. Topic to be determined by term. Three hours laboratory per week. (1 cr) *Last Offered: Fall 2012.*

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: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

BIO 6100 Affiliation Study (cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

BIO 6401 BS/MS Independent Study 1 Supervised laboratory/field research (1 cr) *Last Offered: Fall 2012, Summer 2012, Fall 2011, Summer 2011.*

BIO 6402 BS/MS Independent Study 2 Supervised laboratory/field research. (1 cr) *Last Offered: Summer 2012, Spring 2012, Summer 2011, Spring 2011.*

BIO 6403 BS/MS Independent Study 3 Supervised laboratory/field research. (1 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

BIO 6404 BS/MS Independent Study 4 Supervised laboratory/field research. (1 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

BIO 6965 International Studies Biology Lecture/Laboratory course taken through International Studies Program. (4 cr) *Last Offered: Fall 2007.*

BL 1090 Legal Environ Bus & Soc The sources, nature and substantive principles of American Law; its moral and ethical dimensions; the judicial process; comparison with other legal systems; impact of government regulations. (3 cr) *Last Offered: Spring 2010, Fall 2009, Spring 2009, Fall 2008.*

BL 2100 Labor Legislation Modern legislation governing activities of employers and unions in labor disputes and relations between unions and their members; comparison with labor legislation internationally. (3 cr) *Last Offered:*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

BL 3160 Estate Planning Emphasis is placed on the use of estate planning principles in establishing estate objectives and plans, and the development of a faculty for using the tools of estate planning; moral and ethical dimensions. (3 cr) *Last Offered:*

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 2012, Summer 2011.*

BL 5701 Alternate Dispute Resolution The nature of conflict and the means of effectively resolving disputes: litigation, negotiation, mediation, and arbitration. (3 cr) *Last Offered: Spring 2001.*

CE 3103 Strength of Materials (3 cr) *Last Offered:*

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: Summer 2012, Spring 2012, Summer 2011, Spring 2011.*

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: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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: Summer 2009, Spring 2009, Fall 2008, Summer 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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011, Spring 2010.*

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 2012, Spring 2011, Spring 2010.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 practice. (4 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010.*

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 2012, Fall 2011, Fall 2010.*

CEE 3235 Advanced Transportation Engr. (Technical Elective) Fundamentals of urban traffic engineering, including planning, data collection, analysis, and design. Traffic engineering studies, traffic control devices, capacity analysis, and congestion management of freeways and urban streets with software applications. Intelligent transportation systems. (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

CEE 3412 Structural Design Principles of design; behavior and design of reinforced concrete and structural steel members; design for tension, compression, shear, and moment; serviceability; use of ACI and AISC codes. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, 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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Fall 2009, Fall 2008, Fall 2007.*

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 2012.*

CEE 3912 Structural Engineering Lab Experimental testing of structural steel and reinforced concrete including tension, compression, and flexural members; fabrication of a reinforced concrete beam; field trip to a local construction site. (1 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Spring 2011.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

CEE 4412 Advanced Structural Egr (CEE Senior Elective) Advanced structural analysis techniques; advanced topics in design of structural steel and reinforced concrete; structural modeling, analysis, and design using commercial software packages; experimental verification of a structural design; research investigation involving an innovative construction material or structural component. (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

CEE 4607 Selected Topics in CEE Speciality 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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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

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department chair required. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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 4701 Economy and Risk Value theory, interest formulas, equivalence calculations, inflation and taxes, comparison among alternatives; decision criteria, risk and uncertainty. (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

CEE 4801 Foundation Design (CEE Senior Elective) Soil testing, site investigation, design of both shallow and deep foundations. (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

CESL 6002 English As A Second Language English As A Second Language (2 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

CESL 6003 Understanding ENG Grammar (2 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Spring 2010.*

CHE 2910 Catholic Soc Thought & the EGR Overview of the principles of Catholic Social Teaching (CST) and how engineers might incorporate these principles as design parameters when developing solutions to engineering problems. Case studies in which engineers have applied CST principles will be presented and discussed. (1 cr) *Last Offered: Spring 2011.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011.*

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 2012, Fall 2011, Fall 2010.*

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 2012, Spring 2011.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012.*

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 2012, Fall 2011.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011, Summer 2010, Spring 2010.*

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 2012, Fall 2011.*

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 2011, Fall 2008, Fall 2005, Fall 2004.*

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: Spring 2012, Spring 2008, Spring 2006, Spring 2004.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Fall 2011, Fall 2010.*

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 2010, Fall 1999, Fall 1998, Fall 1997.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

CHE 5232 Chem Reaction Eng II 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, Fall 2011, Spring 2011, Spring 2010.*

CHE 5331 Process Control Theory Mathematical tools for control systems analysis: linear open- and closed-loop systems, frequency response techniques, multi-

variable process control, sampled-data control techniques, other advanced topics. (3 cr) *Last Offered: Spring 2004, Fall 1998, Fall 1997, Fall 1996.*

CHE 5332 Special Topics in CHE Selected topics in chemical engineering: recent developments, new technology, applications of other disciplines to chemical engineering problems. (3 cr) *Last Offered: Spring 2010, Fall 2009, Spring 2005, Fall 2000.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2008.*

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 2012, Spring 2011, Spring 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2011, Spring 2010, Spring 2009, Spring 2008.*

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 2012, Fall 2011, Fall 2010.*

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 2012, Summer 2012, Fall 2011, Summer 2011.*

CHI 1112 Basic Chinese II Continuation of CHI 1111-Basic Chinese I New pronunciation system, PINYIN, readings and oral drills. Supplementary language laboratory work. (6 cr) *Last Offered: Summer 2012, Spring 2012, Summer 2011, Spring 2011.*

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, Spring 2005.*

CHI 1121 Intermediate Chinese I Review of Grammar and vocabulary. New pronunciation system, PINYIN, reading and oral drills. Supplementary language laboratory work. (5 cr) *Last Offered: Fall 2012, Summer 2012, Fall 2011, Fall 2010.*

CHI 1122 Intermediate Chinese II Review of grammar and vocabulary. New pronunciation system, PINYIN, readings and oral drills. Supplementary language laboratory work. (5 cr) *Last Offered: Summer 2012, Spring 2012, Spring 2011, Spring 2010.*

CHI 1131 Advanced Chinese I Advanced communication skills including reading and discussing topics on current events. Supplementary language laboratory work. (3 cr) *Last Offered: Fall 2012, Summer 2012, Fall 2011, Fall 2010.*

CHI 1132 Advanced Chinese II Advanced communication skills including reading and discussing topics on current events. Supplementary language laboratory work. (3 cr) *Last Offered: Summer 2012, Spring 2012, Spring 2011, Spring 2010.*

CHI 1133 Advanced Chinese III Advanced communication skills including reading & discussing topics on current events. Supplementary language laboratory work. (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2009, Fall 2008.*

CHI 1134 Advanced Chinese IV Advanced communication skills including reading & discussing topics on current events. Supplementary language laboratory work. (3 cr) *Last Offered: Spring 2010, Spring 2009.*

CHI 1135 Conversational Chinese I Intensive practice in conversation with emphasis on developing advanced language skills in Chinese. (3 cr) *Last Offered: Fall 2010.*

CHI 1136 Conversational Chinese II Intensive practice in conversation with emphasis on developing advanced language skills in Chinese. (3 cr) *Last Offered:*

CHI 2143 Chinese Culture Chinese culture and civilization from the beginning to the present. Conducted in English. Satisfies Diversity Requirement. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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, Spring 2007, Fall 2006.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2004, 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 2012, Spring 2011, Spring 2010, Spring 2009.*

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: Spring 2011, Fall 2010, Spring 2010, Fall 2009.*

CHM 1051 Chemistry & Energy For non-science majors. The role of chemistry in the production, storage and utilization of energy. Topics covered include basic thermochemistry, thermodynamics, organic chemistry, energy from combustion, electrochemistry, electrochemical energy production, nuclear chemistry, and other sources of energy (phase changes, wind and water power, solar energy, tidal power). (3 cr) *Last Offered: Spring 1999.*

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 2002, Spring 2001, Spring 1999.*

CHM 1053 Atoms Elements Molecules For non-science majors. The experiments which led to the inception and evolution of the concepts of atoms, elements, and molecules will be examined. These samples give a grounding in the fundamentals of chemistry and an understanding of the logic which underlies the "scientific method". (3 cr) *Last Offered: Spring 1997.*

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 2004, Spring 2003, Spring 2002, Spring 2001.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Summer 2012, Spring 2012, Fall 2011.

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 2012, Spring 2012, Summer 2011, Spring 2011.

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: Summer 2012, Spring 2012, Summer 2011, Spring 2011.

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 2012, Summer 2012, Fall 2011, Summer 2011.

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: Summer 2012, Spring 2012, Summer 2011, Spring 2011.

CHM 1151 General Chemistry I Basic concepts of chemistry covering the following topics: properties of bulk matter; stoichiometry; colligative properties of solutions; thermochemistry; redox reactions; equilibrium and kinetics. For science, pre-med and engineering students. (4 cr) Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.

CHM 1152 General Chemistry II Descriptive presentation of atomic orbitals; molecular structure; chemical and physical trends in the periodic table; general descriptive chemistry of the elements; complex ions and factors that drive chemical reactions. For science, pre-med and engineering students. (4 cr) Last Offered: Summer 2012, Spring 2012, Summer 2011, Spring 2011.

CHM 1156 General Chemistry II for Egr Descriptive presentation of atomic orbitals; molecular structure; chemical and physical trends in the periodic table; general descriptive chemistry of the elements; complex ions and factors that drive chemical reactions. Corequisites: CHM 1104 if your major requires. (4 cr) Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

CHM 1502 Quant Anal Lab Laboratory experiments to complement CHM 1512 covering the following: gravimetric analysis, acid-base titrations (weak acid; mixed acid), complexometric titration and redox reactions. (2 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

CHM 1903 Internship Elective (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

CHM 1906 Internship Elective (6 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

CHM 1909 Internship Elective (9 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Spring 2012, Summer 2011, Spring 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Spring 2012, Summer 2011, Spring 2011.*

CHM 2993 Internship (3 cr) *Last Offered: Summer 2012, Summer 2011, Spring 2011, Summer 2010.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2007, Summer 2006, Summer 2005, Summer 2004.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2003, 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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2001, Fall 2000, Fall 1999, Fall 1998.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Fall 2011, Summer 2011, Fall 2010.*

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 2001, Fall 2000, Fall 1999, Fall 1998.*

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: Fall 2004.*

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 2011, Spring 2009, Spring 2008, Spring 2007.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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:*

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:*

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 2007, 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 2012, Spring 2012, Fall 2011, Spring 2011.*

CHM 4603 Biochem Tech. and Pract. A laboratory course to complement CHM 4621 & 4622. Emphasis on enzyme purification, enzyme characterization, nucleic acid

analysis, polysaccharide analysis & coupled enzyme systems. (2 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

CHM 4623 Biochemistry III Integration of metabolism in organisms, membrane receptors expression of genes, gene manipulation, translation, transcription. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

CHM 4631 Membranes and Receptors Overview of membrane structure and biosynthesis of membrane components, followed by receptor biochemistry including ligand binding, structure, signal transduction, and cellular response. The interpretation of current literature will be emphasized. (3 cr) *Last Offered: Spring 2011.*

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: Spring 2012.*

CHM 4643 Biochemical Toxicology The biochemistry, toxicology, chemistry, and enzymology of toxicology and toxicants. Examination of xenobiotic metabolism and biochemical pathways impacted by endogenous or environmental toxicants. Treatment of metabolic degradation. Role of enzymes such as cytochrome p450, cyclooxygenase 2, and Glutathione-S-Transferases. (3 cr) *Last Offered: Fall 2010.*

CHM 4652 Biochemical Basis of Disease A study of the relationship between the metabolism of biomolecules, including carbohydrates, lipids, amino acids and nucleotides, and metabolic disease. Specific topics include diabetes, obesity, digestive disorders, and cancer. (3 cr) *Last Offered: Fall 2012.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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CHM 4802 Research II Continuation of CHM 4801. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

CHM 4803 Research III Continuation of CHM 4802. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Spring 2012.*

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 2012, Spring 2012.*

CLA 1005 Literacy and Latin (3 cr) *Last Offered:*

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:*

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 2012, Spring 2011, Spring 2010, Fall 2009.*

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 2012, Spring 2002, Spring 1996.*

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 2010, Fall 2003, Fall 2002, Fall 2001.*

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: Fall 2012, Spring 2011, Fall 2010, Fall 2008.*

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: Spring 2011, Fall 2010, Spring 2010, Fall 2009.*

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 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 2012, Fall 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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. Does not fulfill VSB requirement. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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. Fulfills the VSB requirement; not intended for Communication Department majors. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

COM 1200 Intro to COM Research Basics of research in communication. Introduction to the philosophy of scientific inquiry, the logic of research design, and the chief quantitative and qualitative methods used in communication studies. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

COM 1903 Communication Internship Supervised work/study program in radio, television, advertising, publicity or public relations. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

COM 1906 Communication Internship Supervised work/study program in radio, television, advertising, publicity or public relations. (6 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

COM 1909 Communication Internship Supervised work/study program in radio, television, advertising, publicity or public relations. (9 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2012, Spring 2011, Spring 2010.*

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: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Spring 2012, Fall 2011, Fall 2010.*

COM 2993 Communication Internship Supervised work/study program in radio, television, advertising, publicity or public relations. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

COM 2996 Communication Internship More intensive, in depth work/study/program in radio, television, advertising, publicity or public relations. (6 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Spring 2011, Spring 2007, Spring 2006.*

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 2011, Spring 2011, Spring 2010, Fall 2007.*

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 2012, Spring 2010, Spring 2009, Spring 2007.*

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 2009, Spring 2008, Summer 2007, Summer 2006.*

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 2006, Spring 2006.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Summer 2011, Summer 2010, Summer 2008.*

COM 3240 Performance for Social Change Performance as a powerful medium of art and art as a powerful tool for social change. Studying established performance artists and creating original performance pieces, students address social issues through various modes of performance. (3 cr) *Last Offered: Fall 2012, Spring 2009, Spring 2006.*

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 2011, Fall 2009, Fall 2008.*

COM 3242 African American Performance Recent work in the African-American Diaspora performance culture. Encompasses music, art, sports, religion, literature, politics as well as examples of performance. U.S. racial formation, and how it intersects, diverges, influences, and is influenced by other diasporic black cultures. (Prerequisites will be waived for Africana Studies concentrators or minors). (3 cr) *Last Offered: Spring 2006.*

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:*

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: Spring 2009, Fall 2008, Fall 2006, 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 2012, Summer 2011, Summer 2010, Summer 2009.*

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: Spring 2008, Summer 2007.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2011, Spring 2010, Fall 2009.*

COM 3303 Screenwriting Development of narrative strategies through improvisation and techniques of mediated visualization using video. (3 cr) *Last Offered: Fall 2012, Spring 2012, Spring 2011, Spring 2010.*

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. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2007, Spring 2006.*

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 2012, Fall 2009, Fall 2008, Fall 2007.*

COM 3307 Multimedia Production Principles of visual design, use of sound and images, and hands-on production of text and animated resources for use in a variety of communication contexts. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Fall 2011, Spring 2011, Fall 2010.*

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: Spring 2011, Spring 2010, Spring 2009, Spring 2007.*

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 2012, Fall 2011, Fall 2010, Spring 2010.*

COM 3343 Contemporary Cinema Seminar course in which various strategies are applied to the analysis of contemporary films. (3 cr) *Last Offered: Fall 2009, Fall 2007, Spring 2006.*

COM 3351 Media & Society Structure and content of the major media industries in America (radio, television, film, newspapers, magazines, recordings, and books), and how each interacts with individuals, groups, and institutions. Students analyze and critique media systems and content in terms of social, legal, political, and economics forces that influence them. (3 cr) *Last Offered: Spring 2011, Summer 2006.*

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 2011, Fall 2009, Spring 2008, Summer 2007.*

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 2012, Fall 2011, Spring 2010, Spring 2009.*

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 2012, Fall 2011, Fall 2010.*

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 2012, Summer 2011, Summer 2010, Summer 2009.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Spring 2011, Fall 2010, Fall 2009.*

COM 3362 Feature Writing Theoretical and practical training in writing feature articles for newspapers and magazines. Develop ideas for articles, carry out research, conduct interviews and write appropriate articles. Suggests strategies for selling written work on a freelance basis. Range of related genres will be surveyed including columns, profiles, review, travel and comment. (3 cr) *Last Offered: Fall 2011, Fall 2010, Spring 2009, Spring 2008.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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: 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 2012, Spring 2011, Spring 2010, Fall 2009.*

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 2012, Spring 2010, Spring 2009, Fall 2008.*

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 2012, Summer 2011, Summer 2010, Summer 2009.*

COM 3407 Nonverbal Communication Examination of codes and theories of nonverbal communication within personal, interpersonal, and professional contexts. Topics includes appearance, body language, space, touch, interpersonal attractiveness, credibility and impression management. (3 cr) *Last Offered:*

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 2012, Fall 2010, Spring 2009, Spring 2008.*

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:*

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 2011, Fall 2010, Fall 2009, Fall 2008.*

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 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 2012, Spring 2011, Fall 2009, Spring 2009.*

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 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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

COM 3490 Spec Top in Interpersonal Org Topic or problem in the interpersonal/Organizational area of communication selected by the instructor. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

COM 5000 Communication Research Reading and designing research in communication through gathering and critically analyzing literature in the field and introduction of the chief methods used in communication studies. (3 cr) *Last Offered: Summer 2007, Spring 2007, Fall 2006, Summer 2006.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

COM 5100 Directed Study Supervised project culminating in term paper. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

COM 5150 Spec Top in Communication A topic or problem in Communication selected by the instructor. (3 cr) *Last Offered: Spring 2004, Spring 2003, Spring 2002, Fall 2000.*

COM 5200 Topics Intensive workshops in selected areas of professional development or communication research. (1 cr) *Last Offered: Fall 2012, Spring 2012, Spring 2011, Spring 2010.*

CRJ 1000 Intro to Criminal Justice 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 2012, Summer 2012, Spring 2012, Fall 2011.*

CRJ 3000 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 2012, Spring 2012, Fall 2011, Spring 2011.*

CRJ 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: Fall 2009, Spring 2008.*

CRJ 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: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

CRJ 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 2012, Spring 2012, Fall 2011, Spring 2011.*

CRJ 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 2012, Fall 2011, Spring 2009, Fall 2008.*

CRJ 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 propriety and wisdom of some established rules of law. Supreme Court decisions affecting the criminal process will be discussed. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2009.*

CRJ 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 2012, Fall 2011, Fall 2010, Fall 2009.*

CRJ 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: Fall 2006, Spring 2006, Fall 2005, Spring 2005.*

CRJ 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: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

CRJ 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: Fall 2012, Spring 2010, Fall 2009, Fall 2008.*

CRJ 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: Spring 2011, Fall 2006, Spring 2006, Fall 2005.*

CRJ 4000 Special Top In Crim Justice This course investigates special topics or emerging issues within the criminal justice system. Topics are selected for their importance or the expertise of the instructor. (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

CRJ 5000 Independent Study Supervised research project which results in a major research paper. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

CRJ 5100 Criminological Theory The nature of criminological theory and the major theoretical developments that have shaped criminology. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

CRJ 5200 Crim Just 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: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

CRJ 6003 Internship Supervised work experience in a criminal justice agency. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

CRJ 6006 Internship Supervised work experience in a criminal justice agency. (6 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Summer 2011.*

CRJ 6009 Internship Supervised work experience in a criminal justice agency. (9 cr) *Last Offered: Spring 2008, Fall 2007, Spring 2007, Fall 2006.*

CRJ 6500 Senior Seminar This course focuses on a particular substantive area and integrates criminological theory and research methodology. (3 cr) *Last Offered: Spring 2012, Fall 2011, Spring 2011, Spring 2010.*

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: Fall 2008, Spring 2008, Spring 1987.*

CSC 1010 Tools for Text A unified view of the powerful tools for manipulating text and the algorithms they implement; complexity and security of operations on text; locating and searching online text databases and bibliographies via the Internet; alternative text structures: hypertext, multimedia; alternative input techniques: scanning, voice. (3 cr) *Last Offered: Spring 2004, Spring 2003, Spring 2002, Spring 2001.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2004, Fall 2003, Fall 2002, Fall 2001.*

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: Spring 2011, Spring 2002, 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: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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 graphical user interfaces. (4 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

CSC 1052 Algorithms & Data Struct II Object-oriented design: inheritance, interfaces, polymorphism; problem analysis; recursion; abstract data types; dynamically linked structures; Linear data structures: stacks, queues, lists, vectors; sorting and searching; event-driven programming; graphical user interfaces. (4 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Summer 2011.*

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 2012, Summer 2012, Spring 2012, Summer 2011.*

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 2012, Fall 2011, Fall 2010, Spring 2010.*

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: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Fall 2011, Fall 2009, Fall 2007.*

CSC 1930 Explorations in Computing Emerging technologies & their applications; computing in support of investigations & applications in the humanities & social sciences. (3 cr) *Last Offered: Fall 2010.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2011, Fall 2010, 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 2012, Spring 2010.*

CSC 2053 Alg & Data Structures III Object-oriented design: UML notation; Non-linear data structures; trees, graphs; advanced problem analysis; advanced sorting

and searching; advanced graphical user interfaces; advanced input/output. (3 cr) *Last Offered: Fall 2012, Fall 2011, Spring 2011, Fall 2010.*

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 2012, Fall 2011, Spring 2011, Fall 2010.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

CSC 2500 Survey of Information Science Brief introductions to several areas in which problems in information use are important. Examples are business, law, biology, medicine, electronic commerce, and libraries. (3 cr) *Last Offered: Fall 2012, Fall 2011, Spring 2011, Spring 2010.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2002, Fall 2001, Spring 2001, Fall 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 2012, Spring 2011, Spring 2010, Spring 2006.*

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 3400 Information Retrieval Theory and practice of location, organization, and rendering of meaningful content from largely unorganized sources. (3 cr) *Last Offered: 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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

CSC 4200 Adv Algs and Complexity Greedy algorithms, divide-and-conquer; dynamic programming; backtracking; branch-and-bound; linear and integer linear programming; Fast Fourier transform, probabilistic algorithms; NP-complete problems and approximation methods. (3 cr) *Last Offered: Fall 1996, Spring 1995.*

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 1998, Spring 1997.*

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: Spring 2010, Fall 2005, Fall 2004, Fall 2003.*

CSC 4380 Info Visualization The presentation of information; visual cognition, scientific visualization, illustration presentation, color theory, motion dynamics, image processing. (3 cr) *Last Offered: Spring 2003, Spring 2002, Spring 2001, Spring 2000.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

CSC 4490 Data Warehousing & Mining Tools and techniques, theory and practice for storage and effective use of massive data sets. (3 cr) *Last Offered:*

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: Fall 2010, Fall 2009, 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: Spring 2012, Spring 2011, Spring 2009, Spring 2007.*

CSC 4550 Expert & Knowledge Systems Knowledge representation, uncertainty, automated knowledge acquisition, practical aspects of implementing expert systems. (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: Fall 2000, Fall 1999, 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 2011, Spring 2009, Spring 2007, Spring 2005.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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: Spring 2012, Fall 2011, Fall 2010, Fall 2009.*

CSC 4730 Human Computer Interaction Design of the user/system interface; measurement of human-computer interaction; models of the user and user communities; design criteria for the interface; user interface management systems (UIMS); test and evaluation strategies and tools. (3 cr) *Last Offered: Fall 2012, Fall 2007, Fall 2004, Fall 2003.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Spring 2009, Spring 2006, Spring 2005.*

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 5930 Topics Computer Science Lecture presentation of selected topics in computer science. May be repeated for credit if topics are different. Prerequisites may be imposed depending on the topics. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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. Introduction to Java. Two lecture hours per week and 1 lab period per week. (4 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Summer 2011, Spring 2011, Spring 2010.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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: Summer 2012, Spring 2012, Summer 2011, Spring 2011.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Summer 2012, Fall 2011, Summer 2011.*

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 2012, Spring 2011, Spring 2010.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012.*

ECE 3220 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 and a two-hour practicum per week. (4 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

ECE 3240 Discrete-Time Signals & System Discrete-time signal and system representation; sampling of continuous signals; discrete-time Fourier and z transforms; frequency content of signals and frequency response of systems; system analysis and filtering. Practicum includes use of MATLAB on filtering, channel equalization, music synthesis and spectrum analysis. Three lecture hours and a two-hour practicum per week. (4 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Fall 2011, Spring 2011, Fall 2010.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

ECE 4470 Computer Networks Computer network technologies including asynchronous transfer mode (ATM), Internet, and telephony; protocol layering; multiple access; switching; scheduling; naming, addressing, and routing; error and flow control; traffic management; analysis of common protocols used in Internet, and ATM networks; protocol implementation techniques used in real networks. Three lecture hours and a two-hour practicum per week. (4 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Fall 2009.*

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 2012, Spring 2012, Fall 2011, Fall 2010.*

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 2012, Summer 2012, Fall 2011, Fall 2010.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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: Summer 2012, Spring 2012, Fall 2011, Spring 2011.*

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: Spring 2012, Fall 2011, Spring 2011, Spring 2010.*

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 2012, Summer 2011, Summer 2010, Spring 2010.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 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 2011, Spring 2010, Spring 2009, Fall 2007.*

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 5445 Intro to Neural Networks Applications and methodologies of neural networks using MATLAB. (3 cr) *Last Offered: Spring 2002.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011.*

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 2010, Spring 2009, Spring 2008, Fall 2007.*

ECE 5476 Cybersecurity 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 2012, Fall 2011, Fall 2010.*

ECE 5520 Audio Engineering Selected topics in audio engineering and acoustics, tied together through their application to the problem of high-quality transmission of sound. (3 cr) *Last Offered: Fall 2002, Spring 2002, Spring 1998, Fall 1996.*

ECE 5525 Electronic Music Synthesis Generation of musical sounds via signal waveforms, spectra, and associated mathematical models, using both hardware and software synthesis. (3 cr) *Last Offered:*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2011, Spring 2010, Spring 2008, Spring 2007.*

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 2012, Spring 2011, Spring 2010, Spring 2008.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Fall 2010, 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, Summer 2004, Fall 2002, Spring 2002.*

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 2011, Spring 2010, Spring 2009, Spring 2008.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

ECE 5992 Elec Eng Research II Continuation of ECE 5991. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

ECO 1001 Intro to Micro The price system; demand and supply analysis; the production process; analysis of market structures. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2001, Fall 1996.*

ECO 1903 Internship Elective Fulfills 3.0 free elective credits. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

ECO 1906 Internship Elective Fulfills 6.0 free elective credits. (6 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

ECO 1909 Internship Elective Fulfills 9.0 free elective credits. (9 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

ECO 2996 Internship Fulfills 6.0 economic elective credits. (6 cr) *Last Offered: Summer 2012, Spring 2012, Summer 2011, Spring 2011.*

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 2012, Fall 2011, Fall 2010, Spring 2010.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

ECO 3109 International Economics Comparative advantage; gains from foreign trade; Heckscher-Ohlin doctrine; technology and product cycles; tariff theory and policy; Other protection measures; economic integration; foreign exchange rates; fixed and flexible rates; balance of payments; multinational corporations. (3 cr) *Last Offered: Spring 2012, Summer 2010, Spring 2010, Fall 2009.*

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 2012, Fall 2008, Spring 2002, Spring 2001.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Fall 2011, Spring 2010, Fall 2008.*

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 2012, Fall 2011, Fall 2010, Fall 2008.*

ECO 3123 Labor Economics Economic theories concerning the employer's labor demand, the individual's labor supply, educational/occupational choices, labor unions, on-the-job training, discrimination, labor market mechanisms and wage determination. Public policies which affect the market. (3 cr) *Last Offered: Spring 2011, Fall 2009, Fall 2007, Fall 2006.*

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 2007, Fall 2006, Fall 2005, Fall 2004.*

ECO 3126 Amer Econ Development Growth of the American economy in terms of its various sectors and their interrelations; the evolution of important economic

institutions and ideas and of the role of the entrepreneurs. (3 cr) *Last Offered: Fall 2008, 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 1997.*

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 2011, Summer 2011, Spring 2011, Spring 2010.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2012.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

ECO 4200 Topics in Economics Selected topics in economics currently of interest to faculty and students. (3 cr) *Last Offered: Summer 2012, Spring 2012, Fall 2011, Summer 2011.*

ECO 4202 Econ Dev in Middle East (3 cr) Last Offered: Fall 2006.

ECO 4204 Eco Lat Amer & Caribbean (3 cr) Last Offered: Spring 2010, Spring 2009, Spring 2007, Spring 2005.

ECO 4205 Time Series Analysis (3 cr) Last Offered: 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 2012, Summer 2012, Spring 2012, Fall 2011.

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:

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 2012, Fall 2011, Spring 2011, Fall 2010.

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 2012, Summer 2012, Spring 2012, Summer 2011.

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 2012, Spring 2011, Spring 2010, Spring 2009.

EDU 3251 Psych of Teaching & Learning The application of learning theory to classroom teaching. (3 cr) Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.

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 2010.*

EDU 3254 Prin & Tech of Insruct 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: Fall 2008, Spring 2007, Fall 2006, Spring 2006.*

EDU 3258 Education & Society in 1960s The relationship between educational developments and social change in the decade of the 1960s. The emergence of a distinctive youth culture and the educational impact of the civil rights and women's rights movements of the era. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Fall 2005.*

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 2012, Fall 2011, Fall 2009, Fall 2008.*

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 2010, Spring 2009, Spring 2007, Spring 2006.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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, Fall 2007.*

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: Spring 2012, Spring 2011.*

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 2012, Spring 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: Spring 2005, Fall 2003, Fall 2002, Fall 2000.*

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 2007, Summer 2007, Fall 2006, Fall 2005.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Fall 2011, Fall 2010, 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 2012, Fall 2011, Fall 2010, Fall 2009.*

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: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Fall 2011, Spring 2011, Fall 2010.*

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: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

EDU 4298 Student Teaching (6 cr) *Last Offered: Spring 2003, Spring 2002, Spring 2001, Spring 2000.*

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: Fall 2012, Fall 2011, Fall 2009, 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 2012, Fall 2011, Fall 2010, Fall 2009.*

EGEN 2200 Engineering Entrepreneurship I 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: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

EGEN 2300 Soph. Entrep. 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 2012, Spring 2011, Spring 2010, Spring 2009.*

EGEN 3100 Engr Entrepreneurship II 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 2012, Spring 2012, Fall 2011, Fall 2010.*

EGEN 3200 Engr Entrepreneurship III Development by a team of multidisciplinary engineering students of a professional quality business plan for a 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. For any engineering major in engineering entrepreneurship minor program. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010.*

EGEN 3300 Jr. Entrep. Practicum I 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 2012, Spring 2012, Fall 2011, Spring 2011.*

EGEN 3400 Jr. Entrep. 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: Spring 2012, Spring 2011, Spring 2010.*

EGEN 4100 Engr. Entrepreneurship IV Students will experience the detailed steps in designing and commercializing a product. Hands on workshops will cover the topics of fine tuning business plans, developing "elevator pitches" and presentations to help attract funding to support business ideas. (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011, Spring 2010.*

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 2012, Fall 2011, Spring 2011, Fall 2010.*

EGR 2085 Sust Eng Ind Study Contin (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 2012, Spring 2011.*

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 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.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Spring 2012.*

ENG 1903 Internship Elective (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

ENG 1906 Internship Elective (6 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

ENG 1909 Internship Elective (9 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

ENG 1975 Soph 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 2012.*

ENG 2000 Adv Expository Writing Practice in writing reports, reviews, arguments, description; emphasis on organization and development. (3 cr) *Last Offered: Fall 2012, Summer 2012, Fall 2011, Summer 2011.*

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 2012, Spring 2012, Fall 2011, Fall 2010.*

ENG 2005 Writing of Short Story Instruction in writing short story. (3 cr) *Last Offered: Spring 2012, Spring 2011, Fall 2010, Fall 2009.*

ENG 2006 The Writing of Poetry Instruction in writing poetry. Limited to 15 students. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Fall 2010.*

ENG 2007 The Writing of Screenplays Instruction in writing screenplays. Limited to 15 students. Permission of instructor required. (3 cr) *Last Offered: Fall 2006, Spring 2004.*

ENG 2009 Writing the Traditional Novel An exploration of strategies in writing the traditional novel. (3 cr) *Last Offered: Spring 2011, Spring 2010, Spring 2009, Fall 2005.*

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. A practicum with lectures. Use of computers and word processing. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Fall 2011, Fall 2010, Spring 2010.*

ENG 2045 Sp Top in Writing & Rhetoric Special writing and rhetoric topics selected by the instructor. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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: Fall 2011, Fall 2010, Fall 2009, Fall 2008.*

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 2011, Fall 2009, Fall 2008, Fall 2007.*

ENG 2070 Legal Writing and Analysis Fundamentals of legal writing and analysis. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

ENG 2301 Lit of Science Fiction Science fiction as a significant genre. (3 cr) *Last Offered: Spring 2012, Fall 2009, Fall 2008, Spring 2007.*

ENG 2310 Study of Poetry Concepts of poetry with detailed analyses of selected poems. (3 cr) *Last Offered: Summer 2001, Spring 1996, Fall 1995, Spring 1995.*

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 2007, Spring 2005, Fall 2001, 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 2012, Summer 2011, Spring 2011, Summer 2010.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

ENG 2450 Irish Literature to 1880 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 2012, Summer 2012, Fall 2011, Summer 2011.*

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 2007, 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 2011, Spring 2010, Spring 2009, Spring 2008.*

ENG 2490 Topics in Irish Studies Specific topics vary each semester. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Fall 2010.*

ENG 2491 Topics in Irish Studies Specific topics vary each semester. (3 cr) *Last Offered: 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: Summer 2012, Spring 2012, Summer 2011, Spring 2011.*

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 2012, Fall 2011.*

ENG 2502 African-American Lit Trad 2 African American literature from the twentieth century to today. (3 cr) *Last Offered: 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: Summer 2003, Fall 2002, Fall 2001, Fall 2000.*

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ENG 2515 Black Literature: Drama Major works of the Harlem Renaissance, the Black Arts Movement, and the present. (3 cr) *Last Offered: Spring 2012, Spring 2009, Spring 2007, Fall 2003.*

ENG 2520 Black Lit: Short Story Short fiction by Chesnutt, Hurston, Petry, Baldwin, McPherson, Williams, Walker, Morrison, Butler, and other writers of the 20th century. Diversity requirement. (3 cr) *Last Offered: Spring 2010, Spring 2008, Spring 2006, Spring 2005.*

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 2011, Fall 2010, Fall 2008, Fall 2007.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 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 2011, Spring 2010, Spring 2009, Spring 2008.*

ENG 2735 African Drama Study of modern African drama. (3 cr) *Last Offered: Spring 2010, Spring 2009, Spring 2008.*

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 2012, Fall 2008.*

ENG 2790 Topics in Lit. and Culture Specific topics vary each semester. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

ENG 2791 Topics in Lit. and Culture Specific topics vary each semester. (3 cr) *Last Offered: Spring 2011, Spring 2010, Fall 2009, Fall 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 2012, Spring 2012, Fall 2011, Spring 2011.*

ENG 2993 Internship Internship (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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ENG 2996 Internship Prerequisite: 133-2020 (6 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Fall 2011, Fall 2010, Fall 2008.*

ENG 3190 Medieval Brit/Ir Lit. & Cult. Specific topics vary each semester. (3 cr) *Last Offered: Spring 2012, Spring 2011, Fall 2009, Spring 2009.*

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 2004, Fall 2003, Fall 2002.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

ENG 3290 Renaissance Br/Ir Lit. & Cult. Specific topics vary each semester. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2010, Spring 2010.*

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 2011, Fall 2009, Spring 2009, Spring 2008.*

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 2012, Fall 2005, Fall 1999, 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.*

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ENG 3490 18th c. Brit/Ir Lit. & Culture Specific topics vary each semester. (3 cr)
Last Offered: Fall 2012, Spring 2012, Fall 2011, Fall 2010.

ENG 3491 18th c. Brit/Ir Lit. & Culture Specific topics vary each semester. (3 cr)
Last Offered: 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 2009, Spring 2007, Spring 2003, Spring 2000.*

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, Fall 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 2001, Fall 2000.*

ENG 3520 19th Cent British Novel Selected novelists from Jane Austen to Thomas Hardy. (3 cr) *Last Offered: Fall 2012, Spring 2010, Fall 2008, Fall 2007.*

ENG 3525 Dickens Selected novels by Charles Dickens. (3 cr) *Last Offered: Spring 2012, Fall 2009, Spring 2008, Spring 2006.*

ENG 3590 19th c. Brit/Ir Lit. & Culture Specific topics vary each semester. (3 cr)
Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.

ENG 3591 19th c. Brit/Ir Lit. & Culture Specific topics vary each semester. (3 cr)
Last Offered: Spring 2012, Fall 2011, 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.*

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ENG 3615 James Joyce A study of the novels and short stories of James Joyce, with concentration on *Ulysses*. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2009.*

ENG 3620 Modern British Novel The British novel from the turn of the century to World War II. (3 cr) *Last Offered: Fall 2010, Spring 2009, Fall 2007, Fall 2004.*

ENG 3621 Contemp British Novel The development of the novel since World War II. (3 cr) *Last Offered: Spring 2011, Fall 2008, Fall 2007, Spring 2005.*

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: Fall 2012, Fall 2011, Spring 2011, Summer 2009.*

ENG 3691 Br/Ir Lit. & Cult. after 1900 Specific topics vary each semester. (3 cr) *Last Offered: Spring 2011, Spring 2009.*

ENG 3692 Br/Ir Lit. & Cult. after 1900 Specific topics vary each semester. (3 cr) *Last Offered:*

ENG 4001 Major Amer Writers I The masterpieces of selected American writers from early times to the Civil War era. (3 cr) *Last Offered: Spring 2012, Fall 2011, Spring 2011, Fall 2010.*

ENG 4002 Major Amer Writers II The masterpieces of selected American writers since the Civil War era. (3 cr) *Last Offered: Fall 2012, Fall 2011, Spring 2011, Fall 2010.*

ENG 4040 American Short Story Development of the short story in America from Washington Irving to the present. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Fall 2010.*

ENG 4500 American Slave Narrative Slavery as a central paradox of American history and literature with emphasis on race and gender. Readings by Douglass, 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,

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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: Fall 2011, Spring 2010, Fall 2008, Spring 2007.*

ENG 4520 American Novel to 1895 The genesis of the American novel. (3 cr) *Last Offered: Spring 2011, Spring 2008, Spring 2006, Spring 2001.*

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 2010, Spring 2009, Spring 2008.*

ENG 4590 Am. Lit. & Cult. before 1900 Specific topics vary each semester. (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Spring 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 2011, Fall 2005, Fall 2002, Spring 2001.*

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 2011, Fall 2007, Fall 2004, Fall 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 2012, Spring 2010, Fall 2009, Fall 2007.*

ENG 4621 Amer Novel since 1950 Novels of the late Modern Period and of the early Post-modern period. (3 cr) *Last Offered: Spring 2012, Fall 2011, Spring 2011, Fall 2008.*

ENG 4630 American Drama to 1960 Major plays of the period. (3 cr) *Last Offered: Fall 2011, Summer 2010, Fall 2009, Spring 2009.*

ENG 4631 Amer Drama since 1960 Major plays of the period. (3 cr) *Last Offered: 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 2011, 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: Spring 2003, Summer 2002, Spring 2001, Spring 2000.*

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 2012, Spring 2012, Fall 2011, Summer 2011.*

ENG 4691 Amer. Lit. & Cult. after 1900 Specific topics vary each semester. (3 cr) *Last Offered: Spring 2012, Fall 2011, Spring 2011, Fall 2009.*

ENG 4692 Amer. Lit. & Cult. after 1900 Specific topics vary each semester. (3 cr) *Last Offered: Fall 2011, Spring 2011, Spring 2008.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

ENT 2020 Entrepreneurship Mgt 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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011, Spring 2010, Fall 2009.*

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 2012, Spring 2011, Spring 2010, Fall 2008.*

ETH 2050 Eth Trad & Contemp Life 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 2012, Summer 2012, Spring 2012, Fall 2011.*

ETH 3010 Topics in Ethics Addresses a special topic in ethics of current interest to faculty & students. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Summer 2011, Spring 2011, Fall 2010.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

FIN 2230 Financial Institutions The structure, operation, management, and regulation of commercial banks, savings and loan associations, mutual savings banks, credit unions, insurance companies, finance companies, pension funds, investment companies, and international financial institutions; structure and operation of the Federal Reserve system; measurement and management of the risks of financial institutions. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2011, Spring 2009, Spring 2008.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

FIN 2340 Contemporary Topics in Finance Contemporary issues and topics in Financial Management, Financial Markets, Investments, or International Finance. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

FIN 2343 Student-Managed Funds II (1.5 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012.

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 2012, Summer 2012, Spring 2012, Fall 2011.

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 2012, Summer 2012, Spring 2012, Fall 2011.

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 2012, Spring 2012, Fall 2011, Spring 2011.

FIN 4132 Seminar in Finance Study of selected topics in Finance 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:

FRE 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 2012, Summer 2012, Fall 2011, Summer 2011.

FRE 1112 Introductory French II Groundwork in French, including oral proficiency, aural comprehension and reading; for students with one year of high school French. Supplementary language laboratory work and oral drills. Students should have completed FRE 1111 or equivalent. (4 cr) Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.

FRE 1113 French-Reading Knowledge Essentials of grammar and exercises in expository French prose to prepare students for independent research in specialized fields. (cr) Last Offered: Spring 1998, Spring 1997, Spring 1996, Spring 1995.

FRE 1121 Intermediate French I Review of grammar, composition, reading and conversation. Students should have completed FRE 1112 or the equivalent. (3 cr) Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.

FRE 1122 Intermediate French II Review of grammar, composition, reading and conversation. Students should have completed FRE 1121 or the equivalent. (3 cr) Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.

FRE 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 FRE 1122 or the equivalent. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

FRE 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 FRE 1131 or the equivalent. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

FRE 1134 Business French An introduction to French business terminology and discourse related to economic, finance, and management. (3 cr) *Last Offered: Summer 2012, Spring 2002, Spring 2001, Spring 2000.*

FRE 1135 Contemporary French Business Panorama of French business culture of the last thirty years through anthropological, philosophical, and sociological readings. (3 cr) *Last Offered: Fall 2012, Summer 2011, Spring 2005, Fall 1995.*

FRE 1137 Cont Fre Lang II Survey of contemporary french culture (cinema, television, music, art, etc.) and discussion of regional differences. Offered as part of the Villanova Summer program at the Universite de Rennes 2 - Haute Bretagne. (3 cr) *Last Offered: Summer 2012, Summer 2011, Summer 2009, Summer 2008.*

FRE 1138 Advanced Grammar Intensive practice of spoken and written French. (3 cr) *Last Offered: Fall 2011.*

FRE 1140 Writing & Stylistics in French Intensive practice in written expression and textual analysis. Compositions are modeled on selected French texts. (3 cr) *Last Offered: Fall 2012.*

FRE 1141 Phonetics Through phonetics transcription, introduction to phonology, and recognition of socio-linguistic variation, this course is designed to help students improve their knowledge of spoken French. (3 cr) *Last Offered: Spring 2011, Spring 2010, Spring 2009, Spring 2008.*

FRE 2100 French/Franco Lit in Trans The major works of French literature in translation. (3 cr) *Last Offered:*

FRE 2101 French Lit & Film French films based on literary works as a medium will be used to better understand contemporary French culture and civilization. (3 cr) *Last Offered: Fall 2010, Fall 2007, Spring 2004, Spring 2003.*

FRE 2102 Love/Sexuality in Franco Film Analysis of films that deal with this topic. Prerequisites: FRE 1131 or FRE 1132 with the permission of the French director. (3 cr) *Last Offered: Spring 2009, Spring 2006.*

FRE 2140 French Culture Focuses on the history, geography, and the political, economical and social structures in France from its origins to the 20th century. (3 cr) *Last Offered: Summer 2012.*

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FRE 2141 Francophone Culture Focuses on the history, geography, and the political, economical and social structures of the Francophone world, mostly through the 20th century. (3 cr) *Last Offered:*

FRE 2142 The savoir vivre in France The course is designed to help students to gain a better understanding of social rules and codes which define the French mentality and cultural identity. (3 cr) *Last Offered: Spring 2004, Summer 2003, Spring 2003, Summer 2002.*

FRE 2143 Contemporary France Focuses on regional identities and other aspects from current French headlines. Offered as part of the Villanova Summer Program in France. (3 cr) *Last Offered: Summer 2012, Summer 2011, Summer 2010, Summer 2009.*

FRE 2144 Franco American Relations Course examines how these old allies became rivals while trying to sell their model of "good society." Taught in English. (3 cr) *Last Offered: Fall 2005, Spring 2005, Summer 2004, Summer 2003.*

FRE 2145 France & the European Union Focuses on the history of the construction of the European Union from the post war period to the present. It outlines its various institutions, policies facing the admission of new members and the implementation of its new constitution. Taught in English. (3 cr) *Last Offered:*

FRE 2211 Lit/Cult in Fre-Speaking World Significant developments in the arts, society, and literature in France from the Middle Ages to the French Revolution. (3 cr) *Last Offered: Fall 2012.*

FRE 2212 Survey of French Literature II Significant developments in the arts, society, and literature in France from the French Revolution to the present. (3 cr) *Last Offered: Fall 2011.*

FRE 2215 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: Fall 2009, Spring 2007, Fall 2003, Fall 2000.*

FRE 2218 Franco Writers & Cult Identity Regions may include North Africa, the Caribbean islands and Canada. (3 cr) *Last Offered: Spring 2008, Fall 2005, Fall 2004, Fall 2001.*

FRE 2993 Service Learning Internship CRS Partnership, working on water supply, sanitation, and environmental health issues, leading to the development of a certification program in water resources management projects, within the historical and cultural context of current redevelopment efforts in Haiti. Prerequisite: FRE 1132 and approval from the French Coordinator. (3 cr) *Last Offered: Spring 2012.*

FRE 3211 La musique populaire, 1950:- Survey of popular music, 1950 to the present, considering literary influences and trends in music and in the industry. (3 cr) *Last Offered: Spring 2011, Fall 2007, Fall 2002, Fall 1996.*

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FRE 3212 Le tour de France The world's greatest race as seen in literature, the arts, and as it is currently presented, and followed, in French media. (3 cr) *Last Offered: Summer 2010, Summer 2008, Spring 2005, Spring 2003.*

FRE 3411 17th Century Literature Analytical readings of major texts. (3 cr) *Last Offered:*

FRE 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. Pre-requisite FRE 1131 or FRE 1132 with the permission of the French director. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

FRE 3512 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: Spring 2010.*

FRE 3613 Impressionism Comparison of literary and artistic trends of the end of the nineteenth century in France. (3 cr) *Last Offered:*

FRE 3614 Classical Theatre Classical dramaturgy and modern interpretations of Corneille, Moliere and Racine, Students should have completed FRE 1131 or the equivalent. (3 cr) *Last Offered:*

FRE 3615 Study & Production of a Play Semester-long workshop that will culminate in the production of a play, in French and by a French playwright. (3 cr) *Last Offered:*

FRE 3715 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: Spring 2001, Fall 1998.*

FRE 3718 Themes in Fre Poetry 1789-pres An overview of the voices, forms and innovations of the French poetic tradition through the themes of love; subjectivity and objectivity; masculinities and femininities; nature vs. the city; and others, in the works of selected French poets from the nineteenth century to the present. (3 cr) *Last Offered: Fall 2010.*

FRE 3818 The Literature of Initiation Examines the experiences of the "coming of age" theme through literary works chosen from different centuries. (3 cr) *Last Offered: Fall 2008, Fall 2006.*

FRE 3819 Existentialism in France Saint-Germain des Pres, jazz, Sartre, Camus, de Beauvoir, Vian, Greco. (3 cr) *Last Offered:*

FRE 3820 Le vers libre The revolution of poetry in France. Discussion of the evolution of French free-verse poetry in its social and historical context. (3 cr) *Last Offered: Fall 2008.*

FRE 3921 20th Century Theatre Authors may include: Jarry, Claudel, Giraudoux, Anouilh, Camus, Satre, Beckett, Ionesco, Genet, Koltes. (3 cr) *Last Offered: Spring 2010, Spring 2007, Spring 1996.*

FRE 3922 20th Century Novel A study of French novels of the 20th century that include classic and lesser-known works. (3 cr) *Last Offered: Fall 2001, Fall 1997.*

FRE 3923 Post-World War II Writers Authors may include: Robbe-Grillet, Duras, Tournier, Le Clezio, Modiano. (3 cr) *Last Offered: Fall 2002, Spring 1999, Fall 1995.*

FRE 3970 Research Seminar Principles and techniques of literary research. Overview of major French and Francophone authors and representative works. Students should have completed 1132 or the equivalent. (3 cr) *Last Offered: Spring 2012.*

FRE 4110 French Classical Theatre Readings and discussions on the major dramatists and theorists of the French 17th century. Conducted in English. (3 cr) *Last Offered: Fall 1997.*

FRE 4120 Modern French Theatre The contemporary drama of France from its origin (King Ubu) to Beckett, Sartre, Genet, Ionesco and recent dramatists. Conducted in English. (3 cr) *Last Offered:*

FRE 5900 Independent Study (3 cr) *Last Offered: Summer 2012, Summer 2011, Spring 2008.*

GER 1121 Intermediate German I Review of grammar, composition, reading and conversation. Students should have completed GER 1111 and 1112 or the equivalent. (3 cr) *Last Offered: Fall 2012, Fall 2011, Summer 2011, Fall 2010.*

GER 1122 Intermediate German II Review of grammar, composition, reading and conversation. Students should have completed GER 1121 or the equivalent. (3 cr) *Last Offered: Spring 2012, Summer 2011, Spring 2011, Summer 2010.*

GEV 1001 Internat'l Approach Geography Regional study of human and physical realms of Geography. Regional approach to diverse human and natural landscapes, linking contemporary social, political, historical, economic environmental issues using a spatial perspective. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

GEV 1500 Physical Geography World patterns of climate, water, landforms, soil, and vegetation are the focus of this global environmental course. Physical processes, the spatial distribution of environmental variables, and their impacts on society. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Summer 2011.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

GEV 1903 Internship Elective (3 cr) *Last Offered: Summer 2012, Spring 2012, Summer 2011, Spring 2011.*

GEV 1906 Internship Elective (6 cr) *Last Offered: Summer 2012, Spring 2012, Summer 2011, Spring 2011.*

GEV 1909 Internship Elective (9 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Spring 2011, Spring 2010, Fall 2009.*

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: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2515 Economic Geography Location, distribution, and spatial organization of global economic activities. Course work focuses on the study of spatial aspects of economic activities on various scales. (3 cr) *Last Offered:*

GEV 2520 Urban Geography Location, structure, functions, growth, and interactions urban areas. Spatial perspective of the environmental issues and internal attributes of cities, as well as their connectivity to other places. (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 2012, Fall 2011, Fall 2010.*

GEV 2993 Internship (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

GEV 2996 Internship (6 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

GEV 3520 Middle East & Islamic World Natural and cultural landscapes of the Middle East and Islamic World. The variety of Middle Eastern peoples studied in a geographic context--tracing origins, dispersal, spatial organization, and interactions. The social and environmental imprint of the oil industry and the historical and contemporary interrelationship between the Islamic World and the West. (3 cr) *Last Offered:*

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 2012, Spring 2011, Spring 2010.*

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 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 2012, Fall 2011, Fall 2010.*

GEV 3590 Topical Research Problems Individual projects or studies in geography and the environment. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Spring 2011, Spring 2010.*

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, Fall 2009.*

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:*

GEV 4310 Environmental Issues Seminar Interdisciplinary coverage of current global environmental issues, emphasizing their complexity, analyses, and solutions. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010.*

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 2012, Fall 2010, Spring 2010.*

GEV 4500 Spec. Topics in Geo & Env Advanced topics in Geography and the Environment are 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: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012.*

GEV 6200 Independent Study Individual projects or studies in geography & the environment. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

GIS 2000 Intro to Global Studies Gateway course to Global Interdisciplinary Studies. Focuses critical thinking skills through the comparative lens of both global & interdisciplinary analyses. Mandatory preparatory course for advanced study in GIS major. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

GIS 2993 Global Studies Internship Permission of Chairperson required. (3 cr)
Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.

GIS 2996 Global Studies Internship Permission of Chairperson required. (6 cr)
Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.

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 4276 Comp Pol Econ Emerg Countries Interdisciplinary, team taught Seminar course which will explore the political economy comparatively of Korea and Brazil. (3 cr) *Last Offered: Spring 2011.*

GIS 4277 Writing Brazilian Culture The course examines through film and literature several important aspects of regional Brazillian 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 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 2012.*

GIS 4750 Migrations Global migrations. Assessment of the legal, political, economic, & cultural dynamics of migration, emigration, & immigration. (3 cr) *Last Offered: Spring 2008.*

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 2011, Fall 2010, Fall 2009, Spring 2008.*

GIS 4752 Research Seminar Junior research seminar satisfying requirements for the College of Liberal Arts and Sciences. (3 cr) *Last Offered:*

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 6000 Independent Study Individual students with specific interests will work on a supervised project. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

GIS 6500 Capstone Seminar 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 2012, Fall 2011, Fall 2010, Fall 2009.*

GIS 6600 Thesis Supervision I Directed research leading to thesis. Senior standing. (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

GIS 6601 Thesis Supervision II Directed research leading to thesis. Senior standing. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

GLY 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 2012, Fall 2011, Fall 2010, Fall 2009.*

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. (5 cr) *Last Offered: Fall 2012, Fall 2010, Fall 2008, Fall 2007.*

GRK 1112 Introductory Ancient Greek II The basic forms, syntax and vocabulary of Ancient Attic Greek, selected prose in second semester. (5 cr) *Last Offered: Spring 2011, Spring 2009, Spring 2008, Spring 2007.*

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 2011, Fall 2009, Fall 2005.*

GRK 1122 Intermediate Ancient Greek II (3 cr) *Last Offered: 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, Fall 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.*

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: Spring 2010.*

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 2012, Fall 2010, Spring 2010.*

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: Fall 2011.*

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 2012, Spring 2012, Fall 2011, Fall 2010.*

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 2012, Spring 2011, Spring 2010.*

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, Fall 2010.*

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: Spring 2012.*

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: Fall 2011.*

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 1020 Hist of Western Civil I For AP and transfer credit only. Does not fulfill Arts and Sciences core history requirements. (3 cr) *Last Offered: Fall 1995.*

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 1997, 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: Summer 2012, Fall 2011, Summer 2011, Spring 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

HIS 1903 Internship Elective (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

HIS 1906 Internship Elective (6 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

HIS 1909 Internship Elective (9 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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: Fall 2011, Fall 2009, Summer 2008, Fall 2006.*

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: Fall 2012, Summer 2011, Spring 2010, Fall 2008.*

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: Fall 2011, Fall 2010, Fall 2009, Fall 2007.*

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 2012, Summer 2011, Spring 2011, Summer 2010.*

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: Fall 2011, Fall 2009, Fall 2008, Fall 2007.*

HIS 2201 United States 1914-1945 Major problems and domestic developments in the United States in World War I, the 1920s, the Great Depression and World War II. (3 cr) *Last Offered: Spring 2007, Fall 2002, Spring 1999, Summer 1998.*

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 2011, Spring 2009, Fall 2007, Fall 2005.*

HIS 2252 U.S. For Rel 1914 - Present Diplomatic history from World War I to the present, including involvement in European and Asian struggles, cooperation in international organizations. (3 cr) *Last Offered: Fall 2010, Spring 2008, Fall 2006, Spring 2003.*

HIS 2261 Frontiers in American History The frontier as a place, as a process, and as an idea animating and explaining American expansion since the revolutionary era, including the cultural, social, political, economic dimensions of this expansion, both in the American West and abroad. (3 cr) *Last Offered: Spring 2001, Fall 1999, Spring 1998, Spring 1995.*

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: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2010, Spring 2009, Fall 2006.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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: Spring 2011, Fall 2009, Spring 2008, Spring 2007.*

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, Fall 2008, Spring 2007, Spring 2005.*

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 2012, Spring 2011, Fall 2007, Fall 2006.*

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 2012, Fall 2011, Fall 2010, Fall 2002.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2010, Spring 2007, Spring 2006.*

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: Fall 2011, Spring 2011, Fall 2010, Spring 2010.*

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: Spring 2012, Spring 2011, Fall 2010, Fall 2009.*

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 2008, Spring 2007.*

HIS 2993 Hist Internship An internship in a local historical archive, museum, park, or library. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

HIS 2996 Hist Internship A more extensive internship in a local historical archive, museum, park, or library. (6 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

HIS 2998 Topics in American History Selected topics in American history of interest to faculty and students. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Fall 2009.*

HIS 3005 Ancient World to 500 AD The formation of diverse Mediterranean societies and the emergence of the individual within those societies. Egypt, Mesopotamia, ancient Israel, and the broader Mediterranean cultures of Greece and Rome. (3 cr) *Last Offered: Spring 2002, Fall 2001, Spring 2000, Fall 1999.*

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: Spring 2012, Fall 2010, Spring 2007, Spring 2005.*

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 2010, Fall 2009, Fall 2008, Fall 2006.*

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: Spring 2012, Spring 2011, Spring 2009, Fall 2007.*

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: Fall 2011, Summer 2011, Fall 2010, Summer 2008.*

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: Fall 2012, Fall 2009, Fall 2003, Fall 2001.*

HIS 3095 Topics in Ancient History Selected topics in Ancient history of interest to faculty and students. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

HIS 3101 Early Medieval History Europe from the fall of Rome to the end of the Viking Age. (3 cr) *Last Offered: Fall 2000, Fall 1997, Fall 1996.*

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, Spring 2011, Fall 2009, Fall 2007.*

HIS 3118 Religious Poverty in Mid Ages The emergence of the mendicant orders (Augustinians, Franciscans, Dominicans, and Poor Clares), their mission and influence on medieval Christianity; popular piety, heresy, and the papacy; attempts at converting Jews, Muslims, and pagans. (3 cr) *Last Offered:*

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: Summer 2012, Fall 2011, Summer 2011, Summer 2010.*

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, Fall 2009, Spring 2009.*

HIS 3142 The Enlightenment The cultural transition of traditional Western Christendom to modernity in the 18th Century, including its clash with religion; emphasis on scepticism and empiricism; rehabilitation of natural desires and emotion; efforts to re-engineer human society; new perceptions of economics, crime and punishment, and aesthetics; creation of a reading public; role in the American founding; impact upon issues of gender and race. (3 cr) *Last Offered: 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: Spring 2012, Fall 2009, Fall 2005, Summer 2003.*

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 2012, Spring 2009, Fall 2006, Spring 2005.*

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 2009, Fall 2005, Fall 2002, Spring 2001.*

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: Fall 2011, Fall 2010, Spring 2010, Fall 2006.*

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 2007, Fall 2006, Fall 2000, Fall 1999.*

HIS 3216 Ireland since 1800 The social and political history of the Irish state in the 19th and 20th centuries. (3 cr) *Last Offered: Summer 2012, Spring 2012, Summer 2011, Spring 2011.*

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 2012, Fall 2011, Spring 2010, Summer 2009.*

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 2009, 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: 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: Spring 2012, Fall 2010, Fall 2009, Fall 2007.*

HIS 3240 Russia 1533-1801 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: Fall 2012, Spring 2010, Fall 2008, Fall 2003.*

HIS 3241 Imper Russia 1801-1917 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: Spring 2011, Spring 2009, Fall 2007, Spring 2006.*

HIS 3242 Russia in the 20th Cent 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 2012, Fall 2010, Fall 2009, Spring 2008.*

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: Fall 2001, Summer 1999, Fall 1997.*

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: Spring 2011, Spring 2005, Fall 2001, Spring 2000.*

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: Fall 2012, Fall 2011, Fall 2009, Fall 2007.*

HIS 3995 Topics in European History Selected topics in European history of interest to faculty and students. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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: Summer 2012, Spring 2009, Fall 2006, Fall 2005.*

HIS 4041 Hist Modern Middle East The political, economic and social history of the Middle East with emphasis on the passing of imperial institutions and emergence of republics, trade and commerce, colonialism, and revolutionary movements. (3 cr) *Last Offered: Spring 2012, Fall 2010, Spring 2010, Spring 2009.*

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 2008, Spring 2006, Fall 2003, Spring 2002.*

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 2012, Spring 2011, Spring 2010, Fall 2009.*

HIS 4095 Top Middle Eastern Hist Selected topics in Middle Eastern history of interest to faculty and students. (3 cr) *Last Offered: Fall 2012, Summer 2012, Fall 2011, Spring 2011.*

HIS 4115 Roots of African Culture Early African history and anthropology culminating in the emergence of Africa as an arena of European economic penetration, the rise of the African slave trade, and the impact of early European colonization. (3 cr) *Last Offered: Fall 2007, Fall 2005, Fall 2003, Spring 2002.*

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 4130 South Africa His Perspec Development of southern Africa, with particular emphasis on the formation of South Africa; interaction of the various African peoples and the Europeans who came to settle the region and the way in which that interaction led to the establishment of, and resistance to, the system of apartheid. The collapse of apartheid. (3 cr) *Last Offered: Fall 2006, Spring 2004, Fall 2001.*

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 2012, Spring 2008, Spring 2006, Spring 2005.*

HIS 4315 Intro to Hist of Chinese Civ A broad and basic introduction to Chinese society, culture, and history from its inception some three thousand years ago to eve of first significant Western European presence in China proper. (3 cr) *Last Offered: Fall 2007, Fall 2006, Fall 2003, Fall 2002.*

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 2012, Fall 2011, Fall 2010, Fall 2007.*

HIS 4330 China in 20th Century China during its republican and Communist periods. (3 cr) *Last Offered: Fall 2004, Spring 2003, Spring 2002, Fall 2000.*

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: Fall 2011, Spring 2011, Fall 2009, Spring 2008.*

HIS 4350 Vietnam Colonialism/War 1940-85 The War in Vietnam in historical perspective from colonialism to the Cold War and national liberation. (3 cr) *Last Offered: Spring 2012, Summer 2007, Spring 2004.*

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 2012, Spring 2011, Fall 2007, 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: Fall 2012, Spring 2012, Fall 2008, Fall 2006.*

HIS 4395 Topics in Asian History Selected topics in Asian history of interest to faculty and students. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2010.*

HIS 4405 The Americas & Span Conquest Incas, Mayas, Aztec and Mochica cultures in Ancient Latin America; indigenous cultural and military clashes with European invaders; the 16th-century political economy and subsequent theological debates regarding the humanity of Indians; social repercussions of an "incomplete" conquest. (3 cr) *Last Offered: Fall 2012, Spring 2003.*

HIS 4410 Colonial Latin America Establishment and maintenance of a Hapsburg colonial state; indigenous responses to religious and secular colonization; the creation of a multicultural society from African, indigenous, and Iberian peoples from the 1580s the 1780s. (3 cr) *Last Offered: Fall 2011, Fall 2003, Fall 2001, Fall 1997.*

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 2012, Spring 2004, Spring 2002, Summer 1999.*

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: Fall 2011, Spring 2010, Fall 2008, Fall 2007.*

HIS 4495 Topics Latin Amer Hist Selected topics in Latin American history of interest to faculty and students. (3 cr) *Last Offered: Spring 2012, Summer 2008, Summer 2007, Summer 2006.*

HIS 4499 Topics in World History Selected topics in world or non-western history of interest to faculty and students. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

HIS 4520 World in 20th Century I The political, diplomatic, economic, and social upheavals from 1900 to the Munich Conference. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 1997, Fall 1996.*

HIS 4525 World in 20th Century II The Second World War, its aftermath, the Atomic Age, the emerging nations. (3 cr) *Last Offered: Spring 2000, Spring 1997, Spring 1996.*

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 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 2012, Spring 2011, Spring 2010, Spring 2008.*

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 2010, Spring 2005, Spring 2003.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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: Fall 2012, Spring 2012, Fall 2011, Fall 2010.*

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, Fall 2010.*

HIS 5501 Sem in Historical Methodology Student research and reports. Seminar format. Written permission of chair required. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

HIS 5515 Independent Research An intensive research project under individual direction. Written permission of chair required. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2005, Spring 2004, Spring 1998, Spring 1997.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

HON 1070 BIO: Biology for Today & Lab See BIO 1505. Lecture with BIO 1505; Honors laboratory section. (4 cr) *Last Offered: Fall 2001, Fall 1999, Fall 1998, Fall 1997.*

HON 1071 BIO: Science & Environ Issues (4 cr) *Last Offered: Spring 2001, Spring 2000.*

HON 1073 BIO: Microbes Rule the World (4 cr) *Last Offered: Fall 2006, Fall 2005, Spring 1997.*

HON 1100 COM: Rhetoric, Com & Publ Perf 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 2000.*

HON 1241 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 2012, Fall 2011, Fall 2010, Fall 2009.*

HON 1242 Moderns A Humanities seminar based principally on texts and readings drawn from primary sources up to 1650. 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: Spring 2012, Spring 2011, Spring 2009, Spring 2008.*

HON 1290 MAT:Topics in Core Mathematics Courses 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. Does not fulfill the upper level course requirements for Math majors and minors. (3 cr) *Last Offered: Spring 2012, Fall 2011.*

HON 1331 ENG: The Literary Experience Introduction to literature and methods of literary analysis. Close readings of texts from a variety of perspectives; includes works from a range of genres and periods. Extensive writing requirements. (3 cr) *Last Offered: Fall 2011, Fall 2010, Fall 2009, Spring 2009.*

HON 1381 ETH: Service Learn Practicum Community service practicum addressing the task of needs assessment, community organizing, project planning and implementation. (1 cr) *Last Offered: Fall 2011, Spring 2011, Spring 2010, Fall 2009.*

HON 1435 HIS: Themes in Mod World His Major historical moments and themes in the political, economic, and cultural transformation of diverse nations and regions of the world during the past several centuries. A topical and interpretive approach designed to provide a historical and cross-cultural context while exploring the origins and implications of the changes that have come to characterize the "modern" world. (3 cr) *Last Offered: Fall 2012, Fall 2010, Fall 2009, Spring 2009.*

HON 1501 CSC: Language & Computation Introduction to linguistics and its role in the development of computer languages and technologies. Topics include conceptual issues in linguistics, computation, and grammars as generative devices for

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computer languages. Philosophical and historical perspectives on the "cognitive Revolution." (3 cr) *Last Offered: Spring 2000, Fall 1998.*

HON 1502 CSC: The Universal Computer Basic concepts and building blocks for the building of modern computers; important algorithms and their efficiency; idealized automata, universality, limits to computation, and the Church-Turing thesis. Fulfills math/computing core requirement. (3 cr) *Last Offered: Fall 2002, Spring 2002.*

HON 1503 CSC: 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 2011, Spring 2010.*

HON 1601 MAT: Mathematical Ideas Mathematical ideas that have influenced other disciplines and the field of mathematics. Designed for students not intending further study in mathematics. Calculus not required. (3 cr) *Last Offered: Fall 2000, Fall 1999, Spring 1998, Spring 1997.*

HON 1750 PHI: Knowledge, Reality, Self Issues of God, persons and nature, and knowledge. Special consideration of classical and Christian perspectives. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011.*

HON 1801 PSC: Intro American Government Fundamentals of American government: foundation in political thought, separate and collective functions of government structures, policy, role of individual in system. (3 cr) *Last Offered: Spring 2011, Fall 2009, Fall 2008, Fall 2007.*

HON 1802 PSC: Intro Internat Relations Factors in relations between states; the nature, elements and role of power; problems faced by the modern state system. (3 cr) *Last Offered: Fall 2012, Spring 2008, Spring 2007, Spring 2004.*

HON 1811 PSY: General Psychology Fundamental concepts of psychology, with emphasis on the description of normal human behavior and its underlying factors. (3 cr) *Last Offered: Fall 2012, Spring 2011, Fall 1998, Fall 1997.*

HON 1826 THL: Service Learn Practicum Community service practicum addressing the task of needs assessment, community organizing, project planning and implementation. (1 cr) *Last Offered: Spring 2005, Spring 2004, Fall 2003, Spring 2001.*

HON 1827 THL: Christianity in History The emergence, growth, and transformation of Christianity: doctrinal developments and institutional issues, historical development of Christianity with emphasis on Christianity's role in the emergence of western societies. Role of Christian symbolism and ritual in shaping the lives of ordinary people in the Christian world. An orientation to the academic study of religion. (3 cr) *Last Offered: Fall 2010, Fall 2006, Spring 2004, Fall 2003.*

HON 1850 THL: Christian Faith and Life Major themes of the Christian traditions from historical, scriptural, and theological perspectives. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011.*

HON 1911 SOC: Introduction to Sociology Fundamental concepts of sociological behavior, with emphasis on development of the social individual, collective and group behavior, social institutions and culture. (3 cr) *Last Offered: Fall 2012, Fall 2010, Fall 2009, Fall 2008.*

HON 1975 Soph Lit and Writing Seminar Careful reading of and intensive writing about literature. Individual sections vary in themes and works covered. Restricted to A&S students governed by the new core curriculum instituted in Fall 2011. (3 cr) *Last Offered: Fall 2012.*

HON 1996 Gateway Portfolio I Autobiographical essay; resume; ACS seminar portfolio documents, and selected work from other core classes -- with integrating narratives; reflective narratives of cultural events attended, campus activities, and civic engagement undertaken; sustained e-portfolio dialogue with peers. (1 cr) *Last Offered: Fall 2010, Fall 2009, Fall 2008, Fall 2007.*

HON 1997 Gateway Portfolio II ACS seminar portfolio documents; selected work from other core classes; cultural events; campus activities; civic engagement; expansion of integrating and reflective narratives; sustained e-portfolio dialogue with peers. (1 cr) *Last Offered: Spring 2010, Spring 2009, Spring 2008, Spring 2007.*

HON 1998 Gateway Portfolio III Revision of autobiographical essay and resume; review and further development of integrating and reflective narratives as more fully informed by the study of additional academic disciplines, cultural events, campus activities, and civic engagement; sustained e-portfolio dialogue with peers. (1 cr) *Last Offered: Fall 2010, Spring 2010, Fall 2009, Fall 2008.*

HON 1999 Gateway Portfolio IV Continuation of HON 1998; E-portfolio presentation: reflective narrative of competence gained in Intellectual Discourse across the Disciplines; Campus Leadership; Culture Literacy; Civic Engagement. (1 cr) *Last Offered: Spring 2010, Spring 2009, Spring 2008.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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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 2050 ETH: Trad. & Contemporary Life 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 2012, Spring 2012.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

HON 2993 Internship (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

HON 2996 Internship (6 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

HON 3000 Art and Art History (3 cr) *Last Offered: Fall 2006, Fall 2004, Fall 2001, Fall 2000.*

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: Fall 2011, Fall 2003, Fall 1996.*

HON 3150 Classics (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

HON 3300 Education (3 cr) *Last Offered: Fall 2008, Fall 2005, Fall 2000, Fall 1999.*

HON 3350 Education (3 cr) *Last Offered: Spring 2001.*

HON 3400 Communication (3 cr) *Last Offered: Fall 2012, Spring 2010, Fall 2009, Fall 2008.*

HON 3450 Communication (3 cr) *Last Offered: Spring 2011, Fall 2010, Spring 2010, Spring 2009.*

HON 3600 Literature (3 cr) *Last Offered: Spring 2012, Spring 2011, Fall 2010, Spring 2010.*

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HON 3601 Literature (3 cr) Last Offered: Fall 2010, Fall 2009, Fall 2008, Fall 2007.

HON 3602 Literature (3 cr) Last Offered: Fall 2010, Fall 2009, Fall 2007, Fall 2006.

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: Fall 1998, Spring 1995.

HON 3850 Geography (3 cr) Last Offered:

HON 4000 History (3 cr) Last Offered: Fall 2012, Fall 2010, Fall 2009, Fall 2008.

HON 4001 History (3 cr) Last Offered: Fall 2012, Fall 2008, Fall 2007, Fall 2006.

HON 4002 History (3 cr) Last Offered: Fall 2000.

HON 4050 History (3 cr) Last Offered: Spring 2012, Fall 2011, Spring 2011, Spring 2008.

HON 4051 History (3 cr) Last Offered: Spring 2012, Spring 2006, Spring 2005, Spring 2004.

HON 4052 History (3 cr) Last Offered: Spring 2005, Spring 2002.

HON 4100 Mathematics (3 cr) Last Offered: Fall 2012.

HON 4101 Mathematics (3 cr) Last Offered:

HON 4150 Mathematics (3 cr) Last Offered: Fall 2011, Fall 2004, Fall 2003, Spring 2001.

HON 4151 Mathematics (3 cr) Last Offered: Fall 2011.

HON 4300 Philosophy (3 cr) Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.

HON 4301 Philosophy (3 cr) Last Offered: Fall 2011, Fall 2010, Fall 2009, Fall 2008.

HON 4302 Philosophy (3 cr) Last Offered: Fall 2010, Fall 2009, Fall 2008, Fall 2006.

HON 4350 Philosophy (3 cr) Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.

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HON 4351 Philosophy (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

HON 4352 Philosophy (3 cr) *Last Offered: Spring 2009, Spring 2006, Spring 2005, Spring 2004.*

HON 4353 Philosophy (3 cr) *Last Offered: Spring 2010, Spring 2006, Spring 2005, Spring 2001.*

HON 4500 Political Science (3 cr) *Last Offered: Fall 2012, Fall 2010, Fall 2009, 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 2012, Spring 2010, Spring 2009, Spring 2008.*

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:*

HON 4800 Theology & Religious Studies (3 cr) *Last Offered: Spring 2012, Spring 2011, Fall 2010, Spring 2010.*

HON 4801 Theology & Religious Studies (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2008.*

HON 4850 Theology & Religious Studies (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

HON 4851 Theology & Religious Studies (3 cr) *Last Offered: Spring 2011, Spring 2010, Spring 2009, Spring 2007.*

HON 4900 Sociology (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

HON 4901 Sociology (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

HON 4950 Sociology (3 cr) *Last Offered: Spring 2010, Spring 2006, Fall 2005, Spring 2005.*

HON 4951 Sociology (3 cr) *Last Offered: Spring 2012, Spring 2010, Spring 2009, Spring 2008.*

HON 5000 BIO: Intro Ecology (4 cr) *Last Offered: Fall 1997.*

HON 5050 Biology Advanced seminar in Biology; topics to be determined by the instructor of record. (3 cr) *Last Offered: Fall 2012, 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.*

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 2012, Spring 2011, 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: Fall 2010, Spring 2005, Spring 2004, Spring 2002.*

HON 5300 Psychology: Topics Phenomena of eating disorders; symptoms; psychological, physiological, and social factors. (1 cr) *Last Offered: Spring 2000, Fall 1998, Fall 1997, Spring 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: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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: Fall 2012, Fall 2011, Spring 1996, Spring 1995.*

HON 5430 Performing Arts: Voice Intensive experiential courses in performance, literary, and plastic arts. Individual and group participation directed toward reflexive

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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 2012, Fall 2010, Spring 2009, 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 2012, Spring 2011, Spring 2010, Spring 2009.*

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: 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 2012, Spring 2009, Fall 2007, Spring 2007.*

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: Fall 2011, Spring 2010, Fall 2009, Fall 2008.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

HON 5500 Ind Study & Research Independent Study and Research (3 cr) *Last Offered: Fall 2012, Summer 2012, Fall 2011, Fall 2010.*

HON 5501 Ind Study & Research Independent Study and Research (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

HON 5506 Ind Study & Res Science Independent Study and Research in Science (3 cr) *Last Offered: Fall 2012, Summer 2012, Fall 2011, Fall 2010.*

HON 5507 Ind Study & Res Science Independent Study and Research in Science (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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

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of interest and scholarship while enrolled in an approved VU study abroad program. (3 cr) *Last Offered: Fall 2012, Summer 2012.*

HON 5509 Ind Stdy: 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 2012.*

HON 5599 Teaching Practicum Intern teaching under supervision of full-time faculty metnor; weekly meetings with Practicum Coordinator. Participation by invitation of Director to seniors with manifest potential for graduate work/college teaching. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

HON 5600 Seminar for Visiting Professor Seminar topic to be determined by visiting professor. (3 cr) *Last Offered: Spring 2012, Spring 2008, Spring 2007, Spring 2005.*

HON 5601 Seminar for Visiting Professor (3 cr) *Last Offered: Spring 2012.*

HON 5700 Colloquia (3 cr) *Last Offered: Spring 2012, Spring 2011, Fall 2010, Spring 2010.*

HON 5701 Colloquia (3 cr) *Last Offered: Fall 2010, Fall 2009, Fall 2007, Fall 2006.*

HON 5702 Colloquia (3 cr) *Last Offered: Spring 2008, Fall 2007, 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 2010, Fall 2009, Spring 2009.*

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 2006, Spring 2005, Spring 2004.*

HON 5753 Colloquia (4 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2007.*

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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 2012, Spring 2012, Fall 2011, Spring 2011.*

HON 6001 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, and preliminary outline. (2 cr) *Last Offered: Fall 2010, Spring 2010, Fall 2009, Spring 2009.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

HS 2000 Intro:Prin & Survey Prac Course is Writing Enriched. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

HS 2100 Assessment and Referral (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Spring 2010.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

HS 3000 Lab Communication Skills (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

HS 3100 Lab in Group Process (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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: Fall 2012, Fall 2011, Spring 2011, Fall 2010.*

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: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

HS 3700 Human Service Systems Organizational structures, trends and influences that impact Human Services Systems. Special emphasis upon managed care and case

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management as well as Human Resource Development. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2007, Spring 2006.*

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 2012, Fall 2008, Summer 2008, Fall 2007.*

HS 4000 Seminar Human Services Integration of the theoretical and practical aspects of the student's program. (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

HUM 1903 Internship (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

HUM 1906 Internship (3 cr) *Last Offered: Spring 2012, Fall 2011, Spring 2011, Fall 2010.*

HUM 2000 Sophomore The required introductory seminar for the Humanities major. This team taught course explores themes and texts on human life and society. (3 cr) *Last Offered: Spring 2005, Fall 2004, Fall 2003.*

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: Spring 2012, Spring 2011, Spring 2010, Fall 2009.*

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 2012, Fall 2011, Fall 2010, Spring 2010.*

HUM 2003 PHI: World Modern science is a dominant way of interpreting the world, and so human life. How does modern science interpret the world? What are the effects of this interpretation on the way we view human beings? Fulfills an upper level Philosophy in the Core Curriculum. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Fall 2009.*

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 2012, Fall 2011, Fall 2010, Spring 2010.*

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 2012, 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, Summer 2007.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

HUM 2993 Internship (3 cr) *Last Offered: Fall 2012, Fall 2010, Fall 2009, Fall 2008.*

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 2010, Fall 2009, Spring 2008, Fall 2007.*

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: Summer 2012, Spring 2012, Spring 2011, Spring 2010.*

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 3003 LIT English Catholic Literatur What happens when religion, politics, and culture clash? This course explores how English catholic writers (More, Pope, Inchbald, Waugh, Chesterton) portray spiritual dramas of sin, redemption, conversion, sectarianism, violence, and empire. (3 cr) *Last Offered: Fall 2006.*

HUM 3050 The Poetry of Meditation Study of philosophical and religious poetry: Dante, Herbert, Hopkins, Eliot, Pinkerton, and Hill. (3 cr) *Last Offered: Fall 2012, Spring 2011, Summer 2010, Fall 2008.*

HUM 3100 PHI: Philosophy & Human Person Investigates human nature; argues for a view of the person that does justice to the human experience. Philosophy--the contemplative wonder over meaning and the desire to know deeply--is an essential human experience. Fulfills an upper level Philosophy in the Core Curriculum. (3 cr) *Last Offered:*

HUM 3101 PHI: Knowing What's Real Through the reading of classic texts in philosophy (Plato, Aristotle, Aquinas, Descartes, Hume, Kant, Nietzsche, and others), this course will explore the question whether and how it is possible to know reality, and what reality is after all. Fulfills an upper level Philosophy in the Core Curriculum. (3 cr) *Last Offered: Fall 2005.*

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: 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 2009, Fall 2006, Fall 2005, Spring 2005.*

HUM 3250 Ethics & Culture Wars This course will explore the intersections between culture, broadly conceived, and equality. Does culture place any limits on claims for equality. Do cultures have rights as well as individuals. What is the relationship between culture and freedom; does culture inhibit or promote human freedom? (3 cr) *Last Offered: Fall 2004.*

HUM 3260 Aristotle's Nicomachean Ethics A close and careful reading of Aristotle's Nicomachean Ethics, the most influential of his ethical work with attention to the nature of justice, virtues, friendship, and work. (3 cr) *Last Offered: Fall 2005, Fall 2004.*

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: Summer 2011, 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 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 3800 PSC: Democracy & Freedom What is the relationship between democracy and freedom? What is the relationship between freedom and equality? Are there any difficulties with democratic conceptions of freedom? What does the future of democracy hold? Fulfills an upper level Social Science in the Core Curriculum. (3 cr) *Last Offered: Fall 2006.*

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: Spring 2011, Spring 2009, Spring 2008, Spring 2007.*

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 2012, 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 4500 J.R.R. Tolkien The themes of Tolkien's literary works, including power and its effects, good and evil, the meaning and function of myth, the meaning of wisdom, mortality, choice and its effects on character, chance, and grace, and the redemptive power of sacrifice and love. (3 cr) *Last Offered: Spring 2005.*

HUM 4600 PHI: Question of Being Is being the most fundamental question the human can raise? Metaphysics raises this question and has come under attack in postmodern philosophy. Students explore why the mystery of being is significant and reasons for postmodern suspicion about metaphysics. Fulfills an upper level Philosophy in the Core Curriculum. (3 cr) *Last Offered:*

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 5100 Vocation & Human Destiny What difference would it make to think of human life as vocation? Would thinking of life as vocation impinge on or fulfill freedom? What would it mean to act on such a conception of life in the contemporary world? (3 cr) *Last Offered:*

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 2009, Spring 2007.*

HUM 5500 Will & Grace: Simone Weil Love of neighbor, of God, of truth: What do these really demand of us? Simone Weil offers hard-hitting answers in terms of our political, cultural and social order as well as in our lives of thought, study and prayer. Fulfills an upper level Theology in the Core Curriculum. (3 cr) *Last Offered: Fall 2010, Spring 2006, Spring 2005.*

HUM 5501 The History of Socialism Tracing the history of socialist ideas from the 18th century to the present. Examines Marxist and non-Marxist versions of socialism, as well as secular and religious varieties. Writing-enriched. (3 cr) *Last Offered: Spring 2005.*

HUM 5600 PHI: Responsibility & Freedom Few questions have been debated as fiercely as that of free will. Are we ultimately responsible for who we are, or determined

by fate, nature, or society? Can one be free and determined? This seminar surveys the major responses to such questions. (3 cr) *Last Offered: Fall 2006.*

HUM 5700 Sexuality, Sin and the Self How do relationships shape us? Do humans share an essential nature? Answers to such questions shape our opinions about sexuality, sin, and freedom. Provides an introduction to modern religious thought by attending to a conversation about these issues. Fulfills an upper level Theology requirement in the Core Curriculum. (3 cr) *Last Offered: Spring 2006.*

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 2012, Fall 2011, Summer 2011, Spring 2011.*

HUM 5950 Citizenship & Globalization Philosophical and historical study of conception of citizenship and obligations of citizen to "city" or state. Topics to include patriotism, cosmopolitanism, the import of globalization, and what in particular it means to be American. To take place partly in London. (3 cr) *Last Offered: Summer 2012, Spring 2012, Summer 2011, Spring 2010.*

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 2011.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

HUM 6950 Ind Study & Research (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

HUM 6951 Independent Study & Research (3 cr) *Last Offered: Fall 2007, Fall 2006.*

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 2012.*

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:*

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 2012, Fall 2011, Spring 2011, Fall 2010.*

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 2012, Summer 2012, Fall 2011, Summer 2011.*

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: Summer 2012, Spring 2012, Summer 2011, Spring 2011.*

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 2012, Summer 2012, Fall 2011, Summer 2011.*

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: Summer 2012, Spring 2012, Summer 2011, Spring 2011.*

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 2012, Summer 2012, Fall 2011, Summer 2011.*

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 2012, Spring 2012, Summer 2011, Spring 2011.*

ITA 1138 Advanced Grammar Intensive grammar review with special focus on literary styles. Open to students who have completed ITA 1132 or the equivalent. (3 cr) *Last Offered: Fall 2010.*

ITA 1140 Writing & Stylistics in Ita. Intensive practice in written expression and textual analysis. Compositions are modeled on selected Italian texts. (3 cr) *Last Offered: Spring 2012.*

ITA 2142 Italian Culture I Study of Italian culture in its manifold aspects: geography, history, literature to 1300's. Students should have completed ITA 1131 and

1132 or the equivalent. (3 cr) *Last Offered: Fall 2012, Spring 2011, Spring 2009, Fall 2007.*

ITA 2143 Italian Culture II Italian culture in its manifold aspects: literature from Renaissance to 20th century, art, music. Students should have completed ITA 1131 and 1132 or the equivalent. Satisfies requirements towards major or minor in Italian. Satisfies the core requirement for advanced literature level 2100 or above. (3 cr) *Last Offered: Spring 2007, Spring 2004, Fall 2002, Spring 2001.*

ITA 2211 Survey of Italian Literature I Introduction to Italian Literature from Dante to Machiavelli. (3 cr) *Last Offered: Fall 2011, Spring 2009, Fall 2004, Summer 2004.*

ITA 2212 Survey of Italian Lit. II Introduction to Italian Literature from Galileo to the Moderns. (3 cr) *Last Offered: Spring 2012.*

ITA 2214 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:*

ITA 3310 The Short Story Survey of representative short stories from the Novellino to modern times, including the "novelle" of Machiavelli, Verga, Pirandello, D'Annunzio, Moravia and contemporaries. Students should have completed ITA 1131 and 1132 or the equivalent. (3 cr) *Last Offered: Fall 2007, Spring 2005, Spring 1997, Spring 1996.*

ITA 3410 Studies in Early Italian Lit An intensive study of the major representatives of the Sicilian and Tuscan Schools, with particular attention to the "Dolce Stil Novo" and the minor works of Dante. Students should have completed ITA 1131 and 1132 or the equivalent. (3 cr) *Last Offered:*

ITA 3411 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 3412 Special Topics Advanced study of topics of special interest in Italian literary and/or cultural studies. Topics to be arranged. May be repeated for credit if topic changes. (3 cr) *Last Offered: Summer 2012, Summer 2011, Summer 2010, Summer 2009.*

ITA 3421 Dante's Divine Comedy Dante's masterpiece with special emphasis on the "Inferno". (3 cr) *Last Offered: Spring 2012, Spring 2010, Summer 1995.*

ITA 3512 The Renaissance Selected authors who played a major role in the development of humanistic viewpoint and in the creative achievements of the Renaissance. Students should have completed ITA 1131 and 1132 or the equivalent. (3 cr) *Last Offered:*

ITA 3815 Nineteenth-Twentieth Cen Poet The neoclassical revival and the romantic movement including Foscolo, Leopardi and Manzoni. Selections from Carducci, Pascoli and D'Annunzio. The "Crepuscolari" poets, Futurism and the

"Ronda." The major figures of Ungaretti, Montale and Quasimodo. Students should have completed ITA 1131 and 1132. (3 cr) *Last Offered:*

ITA 3816 20th Cen. Italy: Word & Image Surveys twentieth-century Italy by focusing on literary texts and artistic works that represent the relationship between world and self. Materials include literary works by Pirandello, Montale and Morante, and painting from the futurist, metaphysical, and postmodern schools. (3 cr) *Last Offered: Fall 2010.*

ITA 3920 The Italian Theatre From the Renaissance to modern times, including Machiavelli, DeFilippo, Verga, D'Annunzio, Goldoni, Pirandello, Giacosa, Bracco, Fo. (3 cr) *Last Offered: Fall 2010, Spring 2008, Spring 2005.*

ITA 3960 Italians in Amer. Imaginary A reflection on the ideological motives & the different media used in American representations of Italians & Italian-Americans since 1800. Explores cinematographic & literary images of Italians & Italian-Americans. Materials include historical & anthropological scholarship, films, fiction, ethnic marketing & programs, & travel writing. (3 cr) *Last Offered: Spring 2011.*

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. (3 cr) *Last Offered:*

ITA 3980 Images of Italy Italian culture from Fascism to globalization. World War II and its impact on the lives of Italians: capitalism and modernization; immigration; multiculturalism; racism; youth culture; gender; changing definitions of family. (3 cr) *Last Offered: Fall 2012, Fall 2009, Spring 2008.*

ITA 3990 Place and Identity in Italy Expressions of Italian identity as portrayed, imagined or remembered by a wide selection of Italian authors, painters, film directors and singers. Social, cultural, geographical and political aspects of Italy. (3 cr) *Last Offered: Fall 2008.*

ITA 4115 Italy through Film A culturally-oriented course using the film medium to explore various aspects of Italian society from the aftermath of World War II to the present. (3 cr) *Last Offered: Fall 2011, Spring 2010, Fall 2008, Fall 2006.*

ITA 4120 The Women of Italian Opera Representation of women in Italian opera from Monteverdi to Verdi and Puccini; from Baroque to Verismo with emphasis on the Romantic period. Female character reflective of culture past and present. (3 cr) *Last Offered: Fall 2011, Spring 2009.*

ITA 4130 Italian Culture The land and people of Italy; their social and cultural evolution; their achievements in the arts and their influence on art, literature and music; their contribution to the history of ideas. (3 cr) *Last Offered: Summer 2012, Fall 2011, Summer 2011, Fall 2010.*

ITA 4140 The Image of Woman in Ita Lit Literary works from the Medieval period to modern times. The role of the woman in Italian culture through the eyes of such

literary geniuses as Dante, Petrarch and Boccaccio. Satisfies requirements towards major and minor in Italian. Satisfies the core requirement for advanced literature level 2100 or above. (3 cr) *Last Offered: Fall 2012, Fall 2009, Spring 2007, Fall 2005.*

ITA 4150 Italian Art and Literature Italian literature as reflected in painting, sculpture and architecture from Saint Francis of Assisi and Giotto, Petrarch and Botticelli, Castiglione and Raffaello, Michelangelo (the poet) and Michelangelo (the sculptor), and other writers and artists of Renaissance Italy. (3 cr) *Last Offered: Spring 2011, Fall 2008, Summer 2005, Summer 2004.*

ITA 5900 Independent Study (3 cr) *Last Offered: Spring 2006.*

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. (6 cr) *Last Offered: Fall 2012, Summer 2012, Fall 2011, Summer 2011.*

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. (6 cr) *Last Offered: Summer 2012, Spring 2012, Summer 2011, Spring 2011.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

JPN 1122 Intermediate Japanese II Further practice of communication skills (speaking and listening), reading and writing skills. Supplementary practice with computer. (5 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

JPN 1131 Advanced Japanese I Advanced practice of communication skills - oral, speech and discussion skills, reading and writing skills. Supplementary practice with computer. (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

JPN 1132 Advanced Japanese II Advanced practice of communication skills - oral, speech and discussion skills, reading and writing skills. Supplementary practice with computer. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

JPN 1133 Advanced Japanese III Advanced practice of communication skills including reading, discussing topics on current events and speech. Supplementary practice with computer. (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010.*

JPN 1134 Advanced Japanese IV Advanced practice of communication skills including reading, discussing topics on current events and speech. Supplementary practice with computer. (3 cr) *Last Offered: Spring 2012, Spring 2011.*

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 2012, Summer 2011, Spring 2008, Spring 2007.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Fall 2011, Fall 2009, Fall 2008.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2009, 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 2012, Fall 2008, 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 2012, Spring 2012, Fall 2011, Spring 2011.*

LA 1903 Internship Elective Permission of Program Director. Junior or Seniors with a 3.0 overall GPA only. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

LA 1906 Internship Elective Permission of Program Director. Juniors and Seniors with 3.0 overall GPA only. (6 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

LA 1909 Internship Elective Permission of Program Director. Junior or Seniors with a 3.0 overall GPA only. (9 cr) *Last Offered: Summer 2012, Fall 2008.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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.*

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 1111 Brazilian Portuguese Elem. Fundamentals of Brazilian Portuguese language, including speaking, listening, comprehension, reading, and writing. (4 cr) *Last Offered: Fall 2010.*

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, Fall 2004.*

LAS 3950 Latin American Studies Seminar (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

LAS 4100 African Heritage of Latin Amer The introduction of Africans to Latin America: causes, processes, and major social consequences for the host society. Recent trends in the social mobility patterns of groups of African origin. Special emphasis on Brazil and Cuba. (3 cr) *Last Offered: Spring 2001.*

LAS 5000 Internship in Chile Global, cross-cultural experience. Six weeks of summer practicum at a major economic, political, or cultural institution in Chile. (3 cr) *Last Offered: Summer 2012, Summer 2011, Summer 2010, Summer 2009.*

LAS 6000 Independent Study & Research Independent research on a topic relevant to Latin America. Cross-disciplinary. Required integration of theory and data. (3 cr) *Last Offered: Spring 2012, Spring 2011, Fall 2010, Spring 2010.*

LAT 1111 Introductory Latin I Basic forms, syntax and vocabulary; selected Latin prose in second semester. (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

LAT 1112 Introductory Latin II Basic forms, syntax and vocabulary; selected Latin prose in second semester. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

LAT 1113 Intensive Introductory Latin Intensive one-semester course covering all basic skills (grammar, morphology, vocabulary) needed to translate Latin. (3 cr) *Last Offered:*

Villanova University

LAT 1121 Intermediate Latin I Review of Latin syntax; selected readings from prose and poetry. (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

LAT 1122 Intermediate Latin II Review of Latin syntax; selected readings from prose. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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.*

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: 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 2012, Spring 2012, Fall 2011.*

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 2011, Fall 2010, Fall 2009, Fall 2008.*

LDR 2000 Foundations of Leadership Introduction to the concepts of and approaches to leadership. Historical and contemporary leadership theories. (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

LDR 2010 Strategic Planning for Leaders The strategic planning process in organizations. Mission, values, goals, alignment and accountability in the development and execution of a strategic plan. (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

LDR 2030 Leadership & Technology Analysis of the implications of technology on leadership. The strategic role of technology in organizations. Information systems, e-commerce and their value to leaders. (3 cr) *Last Offered: Spring 2012, Fall 2011, Spring 2008, Spring 2006.*

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: Summer 2012, Summer 2011, Summer 2010, Summer 2009.*

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 2012, Spring 2012, Spring 2011, Spring 2010.*

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 2008, Summer 2007.*

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: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2011.*

MAT 1310 Calc Life Sci Appl I Functions, algebra of real functions, polynomials, allometric functions, exponential and logarithmic functions, trigonometric functions, graphing, log-log and semilog graphs, sequences, difference equations, limits, continuity, the derivative, the chain rule, higher order derivatives, maxima and minima, curve sketching, applications to biology. (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

MAT 1315 Calc Life Sci Appl II The mean-value theorem, Taylor's polynomial approximations, the anti-derivative, the definite integral, area, numerical integration, applications of the integral, techniques of integration, indeterminate forms, L'Hospital's rule, improper integrals, introduction to differential equations with applications to biological systems, numerical solutions using the computer, applications in the life sciences. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Spring 2012, Fall 2011, Summer 2011.*

MAT 1325 Calculus II for Liberal Arts Techniques of differentiation and integration, applications and further developments of calculus. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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: Spring 2009.

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 2012, Summer 2012, Spring 2012, Fall 2011.

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 2012, Summer 2012, Spring 2012, Fall 2011.

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 2012, Summer 2012, Spring 2012, Fall 2011.

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 2012, Summer 2012, Spring 2012, Fall 2011.

MAT 1903 Internship Elective Internship Elective (3 cr) *Last Offered: Fall 2012, Fall 2011, Spring 2011, Fall 2010.*

MAT 1906 Internship Elective Internship Elective (6 cr) *Last Offered: Summer 2012, Summer 2011, Spring 2011, Summer 2010.*

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 1999, 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, Summer 2003, Fall 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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

MAT 2930 History of Mathematics Development of mathematics from ancient times to the birth of calculus in the seventeenth century. (3 cr) *Last Offered: Fall 2011, Fall 2009, Fall 2007, Fall 2005.*

MAT 2993 Internship Internship (3 cr) *Last Offered: Summer 2012, Spring 2012, Summer 2011, Spring 2011.*

MAT 2996 Internship Internship (6 cr) *Last Offered: Summer 2012, Spring 2012, Summer 2011, Spring 2011.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2008, Spring 2006, Spring 1999, Fall 1996.*

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 2012, Fall 2009, Spring 2005, Fall 2002.*

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 2012, Fall 2010, Spring 2006, Fall 1998.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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: Fall 2012.*

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 2012, Spring 2011, Spring 2010, Fall 2007.*

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 2012, Fall 2011, Spring 2010, Spring 2008.*

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 2012, Fall 2010, Fall 2008, Fall 2006.*

MAT 5200 Theory of Numbers Congruences, quadratic reciprocity, Diophantine equations; applications. (3 cr) *Last Offered: Fall 2002, 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 2012, Spring 2011, Spring 2009, Spring 2007.*

MAT 5500 Topology Topological equivalence, connectedness, compactness, topology of subsets of R^n , manifolds, topological embeddings, topological spaces. (3 cr) *Last Offered: Fall 2011, Spring 2009, Spring 2007, Fall 2004.*

MAT 5600 Differential Geometry Geometry of curves and surfaces, curvature, first and second fundamental forms, minimal surfaces, use of MAPLE. (3 cr) *Last Offered: Fall 2009, Spring 2008, Spring 2001, Fall 1996.*

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 2012, Fall 2010, Fall 2008, Fall 2006.*

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 2011, Spring 2009, Spring 2007, Spring 2005.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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: Spring 2012, Fall 2011, Spring 2011, Fall 2010.*

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: Spring 2012, Spring 2011, Fall 2008, Spring 2008.*

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 2012, Summer 2012, Fall 2011, Summer 2011.*

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: Fall 2007, Fall 2006, Fall 2005, Spring 2005.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

ME 2200 Mechanics of Solids Definition of stress and strain; mechanical properties of materials; mechanical behavior of solids under axial, torsion, bending, and combined loads; stress and strain transformations; deflection of beams and shafts; buckling; energy methods. (3 cr) *Last Offered:*

ME 2502 Prof Development Seminar Speakers from industry, academia, and government. Field trips to local facilities. Exposes students to the substance of mechanical engineering, provides stimulation and motivation early in their academic careers, provides an awareness of range of job opportunities, and initiates contact with potential employers. (1 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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: Fall 2012, Spring 2012, Spring 2011, Spring 2010.*

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 2012, Fall 2011, Fall 2010.*

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: Fall 2012, Spring 2012, Spring 2011.*

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: Fall 2012, Spring 2012, Spring 2011, Spring 2010.*

ME 3333 Manufacturing Engineering Fundamentals of metal cutting, metal forming, metal casting and welding processes; related aspects of materials and modern manufacturing trends. (3 cr) *Last Offered: Spring 2012, Spring 2011.*

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 2012, Spring 2012, Fall 2011, Fall 2010.*

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 2012, Spring 2011, Fall 2010, Spring 2010.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

ME 3802 Vibrations Free vibration of simple vibrating systems, harmonic excitation, steady state and transient vibration, multi-degree-of-freedom systems, modal analysis, applications. (3 cr) *Last Offered: Spring 2010, Fall 2009, Spring 2009, Fall 2008.*

ME 3900 ME Laboratory II Test of engineering materials, experiments related to basic stress analysis, thermodynamics and materials science. (1 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Fall 2011, Fall 2010, Spring 2010.*

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 2012, Fall 2011.*

ME 4002 Solid Mechanics Lab Laboratory experiments in structure, properties and mechanics of materials. (1 cr) *Last Offered: Fall 2012, Fall 2011.*

Villanova University

ME 4003 Thermal Fluids Lab Laboratory experiments in thermodynamics, fluid mechanics, heat transfer, aerodynamics, engine performance, and energy conversion. (1 cr) *Last Offered: Fall 2012, Fall 2011.*

ME 4010 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 Mechanical Engineering Dept. Chairman, Tol. Room 131. (610-519-4980) (1 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Summer 2010.*

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 4802 Design Seminar in ME III (1 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 2012, Spring 2011, Fall 2010, Fall 2009.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

ME 5001 ME Undergraduate Research (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 2012, Summer 2012, Spring 2012, Fall 2011.*

ME 5002 ME Undergraduate Research (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: Spring 2012.*

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:*

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 2012, Fall 2011.*

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 2012.*

ME 5101 Elements of Aerodynamics The standard atmosphere, two-dimensional incompressible flow, Reynolds and Mach number, generation of lift based on airfoil and wing platform characteristics, drag force, propulsive force, overall airplane performance, static stability and control. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Fall 2008.*

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 2012, Spring 2003, Spring 2002, Spring 2001.*

ME 5107 HVAC The engineering principles underlying the current practices of heating, ventilating, air conditioning, and refrigeration systems design. (3 cr) *Last Offered: Fall 2010, Fall 2009, Fall 2008, Summer 2008.*

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, Fall 2010, Spring 2010, Fall 2009.*

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 2012, Fall 2011.*

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 2012, Fall 2011.*

ME 5200 Stress Analysis II Review of stress analysis fundamentals, intro to finite elements using ANSYS. Correct and incorrect solution methods of stress analysis boundary value problems, modeling pitfalls, and solution methods using finite elements. Practical applications. (3 cr) *Last Offered: Spring 2006, Spring 2005, Spring 2004, Spring 2003.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2011, Spring 2009, Spring 2006.*

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 2012, Fall 2011, Summer 2011, Summer 2010.*

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 2009, Fall 2008.*

ME 5333 Concepts in Modern Manuf. Basic concepts in modern/advanced manufacturing including numerical control, industrial robotics, analysis and balancing of production/assembly lines, cellular manufacturing, inspection and quality control, and material handling. (3 cr) *Last Offered: Fall 2011.*

ME 5411 Mechatronics Introduction to mechatronics, mechatronics components, its working principle and governing models, digital and analog electronics, mechatronic actuators, micro-controllers, sensors, modeling mechatronic systems, and case study. Senior standing. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

ME 5441 Advanced System Modeling Lumped-parameter modeling of multiphysics dynamic systems; unified network thermodynamics approach using bond graph techniques to analyze interactions between mechanical, electrical, magnetic, fluid, thermal, chemical or biological domains; computer simulation. (3 cr) *Last Offered: Fall 2012.*

ME 5500 Biomechanics The field of biomechanics; skill development for modeling and analyzing the mechanical behavior of biomechanical systems through several case studies using research papers. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

MET 2001 Meteorology of the Planets The structure and chemistry of planetary atmospheres, scattering and absorption processes, radiative transfer and planetary spectra, convective and conductive processes, fundamental timescales for planetary atmospheres, dynamical meteorology, theories of climate evolution, accretion, fragmentation and origin of the solar system. (3 cr) *Last Offered: Fall 2011, Fall 2009, Fall 2007, Fall 2005.*

MGT 1102 Management Essentials Introduction to organizational structures and functions; management processes and behavior of individuals and groups in organizations. (3 cr) *Last Offered: Spring 2012, Fall 2011, Spring 2011, Fall 2010.*

MGT 2153 Intro Human Resources Role of Human Resources Management in corporate strategy and success. Staffing, compensation, work design, performance measurement, individual and career development, safety, health, and separation. Focus on HR as critical success factor in organizations. Junior or senior standing, or permission of instructor. (3 cr) *Last Offered: Spring 2010, Spring 2009, Spring 2008, Spring 2007.*

MGT 2155 Organizational Behavior Human behavior in organizations; research and theoretical writing on organizational behavior; case discussions. Junior or senior standing. (3 cr) *Last Offered: Fall 2012, Spring 2012, Spring 2011, Spring 2010.*

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 2011, Spring 2011, Fall 2010, Spring 2010.*

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: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2012, Fall 2011, Summer 2011.*

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 2011, Fall 2010.*

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 2012, Spring 2012.*

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: 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: Fall 2010.*

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: 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 2012, Spring 2012.*

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 2012, Summer 2011, Summer 2010, Summer 2009.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Spring 2012, Fall 2011, Summer 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 discussion and lecture materials prepared and presented by individual students. Topics to be announced each semester, when seminar is offered. (3 cr) *Last Offered:*

MIS 1006 Introduction to MIS Fundamentals of business computing applications as an introduction to the concepts of Management Information Systems. Laptop required. (3 cr) *Last Offered: Spring 2010, Fall 2009, Summer 2009, Spring 2009.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Spring 2011, Spring 2010.*

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 2012.*

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 2012, Fall 2011, Spring 2011, Fall 2010.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

MIS 3331 MIS Independent Study Study with faculty member's guidance in area of special interest to student. (3 cr) *Last Offered: Summer 2012, Spring 2012, Summer 2011, Spring 2011.*

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 2012, Fall 2011, Fall 2010, Fall 2008.*

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 2012, Spring 2011, Fall 2010, Spring 2010.*

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: Spring 2012, Spring 2011, Spring 2010, Fall 2009.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

MKT 2220 Advertising Management Management of advertising within business firms and nonprofit organizations; production of advertisements for various media; role of the advertising agency; analysis of the impact of economic, market, ethical, and government factors on the advertising function. (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

MKT 2224 Professional Selling Stresses skills and professionalism required in intensely competitive selling environments in global markets. Concentrates on complex consultative selling processes required in business-to-business relationships. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

MKT 2225 Sales Management Policies and procedures for managing a sales organization; the role and characteristics of the personal selling function; techniques for selecting, training, supervising, and evaluating salespeople; ethical and legal considerations in sales force management. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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: Fall 2012, Spring 2012, Spring 2010, Spring 2009.*

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 2280 Internatl Market & Trade The world market and its implications for multinational and international marketing; the relationships of imports and exports to policies; impacts of major national cultures on foreign advertising and sales programs will be researched through multiple sources. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

MKT 2290 Interactive Marketing Integrates concepts from direct marketing, database marketing and internet marketing into interactive marketing. Learn how to value your customers and how interaction with them drives relationships. (3 cr) *Last Offered: Fall 2012, Fall 2011, Spring 2011, Fall 2010.*

MKT 2349 Cont. Topics in Marketing Contemporary issues and topics which affect a firm's marketing strategies. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Summer 2011.*

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 2012, Spring 2012, Fall 2011, Fall 2010.*

MKT 3350 Independent Study - Marketing Independent study under faculty guidance in an area of student's special interest. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

MSE 2000 Mendel Science Experience Designed specifically for non-science majors to fulfill the College of Liberal Arts and Sciences core curriculum science requirement. Courses are thematically based and incorporate problem solving, laboratory/field experiences, use of technology and application of quantitative tools, and interdisciplinary understanding at the intersections between the sciences, social sciences, and humanities. (4 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

MSE 2001 Mendel Science Experience Designed specifically for non-science majors to fulfill the College of Liberal Arts and Sciences core curriculum science requirement. Courses are thematically based and incorporate problem solving, laboratory/field experiences, use of technology and application of quantitative tools, and interdisciplinary understanding at the intersections between the sciences, social sciences, and humanities. (4 cr) *Last Offered: Fall 2012.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

NS 3100 Navigation The theory and technique of piloting and celestial navigation. Normally taken by juniors. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

NS 3200 Naval Operations The maneuvering board, tactical communications, rules of the road, and seamanship. juniors. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

NS 3600 Amphibious Operations Amphibious operations throughout history to their present role in military policy. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2009, Spring 2007.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

NTR 2120 Principles of Nutrition Principles of normal nutrition and the interrelatedness of economics, culture and health. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

NUR 1101 Intro Prof. Nursing Development of nursing as an art, science, and profession. Current and evolving roles of the nurse in health care within a Judeo-Christian value system (2 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

NUR 1103 Intro Prof Nursing II Use of effective communication and assessment process in professional nursing practice. (2 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

NUR 2104 Nur Process & Health Asses I Nursing assessment and diagnosis related to environmental variables and health behaviors of individuals and families. (2 cr) *Last Offered: Fall 2012, Summer 2012, Fall 2011, Summer 2011.*

NUR 2105 Nur Process Hlth Lab I Practice of selected assessment skills in a laboratory setting. (1 cr) *Last Offered: Fall 2012, Summer 2012, Fall 2011, Summer 2011.*

NUR 2106 Essentials of Nursing Practice Identification of the health maintenance, restoration, and promotion needs of individuals from birth through senescence. Emphasis on the nursing process and the role of the nurse as an interdependent and collaborative member of the health care team. (2 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

NUR 2107 Prac Essen of Nsg Prac Practice of selected assessment and nursing skills in the laboratory and clinical settings. (2 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Spring 2012, Summer 2011, Spring 2011.*

NUR 3000 Founda in Nur and Health Concepts of health and the systems of health care. The College of Nursing philosophy as a framework of formulations of nursing diagnosis and design of care. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Fall 2010.*

NUR 3005 Practcum in Nur & Health Nursing Assessment of individuals and families in laboratory and clinical practice. (1 cr) *Last Offered: Spring 2012, Fall 2011, Spring 2011, Fall 2010.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

NUR 3110 Research in Nursing Emphasis on the methods of systematic inquiry in nursing practice. Designed to develop critical consumers of published research. (3 cr) *Last Offered: Summer 2012, Spring 2012, Fall 2011, Summer 2011.*

NUR 3112 Nursing Care of Adults Nursing interventions directed toward maintaining, restoring, and promoting health for adults and their families expressing

age-related changes and other health alterations. (6 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

NUR 3113 Prac Nsg Care of Adults Clinical application of nursing interventions directed towards maintaining, restoring, and promoting health of adults with health alterations in a variety of settings. (6 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

NUR 3116 Nur Care Adult Comp Prob Maintenance, restoration, and promotion of health for adults families, and groups experiencing complex alterations of mental and physical health. (6 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

NUR 3117 Prac Nur Adul Comp Prob Clinical application of nursing interventions directed toward mental health, physical health and health promotion of adults with complex health alterations in a variety of settings. (6 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

NUR 4101 Parent-Child Nursing Nursing interventions for maintaining, restoring, and promoting health for women, infants, children and adolescents in childbearing and childbearing families. (6 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

NUR 4102 Nur & Health Promotion Nursing and educative interventions which promote the health of groups. Focus on health needs of populations and management of health risks. (6 cr) *Last Offered: Summer 2012, Spring 2012, Summer 2011, Spring 2011.*

NUR 4103 Prac Parent-Child Nurs Clinical application of nursing interventions toward maintaining, restoring, and promoting health of women, infants, children, and adolescents. (6 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

NUR 4107 Prac NUR Hlth Promotion Application of health promotion strategies to groups composed of individuals, family and community members. (6 cr) *Last Offered: Summer 2012, Spring 2012, Fall 2011, Summer 2011.*

NUR 4110 Leader & Management NUR Leadership and management principles related to the practice of Nursing. Pre-requisites: NUR 4101 and NUR 4103 OR Co-requisites: NUR 4101 and NUR 4103 OR NUR 4102 and NUR 4107 (5 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

NUR 4130 Contemp Issues & Trends Critical analysis of major issues and trends in nursing and health care. (2 cr) *Last Offered: Fall 2012, Summer 2012, Fall 2011, Summer 2011.*

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 2010, Spring 2009, Fall 2004, Spring 2003.*

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:*

Villanova University

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: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

NUR 4901 Guided Study in Nursing (2 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

NUR 4902 Guided Study in Nursing (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

NUR 4903 Guided Study in Nursing (4 cr) *Last Offered: Fall 2008, Spring 2008, Fall 2005, Spring 2003.*

NUR 4904 Guided Study in Nursing (5 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

NUR 4905 Guided Study in Nursing (6 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

NUR 6100 Oncology Nursing An in-depth study of the major cancers and the nurse's role in the common modalities for the treatment of cancer. (3 cr) *Last Offered: Summer 2002, Summer 2001, Summer 2000, Summer 1999.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

PHI 1050 Intro to Philosophy The issues of God, persons and nature, and knowledge. Readings include sources which give special consideration to the classical and Christian perspectives. (3 cr) *Last Offered: Summer 2012, Summer 2011, Spring 2011, Fall 2010.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

PHI 2116 Bioethics Theories and conceptions of human suffering, death and life; issues of suicide, bereavement, grief and euthanasia. (3 cr) *Last Offered: Fall 2011, Fall 2010.*

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 2012, Fall 2011, Fall 2010, Spring 2010.*

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 2150 Engineering Ethics Whistle-blowing, conflicts of interest, political contributions, and the social responsibility of engineers. (3 cr) *Last Offered:*

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 2012, Spring 2011, Fall 2010, Spring 2010.*

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: Spring 2003, Fall 2001, Fall 2000, Fall 1999.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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: Fall 2011, 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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2012, Spring 2011, Fall 2010.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2011, Fall 2007, Spring 2007, Fall 2002.*

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:*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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: Fall 2012, 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 2012, Spring 2008.*

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: Fall 2011, Spring 2008, Fall 2007, Spring 2006.*

PHI 2710 Theories of Knowledge Nature and limits of human knowledge, kinds of knowledge, the nature of perception, subjectivity, belief, doubt, truth, and certitude. (3 cr) *Last Offered: Fall 2012, Fall 2011, Spring 2011, Spring 2010.*

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: Spring 2012, Fall 2008, Fall 2007, Fall 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 2012, Spring 2012, Summer 2011, Spring 2011.*

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 2010.*

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 2010, Fall 2009, Spring 2009, Spring 2008.*

PHI 2990 Topics in Philosophy (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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: Summer 2012, Fall 2011, Summer 2011, Spring 2011.*

PHI 2996 Internship Departmentally related and academically creditable field work experience. See department chair for more information. (6 cr) *Last Offered: Summer 2012, Fall 2011, Summer 2011, Spring 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

PHI 3050 Kant & 19th Cent Philosophy (3 cr) *Last Offered: Spring 2009, Spring 2008, Fall 2007, 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 2005, Fall 2001, Spring 1997.*

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: Spring 2009, Fall 1999, Fall 1998.*

PHI 3160 History of Islamic Phil Islamic thought, concentrating particularly on Islamic medieval theology and philosophy. (3 cr) *Last Offered: Spring 2008, Spring 2005, Fall 2004, Fall 2002.*

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 2010, Spring 2009, Spring 2008, Fall 2005.*

PHI 3720 Marx & Marxism Marx on the theories of human nature, freedom and history; related developments in Marxist thought. (3 cr) *Last Offered: Fall 2012, 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 3740 Analytic Philosophy Major themes and trends in analytic philosophy: Russell, logical positivism, Wittgenstein and present day linguistic philosophy. (3 cr) *Last Offered:*

PHI 3990 Topics in Hist of Philosophy (3 cr) *Last Offered:*

PHI 4100 Plato & Aristotle Selected texts and themes from Plato and Aristotle. (3 cr) *Last Offered: Fall 2005.*

PHI 4110 Metaphysics Questions regarding the nature and possibility of metaphysics; selected texts from Greek philosophy to the present. (3 cr) *Last Offered: Fall 2007, Fall 2006, 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 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 2012, Fall 2010, Fall 2009, Fall 2008.*

PHI 4150 Philosophy & Film Analysis of selected classics and current films from the perspective of basic philosophical concepts and questions. (3 cr) *Last Offered: Fall 2012, Summer 2012, Fall 2011, Summer 2011.*

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: Fall 2012, Fall 2011, Fall 1998, Spring 1998.*

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, Fall 2005, Spring 2005.*

PHI 4610 Philosophy of Mind The nature of mind, soul, consciousness; the mind-brain relationship; classical and contemporary philosophical approaches; the nature of person identity and moral responsibility. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

PHI 4800 French Existence & Phenomenon The development of phenomenology and existentialism in post-war France; the challenge to this thought by structuralism. Sartre, Marcel, Camus, Merleau-Ponty, Ricoeur, Levinas. (3 cr) *Last Offered: Spring 2012, Fall 2011, Spring 2011, Spring 2010.*

PHI 4850 German Existence & Phenomenon Individual and mass society, freedom, our consciousness of the world, and death in the writings of Kierkegaard, Nietzsche, Husserl and Heidegger. (3 cr) *Last Offered: Spring 2012, Fall 2010, Fall 2008, Fall 2007.*

PHI 4875 Hermeneutics Problem of interpretation; the possibility of a presuppositionless interpretation, interpretation, pre-understanding and the hermeneutic circle, historical, literary, scriptural and artistic interpretation. (3 cr) *Last Offered: Fall 2008, Spring 2000, Fall 1998.*

PHI 4900 Feminist Theory (3 cr) *Last Offered:*

PHI 4990 Independent Study & Research Topic chosen by the student and approved by the professor and the chair. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

PHI 5000 Adv Sem for Phil Majors Special topic in philosophy or current interest to faculty and students. Course is open to Philosophy majors and minors and graduate students with the approval of the Director of Graduate Studies in Philosophy. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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 1050 Nature's Laws I Evolution of the descriptions given to Nature's laws, from determinism, to uncertainty, and recently to a unified and somewhat beautiful picture, extending from the components of the nucleus to the entire universe. Laboratory experience integrated with lecture. (4 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003.*

PHY 1052 Nature's Laws II Continuation of the first semester. Modern applications of the physical laws, with particular topics selected based on the student's interests. Ethical issues associated with the modern discoveries. (4 cr) *Last Offered: Spring 2005, Spring 2004.*

PHY 1100 General Physics I Mechanics, heat and sound. Recommended for Biology majors. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

PHY 1101 General Physics I Lab Selected experiments in mechanics, heat and sound. Recommended for Biology majors. (1 cr) *Last Offered: Fall 2012, Summer 2012, Fall 2011, Summer 2011.*

PHY 1102 General Physics II A continuation of PHY 1100; light, electricity and modern physics. Recommended for Biology majors. (3 cr) *Last Offered: Summer 2012, Spring 2012, Summer 2011, Spring 2011.*

PHY 1103 General Physics II Lab Selected experiments in light and electricity. Recommended for Biology majors. (1 cr) *Last Offered: Summer 2012, Spring 2012, Summer 2011, Spring 2011.*

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 2012, Summer 2011, Summer 2010, Summer 2009.*

PHY 1501 The Nature of Light A set of experiments in optics designed to complement the principles and ideas covered in PHY 1500, The Concept of Light lectures. Designed for VSB and Arts majors (fulfills Arts core science requirement). (1 cr) *Last Offered: Spring 2005, Spring 2004.*

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 2012, Summer 2011, Summer 2010, Summer 2009.*

PHY 1503 The Nature of Gravity A set of experiments on gravity and laws of motion designed to complement the principles and ideas covered in PHY 1502. Designed for VSB and Arts majors (fulfills Arts core science requirement). (1 cr) *Last Offered: Fall 2004.*

PHY 2400 Physics I Mechanics Introduction to Mechanics. Designed for students in the College of Engineering. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

PHY 2410 University Phy:Mechanics Vectors, kinematics, and dynamics of particles, rigid bodies, and fluids. Recommended for Science majors. (3 cr) *Last Offered: Fall 2012, Summer 2012, Fall 2011, Summer 2011.*

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 2012, Summer 2012, Fall 2011, Summer 2011.*

PHY 2412 Univ Physics: Elec & Mag Electrostatics, DC circuits, magnetism, and AC circuits. Recommended for Science majors. (3 cr) *Last Offered: Summer 2012, Spring 2012, Summer 2011, Spring 2011.*

PHY 2413 Lab: Elec & Magnetism Recommended for Science majors. (1 cr) *Last Offered: Summer 2012, Spring 2012, Summer 2011, Spring 2011.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

PHY 2415 Lab: Thermodynamics Selected experiments in heat, waves and optics. Recommended for Science majors. (1 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Summer 2011, Spring 2011, Spring 2010.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

PHY 2601 Computational Phy Lab I Computer applications, data analysis and presentation, algorithms and programming, numerical methods, and basic graphics for Physics and Astronomy majors. Prerequisite: Any Intro Physics course (may be taken concurrently). (1 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

PHY 2603 Computational Phy Lab II Continuation of Computational Physics I. (1 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

PHY 4000 Elec & Magnetism I Electrostatics, Coulomb's and Gauss' Laws, Maxwell's first two equations, Laplace's equation and boundary value problems, dielectrics, currents in conductors. (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

PHY 4001 Elec & Magnetism I Lab Selected experiments in the field. (1 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

PHY 4003 Elec & Magnetism II Lab Selected experiments in the field. (1 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2010, Spring 2008, Spring 2006.*

PHY 4200 Mathematical Physics I Vector and tensor analysis, matrices and determinants, infinite series, functions of a complex variable. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2011, Fall 2009, Fall 2007, Fall 2005.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

PHY 5100 Quantum Mechanics Operators, Schrodinger Equation, one dimensional problems, harmonic oscillator, angular momentum, hydrogen atom, scattering theory. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

PHY 5102 Quantum Mechanics II A continuation of Quantum Mechanics. (3 cr) *Last Offered:*

PHY 5200 Thermo/Statistical Mech Statistical methods, statistical thermodynamics, Ensembles, Partition functions. Quantum statistics. Kinetic theory of transport processes. (3 cr) *Last Offered: Fall 2012, Fall 2010, Fall 2008, Fall 2006.*

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 2011, Spring 2009, Spring 2007, Spring 2005.*

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:*

PHY 5502 Solid State Physics II A continuation of PHY 5500. Brillouin zones. Band structure of solids. Semiconductor crystals, rectifiers and transistors. Ferromagnetism. Superconductivity. Applications. (3 cr) *Last Offered:*

PHY 5701 Advanced Lab I Techniques and instrumentation of advanced experiments. (3 cr) *Last Offered:*

PHY 5703 Advanced Lab II A continuation of PHY 5701. (3 cr) *Last Offered:*

PHY 5800 Advanced Mechanics Lagrange, Hamilton and Hamilton-Jacobi forms of mechanics. (3 cr) *Last Offered:*

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PHY 5900 Adv Quantum Mechanics Abstract formulation of quantum mechanics, perturbation and variational methods; applications to atomic and molecular structures. (3 cr) *Last Offered:*

PHY 6000 Advanced Optics Topics in geometrical and physical optics. (3 cr) *Last Offered: Spring 1999.*

PHY 6001 Advanced Optics Lab (1 cr) *Last Offered:*

PHY 6100 Acoustics Transmission, reflection, refraction, absorption and generation of sound waves, acoustical measurements. (3 cr) *Last Offered:*

PHY 6101 Acoustics Lab (1 cr) *Last Offered:*

PHY 6400 Relativity Theory I Introduction to Einstein's Theory of Special Relativity, Relativistic kinematics and dynamics. Lorentz invariance. Relativity and electromagnetism. Tensor analysis. (3 cr) *Last Offered: Fall 1998, Spring 1996.*

PHY 6402 Relativity Theory II Introduction to Einstein's Theory of General Relativity, Newtonian Gravitational and Tidal Forces. Linear Field Approximation. Gravitational Waves. Space-Time Measurements. Riemannian Geometry. Schwarzschild Solution. Black Holes and Gravitational Collapse. Cosmology. (3 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: Summer 1997, Summer 1996, Summer 1995.*

PHY 6600 Supervised Study in Physics Same as PHY 6500 with increased number of hours. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

PHY 6700 Supervised Study Physics Same as PHY 6500 with increased number of hours. (4 cr) *Last Offered: Spring 2007.*

PJ 1500 Peace Keeping & The UN Lab Peacekeeping and the United Nations is offered in conjunction with the course Intro to Peace and Justice. This one credit course will serve as a laboratory for the course, which will include alternative teaching styles, intensive learning experiences and guest speakers. (1 cr) *Last Offered: Spring 1996, Spring 1995.*

PJ 2100 Eco Feminism Women's studies perspectives on environmental thought. The role of ecofeminist thought in the development of a "postmodern" societal paradigm and in a radical reconsideration of destructive and unquestioned beliefs concerning justice, peace and community. (3 cr) *Last Offered: Fall 2007, Spring 2007, Spring 2000, Fall 1999.*

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 2012, Fall 2011, Fall 2010, Spring 2010.*

PJ 2400 Serv Learnng Charity/Solidarity Economic, political, cultural, and spiritual root causes of the problems students observe in service projects. Development of a deeper appreciation and respect for the poor and a more long lasting commitment to their struggle for justice. Permission of instructor. Service component. (3 cr) *Last Offered: Spring 2005, Fall 2004, Spring 2004, Fall 2003.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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: Summer 2012, Spring 2012, Fall 2011, Summer 2011.*

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: Spring 2012, Fall 2011, Spring 2011.*

PJ 2993 Internship Internship (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

PJ 2996 Internship Internship. (6 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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: Fall 2012, Spring 2012, Fall 2011, Spring 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.*

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 2012, Spring 2012, Fall 2011, Spring 2009.*

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: Fall 2012, Spring 2012, Fall 2011, Spring 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 2012, Spring 2012, Fall 2011, Spring 2011.*

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: Fall 2012, Fall 2011, Spring 2011, Fall 2010.*

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 2007, Fall 2005, Spring 2003, Fall 2001.*

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 2012, Spring 2011, Spring 2009, Spring 2008.*

PJ 5600 Independent Study Independent Study (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2003, Fall 2001, Fall 1998, Fall 1997.*

POR 1111 Introductory Portuguese I Groundwork Portuguese, including oral proficiency, aural comprehension, and reading; for students with no prior knowledge of Portuguese. Supplementary language laboratory work. (4 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

POR 1112 Introductory Portuguese II Groundwork Portuguese including oral proficiency, aural comprehension, and reading; for students with no prior knowledge of Portuguese. Supplementary language laboratory work. Prerequisite: POR 1111 or equivalent. (4 cr) *Last Offered: Summer 2012, Spring 2012, Spring 2011.*

POR 1121 Intermediate Portuguese I Review of grammar, composition, reading and conversation. Students should have completed POR 1111 & 1112 or equivalent. (3 cr) *Last Offered: Fall 2012, Fall 2011.*

POR 1122 Intermediate Portuguese II Review of grammar, composition, reading and conversation. Students should have completed POR 1121 or the equivalent. (3 cr) *Last Offered: Spring 2012.*

POR 5900 Independ. Study in Portuguese Work with students in POR 1131 which is not being offered at this time. Prior approval of chair and instructor. (3 cr) *Last Offered: Fall 2012.*

PSC 1100 American Government Constitutional development; national institutions, federalism, civil rights and liberties; instruments of popular control. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

PSC 1200 International Relations Factors in relations between states; the nature, elements, and role of power; problems faced by the modern state system. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

PSC 1875 Spec Top in Political Science Special topics in Political Science. (3 cr) *Last Offered:*

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. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

PSC 1903 Internship Elective (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

PSC 1906 Internship Elective (6 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

PSC 1909 Internship Elective (9 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

PSC 2000 State & Local Government Constitutions, institutions, instruments of popular control, and intergovernmental relations. (3 cr) *Last Offered: Summer 2009, Fall 2006, Spring 2006, Fall 2005.*

PSC 2100 City and Suburb Politics and problems in metropolitan areas of the United States. (3 cr) *Last Offered: Spring 2011, Spring 2009, Spring 2008, Fall 2006.*

PSC 2200 American Party Politics 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 2008, Spring 2007, Spring 2006, Fall 2005.*

PSC 2250 Congress How national politics unfolds in the U.S. Congress, focusing on decision making and voting, leadership roles, committee politics, relations with the

other branches, elections, and congressional reform. (3 cr) *Last Offered: Spring 2011, Spring 2009, Fall 2007, Fall 2006.*

PSC 2275 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 2012, Spring 2011, Fall 2010, Fall 2008.*

PSC 2300 American Foreign Policy The institutions, processes, and ideas which shape contemporary American foreign policy; the major problem areas. (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

PSC 2400 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 2009, Fall 2007, Fall 2005, Spring 2004.*

PSC 2500 Washington Minimester A three week series of seminars in Washington, D.C. with public officials, staff members, party leaders, and interest group representatives. See and study the workings of our government at first hand. (3 cr) *Last Offered: Summer 2012, Summer 2011, Summer 2010, Summer 2009.*

PSC 2600 Public Policy Theories of public policy making, national public policies, and contemporary issues. (3 cr) *Last Offered: Spring 2012, Fall 2010, Fall 2009, Fall 2008.*

PSC 2625 Environmental Policy Environmental policy issues regarding publicly-owned resources, energy generation and consumption, greenhouse gas emissions, biodiversity, trade agreements, international lending, economic growth and sustainable development, agrochemical use, and nuclear and hazardous waste transport and disposal are issues of significant concern to the United States and the international community. (3 cr) *Last Offered: Spring 2007, Spring 2006, Spring 2005, Spring 2004.*

PSC 2700 Women and Politics 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 2011, Fall 2008, Fall 2007, Fall 2005.*

PSC 2750 Black Politics Analysis of black American politics, including ideology, electoral participation, movement politics, and public policy. (3 cr) *Last Offered: Fall 2011, Summer 2011, Summer 2010, Spring 2010.*

PSC 2775 Pol Econ of Black America The interplay between race and economics over time; features the principles, terminology and methods of standard economics and Black political economy. (3 cr) *Last Offered: Spring 2011, Summer 2010, Summer 2009, Spring 2009.*

PSC 2800 Public Administration Administrative politics, law, and ethics, organizational theory and technical fields, such as budgeting, planning, and personnel. (3 cr) *Last Offered: Spring 2011, Fall 2007, Fall 2006, Fall 2005.*

PSC 2875 Topics in American Government Selected topics of special interest in American Government and Public Law. (3 cr) *Last Offered: Fall 2012, Spring 2012, Spring 2011, Fall 2010.*

PSC 2900 Political Communication The role, behavior and influence of communications in American politics. (3 cr) *Last Offered: Fall 2011, Spring 2009, Spring 2007, Fall 2003.*

PSC 2993 Internship Internship. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

PSC 2996 Internship Internship. Work experience in politics. (6 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

PSC 3100 Supreme Court and Business An examination of Supreme Court decisions affecting business, and including the fields of commerce, contracts, and taxation. (3 cr) *Last Offered: Spring 2011, Spring 2009, Spring 2008, Spring 2007.*

PSC 3200 Supreme Crt, Criminal Justice An examination of the important Supreme Court decisions in the area of criminal justice. (3 cr) *Last Offered: Spring 2012, Spring 2010, Fall 2007, Fall 2005.*

PSC 3300 Constitutional Law and Develop Major Supreme Court cases concerning the powers of Congress and the president, federalism, commerce taxing, and voting. (3 cr) *Last Offered: Fall 2011, Fall 2009, Spring 2007, Spring 2006.*

PSC 3400 Supreme Court & First Amend Major Supreme Court decisions involving freedoms of speech, press, religion, church-state, and assembly. (3 cr) *Last Offered: Fall 2012, Spring 2011, Fall 2008, Fall 2006.*

PSC 3500 The Supreme Court & Equality Examination of the important Supreme Court decisions in the area of racial and gender equality. (3 cr) *Last Offered: Spring 2012, Fall 2010, Spring 2009, Spring 2008.*

PSC 3600 Criminal Justice System The political phenomena of crime, nature of law, police, courts, correction, community crime prevention, and the procedures of local, state, and national agencies as political issues. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

PSC 3800 Environmental Law The manner in which our society protects or fails to protect the environment through law and environmental regulation. The relative efficacy, costs, and benefits of various types of this regulation. (3 cr) *Last Offered: Fall 2006, Fall 2005, Fall 2004, Fall 2003.*

PSC 4000 European Politics European political institutions, changes in party systems, and impact of European integration/globalization on domestic economies. (3 cr) *Last Offered: Fall 2007, Fall 2006, Spring 2006, Fall 2005.*

PSC 4120 The Politics of Immigration 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

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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: Fall 2012, Spring 2012.*

PSC 4200 South Asia The historical development of India and Pakistan; their contemporary problems and conduct of foreign relations with the great powers. (3 cr) *Last Offered: Fall 2009, Fall 2006, Spring 2002.*

PSC 4401 Russia An introduction to the contemporary Russian political system emphasizing its transformation from the Communist system which preceded it. (3 cr) *Last Offered: Fall 2011, Fall 2010, Spring 2010, Spring 2009.*

PSC 4500 Contemp East Asian Politics The politics, history, economic development and security of the Asia/Pacific region; focus on Japan and China. (3 cr) *Last Offered: Spring 2012, Spring 2010, Fall 2008, Fall 2007.*

PSC 4700 Africa Cultural pluralism, African socialism, terrorism, politico-legal and socioeconomic development, and other problems of contemporary African states. The impact of colonial rule and socioeconomic changes on political life. (3 cr) *Last Offered: Spring 2012.*

PSC 4750 Latin America Comparison of the political systems of Latin American countries. The role of the military, the church, elites, political parties, constitutions and social and economic factors which have shaped the development of the region. (3 cr) *Last Offered: Fall 2012, Summer 2008, Fall 2005, Spring 2003.*

PSC 4875 Topics in Inter. Rel. Selected topics of special interest in Comparative Government and International Relations. (3 cr) *Last Offered: Summer 2012, Spring 2012, Summer 2011, Spring 2011.*

PSC 4900 The Arab States 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 2012, Fall 2011, Spring 2011, Fall 2009.*

PSC 4950 Ireland Irish government and politics and their socioeconomic context. The impact of Ireland's increasing association with other European countries and the special problems associated with Northern Ireland. (3 cr) *Last Offered: Summer 2012, Summer 2011, Summer 2010, Fall 2009.*

PSC 5000 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 2012, Fall 2011, Fall 2010, Spring 2010.*

PSC 5100 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: Fall 2009, Fall 2008, Fall 2007, Fall 2006.*

PSC 5225 US Foreign Policy Issues Contemporary foreign policy issues facing the United States; elements of continuity and change; implementation and consequences. (3 cr) *Last Offered: Spring 2011, Spring 2010, Spring 2009, Spring 2008.*

PSC 5351 Russian Foreign Policy The development of Russian foreign policy in the post-Soviet period, historical roots; relations with the United States, Europe, the Far East and the developing countries; diplomatic; economic and military instruments of Russian policy. (3 cr) *Last Offered: Spring 2007, Spring 2006, Spring 2005, Fall 2003.*

PSC 5500 Africa in World Politics Political and economic problems in Africa south of the Sahara; problems of South Africa - past, present, and future; the interaction of states in regional organizations; Pan-Africanism; response of the outside world to African nationalism. (3 cr) *Last Offered: Spring 2003, Fall 1998, Fall 1996, Fall 1995.*

PSC 5600 Human Rights Transnational case studies of human rights; the nature and significance of human values in relation to the political process, law, and ideology. (3 cr) *Last Offered: Fall 2007, Spring 2006, Spring 2000, Summer 1995.*

PSC 5655 Harry Potter and Intl Politics This course uses the Harry Potter book series to explore the politics of identity, the nature of the bureaucracy and rule of law, and globalization. (3 cr) *Last Offered: Fall 2011.*

PSC 5700 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 2012, Spring 2011, Summer 2010, Spring 2010.*

PSC 5800 Politics of International Econ The politics international trade, economic interdependence, foreign aid, monetary relations, North-South relations, and national development. (3 cr) *Last Offered: Spring 2005, Summer 2004, Fall 2003, Fall 2002.*

PSC 5825 Development & Aid Development & the role of official development assistance. Includes aid effectiveness, modalities, impact of globalization, conflation of aid with strategic purpose, & rising influence of non-traditional donors, such as China & oil-exporting countries. (3 cr) *Last Offered:*

PSC 5850 East Asia's Political Economy Themes include interactions between markets and capitalist systems, political regimes, financial sector liberalization, trade, entrepreneurship, and regionalism. Special focus on the conditions leading to the region's recent financial crises. (3 cr) *Last Offered: Fall 2010, Spring 2009, Fall 2008, Spring 2005.*

PSC 5875 India India's emerging power will play a major role in influencing Asian and global politics in the coming decades. The interrelated themes of India's economy, democracy, role of the state, civil society, and development policy in contemporary times will be covered. (3 cr) *Last Offered: Summer 2010, Fall 2008.*

PSC 5900 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: Fall 2011, Spring 2010, Fall 2008, Spring 2008.*

PSC 6000 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: Fall 2011, Fall 2010, Spring 2010, Spring 2009.*

PSC 6100 Mod 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: Fall 2010, Spring 2002, Spring 2001, Spring 2000.*

PSC 6120 Principles of Politics An analytical, rather than historical, approach to the principles of politics. Justice, liberty, equality, purpose of the state, constitutionalism, political prudence, separation of powers, etc. (3 cr) *Last Offered: Summer 2008, Fall 2006, Summer 2003, Summer 2002.*

PSC 6130 Theories of War and Peace The major political theories about war and peace, and the importance of ideas of justice for them in ancient, non-Western, modern and contemporary theories. (3 cr) *Last Offered: Summer 2011, Summer 2007, Summer 2006, Summer 2005.*

PSC 6140 Religion and Politics The relation of religion and politics found in either classical, modern, or contemporary literature from the Western or non-Western, American or Latin American experience. (3 cr) *Last Offered: Fall 2011, Spring 2009, Fall 2005, Fall 2004.*

PSC 6150 Politics and Literature Politics in classical and modern literature. Sophocles, Thucydides, Plutarch, Shakespeare, Twain, Melville, Austen, Huxley, Orwell. (3 cr) *Last Offered: Fall 2012, Fall 2008, Spring 2008, Fall 2006.*

PSC 6175 American Statesmanship Examine the lives, characters, and political thought of American Statesmen using biographical material and primary sources. (3 cr) *Last Offered: Fall 2009.*

PSC 6225 The American Founding Issues about the nature of the federal union, sovereignty, majority faction, the extended republic, representation, the branches of government, separation of powers, checks and balances, slavery, popular government and civic responsibility during the Philadelphia Convention of 1787 and the Ratification Debates over the Constitution. (3 cr) *Last Offered: Spring 2012, Spring 2010, Fall 2007, Spring 2005.*

PSC 6250 Jurisprudence The nature and origin of law from historical and/or analytical perspectives. (3 cr) *Last Offered: Fall 2008, Spring 2006, Fall 2004, Spring 2003.*

PSC 6275 Lincoln/Douglas Debates Examination of the theoretical and practical political concerns of political leadership in a free society, with emphasis on the political understanding and statesmanship of Abraham Lincoln and Stephen Douglas. Attention to the issues of equality, sovereignty, liberty, and justice. (3 cr) *Last Offered: Fall 2011, Spring 2008, Fall 2005, Fall 2002.*

PSC 6650 Using Political Science Research methods, no prior knowledge expected. Design and conduct study of political and social attitudes in the Villanova community, probability and random sampling, research design, hypothesis testing and intelligent use of statistics, tests of significance, and basic data analysis. (3 cr) *Last Offered: Fall 2009, Spring 2006, Spring 2005, Spring 2004.*

PSC 6800 Political Violence The nature of political violence and conflict emphasizing the human perspective. Origins and causes of political violence; socio-psychological explanations. Manifestations include terrorism, rebellion, revolution, and war. (3 cr) *Last Offered: Fall 2012, Spring 2012, Spring 2011, Spring 2010.*

PSC 6875 Topics in Political Theory Selected topics of special interest in Political Theory and Behavior. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

PSC 6900 Political Sci Seminar Individual research and report on contemporary problems in political science. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

PSC 6950 Ind Study & Research Individual students with specific interests work on a tutorial basis with an appropriate professor. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

PSY 2200 Developmental Psychology Theory and research on social/personality, physical, and cognitive/ intellectual changes from infancy through old age. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

PSY 2300 Perception Theory and application of sensory and perceptual processes such as distance perception, color vision, illusions and deafness. (3 cr) *Last Offered: Fall 2012, Spring 2011, Spring 2010, Fall 2008.*

PSY 2400 Cross-Cultural Psychology Theory and research on cultural influences on human diversity in behavior and psychological processes. (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

PSY 2450 Psychology of Women 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: Spring 2011, Fall 2010, Fall 2009, Spring 2009.*

PSY 2500 Psych of Personality Theories, dynamics, and structure of personality. Students cannot receive credit for this course and PSY 5200. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

PSY 2600 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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Summer 2012, Fall 2011, Summer 2011.*

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 2012, Spring 2010, Spring 2009, Spring 2007.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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, Spring 2005.*

PSY 3000 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 2012, Summer 2012, Spring 2012, Fall 2011.*

PSY 3005 Special Topics Seminar Selected topics in memory improvement, time management, stress management, interpersonal communication, etc. Open to all Majors. Graded S/U. Only three 1-credit seminars may be applied toward graduation. Cannot be used to fulfill Psychology electives. (1 cr) *Last Offered: Fall 2012, Summer 2012, Fall 2011, Summer 2011.*

PSY 4000 Intro Statistics Basic concepts, assumptions, and applications of descriptive statistics and inferential statistics. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

PSY 4050 Research Methods in Psy Introduction to the reading, design, and reporting of psychological research. Writing intensive. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

PSY 4100 Foundations of Modern Psych Overview of the major concepts and theories of psychology presented in a historical context. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

PSY 4125 Contemporary Issues in Psych Recent & emerging topics, issues, & methods in psychological science. (3 cr) *Last Offered: Fall 2012, Spring 2012, Spring 2011, Fall 2010.*

PSY 4150 Sem Professional Development Overview of ethical and professional issues in psychology. (1 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

PSY 4200 Physiological Psychology Theoretical and laboratory examination of basic neural and hormonal processes underlying behavior. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

PSY 4500 Cognitive Psychology Theory and research on human learning, memory, and cognitive processes. Writing intensive. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

PSY 5100 Animal Learning & Cognition Cognitive mechanisms responsible for simple behavior and behavioral change as they have been studied using animal subjects. (3 cr) *Last Offered: Spring 2003, Fall 2001, Fall 2000.*

PSY 5200 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 2500. (3 cr) *Last Offered:*

PSY 5300 Psychological Measurement Basic principles and problems of psychological measurement in the assessment of behavior. (3 cr) *Last Offered:*

PSY 5400 Clinical & Counseling Psych Fundamental concepts, basic areas of professional functioning, and contemporary issues in the mental health field. (3 cr) *Last Offered: Spring 2011, Spring 2010, Spring 2009, Spring 2008.*

PSY 5500 Abnormal Psychology Classification, etiology, and treatment of mental and behavioral disorders with emphasis on contemporary theory and research. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

PSY 5900 Undergraduate Research 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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

RLL 1113 German for Translation Essentials of grammar and exercise for reading comprehension and translation. (3 cr) *Last Offered:*

RLL 2100 Research Seminar Focuses on the effective use of research tools and fundamental processes involved in literary and linguistic research and analysis. French, German and Italian majors (and other interested students) will be introduced to fundamental concepts necessary for the understanding and analysis of literary texts. Students have the option of writing their research papers in English or the target language. (3 cr) *Last Offered:*

RLL 3200 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 3421 Dante's Divine Comedy Dante's masterpiece with special emphasis on the "inferno". Taught in English. (3 cr) *Last Offered: Spring 2012.*

RLL 3920 The Italian Theatre From the Renaissance to modern times, including Machiavelli, DeFilippo, Verga, D'Annunzio, Goldoni, Pirandello, Giacosa, Bracco, Fo. Course taught in English. (3 cr) *Last Offered:*

RLL 4100 Span Lit in Eng Trans Major works of Spanish literature in translation. Course conducted in English. Fulfills core requirements for advanced literature. (3 cr) *Last Offered:*

RLL 4101 Ital Lit in English Transl Major works of Italian literature in translation. Conducted in English. (3 cr) *Last Offered:*

RLL 4130 Italian Culture The land and people of Italy; their social and cultural evolution; their achievements in the arts and their influence on art, literature and music; their contribution to the history of ideas. Conducted in English. (3 cr) *Last Offered:*

RLL 4140 The Image of Woman in Ita Lit Literary works from the Medieval period to modern times. The role of the woman in Italian culture through the eyes of such literary geniuses as Dante, Petrarch and Boccaccio. Conducted in English. Satisfies requirements towards major and minor in Italian. Satisfies the core requirement for advanced literature level 2100 or above. (3 cr) *Last Offered: Fall 2012.*

RLL 4150 Italian Art and Literature Italian literature as reflected in painting, sculpture and architecture. Conducted 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 2012, Summer 2012, Fall 2011, Summer 2011.*

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. (6 cr) *Last Offered: Summer 2012, Spring 2012, Summer 2011, Spring 2011.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

RUS 1124 Intermediate Russian II Continued development of skills employed in Intermediate Russian I. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

RUS 1132 Advanced Convers & Comp A continuation of RUS 1131. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

RUS 3412 Special Topics 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 2012, Summer 2012, Spring 2012, Fall 2011.*

RUS 4110 Russian Civilization 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: Spring 1999, Spring 1998.*

RUS 4120 The Russian Short Story Representative Russian short stories from Pushkin to Pasternak. Conducted in English. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

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RUS 4130 The Russian Novel I Major Russian novels of the 19th century, including Pushkin, Lermontov, Gogol, Turgenev, Dostoevsky and Tolstoy. Conducted in English. (3 cr) *Last Offered: Fall 2001, Fall 1998.*

RUS 4140 The Russian Novel II Major Russian Novels of the 20th century including Bely, Fedin, Olesha, Bulgakov, Sholokhov, Pasternak, and Solzhenitsyn. Conducted in English. (3 cr) *Last Offered: Spring 2003.*

RUS 4150 The Russian Drama The evolution of Russian drama from the 19th century to the present. Conducted in English. (3 cr) *Last Offered:*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

SAR 2020 Basic Watercolor Techniques Techniques of transparent watercolor painting with concentration on still life. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

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 2001, 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: Born in the USA 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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2004, 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: Spring 2006.*

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:*

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. Prereq. THE 2029 or permission of instructor. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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: Spring 2010, Spring 2009, Spring 2008, Spring 2007.*

SAR 5004 Printmaking Introduction to and the brief history of traditional methods of the fine art of making prints: Relief (e.g. Woodcut, Linoleum), Intaglio (e.g. Etching,

Drypoint), Stencil (e.g. Screen Printing), and Planographic (e.g. Lithography, Aluminum). (3 cr) *Last Offered: Fall 2004, Fall 2003, Fall 2002, Fall 2001.*

SBI 1000 Professional Success Skill building and strategizing for job/internship search; exposure to job/internship resources and practicing professionals. (1 cr) *Last Offered: Summer 2012, Summer 2011, Summer 2010, Summer 2009.*

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 2012, Summer 2011, Summer 2010, Summer 2009.*

SBI 1107 Financial Decision Making I Foundational principles of macroeconomics, corporate finance and financial accounting from an integrated macro-economic framework. Emphasis on linkages among these three disciplines in solving business problems. (5 cr) *Last Offered: Summer 2006, Summer 2005, Summer 2004, Summer 2003.*

SBI 1108 Strat Anal & Implementation The integration among marketing, management, and business law as an approach to understanding corporate structure in conducting business. Various business problems analyzed from a cross-disciplinary perspective; the value of ethical- based decision making. (5 cr) *Last Offered: Summer 2006, Summer 2005, Summer 2004, Summer 2003.*

SBI 1110 Financial Decision Making II Building on the work covered in Financial Decision Making I, principles of finance and managerial accounting are integrated to help students understand how a cross-functional approach to running a business is superior to a silo-focused approach. (3 cr) *Last Offered: Summer 2006, Summer 2005, Summer 2004.*

SBI 1112 Ethical Business Leadership The focus of this module is on the microeconomic environment of business and the ethical considerations that arise in it. (3 cr) *Last Offered: Summer 2006, Summer 2005, Summer 2004.*

SBI 2005 Applied Economics Intro to macroeconomics & microeconomics & application to specific business decisions. (3 cr) *Last Offered: Summer 2012, Summer 2011, Summer 2010, Summer 2009.*

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 2012, Summer 2011, Summer 2010, Summer 2009.*

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 2012, Summer 2011, Summer 2010, Summer 2009.*

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 2012, Summer 2011, Summer 2010, Summer 2009.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

SCI 2993 Internship Elective Permission of Program Director. Junior or senior Comprehensive science students with 3.0 QPA only. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

SCSC 1000 Topics in Social Sciences Selected interdisciplinary topics of special interest in the Social Sciences. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

SCSC 1050 Independent Study Independent Study of selected interdisciplinary topic in social science. (3 cr) *Last Offered: Summer 2012, Fall 2011, Summer 2011, Spring 2011.*

SOC 1000 Intro to Sociology Introduction to the analysis of social behavior, emphasis on socialization, collective and group behavior. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

SOC 1903 Internship Elective (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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.*

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: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

SOC 2500 Sociology of Community Concentration on the changes in the structure of the community from container to network types. Emphasis on the necessity of community as rooted in social nature. . (3 cr) *Last Offered: Fall 2004, Spring 2004, Fall 2003, Spring 2003.*

SOC 2600 Sociology of Religion The interaction between society and religion; religion and scientific claims; investigation of human nature as social and the concept of oneness in religion. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

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 2011, Fall 2010, Spring 2009, Fall 2006.*

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 2012, Summer 2012, Fall 2011, Summer 2011.*

SOC 2993 Internship Internship (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

SOC 2996 Internship Internship (6 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

SOC 3000 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 2008, Spring 2008, Fall 2007, Spring 2007.*

SOC 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: Fall 2006, Fall 2005, Spring 2005, Fall 2004.*

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 2010, Spring 2007, 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 2007, Fall 2006, Fall 2005, Fall 2004.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 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 2011, Summer 2011, Fall 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 2012, Summer 2012, Spring 2012, Summer 2011.*

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: Fall 2010.*

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 2011, Fall 2010, Spring 2010, Spring 2009.*

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: Spring 2012, Fall 2006, Spring 2004, Fall 2001.*

SOC 5100 Contemp Thry & Research Significant contemporary contributions to sociology theory and research. (3 cr) *Last Offered: Fall 2012, Fall 2011, Spring 2011, Fall 2009.*

SOC 5300 Data Analysis-Social Scientist (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Fall 2008.*

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 2012, Fall 2011, Fall 2010, Fall 2009.*

SOC 6000 Independent Study Supervised project or research culminating in research report or major paper. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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SOC 6500 Seminar Advanced course for seniors focusing on particular substantive area; topics rotate. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Summer 2012, Fall 2011, Summer 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

SPA 1113 Intr Spa for Health Profession Addresses needs of health care professionals. Restricted to students in health profession, including social work. (4 cr) *Last Offered: Fall 2010, Fall 2009, Spring 2009, Fall 2008.*

SPA 1114 Accelerated Intro. Spanish Groundwork Spanish proficiency guided for listening, speaking, reading and writing. It covers material equivalent to SPA 1111 and 1112. Little or no prior knowledge of Spanish is required. (4 cr) *Last Offered: Fall 2012, Fall 2010.*

SPA 1121 Intermediate Spanish I Review of grammar, composition, reading and conversation. Students should have completed SPA 1111 and 1112 or the equivalent. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

SPA 1122 Intermediate Spanish II Review of grammar, composition, reading and conversation. Students should have completed SPA 1121 or the equivalent. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

SPA 1124 Accelerated Intermed. Spanish Review of grammar, proficiency guided listening, speaking reading and writing. Material covered equivalent to Spanish 1121 and 1122. Students should have completed SPA 1111 and 1112 or equivalent. (3 cr) *Last Offered: Fall 2012, Fall 2010.*

SPA 1126 Accel Intermediate Spanish Concentrated review of Intermediate Spanish with emphasis on reading, conversation and composition. Prerequisite: Intermediate Spanish, 3-4 years of High School Spanish or the equivalent. (3 cr) *Last Offered:*

SPA 1128 Business Spanish I Credit documents, contracts, business correspondence, and abundant practice in letter writing. (3 cr) *Last Offered:*

SPA 1129 Business Spanish II Corporations, their organization and function, mortgages, insurance, and taxes. (3 cr) *Last Offered:*

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 2012.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

SPA 1136 Translation Skills An introduction to the theory and practice of translation. Students should have completed 1132 or the equivalent. (3 cr) *Last Offered:*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Spring 2012, Fall 2011.*

SPA 2211 Lit & Cult Experience 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 2012, Summer 2012, Fall 2011, Summer 2011.*

SPA 2212 Lit & Cult Experienc of Lat Am 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 2012, Summer 2011, Spring 2011, Spring 2010.*

SPA 2213 Latin American Theater The modern theatre in Spanish America from the turn of the century to the present. Satisfies Diversity Requirement. Students should have completed 1132 or the equivalent. (3 cr) *Last Offered: Spring 2012, Fall 2007, Spring 2004, Fall 1998.*

SPA 2214 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 2007, Fall 2005, Spring 2004, Spring 2003.*

SPA 2215 Latin American Short Story The origins, development and maturity of the short story in Spanish America. Students should have completed 1132 or the equivalent. (3 cr) *Last Offered: Fall 2012, Fall 2011, Spring 2011, Spring 2006.*

SPA 2217 Hispanic Lit through Art Main trends and styles of Spanish and Spanish-American literature analyzed in the light of corresponding trends and styles in

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the visual arts. From Gonzalo de Berceo to Pablo Neruda. Students should have completed 1132 or the equivalent. (3 cr) *Last Offered:*

SPA 2993 Internship A community-based experience helping lawyers translate & interpret for the Philadelphia Hispanic community. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

SPA 2996 Internship A community-based experience helping lawyers translate & interpret for the Philadelphia Hispanic community. (6 cr) *Last Offered: Fall 2006, Fall 2005, Spring 2005, Fall 2004.*

SPA 3411 Masterpieces of Med Lit 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: Fall 2003, Spring 2001, Spring 1997, Fall 1995.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

SPA 3612 Cervantes An interdisciplinary approach to Cervantes's work. Students should have completed 1132 or the equivalent. (3 cr) *Last Offered: Spring 2011, Spring 2010, Fall 2007, Spring 2007.*

SPA 3614 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 3715 18th Century Literature Prose, poetry and theatre from Feijoo to Moratin. Students should have completed 1132 or the equivalent. (3 cr) *Last Offered: Spring 2004, Spring 2003, Spring 2001, Spring 1999.*

SPA 3718 19th Century Novel Reading of novels representing costumbrismo, realismo and naturalismo. Students should have completed 1132 or the equivalent. (3 cr) *Last Offered: Spring 2002, Fall 1999.*

SPA 3820 Love, Desire and Death Development of spanish poetry concentrating on romanticism and modernism. Students should have completed 1132 or the equivalent. (3 cr) *Last Offered: Spring 2001, Spring 1998.*

SPA 3821 Love, Fame & the After Life An examination of love, fame and death in spanish poetry from beginnings to present day. (3 cr) *Last Offered: Fall 1999, Fall 1995.*

SPA 3822 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: Fall 2012, Fall 2008, Spring 2005, Spring 2002.*

SPA 3920 Cont Span Short Fiction Short fiction in the Spanish literary tradition, with greater emphasis on the fruition of the genre in contemporary Spain. Students should

have completed 1132 or the equivalent. (3 cr) *Last Offered: Fall 2008, Fall 2004, Summer 2003, Summer 2002.*

SPA 3921 Spanish Theatre of 20 & 21 c. A critical analysis of representative plays from Benavente to the present day. Students should have completed 1132 or the equivalent. (3 cr) *Last Offered: Spring 2011, Fall 2007, Spring 2006, Spring 2004.*

SPA 3923 The Modern Novel Representative trends in 20th century Spanish novels. Students should have completed 1132 or the equivalent. (3 cr) *Last Offered: Spring 2000.*

SPA 3924 Hispanic Film and Literature Spanish films based on literary works as a medium will be used to better understand contemporary Spanish culture and civilization. Writing intensive. (3 cr) *Last Offered: Fall 2006, Fall 2004, Spring 2000, Summer 1999.*

SPA 3925 Garcilaso, Fray Luis, San Juan 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: Fall 2009.*

SPA 3926 Discursos de la memoria This course explores the works of Latin American writers from the point of view of memory, invention or recuperation of early youth or significant events that are written into a diary, a chronicle, testimony or autobiography. Critical thinking is focused on the articulation of the subject in his personal story. (3 cr) *Last Offered: Fall 2011.*

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 2012, Spring 2012, Fall 2011.*

SPA 4110 The Spanish Epic and Ballad Readings and discussions in the popular literature, including the folktale. (3 cr) *Last Offered:*

SPA 4140 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 4160 Faces of Modernity Study of artistic trends in twentieth century Spain. (3 cr) *Last Offered:*

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 2012, Spring 2012, Spring 2011, Fall 2010.*

STA 2107 Introduction to Statistics I Descriptive statistics, elements of probability, distributions including the binomial, Poisson, hypergeometric and normal; Bayesian inference and sampling distributions; confidence intervals; index numbers; use

of statistical methodology to solve business problems. (3 cr) *Last Offered: Fall 2000, Summer 2000, Spring 2000, Fall 1999.*

STA 2108 Introduction to Statistics II Estimation techniques, hypothesis testing, correlation and regression analysis employing computer applications, time series analysis, analysis of variance, and non-parametric methods, application of statistical techniques. (3 cr) *Last Offered: Spring 2001, Fall 2000, Summer 2000, Spring 2000.*

THE 2019 The Theatrical Expernce 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 2007, Spring 2007, Fall 2006, Spring 2006.*

THE 2021 Theatre in Philadelphia (3 cr) *Last Offered: Spring 2008, Spring 2007, Summer 2006, Spring 2006.*

THE 2025 Improvisational Theatre Improvisation to explore non-verbal communication strategies and the study of theatre as a communication medium. Readings in non-verbal communication and modern theatre theory. (3 cr) *Last Offered: Fall 2006, Fall 2005, Fall 2004, Spring 2004.*

THE 2029 Fund Princ of Acting Traditional acting theories and basic techniques: games, improvisation, sensory awareness exercises and beginning work on scenes. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

THE 2030 Advan Princ of Acting Creation of an original piece of theater. Self-selected scenes used to deepen individual growth. (3 cr) *Last Offered: Spring 2010, Spring 2007, Fall 2005, Spring 2004.*

THE 2032 Elements of Dance The broad range of dance styles, dance theory, vocabulary, and body placement. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

THE 2033 Advanced Elements of Dance Expanded study of dance styles, dance theory, vocabulary, and body placement. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2010, Spring 2009.*

THE 2034 Musical Theatre Explores the conventions of musical theatre. Practical work in the application of musical performance theory to specific song, movement and stylized acting techniques. (3 cr) *Last Offered: Spring 2012, Spring 2010, Spring 2007, Spring 2000.*

THE 2040 Theatre Practicum Significant and responsible participation in the department's production program. (cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

THE 2051 Creativity in Theatre Employing writing, acting, directing, movement, film, music and mixed-media elements, the course creates an experimental definition of theatre including content, structure and form. (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

THE 3006 Shakespeare on Stage Shakespeare texts as theatrical experiences, including both traditional and modern approaches to directing Shakespeare. Practical scene work to make complex language accessible to beginning students. (3 cr) *Last Offered: Spring 2012, Spring 2011, Spring 2007, Spring 2005.*

THE 3007 Playwriting (3 cr) *Last Offered: Fall 2006, Spring 2006, Fall 2005, Spring 2005.*

THE 3008 Black Theatre Focuses on the development of Black theatre as an outgrowth of African-American historical evolution with an emphasis on those plays which are enduring. (3 cr) *Last Offered:*

THE 3010 Mindfulness & Creativity An investigation of classic forms of mindfulness meditation and contemplation - from calm abiding to insight awareness to transformation - through studying sutras and experiencing traditional practices. All in the interest of exploring and expanding creativity. (3 cr) *Last Offered: Fall 2012.*

THE 3020 Teaching of Acting A laboratory course for teachers of dramatic arts at the junior and senior high school levels. Emphasis is on the development of teaching skills, including exercises in movement, improvisation and scene study. (3 cr) *Last Offered:*

THE 3030 Spec Topics in Theatre A specialized area of theatre studies (e.g., avant-garde, feminist, Asian, Melodrama), combining elements of theatre history, dramatic literature and criticism, as well as performance and production aspects of live theatre. (3 cr) *Last Offered: Summer 2012, Spring 2012, Fall 2011, Summer 2011.*

THE 4010 Scenography (3 cr) *Last Offered:*

THE 4011 Directing the Play (3 cr) *Last Offered:*

THE 4014 Women and Theatre The contribution of women artists to the American theatre, discussing the particular social issues, and the pertinent historical perceptions and problems encountered by women in the arts. (3 cr) *Last Offered: Spring 1995.*

THE 4020 Directed Studies in Theatre Reading and practical work in a specialized area of theatrical production or scholarship under the direction of a faculty artist or scholar. (3 cr) *Last Offered: Fall 2010, Summer 2010, Spring 2010, Fall 2009.*

THL 1000 Christian Faith and Life Exploration of Christian belief and practice through its classic texts, central ideas, and historical development. Particular emphasis on the Roman Catholic tradition, the connection between faith and reason, and the relationship of Christian belief and behavior with contemporary human experience. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

THL 1050 Christian Theology: An Intro An introduction to Christianity from the viewpoint of Christian theology, "faith seeking understanding". A theological study of the world view and core narrative of Christianity as found in its scriptures and in its traditions of practice and belief. Includes an orientation to academic study of religion and to theological method. Only one 1050/1051 course may be taken. Either is a prerequisite

for all other THL classes. (3 cr) *Last Offered: Summer 2011, Spring 2011, Fall 2010, Summer 2010.*

THL 1051 Christianity in History The emergence, growth and transformation of Christianity: doctrinal developments; institutional issues; and the historical development of Christianity from its origins in the eastern Mediterranean up through its eventual world-wide expansion, with emphasis on Christianity's role in the emergence of western societies. Ways which Christian symbolism and ritual have shaped the lives of ordinary people in the Christian world. Orientation to the academic study of religion. Only one 1050/1051 course may be taken. Either is a prerequisite for all other THL classes. (3 cr) *Last Offered: Spring 2011, Fall 2010, Spring 2010, Fall 2009.*

THL 2000 Introduction to the Bible Critical analysis of biblical books; general scriptural themes; use of textual, source, form, redaction, and literary criticism. (3 cr) *Last Offered: Fall 2006, Spring 2006, Spring 2005, Spring 2004.*

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 Moses, Abraham, Jacob, Adam and Eve, David, Solomon, Samson, Samuel and others; social, political and religious life situations of these; relevant ancient Near Eastern beliefs and customs. Prerequisite: introductory Bible course or permission of instructor. (3 cr) *Last Offered: Fall 2005, Fall 2003, Spring 2002, Spring 2001.*

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: Fall 2012, Summer 2012, Fall 2011, Summer 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 2012, Spring 2012, Summer 2011, Summer 2010.*

THL 2320 New Testament Letters Critical analysis of Pauline and Catholic epistles; structure, meaning, continuing vitality and application; use of textual redaction,

and literary methods. (3 cr) *Last Offered: Fall 2010, Fall 2008, Spring 2006, Spring 2004.*

THL 2330 Johannine Literature Critical analysis of the Gospel and Letters of John: Structure, meaning, historical, development, continuing vitality and application; use of textual, source, form redaction and literary methods. Prerequisite: Introductory bible course or permission of instructor. (3 cr) *Last Offered:*

THL 2400 Archaeology of the Bible Contributions of archaeology to biblical study; the cultural context of people and places depicted in the Bible explanation of archaeological methodology and history of excavations in the ancient Near East and the Holy Land; discoveries relating to the Bible. Cross listed with Honors. (3 cr) *Last Offered: Fall 2012, Fall 2011, Spring 2011, Spring 2010.*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

THL 2480 Themes in Bible Studies Interdisciplinary approach to biblical texts. (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Spring 2010.*

THL 2490 Bible-Advanced Topics Critical exegesis of biblical texts: use of scholarly methods of analysis. Prerequisite: Introductory Bible course or permission of instructor. (3 cr) *Last Offered:*

THL 2500 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 Miracles Mystics Monks Christianization of Europe during the Middle Ages (500-1500) conversion of the Barbarians, the cult of the saints, Monasticism, the sacraments, popular religion, the crusades Heresy and Church Reform. (3 cr) *Last Offered: Spring 2005, Summer 2004, Fall 2001, Spring 1999.*

THL 2550 Reformation Christianity The breakdown of the Medieval Church (1500-1700) inaugurated by Martin Luther; the creation of Protestant Churches; the formation of Tridentine Catholicism; the beginning of the Enlightenment. (3 cr) *Last Offered: Spring 2000, Fall 1999, Fall 1995.*

THL 2575 Christianity & Modern World Christianity from 1648 to the present; emphasis on the impact from science, philosophy, psychology, socio-political theories, and criticism. (3 cr) *Last Offered: Spring 2011, Fall 2010, Spring 2010, Spring 2009.*

THL 2590 Historical Themes Selected topics in historical theology: Religion in the Age of Romanticism; Roman Catholic Modernism; Vatican II: Evolution or Revolution. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Summer 2011.*

THL 2725 Christian Classics I Major theological themes in classic texts of Christian History from the early church to Reformation; status and interpretation of

biblical literature, grace and freedom, faith and reason, Christ and culture; texts from Augustine, Aquinas, Luther and others. Required for Majors. Restricted to majors or minors or permission of instructor. (3 cr) *Last Offered: Spring 2003, Fall 2000, Fall 1996.*

THL 2726 Christian Classics II Christian history from seventeenth century to present: hermeneutics and relation between Christian commitment and Culture; texts from diverse theological works of Kierkegaard Rahner, Teilhard, Barth, etc. Required for Majors. Restricted to majors and minors or permission of instructor. (3 cr) *Last Offered: Fall 2001, Spring 1999, Spring 1996.*

THL 2750 St. Augustine: Life & Message Historical context for the life and message of Augustine; significant theological issues, controversies and events, elements of influence. (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Spring 2010.*

THL 2790 Themes in Patristic Studies Courses of varying content in patristics offered on occasional basis. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

THL 2900 Catholicism in U.S. The history and development of Catholicism in the United States; emphasis on understanding the present and investigating the future from the perspective of the past. (3 cr) *Last Offered: Spring 2012, Fall 2011, Spring 2011, Fall 2010.*

THL 2993 Internship Supervised experience in an approved context (e.g., social service, teaching, etc.) (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

THL 3200 Understanding Jesus The historical Jesus and questions of method; christologies of the early Christian sources and councils; the later tradition of Christological reflection; contemporary trajectories. (3 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

THL 3300 Church: Unity & Diversity The origins of church as community and its relation to Jesus; development of the church within history; the ministry of the baptized and the ordained; teaching, leadership, service functions; the role of women; the church's relation to public discourse and practice. (3 cr) *Last Offered: Fall 2007, Spring 1998.*

THL 3325 Authentic Life in Church Ecclesiological and pastoral issues in contemporary Christian community; authority and shared ministry; obstacles and future possibilities from perspective of scripture, tradition and phenomenology. (3 cr) *Last Offered:*

THL 3350 Cath Cult & Cath Creed Consideration of the relationship between Catholic belief and practice as updated and applied in the light of past and present church doctrine. (3 cr) *Last Offered: Spring 1996.*

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 2012, Fall 2009, Summer 2009, Fall 2008.*

THL 3500 God and History's Future The process of history as a cooperative venture of divine and human activity; creation and incarnation-God's initiatives within a future-oriented process; human suffering, the cross, resurrection; human freedom and redeemed optimism; Christians critical participants in society. (3 cr) *Last Offered: Fall 2009, Spring 2001, Summer 1999, Spring 1999.*

THL 3550 Presence and Absence of God Theism and the atheistic critiques of the nineteenth and twentieth centuries; the problem of God in western culture; contemporary retrieval of the doctrine of God as Trinity. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Fall 2010.*

THL 3600 Christians at Prayer What Christians do or say at prayer; prayer as the dynamic of the Christian community; Jewish roots; liturgy as prayer; prayer as the ground of theology. (3 cr) *Last Offered: Summer 2011, Spring 2011, Fall 2010, Fall 2008.*

THL 3700 Catechism of the Cath Church Theological analysis of the most recent official statement (Catechism of the Catholic Church, 1992, ET 1994) of the practices and beliefs of Roman Catholicism. (3 cr) *Last Offered: Spring 2004, Fall 2003, Fall 1997, Fall 1996.*

THL 3710 Roman Catholic Identity A critical exploration of the Roman Catholic tradition in the light of the student's personal experience; identity issues and church membership of young adults. Restricted to seniors or juniors or permission of instructor. (3 cr) *Last Offered: Spring 2011, Fall 2010, Spring 2010, Fall 2009.*

THL 3720 Apocalypse Then and Now The end of the world in present-day imagination; Christian hope/anxiety through the centuries; biblical apocalyptic; endtime views in the early church; significant figures and movements; beyond the millennium. (3 cr) *Last Offered:*

THL 3730 Feminist Theology Examination of feminist theological methods and goals; theological reconstructions of Christian understandings of nature, humanity, God, sin and salvation, the church and its mission from the perspective of women's experiences. (3 cr) *Last Offered: Fall 2007, Spring 2005, Spring 2003, Spring 2002.*

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: Summer 2008, Fall 2006, Fall 2005, Spring 2005.*

THL 3750 Art and Religious Imagination Art as orchestration of transcendence; critiques of traditional images of God; role of religious imagination in society, spirituality, and sacramentality. (3 cr) *Last Offered:*

THL 3790 Themes in Doctrinal Studies Current themes in the development of doctrine. (3 cr) *Last Offered:* Spring 2012, Spring 2010, Spring 2009, Fall 2008.

THL 3795 Themes in Roman Cath Studies Themes of current importance in Catholic theology or practice. (3 cr) *Last Offered:* Fall 2012, Summer 2012, Spring 2012, Fall 2011.

THL 3800 The Church in Italy Italian Catholicism; medieval and modern; doctrine, worship, spirituality, ecclesiology, pastoral care, and popular piety. Course is offered as part of the Villanova summer program in Siena, Italy. (3 cr) *Last Offered:* Summer 2012, Summer 2011, Summer 2010, Summer 2009.

THL 4100 Christian Ethics Christian moral commitment; current moral problems facing the Catholic; the nature of the human person; Jesus as the model and source of moral life; the development of teachings in morality and the role of the authority of the Church. (3 cr) *Last Offered:* Spring 2007, Spring 2005, Spring 2002, Fall 2001.

THL 4200 Ethics of Life and Death Explorations of selected issues in biomedical ethics (e.g., abortion, euthanasia). (3 cr) *Last Offered:* Fall 2012, Spring 2012, Fall 2011, Spring 2011.

THL 4300 Ethical Issues in Peace & Just Intensive study of one or two timely issues or problems in moral theology: Christian teaching on war, conscientious objection, pacifism, poverty, social justice. (3 cr) *Last Offered:* Fall 2006, Summer 2004, Summer 2003, Summer 2002.

THL 4310 War and Morality Just war, pacifism, and feminist critique--three Christian traditions of reflection on ethics and warfare; conflict and overlap across these traditions; close examination of historical illustrations of the conduct of war. (3 cr) *Last Offered:* Summer 2012, Summer 2011, Summer 2010, Fall 2008.

THL 4320 Christ. Social Teachings Historical and systematic examination of major modern Christian movements in social ethics, e.g., the Social Gospel, Christian realism, Catholic social thought; the relevance of these schools to current reflection on war and peace, justice and injustice. (3 cr) *Last Offered:* 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:* Fall 2012, Summer 2012, Spring 2012, Fall 2011.

THL 4340 Ethics, Justice and the Family Interdisciplinary investigation of the moral and theological importance of the family in Christian ethics; traditional and revisionist approaches to sexuality and marriage; the family as a school for justice and virtue. (3 cr) *Last Offered:* Spring 2012, Fall 2005, Spring 2003, Fall 2001.

THL 4350 Serv Learnng Charity/Solidarity The integration of action and critical reflection; U.S. poverty, hunger, and homelessness: its victims, roots, and remedies; the Christian moral imperative to love the neighbor; service, advocacy and solidarity (15 hours of service required) Permission of instructor (3 cr) *Last Offered: Spring 2005, Fall 2004, Spring 2004, Fall 2003.*

THL 4400 Christian Marriage Christian marriage in the 20th century; scriptural, historical, legal, and moral issues; preparations for the wedding liturgy and Christian married life. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

THL 4500 Christian Spirituality The Christian spiritual experience through the centuries. (3 cr) *Last Offered: Fall 2012, Summer 2010, Fall 2009, Spring 2006.*

THL 4600 Global Poverty & 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 2012, Fall 2010, Fall 2009, Fall 2008.*

THL 4650 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: Fall 2010, Fall 2009, Spring 2009, Fall 2008.*

THL 4690 Themes: Christian Living Selected topics in christian living. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

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, Fall 2010, Spring 2010.*

THL 5150 Introduction to Islam 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 2012, Spring 2012, Fall 2011, Spring 2011.*

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: Fall 2011, Spring 2007, Spring 2005, Fall 2003.*

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: Fall 2012, Fall 2010, Spring 2010, Spring 2009.*

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: Fall 2009, Fall 2006, Spring 2003, Fall 2000.*

THL 5190 Problem of Evil Formulations of the problem and historical attempts to solve it. Diversity, medieval Philosophy, concentration or minor in Arab/Islamic Studies. (3 cr) *Last Offered: Spring 2012, Spring 2011, Fall 2007, Fall 2005.*

THL 5260 Mysticism: East & West A comparison of non-institutional forms of religion through the mystical texts from the Indian, Chinese, Buddhist and Christian traditions. (3 cr) *Last Offered: Fall 2011, Spring 2010, Spring 2008, Spring 2006.*

THL 5270 Rel in India & S E 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 religions in contemporary Indian and Southeast Asian societies. (3 cr) *Last Offered: Fall 2012, Fall 2010, Spring 2009, Spring 2007.*

THL 5280 Rel in China & 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: Fall 2011, Spring 2010, Fall 2008, Fall 2006.*

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 2011, Fall 2009, Fall 2007, Spring 2006.*

THL 5300 East Christian Life & Thought The historical and theological developments of the Eastern Christian tradition, relationship with other contemporary religious traditions. (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: Spring 2009, Spring 2007, Fall 2002, Spring 2001.*

THL 5500 One Church, Many Churches The issues that divided Christians in the past; developments in the major traditions since the divisions; factors which may aid in the reunion of Christians; confront issues at this time. (3 cr) *Last Offered: Spring 2009, Spring 2008.*

THL 5510 Religion in Russia The history, mind, spirit and life of Russia Orthodoxy; its influence in its adherents in the modern, complex and pluralistic world. (3 cr) Diversity; Russian Concentration. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

THL 5700 Black Religious Experience Black religious experience and heritage; African and Afro-American perspectives. (3 cr) *Last Offered: Fall 2007.*

THL 5800 Religion and Literature Religious attitudes and experience in contemporary literature. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

THL 5820 Rel & Ed in America The role of religion and education in the formation of American culture; historical perspectives on Catholic and Protestant strategies in the education of the public; contemporary issues of religious pluralism and

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the search for the common good; religion and education in a culture of disbelief. (3 cr) (3 cr) *Last Offered:*

THL 5840 Feminist Ethics Theories of moral development and the cultural construction of identity; impact of women's ways of being and knowing on ethical decision making. (3 cr) Diversity; Women Studies. (3 cr) *Last Offered:*

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 2012, Spring 2012, Fall 2011, Spring 2011.*

THL 5900 Religion & Psychology Attempts of James, Freud, Jung, Fromm, Allport, Maslow, Erikson and others to relate religion and psychology. (3 cr) *Last Offered: Fall 2010, Spring 1999, Fall 1998, Spring 1997.*

THL 5950 Death and Dying Psychological, philosophical, and theological contributions to the search for meaning regarding dying, death, and belief in afterlife; practical issues; biblical perspectives; the views of other religions; contemporary Christian theological reflections. (3 cr) *Last Offered: Fall 2011, Fall 2009, Spring 2009, Summer 2008.*

THL 5990 Ecumen & Cultural Studies Courses of varying content of ecumenical and cultural studies offered on an occasional basis. (3 cr) *Last Offered: Fall 2012, Fall 2011, Spring 2011, Summer 2010.*

THL 6400 Independent Study Permission of chairperson required. (3 cr) *Last Offered: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Spring 2011, Spring 2010, Spring 2009.*

VEXP 1000 The Leadership Experience Exploration of leadership and personal growth in first year college experience. (1 cr) *Last Offered: Fall 2012, Fall 2011, Fall 2010, Fall 2009.*

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.*

VSBS 1000 Information Technology On line course focuses on design and use of spread sheets to support decision making/problem solving. (1 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Fall 2010.*

VSBS 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 2012, Spring 2012, Fall 2011, Fall 2010.*

VSBS 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 2012, Spring 2011, Spring 2010, Spring 2009.*

VSBS 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 2012, Fall 2011, Fall 2010.*

VSBS 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 2012.*

VSBS 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: Fall 2012, Summer 2012, Spring 2012, Fall 2011.*

VSBS 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 2012, Spring 2012, Fall 2011, Spring 2011.*

VSBS 2007 Corp Respon & Regulation Examines law, ethics, corporate responsibility, and business regulation. Studies the sources, substantive principals, and evolving nature of law, and its role in ethical business decision making. (3 cr) *Last Offered: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

VSBS 2008 Business Analytics Use of business intelligence and quantitative methods, including statistical analysis, forecasting/extrapolation, predictive modeling, optimization and simulation in the context of organizational decision making and problem solving. (3 cr) *Last Offered: Fall 2012.*

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: Fall 2012, Spring 2012, Fall 2011, Spring 2011.*

VSBS 2020 Competitive Effectiveness Explores value creation for stakeholders and establishing competitive advantage; how goods/services are developed to meet

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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 2012, Spring 2012, Fall 2011, Spring 2011.*

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:*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

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 2012, Summer 2012, Spring 2012, Fall 2011.*

VSBS 3500 Special Topics in Business Contemporary issues and topics impacting the business environment. (3 cr) *Last Offered: Fall 2012, Spring 2012, Summer 2010, Spring 2010.*

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 2012, Spring 2012, Fall 2011.*

VSBS 4003 Strategic Mgt Practicum Group learning project with VSBS Centers of Excellence or area non-profit organizations and/or start-up businesses. Offered to VSBS seniors and Honors Students. (3 cr) *Last Offered: Spring 2012.*

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