

VILLANOVA UNIVERSITY CATALOG

UNDERGRADUATE STUDIES 2005- 2007

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 www.catalog.villanova.edu for more recent information.

Note to Users: Because Villanova University makes frequent changes in its individual course offerings, we have not included the course descriptions in this version of the *Catalog*. An up-to-date listing of courses and course descriptions is available on-line at www.catalog.villanova.edu. Villanova University also publishes an expanded version of this *Catalog* that includes the course descriptions. To obtain a copy of the expanded version, contact the Admissions Office.

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VILLANOVA UNIVERSITY
August 1, 2005
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 for, and published on the world wide web in which their class begins its first year of study. Students who enter in fall 2006 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.

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ACADEMIC CALENDAR: 2005-2006

Fall Semester (2005)

Aug. 17-18 (W-Th)	Walk-In Registration (Part-Time Studies)
Aug. 20-23 (Sat-Tu)	New Student Orientation and Registration
Aug. 24 (W)	Classes Begin
Aug. 30 (Tu)	Last Day for dropping and/or adding classes and last day for requesting Satisfactory/Unsatisfactory
Sept. 5 (M)	Labor Day - No Classes
Sept. 8 (Th)	St. Thomas of Villanova Day*
Sept. 16-18 (Fri Eve-Sun)	Parent's Weekend
Oct. 7 (F)	Mid-Term
Oct. 10 (M)	Semester Recess
Oct. 17 (M)	Classes Resume
Oct. 19 (W)	Grades Due (Noon)
Oct. 21 (F)	Advising Begins
Oct. 21-23 (Fri Eve-Sun)	Homecoming Weekend
TBA	Registration Begins for Spring 2006
Nov. 9 (W)	Last Day for Authorized Withdrawal without Academic Penalty (WX)
Nov. 22 (Tu)	Thanksgiving Recess Begins after last class
Nov. 28 (M)	Classes Resume
Dec. 12 (M)	Final Day of Classes
Dec. 13 (Tu)	Reading Day
Dec. 14-20 (W-Tu)	Final Examinations (No exams on Sunday)

*class schedule to be announced at a later date; evening classes will be held.

Spring Semester (2006)

Jan. 12 (Th)	Walk-In Registration (Part-Time Studies)
Jan. 16 (M)	Martin Luther King Day (No classes)
Jan. 17 (Tu)	Classes Begin
Jan. 20 (F)	Last day for dropping and/or adding classes and last day for requesting Satisfactory/Unsatisfactory
Mar. 3 (F)	Mid-Term
Mar. 6 (M)	Semester Recess
Mar. 13 (M)	Classes Resume
Mar. 15 (W)	Grades Due (Noon)
Mar. 17 (F)	Advising Begins
TBA	Registration Begins for Fall 2006
Apr. 5 (W)	Last Day for Authorized Withdrawal without Academic Penalty (WX)
Apr. 12 (W)	Easter Recess begins after last class
Apr. 18 (Tu)	Classes Resume
May 2 (Tu)	A Friday Class Day - follows a Friday, Schedule for UG Day Classes Only
May 3 (W)	A Monday Class Day - follows a Monday Schedule for UG Day Classes Only
May 4 (Th)	Final Day of Classes
May 5 (F)	Reading Day
May 6-12 (Sat-Fri)	Final Examinations (No exams on Sunday)
May 20-21 (Sat-Sun)	Baccalaureate and Commencement

ACADEMIC CALENDAR: 2006-2007

Fall Semester (2006)

Aug. 16-17 (W-Th)	Walk-In Registration (Part-Time Studies)
Aug. 19-22 (Sat-Tu)	New Student Orientation and Registration
Aug. 23 (W)	Classes Begin
Aug. 29 (Tu)	Last Day for dropping and/or adding classes and last day for requesting Satisfactory/Unsatisfactory
Sept. 4 (M)	Labor Day - No Classes
Sept. 7 (Th)	St. Thomas of Villanova Day*
Oct. 6 (F)	Mid-Term
Oct. 9 (M)	Semester Recess
Oct. 16 (M)	Classes Resume
Oct. 18 (W)	Grades Due (Noon)
Oct. 20 (F)	Advising Begins
TBA	Registration Begins for Spring 2007
Nov. 8 (W)	Last Day for Authorized Withdrawal without Academic Penalty (WX)
Nov. 21 (Tu)	Thanksgiving Recess Begins after last class
Nov. 27 (M)	Classes Resume
Dec. 11 (M)	Final Day of Classes
Dec. 12 (Tu)	Reading Day
Dec. 13-19 (W-Tu)	Final Examinations (No exams on Sunday)

*class schedule to be announced at a later date; evening classes will be held.

Spring Semester (2007)

Jan. 11 (Th)	Walk-In Registration (Part-Time Studies)
Jan. 15 (M)	Martin Luther King Day (no classes)
Jan. 16 (Tu)	Classes Begin
Jan. 22 (M)	Last Day for dropping and/or adding classes and last day for requesting Satisfactory/Unsatisfactory
Mar. 2 (F)	Mid-Term
Mar. 5 (M)	Semester Recess
Mar. 12 (M)	Classes Resume
Mar. 14 (W)	Grades Due (Noon)
Mar. 16 (F)	Advising Begins
TBA	Registration Begins for Fall 2007
Apr. 4 (W)	Last Day for Authorized Withdrawal without Academic Penalty (WX)
Apr. 4 (W)	Easter Recess begins after last class
Apr. 10 (Tu)	Classes Resume
May 1 (Tu)	A Friday Class Day – follows a Fri. Class Schedule for UG Day Classes Only.
May 2 (W)	A Monday Class Day – follows a Mon. Class Schedule for UG Day Classes Only.
May 3 (Th)	Final Day of Classes
May 4 (F)	Reading Day
May 5-11 (Sat-F)	Final Examinations (No exams on Sunday)
May 19-20 (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, the College of Nursing in 1953, and the School of Law 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 an independent coeducational institute of higher learning founded by the Augustinian Order of the Roman Catholic Church. The University is a community of persons of diverse professional, academic, and personal interests who in a spirit of collegiality cooperate to achieve their common goals and objectives in the transmission, the pursuit, and the discovery of knowledge. This community serves society by developing and sustaining an academic environment in which the potentialities of its members may be realized. Villanova is committed to those same high goals and standards of academic integrity and excellence as well as personal and corporate achievement that characterize all worthy institutions of higher learning.

Villanova University

As a Catholic institution Villanova both emphasizes the values of the Judaeo-Christian humanistic tradition and concerns itself with all value systems. The University attempts to develop an environment in which students, faculty, and staff may experience a Christian intellectual and moral perspective, believing that the teachings of the Catholic faith are applicable in every area of human activity. Although Villanova functions as an independent institution in the conduct of its own affairs, in matters theological it recognizes its obligations to the Magisterium of the Church. Villanova looks to the Order of St. Augustine to preserve the University's Augustinian character through its presence and influence and by providing personnel and financial support. In turn, the University recognizes its special relationship to the Order of St. Augustine by showing appropriate preference to Augustinians in the initial appointment of faculty and staff.

Given its character and resources, Villanova is committed to offering such undergraduate and graduate programs as will best serve the needs of its constituencies. As a medium-sized comprehensive university, it offers programs in the humanities, in the natural and social sciences, and in professional areas such as business, education, engineering, law, and nursing. The University emphasizes undergraduate instruction and is committed to a liberal arts component in each of its undergraduate programs. In all academic departments, it encourages such research and scholarly work as are compatible with the faculty's other obligations to the University.

Villanova emphasizes the disciplines of philosophy and theology. Moreover, it seeks to add its influence to the search for world peace and justice by means of both its academic programs and the pastoral ministry it provides for the members of the University community. In like manner, the University has always encouraged and supported its faculty, students, and staff in providing public service to the community. Ultimately, all these programs and support are seen as a means of developing the total person: intellectually, emotionally, spiritually, culturally, socially, and physically.

Villanova attempts to enroll students with diverse social, geographic, economic, and educational backgrounds. Furthermore, in utilizing its financial aid resources to help achieve this diverse student body, Villanova recognizes its responsibility to use part of those resources to assist the economically and educationally disadvantaged.

Villanova welcomes students who consider it desirable to study within the philosophical framework of Christian humanism. Similarly, the University seeks to employ on all levels those who are sympathetic to and supportive of its character and identity. Accordingly, Villanova confidently expects that all students, faculty, administration, and staff will so comport themselves as to assure the continuance and enhancement of the University's high purposes and its moral and religious traditions. In accomplishing its purposes, the University fully complies with all the requirements of federal and state legislation with respect to equality of opportunity and non-discrimination.

Villanova encourages communication among all the elements of the academic community and operates on a policy that promotes easy access of students to faculty and of students and faculty to administrators. Furthermore, it seeks to involve students, faculty and administrators in the development of University policy through appropriate structures of governance.

Finally, this community seeks to reflect the spirit of St. Augustine by the cultivation of knowledge, by respect for individual differences, and by adherence to the principle that mutual love and respect should animate every aspect of University life.

ACADEMIC PROGRAMS

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, Associate of Arts, Associate of Science in Natural Science.
- ❑ College of Engineering (www.engineering.villanova.edu): Bachelor of Chemical Engineering, Bachelor of Civil Engineering, Bachelor of Computer Engineering, Bachelor of Electrical Engineering, Bachelor of Mechanical Engineering.
- ❑ College of Commerce and Finance (www.cf.villanova.edu): Bachelor of Science in Accountancy, Bachelor of Science in Business Administration, Bachelor of Science in Economics
- ❑ College of Nursing (www.nursing.villanova.edu): Bachelor of Science in Nursing

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.

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 College of Commerce and Finance 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 National League for Nursing Accreditation Commission, and have received accreditation from the Commission on Collegiate Nursing Education.

PART-TIME STUDIES (www.parttime.villanova.edu)

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. The Bachelor of Interdisciplinary Studies, a degree program for part-time adult students only, is offered with majors in Information Systems, Leadership Studies and General Studies. Students may also pursue Bachelor's Degrees on a part-time basis in: Accountancy, Business Administration, Communication, Computing Science, Information Science, Education (secondary), English, History, Human Services, and General Arts. Details on these programs and requirements are to be found in the Part-Time Studies section of this Catalog.

INTERNATIONAL STUDIES AND OVERSEAS PROGRAMS

(www.internationalstudies.villanova.edu)

Students attending Villanova University are encouraged to incorporate an international component into their academic plans. The Office of International Studies (OIS) assists students in identifying opportunities and facilitating the process of enrollment in overseas programs. The services offered to all full-time Villanova students include:

- ❑ Advising and administrative support services for summer, semester, and year long overseas study programs including direct enrollment in overseas institutions, service learning opportunities, internships, and/or exchanges with international programs worldwide.
- ❑ Administrative support for applications to Villanova's International Summer Programs at the Université de Rennes 2 in France, Bocconi University in Italy, the Universidad de Cádiz in Spain, East China Normal University, the European Business School in Germany, the National University of Ireland, John Cabot University in Italy, the London School of Economics in England, the Sprachinstitut in Germany, the University of Urbino and the Scuola Lorenzo de' Medici in Italy, the Universidad Católica de Valparaíso in Chile, the University of Warsaw in Poland, and in additional locations in Italy, Greece, and Russia.
- ❑ Advising for the fulfillment of the overseas requirements for Villanova's Area Studies Programs (Africana Studies, Arab & Islamic Studies, Latin American Studies, and Russian Area Studies).

Generally students study overseas in their sophomore or junior years. Students can also spend their first semester senior year abroad. A minimum 2.75 GPA and full-time status are required by Villanova though some programs and overseas institutions may require a higher GPA. All undergraduate majors are eligible. Students may not apply for study abroad while on academic or disciplinary probation. Transfer students must have completed three semesters at Villanova prior to participating in an overseas program.

Villanova University has special affiliations and/or exchange agreements with many institutions and organizations including: the American University Center of Aix-en-Provence, France; American University of Beirut, Lebanon; the American University of

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Cairo, Egypt; Al al-Bayt University, Jordan; Birzeit University, Palestine; the Center for Sustainable Human Development (CIDH), Costa Rica; College Year in Athens, Greece; Denmark International Studies (DIS); the National Universities of Ireland in Cork, Galway, and Dublin; the European Business School, Germany; INSTEP Cambridge University, England; the London School of Economics, England; Sophia University, Japan; the University of Cádiz, Spain; the University of Maastricht, the Netherlands; the University of Manchester, England; the University of Nizhni Novgorod, Russia; the University of Urbino, Italy; Queen's University, Belfast, Northern Ireland; the Council for International Educational Exchange (CIEE/Council); the Institute for the International Education of Students (IES); Arcadia University's Center for Education Abroad; the Institute for Study Abroad, Butler University; Boston University's Division of International Programs; Lexia International; the International Partnership for Service Learning (IPSL); the University of Virginia's Hispanic Studies Program; the School for Field Studies (SFS); and the School for International Training (SIT). VU's Office of International Studies is also an active member in NAFSA: Association of International Educators and the Pennsylvania Council for International Education (PaCIE).

Working with a representative of the OIS, all students who study overseas are required to submit a Prior Approval Form designating courses approved by appropriate faculty in order for overseas credit to apply towards your degree. Credit for work completed overseas will appear on the Villanova transcript. Students must earn a minimum grade equivalent to a "C" or higher in order for the credit to appear on the transcript. In place of a letter grade, the designation "T" will be assigned. A maximum of 60 credits are transferable (including Advanced Placement, Overseas Study, and summer credits earned at other institutions).

In addition to advising and administration, the Office of International Studies also sponsors pre-departure orientations for outbound students, welcome back events for returning students, a Fall study abroad fair, regular overseas study information sessions, monitors safety issues affecting Villanova students worldwide, and works with faculty and organizations both on and off campus to develop and improve overseas opportunities. Students wishing further information may contact the Office of International Studies and Overseas Programs in Middleton Hall, 2nd floor (610/519-6412).

NROTC

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.

ACADEMIC RESOURCES

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.

AUGUSTINIAN HISTORICAL INSTITUTE

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. The collection of the Institute is open for use between the hours of 9:00 a.m. - Noon, and 1-4 p.m. Monday through Friday.

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 3.25 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 College of Commerce and Finance 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 in Phi Beta Kappa is an honor conferred primarily in recognition of outstanding scholarly achievement in the liberal arts and sciences. Details may be found under "Phi Beta Kappa" in the Liberal Arts and Sciences section of this Catalog.
- ❑ Phi Kappa Phi. Phi Kappa Phi is an honor society whose objective is the recognition and encouragement of superior scholarship in all academic disciplines. Qualified part-time juniors and seniors are eligible for election to membership. Admission is by invitation only and requires the nomination and approval by a chapter. Superior scholarship and good character are the criteria for membership.
- ❑ Alpha Sigma Lambda. The Mu Chapter of Alpha Sigma Lambda was established at Villanova University in 1958. The society honors those dedicated part-time and evening students who have completed at least 24 Villanova credits and who are

from the highest ten per cent of their class with a minimum quality point average of 3.2

INFORMATION TECHNOLOGIES (www.unit.villanova.edu)

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. A state-of-the-art digital phone system offers students, faculty, and staff direct dial lines, voice messaging, mail boxes, and call transfer. The data network facilitates access to all on campus computing resources as well as access to remote computing resources via the Internet. Broadband cable and Internet 2 facilitates video transmission to and from more than 100 classrooms for implementation of multi-media teaching technology into the curriculum.

UNIT maintains the University wide computing infrastructure for academic and administrative use running on 120+ servers throughout campus. All central and distributed computers and about 18,000+ workstations and other devices are connected to the campus network providing each user with access to any computing resource. 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 UNIT operates videoconferencing and multi media facilities in Tolentine.

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 of 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 XP suite) plus course-specific software.

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 Computer Support Center (CSC) located in Vasey Hall assists students with University provided laptop computers. Technical support is complemented by Web based documentation. The use of the University owned/managed computing, information, and network resources are governed by policies included in the Student Handbook and accessible on the University's Web site. In addition to the CSC, UNIT operates the University Help Desk and provides technical support and service from 8am to 8pm M-F.

The University Card Office provides students with a smart card (WildCard) that functions as a meal plan card, library card, access card to dorms, classrooms and labs, debit card for purchases on campus and selected off campus merchants.

LIBRARY RESOURCES AND SERVICES (www.library.villanova.edu)

Falvey Memorial Library is the gateway to information resources and services for students, faculty and staff. Information is available through more than 750,000 printed

volumes, 6,000 current serial subscriptions, approximately two hundred electronic databases, several thousand full-text electronic journals, and extensive microfilm and audiovisual collections. Beyond Villanova's collection, the regional EZBorrow system in which the university participates provides one-stop searching and access to over 30 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 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. Reference librarians answer questions, recommend resources, assist with formulation of search strategies, and instruct in the use of electronic and print resources. Every librarian serves as a liaison with an academic department to facilitate library and departmental communication. The Falvey Student Advisory Council (FSAC) and the Faculty Library Committee advise the University Librarian of the changing information needs of the Villanova student and faculty. Display areas provide information on campus activities and programs as well as highlight Falvey's Special Collections. 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.

Collaboration between the library and academic departments to integrate information literacy into academic programs ensures that students have the necessary skills for lifelong learning. Media Technologies & Creative Design (MT/CD) provides a wide variety of educational technology services to the university community, including support of classroom technology, and individual and group viewing (and listening) facilities for its collection of videotapes, CDs, audiotapes, & laser discs. Also through MT/CD, consulting and assistance is available in such areas classroom technology, graphic design, and video editing.

The Library Web page (www.library.villanova.edu/) provides access to the resources and services available through the library, and to information about policies, procedures and hours of operation. Web accessible library resource include VuCat (the online catalog), general and scholarly research databases and full-text journals and e-books, e-mail request forms, interact (chat-based) reference assistance, and subject-oriented research guides. Approximately fifty 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 for individual study. The Kolmer Group Study Rooms are available on the third and fourth floors. The Falvey Mug, available for purchase at Holy Grounds, enables students to take beverages throughout the building.

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

(www.villanova.edu/mlrc)

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. During its hours of operation (Monday - Thursday: 1:00 - 5:00 p.m. and Sunday -Thursday 6:30 - 9:00 p.m.), the MLRC is staffed by undergraduate and graduate Villanova students. The MLRC computer lab has 15 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 and a modest video library and three TV/VCR stations, which students may use for independent learning. The Center is located on the second floor of Old Falvey, tel. (610)519-MLRC or (610)/519-5193 for voice mail messages.

NATIONAL SCHOLARSHIPS (www.honorsprogram.villanova.edu)

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, National Science Foundation, Hughes, Mellon and Ford Foundation. A mentoring program is administered by the Office of Undergraduate Grants and Awards, and begins as early as an undergraduate student’s first year. In recent years, over sixty students have received formal recognition from these various national scholarship programs.

WRITING CENTER (www.writingcenter.villanova.edu)

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 the Dalton Room (202 Old Falvey) and is open Sunday 3:30-7:30, Monday through Thursday 11:30-7:30 and Friday 11:30 a.m.-3:30 p.m. Phone: 610/519-4604.

CAMPUS LIFE

CAMPUS MINISTRY (www.campusministry.villanova.edu)

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 lower level 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 in on the website and in *The Blue Book: The Villanova University Student Handbook*.

CAREER SERVICES (careers.villanova.edu)

The Career Services Office assists individuals with assessing career interests, planning careers, and developing the skills to successfully pursue career plans. Individual counseling is supplemented by workshops and career programs. Interest tests are administered and interpreted. The credentialing service allows students to develop a file of recommendations to be used for graduate school and job applications. Employment services are coordinated through the office website at www.careers.villanova.edu. These services include a campus interview program with over 350 employers, a resumé referral system, and a job listing service. The Career Library provides extensive information on careers, materials for distribution on various job search topics, and registration materials for graduate school admission tests. The office is located in Corr Hall.

COUNSELING CENTER (www.studentlife.villanova.edu/counselingcenter)

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. Doctoral psychologists help students deal with normal developmental adjustments common during the college years, and can also help students with issues such as: depression; anxiety; relationship concerns; eating disorders; self-defeating behaviors; family issues; and other problems that affect academic, social, or personal functioning. All contacts are completely confidential and are not recorded on the student's university records.
- ❑ **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 abused 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.** Referrals are provided for students who prefer to obtain off-campus counseling, or whose counseling needs exceed the capacity of the Counseling Center.
- ❑ **Study Skills Counseling.** The study skills counselor helps students enhance their ability in the areas of: note taking; class preparation; test preparation; test taking; and time management. The goal of these services is to help students take better advantage of the academic offerings of the University. Individual appointments are available, as are group workshops on topics of common interest.

HEALTH AND WELLNESS EDUCATION CENTER

(www.villanova.edu/healthandwellnessed)

The Center for Health and Wellness Education provides campus-wide wellness initiatives. The Center provides education on various topics so that students can make appropriate choices for healthy living. In collaboration with many departments, the center offers educational programs on issues such as Alcohol and Drugs, Sexual Assault, Sexual Health, Stress Management, Fitness and Nutrition. All programming focuses on six dimensions of wellness: social, spiritual, physical, intellectual, career and emotional. The Center is the home of the P.O.W.E.R. (Peers offering wellness education and resources) Peer Education program. Currently there are 70 students who have received 40 hours of training so they can talk to their peers about the important health issues. Some of the programming initiatives from the center are as follows: Awareness Weeks; Stall Street Journal; Wellness Institute; Wellness on the Move; WestFest; and POWER hour. The Center is located in the Health Services Buildings, first floor, tel. 610) 519-7407.

IDENTIFICATION CARDS

The official University identification card for students, staff, and faculty, is called the Wildcard. It is a photo ID with a magnetic stripe on the back. Photos are taken at the Wildcard Office on the first floor of Dougherty Hall (610/519-6202). Requirements for obtaining a Wildcard include a picture ID and proof of enrollment at Villanova. The

Wildcard is necessary for student verification, student discounts, library borrowing, and for entrance into the library on weekends and weekday evenings.

INTERNATIONAL STUDENTS (www.students.villanova.edu/iss)

The International Student Adviser's Office is a service provided by the university to aid foreign students in becoming oriented to the university and the community and to assist them with U.S. immigration requirements. The office sponsors a variety of social and cultural programs in conjunction with the International Student Association. The office offers a comprehensive orientation program at the beginning of the Fall Semester.

The International Students Office offers a comprehensive ESL program in conjunction with the office of Continuing Studies. Classes are offered in the fall, spring, and summer terms.

All foreign students must register with the International Students Office each semester. Any change of address must be reported immediately. The office is located in Corr Hall, Ground Floor (610/519-4095). NOTE: Villanova University requires that all full-time students have health insurance. The International Student Office has information and policy forms available for students who do not have health coverage from their home countries.

LEARNING DISABILITIES (learningsupportservices.villanova.edu)

The Office of Learning Support Services, in conjunction with faculty, 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 on the second floor of Kennedy Hall. For additional information about our services, contact 610-519-5636.

MULTICULTURAL AFFAIRS (www.multiculturalaffairs.villanova.edu)

The Center for Multicultural Affairs assists and supports the University in its mission of being a community of people who share common values and whose culture reflects the Augustinian spirit. The Center also engages in collaborative planning and research with all areas of the University, in meeting its commitment to work for peace and justice within the University community and the world. The Center for Multicultural

Affairs is located in Dougherty Hall, Room 102, (610) 519-4075. The main programs are:

- ❑ **Academic Advancement Program (AAP)/Act 101:**) The purpose of this program is to provide an educational opportunity for students from Pennsylvania who meet the academic and economic criteria established by the Higher Education Opportunity Act of 1971, legislatively designated and publicly known as Act 101. 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 now offers a three-credit freshman English course, math, reading/study skills, and general sciences classes, and critical thinking workshops.
- ❑ **Affirmative Action:** Designated the Affirmative Action/Equal Employment Office, the Multicultural Affairs Office is responsible for insuring that the University complies with local, state, and federal government mandates and remains committed to equal employment and educational opportunities. This office provides training, workshops and guidance on issues relating to affirmative action/equal opportunity, diversity, and sexual harassment. Anyone seeking the help or resources of this office should call Linda Coleman at 610-519-4074.
- ❑ **The National Hispanic Institute (NHI):** Villanova University and NHI have partnered to establish the new Villanova-NHI Leadership Service Center. The new center handles NHI's northeastern U.S. initiatives and also serves the University as part of the Center for Multicultural Affairs, building opportunities for shaping future community leadership. Interested students should call Hector Lopez at 610-519-4863.
- ❑ **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 to 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 Walidah Justice whose office is located in Dougherty 102, tel. 610/519 7316.
- ❑ **Friends on Campus and Bilingual Buddies:** These programs are peer mentor programs designed to match new students with upperclass or graduate students. The goal of Friends on Campus is to help students navigate more successfully the path toward their educational goals. The Bilingual Buddies program matches students who want to practice speaking different languages

with one another. Bilingual Buddies is a program created by students for students. Social events are an integral part of both programs.

MUSIC ACTIVITIES (www.music.villanova.edu)

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. 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).

RESIDENTIAL FACILITIES (www.reslife.villanova.edu)

The University maintains a variety of living facilities which are intended to serve as extensions of Villanova's learning environment. Approximately 3100 men and women are housed in 18 residence halls which vary from home-type buildings for 30 students to modern multi-level structures housing over 500 students. An additional 1200 upperclassmen reside in fully furnished apartments housed in eight on-campus halls.

Dining facilities for resident students are conveniently located in Dougherty Hall on the main campus, St. Mary's Hall on the west campus, and in Donahue Hall on the south campus. Lounge areas and laundry facilities are available to students in most residence halls.

Admission to the University as a resident and payment of the admission deposit guarantees placement in residential facilities for the freshman, sophomore, and junior years. Commuters and transfers are eligible for on-campus residency only on a space-available basis.

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).

STUDENT DEVELOPMENT (www.villanova.edu/studentdevelopment)

The Office of Student Development oversees the administration of over 100 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 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 (www.villanova.edu/healthandwellness)

The Villanova University Student Health Center (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. The Health Center is located in the Health Services Building, second floor.

UNIVERSITY SENATE

The University Senate is an advisory group to the University President and the Board of Trustees on policy. Representation includes faculty, administration, and students. The Senate meets at least three times each semester.

VETERANS (www.registrar.villanova.edu)

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

(www.villanova.edu/enroll/admission)

GENERAL POLICY ON ADMISSIONS

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

The criteria used to assess academic potential are: the scholastic record as reflected by 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 I and ACT; participation in extracurricular and community service activities; guidance counselor recommendation; and the student essay.

Students are selected wholly 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 members, athletes, and to residents of geographical areas not strongly represented in the student body.

In conjunction with the State of Pennsylvania, Villanova University considers applicants from Pennsylvania for admission under its Act 101 (Academic Advancement Program). The purpose of the act is to provide an educational opportunity for students from Pennsylvania who meet the academic and economic criteria established by the Higher Education Opportunity Act of 1971, legislatively designated and publicly known as ACT 101. Interested and eligible applicants should note their desire to be considered for the Program on their application for admission.

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.

College of Liberal Arts and Sciences

For Liberal Arts Curriculum:

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

For Science and Mathematical Sciences Curricula:

English	4	Foreign Language	2
Chemistry	1	Physics	1

Villanova University

Mathematics	4	Electives	4
College of Commerce and Finance			
English	4	Science	1
History	2	Electives	5
Mathematics	4		
College of Engineering			
English	4	Physics	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	Botany	1
Biology	1	Zoology	1
Physics	1		

HEALTH AFFILIATION PROGRAM (www.healthprofessions.villanova.edu)

Villanova University has Health Science Affiliation programs with a number of institutions including the Drexel University School of Medicine, Thomas Jefferson University College of Health Professions, the University of Pennsylvania School of Dental Medicine, and the Pennsylvania College of Optometry. Applications to these programs must be received by the Office of University Admission no later than November 1. SAT I or ACT must be taken no later than October of the senior year. These programs are not available to transfer students.

EARLY ACTION

Early Action admission is awarded to those exceptional students who have outstanding high school records and correspondingly high SAT I 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 SAT I or ACT scores taken prior to 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 of the senior year. Early Action selectees will be notified by December 20. These applicants need not apply only to Villanova. Unsuccessful applicants will also be notified, and will be included 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 file their credentials any time after 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 judged on the basis of their three-year high school record (to include senior mid-year grades) and their scores on the College Board SAT I or ACT taken by 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 action: acceptance, waiting list, denial, scholarship award, loan assistance, and/or grant-in-aid. To secure a place in the class, accepted students must submit a non-refundable deposit of \$700 deposit postmarked no later than May 1. Notification of acceptance is made to applicants to the College of Nursing on a rolling admission basis after January 15.

Students who are admitted as resident students and pay the \$700 deposit by May 1st are guaranteed three consecutive years (freshman, sophomore and junior) of on-campus housing.

APPLICATION PROCEDURE

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

- Obtain the Preliminary Application for Undergraduate Admission from the Office of University Admission, Villanova University, Villanova, PA 19085 (1-610/519-4000) or on-line at www.villanova.edu/enroll/admission.
- Upon receiving the Preliminary Application, the candidate must complete it, sign it (along with a parent or guardian), submit a completed copy of the Common Application, enclose a non-refundable \$70 application fee, and forward it to the high school guidance counselor. The completed application must be received by Villanova no later than January 7 for Regular Decision consideration.
- Take the SAT I or ACT no later than December of the senior year (for regular decision) and have the results sent to Villanova University (CEEB Code 2959).

Students accepting the University's offer of admission, including ROTC candidates, are advised to send their registration deposits by check, credit card, or money order payable to "Villanova University" as soon as possible. All deposits must be postmarked no later than May 1. The deposit is non-refundable and is applied toward the student's first semester account. Incoming freshmen designated with residency status who accept an offer of admission by submitting deposits postmarked no later than May 1 are guaranteed on-campus housing for three consecutive years (freshman, sophomore and junior).

Candidates for Early Action follow application procedures as given above, except that:

- ❑ The completed application must be received by Villanova on or before November 1.
- ❑ SAT I or ACT must be taken no later than October of the senior year and the results sent to Villanova University.

Information on admission requirements and procedures for Part-Time Studies can be found in the Part-Time Studies section of this Catalog.

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 semesters.

The transfer applicant must submit complete transcripts of secondary school and college records, a list of courses in progress, a catalog describing courses completed at the college-level institution, evidence of honorable withdrawal (Transfer Applicant Evaluation), 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. Students interested in transferring into the College of Nursing must have maintained at least a 2.50 cumulative grade point average.

Transfer credit towards undergraduate degrees will, in general, be granted for appropriate academic work completed with a grade "C" (2.0) 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. With the permission of the College Dean, study as part of an approved International Studies program may count towards the residency requirement.

Candidates for admission from junior colleges, community colleges, or institutes are judged by the same regulations pertaining to applicants from four-year institutions. Credits will be granted, as above, for appropriate courses completed in a two-year program, provided that the institution is regionally accredited or a candidate for such accreditation. Transfer students from two-year programs should note that graduation after two years of study at Villanova cannot be guaranteed because of the complexities of scheduling and the fulfillment of the requirements of Villanova's program.

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

PRE-MATRICULATED COLLEGE CREDIT STATEMENT

College-level work done prior to high school graduation may be awarded transfer credits upon receipt of the following: (1) an official letter from the high school principal or guidance counselor 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. 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 accepted 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 acceptance, international students must fulfill all the requirements of immigration, and achieve a minimum score of 213 on the Test of English as a Foreign Language (TOEFL).

All undergraduate international students should note that they must pay a non-refundable tuition deposit determined by the Office of University Admission after acceptance and submit a certification of finances form prior to the issuance of the I-20 form. Need-based financial aid is available to international students from University sources on a limited basis. Also see the section above on International Students and Human Services.

ADVANCED PLACEMENT PROGRAMS

Villanova recognizes advanced placement from The College Board advanced placement program (AP) and from the International Baccalaureate Program (IB). Students who have taken these courses should report to their College Dean's office to verify Villanova's receipt of the scores, and 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 but without a grade. In some cases, the advanced placement course will 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; Commerce and Finance test 68, Nursing, tests 07, 25, 31, 43, 66, 68, 80, 82. Chemistry majors only receive credit for a score of 5 in test 25.

Villanova University

The following IB courses will receive Villanova credit if a student receives a score of 6 or 7: Anthropology; Biology; Chemistry; Computer Science H L; 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, 2005-2006

UNDERGRADUATE COLLEGES AND PROGRAMS

TUITION (Per Year) ¹

College	First, Second & Third Year Students	Fourth Year Students
Arts	\$28,450	\$26,480
Commerce and Finance (includes laptop)	\$29,640	\$27,800
Science and Nursing	\$28,450	\$27,150
Engineering (includes laptop)	\$30,480	\$27,670

FEES

Application Fee (Non-refundable)	\$70
Tuition Deposit (Non-refundable) (Deposit due upon acceptance; credited to account upon registration)	\$700 (\$250 for commuters)
Orientation Fee (New Students only)	\$125
Student Health and Wellness Fee	\$125/semester
General University Fees	\$150/semester
Room (Depending on Accommodations)	\$2,155-3,130/semester
Board (Depending on Meal Plan)	\$1,105-2,360 (\$575-920 for commuters)/semester
Reinstatement Fee	\$250
Late Payment Fee ²	\$100
Returned Check Charge	\$25
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.

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, 2005-2006

Application Fee (Non-refundable)	\$25
Tuition (Evening Courses Only):	
Liberal Arts, Education	\$395 (per credit)
Science, Nursing, Non-matriculated, Visitors, Post graduates	\$395 (per credit)
Commerce and Finance ¹	\$425 (per credit)
Tuition (Day Courses Only 1-11 Credits) ²	
Liberal Arts	\$605 (per credit)
Commerce & Finance	\$630 (per credit)
Science, Nursing, Non-matriculated, Visitors, Post graduate	\$605 (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	\$25
Parking Fee ⁵	\$50

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 at the applicable full-time undergraduate school rates. These rates are 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.

REFUNDS

Refunds as a result of official withdrawal will be made according to the schedule listed below. Activities, 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 week of class that they will not enroll are entitled to a full refund.

Villanova University

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

FINANCIAL ASSISTANCE

(www.finaid.villanova.edu)

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.finaid.villanova.edu.

Presidential Scholarships. Villanova University offers four-year full-tuition Presidential Scholarships to every incoming class based exclusively on academic merit. The scholarship selection committee also considers each applicant on the basis of his or her essay, interview, and high school and community involvement. Candidates who are selected as finalists and who are interviewed for the Presidential Scholarship but not selected as recipients, will be awarded a \$12,500 Villanova scholarship. Selections are based exclusively on merit, without regard for race, religion, gender, financial need, or secondary school.

Villanova Scholarships. Each year candidates to each of the four colleges are reviewed by a scholarship committee in order to identify recipients of the Villanova Scholarship. The scholarship selection committee also considers each applicant on the basis of his or her essay, interview, and high school and community involvement. This competitive program provides partial tuition scholarships that are renewable for a total of eight regular semesters. Villanova Scholars awards must be used for tuition only.

Commuting Scholarships. Partial tuition scholarships are awarded each year to outstanding students commuting from their families' homes. Commuting Scholars awards must be used for tuition only.

Presidential Scholarships for Underrepresented Students. Villanova University seeks students of diverse social, racial, economic and educational backgrounds. Each year, based on the recommendation of the Scholarship Committee, students historically underrepresented within the Villanova University community, and show evidence of their ability to make significant and diverse contributions to the academic and social culture of the University, are offered the Presidential Scholarship for Underrepresented Students. This renewable award covers full tuition, textbooks, room and board charges for the eight

consecutive semesters. Students who wish to apply should contact the Office of Multicultural Affairs at 610-519-4075 for the Scholarship application. The application deadline is the last Monday in January.

St. Martin de Porres Grant. Villanova University provides grants valued at full tuition for traditionally underrepresented students from the Greater Philadelphia area. To be eligible for consideration, students must have exemplary high school records, correspondingly high SAT I 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.

McNair 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 on the Sixteenth Street Baptist Church in Birmingham, Alabama. This Scholarship, valued at full tuition for eight consecutive semesters, will be awarded every four years to an entering freshman 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. Candidates should have an exemplary high school record and correspondingly high SAT or ACT scores

STUDENT FINANCIAL AID

To apply for all types of student aid, prospective students must file the Free Application for Federal Student Aid (FAFSA) and the Villanova University Institutional Financial Aid Application. The FAFSA can be obtained from the high school guidance counselor or on the web at www.fafsa.ed.gov. Students wishing to complete the FAFSA on the web must request a PIN from the US Department of Education at least three weeks prior to completing the FAFSA. The student and at least one parent must have a PIN to file electronically. PINS may be requested from the US Department of Education at www.pin.ed.gov. The Villanova University Institutional Financial Aid Application can be downloaded from the financial assistance website at www.finaid.villanova.edu. To receive priority consideration for financial aid, applicants must file the FAFSA 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 (no schedules are required), W-2 forms and the Villanova University Institutional Financial Aid Application must be submitted to the Office of Financial Assistance by February 7th. All returning undergraduate students wishing to reapply for financial aid must file the Renewal FAFSA. Returning students who are new financial aid applications must file an original FAFSA. Applicants who are not Pennsylvania residents should file the appropriate application for State Grant consideration in their home state. All returning students must also 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) with signed copies of the student's and custodial parents, and stepparent's (if applicable) prior year U.S. or Puerto Rico Tax Returns and W-2 forms by April 21. Late applications will be aided only if funds remain available.

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Throughout the application process students are encouraged to check on the completeness and status of their application via NOVASIS. Additionally, award eligibility is posted to NOVASIS. The Office of Financial Assistance will notify students of their aid eligibility electronically. Students will be sent an email indicating their award is available to be viewed on NOVASIS.

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 1-610-519-4010, fax 1-610-519-7599 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 is committed to help meet the needs of families whom the federal need analysis determines cannot afford the full cost of a Villanova education with fair and equitable 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 in full time (minimum of 12 credits per semester) in the day college in an undergraduate degree program and pursuing their first baccalaureate degree. Villanova University Grants are awarded for four academic years (eight terms) and are not applicable for the summer term. All Villanova students must apply for need-based financial aid to be considered for this program. This award can be applied only to charges billed by Villanova University. Villanova University Grants are awarded for four academic years (eight terms) and are not applicable to the summer term.

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.

Federal Supplemental Educational Opportunity Grant (SEOG). This is a federal grant administered by the University based on financial need. Only undergraduate degree candidates are eligible. All Villanova students must complete the Villanova University Institutional Financial Aid Application and an initial FAFSA or the Renewal FAFSA to be considered for this program.

Federal Perkins Loan. This is a federal loan based on financial need for students accepted/enrolled in an undergraduate or graduate degree program. All Villanova students must complete the Villanova University Institutional Financial Aid Application and an initial FAFSA or the Renewal FAFSA to be considered for this loan 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. No credits will be placed in the student's account in the Bursar's office until all documents, including the Master Promissory Note, have been completed by the student borrower and returned to the Office of Financial Assistance. A hold may be placed on a student's transcript if the student does not complete the exit interview or complete and sign all documents.

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

must complete the Villanova University Institutional Financial Aid Application and an initial FAFSA or the Renewal FAFSA to be considered for this loan 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. No credits will be placed in the student's account in the Bursar's office until all documents, including the Promissory Note, have been completed by the student borrower and returned to the Office of Financial Assistance. A hold may be placed on a student's transcript if the student does not complete the exit interview or complete and sign all documents.

Federal Work Study (FWS). Federal employment program based on financial need for students who are accepted/enrolled in either an undergraduate or graduate degree program. All students must complete the Villanova University Institutional Financial Aid Application and an initial FAFSA or the Renewal FAFSA to be considered for this program. Students are given the choice to work on or off-campus 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.villanova.edu/enroll/finaid/studentjobs.htm).

PHEAA Grant. A Pennsylvania State Grant based on financial need for students who qualify for PA state residency and who are accepted/enrolled in an undergraduate program and enroll for at least six credits each semester. For State Grant consideration, students are required to file either an initial FAFSA or a Renewal FAFSA.

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 as to 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 or financial need, 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 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 Stafford Student Loan Program. An educational loan available to students accepted/enrolled on at least a half time basis in an undergraduate degree program. Students must complete a Master Promissory Note (MPN) from their lender or State Higher Education Assistance Agency. They must also file the Villanova University Institutional Financial Aid Application and an initial FAFSA or the Renewal FAFSA. Eligibility for a Federal Stafford 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 Federally Subsidized Stafford Student Loan. Students without remaining financial need will either need to make interest payments while enrolled or capitalize interest payments (i.e. add interest to the principal balance).

Repayment of the Federal Stafford 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 will be determined by the date of the student's first student loan. Disbursement will be made either through the issuance of check or electronic fund transfer (EFT). The loan check is made payable to both the student and the school and will be forwarded to the school in two equal disbursements. A guaranty fee and/or an origination fee, up to 4%, may be charged on each loan. The maximum loan amount per year is \$2,625 for freshmen, \$3,500 for sophomores, and \$5,500 for juniors and seniors. Funds to be delivered via EFT will be directly deposited into the student's billing account.

All first time, first year borrowers are subject to delayed disbursement of the loan for the fall term. This means that the fall disbursement of the Federal Stafford loan will not be credited to the student account until thirty days (30) after the start of the fall term.

Information regarding the Stafford Loan Application.

New Borrowers at Villanova University. Once aid eligibility is determined, each applicant will receive a notice of aid eligibility from the Office of Financial Assistance. Included in the notice will be the amount of Federal Stafford Student Loan that the student is eligible to receive. This notice of eligibility will initiate the loan process by creating an electronic loan application. As a result of the electronic loan application, all students will receive an MPN from American Education Services (AES).

If you are a first-time borrower at Villanova, you must complete a mandatory entrance interview which can be completed at www.pheaa.org.

If you previously borrowed a Stafford loan at another institution and used AES as the guarantor, use the AES note with Villanova University pre-printed on the MPN to complete the application process.

If you borrowed through a guarantor other than AES contact the guarantor or your previous lender for the MPN and forward the MPN to the Villanova University Office of Financial Assistance.

NOTE: You may reduce the loan amount printed on the MPN by changing the amount directly on the MPN.

Previous Villanova University Borrowers. Once aid eligibility is determined, each applicant will receive a notice of aid eligibility from the Office of Financial Assistance. Included in the notice will be the amount of Federal Stafford Student Loan that the student is eligible to receive. This notice of eligibility will initiate the loan process.

Students who borrowed during the previous academic year and had a loan processed through AES will receive a notice of eligibility directly from AES. A Master Promissory Note will not be required. Stafford loan proceeds will be transmitted via Electronic Funds Transfer (EFT) and credited to the student account at the beginning of each academic term.

Villanova Financing Option. The Villanova 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 education. The Financing Option offers the family the opportunity to combine Interest-Free Monthly Payment Options offered by the Villanova Tuition Payment Plan administered through Tuition Management Systems (TMS) with

low cost loan options such as the Federal Parent Loan for Undergraduate Students (PLUS) and the PNC Bank Villanova Loan Program.

Villanova Tuition Payment Plan. The Villanova 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. 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 Parents Loan for Undergraduate Students (PLUS). 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 is variable but will not exceed 9% interest and principal payments are monthly. The Federal PLUS Application and Master Promissory Note can be obtained from the Office of Financial Assistance. A Villanova University PLUS Application must also be completed. NOTE: For important information concerning aid payments and student rights and responsibilities, contact the Office of Financial Assistance.

The PNC Bank Villanova Loan. The PNC Bank Villanova Loan has been specially designed to provide a low interest loan program to students. This program may be used to bridge the gap between cost and traditional need-based and/or merit-based assistance. The PNC Bank Villanova Loan requires that the borrower (the student) and a co-signer be evaluated in order to determine if they meet the minimum standards of a credit check. Refer to the Villanova University Financial Aid website (www.finaid.villanova.edu) for the latest information regarding rates and terms of the loan or call PNC at 1-877-468-2155.

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 aid assistance. Listed below is the complete statement of Minimum Standards for Satisfactory Academic Progress for Financial Aid Recipients.

Villanova University Academic Maximum Time Frames for Completing Degree Requirements.

- Students are expected to complete their program of study (degree) in the number of semesters indicated in the catalog. Transfer students and students changing programs are placed in an appropriate semester on the basis of credits transferred. Such students are expected to complete their degree according to the remaining semesters in their program plus one additional semester to allow for scheduling difficulties.
- The maximum time frame for completing Associate degree requirements is three years for full-time students and six years for part-time students.

- ❑ The maximum time frame for completing Baccalaureate degree requirements is six years for full time students and twelve years for part time students. Transfer credits earned at other institutions that are applicable to the student's program of study will be considered in determining the student's maximum time frame for program completion.
- ❑ Students must make quantitative and qualitative progress toward their educational goals each academic year to receive financial aid. The academic year consists of two regular semesters and the summer sessions.

Quantitative Standards. Full time students must successfully complete a minimum of 24 credit hours each academic year. Students admitted in January must successfully complete a minimum of 12 credits during their first Spring semester.

Students enrolled on a three-quarter basis (9-11 credits per semester) must successfully complete a minimum of 18 credit hours each academic year.

Students enrolled on a half-time basis (6-8 credits per semester) must successfully complete a minimum of 12 credit hours each academic year.

Qualitative Standards. Students must maintain a Cumulative Grade Point Average (GPA) of 2.0 calculated at the end of the academic year in order to be considered a student in good standing.

Measurement of Academic Progress Requirements. Academic progress will be measured in May of each year. 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 failed to meet the qualitative and quantitative requirements for academic progress can attempt to complete additional credits and bring up their GPA during the summer sessions. Upon completion of the additional credits, a new determination of academic progress will be made.

Transfer students are evaluated for academic progress in May, after the first Spring semester attended at Villanova University. Students that transfer in for the Fall semester are evaluated on their academic performance during their first Fall and Spring semesters. Students that transfer in beginning with the Spring semester are evaluated on their performance during their first Spring semester.

All financial aid applicants are subject to the satisfactory academic standards regardless of whether or not they received financial aid previously.

Failures and withdrawals are courses attempted but not completed. Incompletes are not counted toward credits completed until after the coursework is successfully completed and posted by the Registrar. Repeat courses will not count toward credits completed for satisfactory academic progress since the credits were already counted toward the quantitative standards the first time the course was completed.

When Minimum Standards of Academic Progress Are Not Achieved. A student who does not make satisfactory academic progress will be placed on financial aid suspension until the requirements are met. The student will be notified in writing of the financial aid suspension.

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 achieving satisfactory academic progress.

The following types of mitigating circumstances may be considered when a student appeals: extended illness, death in the family, and changes in educational objective. The Office of Financial Assistance may request additional documentation and/or require a

personal interview with the student. After the review, the Office of Financial Assistance will notify the student in writing of the action taken.

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. At the end of the probationary semester, the Office of Financial Assistance will determine if academic progress requirements have been met. If requirements have been met, the probationary status will be removed. If academic requirements have not been met, the student will be placed on financial aid suspension.

Once financial aid has been discontinued, it will be reinstated provided:

- The student has successfully achieved the required number of credits and grade point average;
- The student has requested reinstatement in writing; and
- Funds are still available.

Reinstatement is not automatic. The student is responsible for making certain that the grades and credits completed have been properly posted with the Registrar prior to requesting reinstatement of financial aid. Students are encouraged to file all financial aid application forms by Villanova University's established deadline so that once reinstatement has been achieved, he or she can be considered for aid as quickly as possible.

A student who is denied aid based on qualitative or quantitative standards will be considered for aid when standards have been achieved. Under no circumstances will aid be awarded retroactively to the semester(s) in which standards were not met.

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 Stafford Student Loan, Federal Parent Loan for Undergraduate Students [PLUS]) 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 Stafford Loan
- Subsidized Federal Stafford Loan

Federal Perkins Loan
Federal 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 student's 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 an INS district director;

An official statement granting asylum in the US; or

Other proof from the U.S. Immigration and Naturalization Service 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). Beginning with the 2005-2006 academic year limited need-based University funds are available to International Students. For completed application information check the International Students website at www.villanova.edu/enroll/finaid/international.htm.

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 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 from the IRS form; 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 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 and W-2 forms.
- (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, a signed non-tax filer statement and copies of all W-2 forms must be submitted. Non-taxable income verification such as VA Benefits, Social Security Benefits for all household members and Public Assistance Letters must be submitted to the Office of Financial Assistance.
- Villanova University Institutional Financial Aid Application.

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 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.

Class Rank. A student's rank in class is determined by the cumulative quality-point average, which is computed each July for Juniors and Seniors. The rankings for seniors will appear on the transcript. Only credits earned with Villanova University or in formally approved inter-institutional programs will be considered in determining the

cumulative quality-point average. Credits and grades earned in the summer at other colleges are not counted in the quality point average.

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

Academic 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 limited to a schedule of four courses.

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 year with a new start on the cumulative average (though a record of the year's work will remain on the transcript).

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. A copy of the procedures is also available on request from the Academic Affairs Office, 103 Tolentine Hall, (610/519-4520).

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.

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: 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. A student who violates the academic integrity code in a course will receive an F for the assignment or a more severe penalty up to an F for the course. In addition, the student will be expected to complete an educational program, supervised by the student's college dean, to help the student come to a fuller understanding of academic integrity. For the second

offense, the student will be dismissed from the University and a record of the reason for dismissal will be retained in the student's permanent file and will appear on the student's official transcript. A student who commits an academic integrity violation outside of a specific course will receive a penalty determined by the dean of the student's college.

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 and deans.

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

DISCLOSURE OF STUDENT RECORDS

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: (1) disclosure of directory information; (2) confidentiality of personally identifiable information; and (3) student rights to inspect, review and seek amendment of their records.

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; address (local, home or electronic mail); telephone number; photograph; date and place of birth; major field of study; dates of attendance; degrees 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 the appropriate office, in writing, at the time the information is originally sought.

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

The University will generally not disclose personally identifiable information to third parties without the written consent of the student. The 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, or in the following circumstances:

- 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 President, Vice Presidents, Deans, Directors, Department Chairs, Faculty Members, NROTC Commanding Officer, General Counsel, Deputy General Counsel, Judicial Officers, Counselors, Resident Advisers, Coaches and Admissions Officers. University officials also include individuals employed by or under contract to the University to perform a special task, such as an attorney or auditor, and individuals acting as official agents of the University who are performing a service on behalf of the University.
- Officials of other educational institutions to which the student seeks or intends to enroll (on condition that the student upon request is entitled to a copy of such records).
- Appropriate federal, state or local officials or authorities, consistent with federal regulations.
- Organizations conducting studies for, or on behalf of, educational agencies or institutions.
- Accrediting organizations to carry out their accrediting functions.
- Parents of a dependent student as defined in Section 152 of the Internal Revenue Code of 1986.
- Parents or guardians of a student, 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.
- In connection with the student's application for, or receipt of financial aid.
- 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).
- In case of an emergency, to protect the health or safety of students or other individuals.

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. 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.
- 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 not disclosed to anyone other than the individuals providing the treatment. These records may be reviewed, however, by a physician or other appropriate professional of the student's choice.
- Financial records of the parents of the student or any information contained in those records.
- 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.
- Institutional records of students which may be maintained by the University in a computer printout or similar format (so long as this computerized information is not intended to be distributed outside the University), as long as the original source of computer information is available in the office or department having original jurisdiction for the records.
- Records that only contain information about a person after that person was no longer a student at the University (e.g., information collected by the University pertaining to accomplishments of its alumni).
- Those portions of a student's records that contain information on other students.

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.

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 20202-4605. Students are encouraged to bring any complaints regarding the implementation of this policy to the attention of the General Counsel.

FINAL EXAMINATIONS AND CONFLICT

Final examinations are given in virtually all courses at a time and place designated. NOTE: It is the student's responsibility to contact the professor within 48 hours if an examination is missed. Provisions exist to alleviate scheduling problems caused by conflicts; i.e., if two of a student's examinations are scheduled at the same time or if three of his/her examinations are scheduled on the same day.

In the event of a conflict, the student must request in advance that a special examination be given by one of the instructors in accordance with the following directions.

- Group departmental examinations should take precedence over any other.
- Major or required courses should take precedence over electives.
- A regular course should take precedence over a repeat or make-up course.
- Extraordinary difficulties encountered in effecting such an arrangement will be resolved by the Dean of the respective college.

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 within two weeks of its receipt; otherwise, the record will stand as it is.

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.

Villanova University

A-	
B+	
B	denotes achievement considerably above acceptable standards. Good mastery of course material is evident and student performance demonstrates a high degree of originality, creativity, or both. The grade indicates that the student works well independently and often demonstrates initiative. Analysis, synthesis, and critical expression, oral or written, are considerably above average.
B-	
C+	
C	Indicates a satisfactory degree of attainment and is the acceptable standard for graduation from college. It is the grade that may be expected of a student of average ability who gives to the work a reasonable amount of time and effort. This grade implies familiarity with the content of the course and acceptable mastery of course material; it implies that the student displays some evidence of originality and/or creativity, works independently at an acceptable level and completes all requirements in the course.
C-	
D+	
D	denotes a limited understanding of the subject matter, meeting only the minimum requirements for passing the course. It signifies work which in quality and/or quantity falls below the average acceptable standard for the course. Performance is deficient in analysis, synthesis, and critical expression; there is little evidence of originality, creativity, or both.
D-	
F	Indicates inadequate or unsatisfactory attainment, serious deficiency in understanding of course material, and/or failure to complete requirements of the course.
N	Incomplete: course work not completed.
S	Satisfactory: Assigned in Satisfactory/Unsatisfactory courses (work must be equivalent to C or better).
SP	Satisfactory Progress.
T	Transfer grade.
WX	Approved withdrawal without penalty.
W	Approved withdrawal with penalty.
U	Unsatisfactory: Assigned in Satisfactory/Unsatisfactory courses
AU	Audit.
Y	Unofficial withdrawal from course (or for freshmen, failure for excessive absences).
NG	(Or Blank): no grade reported.

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.

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. The reasons for student deficiencies are reported by the faculty member at mid-semester and at the end of the semester to the Dean of the student's college.

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. A normal scholastic load is defined by the program set forth in this catalog. Permission to take fewer than 12 credit hours or a course in excess of the normal load may be obtained in exceptional circumstances with the written approval of the Dean. All colleges require a 3.5 QPA (Engineering 3.00) for a student to be granted an overload.

TRANSFER OF CREDIT FROM ANOTHER UNIVERSITY

For students who are matriculated in degree programs at Villanova University and who seek to transfer courses taken at another university: (1) No 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. (2) 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. Effective for summer, 2006, students may not transfer back to Villanova the 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.

TRANSCRIPTS

Students may obtain transcripts of their records from the Office of the Registrar, Tolentine 202, either in person or by writing to the office. 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 Office.

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/calendar/), a student may withdraw from a course without penalty and will receive the grade of "WX." After that date, a student seeking authorized withdrawal without penalty must petition the Dean of his or her college, who has sole authority to grant withdrawals without penalty. Each college has different requirements, which may be found 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

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. Applications for withdrawal must usually be made by the end of the fourth week of school.

VILLANOVA UNIVERSITY CATALOG

UNDERGRADUATE STUDIES 2005- 2007

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 www.catalog.villanova.edu for more recent information.

Note to Users: Because Villanova University makes frequent changes in its individual course offerings, we have not included the course descriptions in this version of the *Catalog*. An up-to-date listing of courses and course descriptions is available on-line at www.catalog.villanova.edu. Villanova University also publishes an expanded version of this *Catalog* that includes the course descriptions. To obtain a copy of the expanded version, contact the Admissions Office.

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VILLANOVA UNIVERSITY
August 1, 2005
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 for, and published on the world wide web in which their class begins its first year of study. Students who enter in fall 2006 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.

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ACADEMIC CALENDAR: 2005-2006

Fall Semester (2005)

Aug. 17-18 (W-Th)	Walk-In Registration (Part-Time Studies)
Aug. 20-23 (Sat-Tu)	New Student Orientation and Registration
Aug. 24 (W)	Classes Begin
Aug. 30 (Tu)	Last Day for dropping and/or adding classes and last day for requesting Satisfactory/Unsatisfactory
Sept. 5 (M)	Labor Day - No Classes
Sept. 8 (Th)	St. Thomas of Villanova Day*
Sept. 16-18 (Fri Eve-Sun)	Parent's Weekend
Oct. 7 (F)	Mid-Term
Oct. 10 (M)	Semester Recess
Oct. 17 (M)	Classes Resume
Oct. 19 (W)	Grades Due (Noon)
Oct. 21 (F)	Advising Begins
Oct. 21-23 (Fri Eve-Sun)	Homecoming Weekend
TBA	Registration Begins for Spring 2006
Nov. 9 (W)	Last Day for Authorized Withdrawal without Academic Penalty (WX)
Nov. 22 (Tu)	Thanksgiving Recess Begins after last class
Nov. 28 (M)	Classes Resume
Dec. 12 (M)	Final Day of Classes
Dec. 13 (Tu)	Reading Day
Dec. 14-20 (W-Tu)	Final Examinations (No exams on Sunday)

*class schedule to be announced at a later date; evening classes will be held.

Spring Semester (2006)

Jan. 12 (Th)	Walk-In Registration (Part-Time Studies)
Jan. 16 (M)	Martin Luther King Day (No classes)
Jan. 17 (Tu)	Classes Begin
Jan. 20 (F)	Last day for dropping and/or adding classes and last day for requesting Satisfactory/Unsatisfactory
Mar. 3 (F)	Mid-Term
Mar. 6 (M)	Semester Recess
Mar. 13 (M)	Classes Resume
Mar. 15 (W)	Grades Due (Noon)
Mar. 17 (F)	Advising Begins
TBA	Registration Begins for Fall 2006
Apr. 5 (W)	Last Day for Authorized Withdrawal without Academic Penalty (WX)
Apr. 12 (W)	Easter Recess begins after last class
Apr. 18 (Tu)	Classes Resume
May 2 (Tu)	A Friday Class Day - follows a Friday, Schedule for UG Day Classes Only
May 3 (W)	A Monday Class Day - follows a Monday Schedule for UG Day Classes Only
May 4 (Th)	Final Day of Classes
May 5 (F)	Reading Day
May 6-12 (Sat-Fri)	Final Examinations (No exams on Sunday)
May 20-21 (Sat-Sun)	Baccalaureate and Commencement

ACADEMIC CALENDAR: 2006-2007

Fall Semester (2006)

Aug. 16-17 (W-Th)	Walk-In Registration (Part-Time Studies)
Aug. 19-22 (Sat-Tu)	New Student Orientation and Registration
Aug. 23 (W)	Classes Begin
Aug. 29 (Tu)	Last Day for dropping and/or adding classes and last day for requesting Satisfactory/Unsatisfactory
Sept. 4 (M)	Labor Day - No Classes
Sept. 7 (Th)	St. Thomas of Villanova Day*
Oct. 6 (F)	Mid-Term
Oct. 9 (M)	Semester Recess
Oct. 16 (M)	Classes Resume
Oct. 18 (W)	Grades Due (Noon)
Oct. 20 (F)	Advising Begins
TBA	Registration Begins for Spring 2007
Nov. 8 (W)	Last Day for Authorized Withdrawal without Academic Penalty (WX)
Nov. 21 (Tu)	Thanksgiving Recess Begins after last class
Nov. 27 (M)	Classes Resume
Dec. 11 (M)	Final Day of Classes
Dec. 12 (Tu)	Reading Day
Dec. 13-19 (W-Tu)	Final Examinations (No exams on Sunday)

*class schedule to be announced at a later date; evening classes will be held.

Spring Semester (2007)

Jan. 11 (Th)	Walk-In Registration (Part-Time Studies)
Jan. 15 (M)	Martin Luther King Day (no classes)
Jan. 16 (Tu)	Classes Begin
Jan. 22 (M)	Last Day for dropping and/or adding classes and last day for requesting Satisfactory/Unsatisfactory
Mar. 2 (F)	Mid-Term
Mar. 5 (M)	Semester Recess
Mar. 12 (M)	Classes Resume
Mar. 14 (W)	Grades Due (Noon)
Mar. 16 (F)	Advising Begins
TBA	Registration Begins for Fall 2007
Apr. 4 (W)	Last Day for Authorized Withdrawal without Academic Penalty (WX)
Apr. 4 (W)	Easter Recess begins after last class
Apr. 10 (Tu)	Classes Resume
May 1 (Tu)	A Friday Class Day – follows a Fri. Class Schedule for UG Day Classes Only.
May 2 (W)	A Monday Class Day – follows a Mon. Class Schedule for UG Day Classes Only.
May 3 (Th)	Final Day of Classes
May 4 (F)	Reading Day
May 5-11 (Sat-F)	Final Examinations (No exams on Sunday)
May 19-20 (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, the College of Nursing in 1953, and the School of Law 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 an independent coeducational institute of higher learning founded by the Augustinian Order of the Roman Catholic Church. The University is a community of persons of diverse professional, academic, and personal interests who in a spirit of collegiality cooperate to achieve their common goals and objectives in the transmission, the pursuit, and the discovery of knowledge. This community serves society by developing and sustaining an academic environment in which the potentialities of its members may be realized. Villanova is committed to those same high goals and standards of academic integrity and excellence as well as personal and corporate achievement that characterize all worthy institutions of higher learning.

Villanova University

As a Catholic institution Villanova both emphasizes the values of the Judaeo-Christian humanistic tradition and concerns itself with all value systems. The University attempts to develop an environment in which students, faculty, and staff may experience a Christian intellectual and moral perspective, believing that the teachings of the Catholic faith are applicable in every area of human activity. Although Villanova functions as an independent institution in the conduct of its own affairs, in matters theological it recognizes its obligations to the Magisterium of the Church. Villanova looks to the Order of St. Augustine to preserve the University's Augustinian character through its presence and influence and by providing personnel and financial support. In turn, the University recognizes its special relationship to the Order of St. Augustine by showing appropriate preference to Augustinians in the initial appointment of faculty and staff.

Given its character and resources, Villanova is committed to offering such undergraduate and graduate programs as will best serve the needs of its constituencies. As a medium-sized comprehensive university, it offers programs in the humanities, in the natural and social sciences, and in professional areas such as business, education, engineering, law, and nursing. The University emphasizes undergraduate instruction and is committed to a liberal arts component in each of its undergraduate programs. In all academic departments, it encourages such research and scholarly work as are compatible with the faculty's other obligations to the University.

Villanova emphasizes the disciplines of philosophy and theology. Moreover, it seeks to add its influence to the search for world peace and justice by means of both its academic programs and the pastoral ministry it provides for the members of the University community. In like manner, the University has always encouraged and supported its faculty, students, and staff in providing public service to the community. Ultimately, all these programs and support are seen as a means of developing the total person: intellectually, emotionally, spiritually, culturally, socially, and physically.

Villanova attempts to enroll students with diverse social, geographic, economic, and educational backgrounds. Furthermore, in utilizing its financial aid resources to help achieve this diverse student body, Villanova recognizes its responsibility to use part of those resources to assist the economically and educationally disadvantaged.

Villanova welcomes students who consider it desirable to study within the philosophical framework of Christian humanism. Similarly, the University seeks to employ on all levels those who are sympathetic to and supportive of its character and identity. Accordingly, Villanova confidently expects that all students, faculty, administration, and staff will so comport themselves as to assure the continuance and enhancement of the University's high purposes and its moral and religious traditions. In accomplishing its purposes, the University fully complies with all the requirements of federal and state legislation with respect to equality of opportunity and non-discrimination.

Villanova encourages communication among all the elements of the academic community and operates on a policy that promotes easy access of students to faculty and of students and faculty to administrators. Furthermore, it seeks to involve students, faculty and administrators in the development of University policy through appropriate structures of governance.

Finally, this community seeks to reflect the spirit of St. Augustine by the cultivation of knowledge, by respect for individual differences, and by adherence to the principle that mutual love and respect should animate every aspect of University life.

ACADEMIC PROGRAMS

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, Associate of Arts, Associate of Science in Natural Science.
- ❑ College of Engineering (www.engineering.villanova.edu): Bachelor of Chemical Engineering, Bachelor of Civil Engineering, Bachelor of Computer Engineering, Bachelor of Electrical Engineering, Bachelor of Mechanical Engineering.
- ❑ College of Commerce and Finance (www.cf.villanova.edu): Bachelor of Science in Accountancy, Bachelor of Science in Business Administration, Bachelor of Science in Economics
- ❑ College of Nursing (www.nursing.villanova.edu): Bachelor of Science in Nursing

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.

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 College of Commerce and Finance 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 National League for Nursing Accreditation Commission, and have received accreditation from the Commission on Collegiate Nursing Education.

PART-TIME STUDIES (www.parttime.villanova.edu)

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. The Bachelor of Interdisciplinary Studies, a degree program for part-time adult students only, is offered with majors in Information Systems, Leadership Studies and General Studies. Students may also pursue Bachelor's Degrees on a part-time basis in: Accountancy, Business Administration, Communication, Computing Science, Information Science, Education (secondary), English, History, Human Services, and General Arts. Details on these programs and requirements are to be found in the Part-Time Studies section of this Catalog.

INTERNATIONAL STUDIES AND OVERSEAS PROGRAMS

(www.internationalstudies.villanova.edu)

Students attending Villanova University are encouraged to incorporate an international component into their academic plans. The Office of International Studies (OIS) assists students in identifying opportunities and facilitating the process of enrollment in overseas programs. The services offered to all full-time Villanova students include:

- ❑ Advising and administrative support services for summer, semester, and year long overseas study programs including direct enrollment in overseas institutions, service learning opportunities, internships, and/or exchanges with international programs worldwide.
- ❑ Administrative support for applications to Villanova's International Summer Programs at the Université de Rennes 2 in France, Bocconi University in Italy, the Universidad de Cádiz in Spain, East China Normal University, the European Business School in Germany, the National University of Ireland, John Cabot University in Italy, the London School of Economics in England, the Sprachinstitut in Germany, the University of Urbino and the Scuola Lorenzo de' Medici in Italy, the Universidad Católica de Valparaíso in Chile, the University of Warsaw in Poland, and in additional locations in Italy, Greece, and Russia.
- ❑ Advising for the fulfillment of the overseas requirements for Villanova's Area Studies Programs (Africana Studies, Arab & Islamic Studies, Latin American Studies, and Russian Area Studies).

Generally students study overseas in their sophomore or junior years. Students can also spend their first semester senior year abroad. A minimum 2.75 GPA and full-time status are required by Villanova though some programs and overseas institutions may require a higher GPA. All undergraduate majors are eligible. Students may not apply for study abroad while on academic or disciplinary probation. Transfer students must have completed three semesters at Villanova prior to participating in an overseas program.

Villanova University has special affiliations and/or exchange agreements with many institutions and organizations including: the American University Center of Aix-en-Provence, France; American University of Beirut, Lebanon; the American University of

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Cairo, Egypt; Al al-Bayt University, Jordan; Birzeit University, Palestine; the Center for Sustainable Human Development (CIDH), Costa Rica; College Year in Athens, Greece; Denmark International Studies (DIS); the National Universities of Ireland in Cork, Galway, and Dublin; the European Business School, Germany; INSTEP Cambridge University, England; the London School of Economics, England; Sophia University, Japan; the University of Cádiz, Spain; the University of Maastricht, the Netherlands; the University of Manchester, England; the University of Nizhni Novgorod, Russia; the University of Urbino, Italy; Queen's University, Belfast, Northern Ireland; the Council for International Educational Exchange (CIEE/Council); the Institute for the International Education of Students (IES); Arcadia University's Center for Education Abroad; the Institute for Study Abroad, Butler University; Boston University's Division of International Programs; Lexia International; the International Partnership for Service Learning (IPSL); the University of Virginia's Hispanic Studies Program; the School for Field Studies (SFS); and the School for International Training (SIT). VU's Office of International Studies is also an active member in NAFSA: Association of International Educators and the Pennsylvania Council for International Education (PaCIE).

Working with a representative of the OIS, all students who study overseas are required to submit a Prior Approval Form designating courses approved by appropriate faculty in order for overseas credit to apply towards your degree. Credit for work completed overseas will appear on the Villanova transcript. Students must earn a minimum grade equivalent to a "C" or higher in order for the credit to appear on the transcript. In place of a letter grade, the designation "T" will be assigned. A maximum of 60 credits are transferable (including Advanced Placement, Overseas Study, and summer credits earned at other institutions).

In addition to advising and administration, the Office of International Studies also sponsors pre-departure orientations for outbound students, welcome back events for returning students, a Fall study abroad fair, regular overseas study information sessions, monitors safety issues affecting Villanova students worldwide, and works with faculty and organizations both on and off campus to develop and improve overseas opportunities. Students wishing further information may contact the Office of International Studies and Overseas Programs in Middleton Hall, 2nd floor (610/519-6412).

NROTC

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.

ACADEMIC RESOURCES

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.

AUGUSTINIAN HISTORICAL INSTITUTE

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. The collection of the Institute is open for use between the hours of 9:00 a.m. - Noon, and 1-4 p.m. Monday through Friday.

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 3.25 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 College of Commerce and Finance 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 in Phi Beta Kappa is an honor conferred primarily in recognition of outstanding scholarly achievement in the liberal arts and sciences. Details may be found under "Phi Beta Kappa" in the Liberal Arts and Sciences section of this Catalog.
- ❑ Phi Kappa Phi. Phi Kappa Phi is an honor society whose objective is the recognition and encouragement of superior scholarship in all academic disciplines. Qualified part-time juniors and seniors are eligible for election to membership. Admission is by invitation only and requires the nomination and approval by a chapter. Superior scholarship and good character are the criteria for membership.
- ❑ Alpha Sigma Lambda. The Mu Chapter of Alpha Sigma Lambda was established at Villanova University in 1958. The society honors those dedicated part-time and evening students who have completed at least 24 Villanova credits and who are

from the highest ten per cent of their class with a minimum quality point average of 3.2

INFORMATION TECHNOLOGIES (www.unit.villanova.edu)

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. A state-of-the-art digital phone system offers students, faculty, and staff direct dial lines, voice messaging, mail boxes, and call transfer. The data network facilitates access to all on campus computing resources as well as access to remote computing resources via the Internet. Broadband cable and Internet 2 facilitates video transmission to and from more than 100 classrooms for implementation of multi-media teaching technology into the curriculum.

UNIT maintains the University wide computing infrastructure for academic and administrative use running on 120+ servers throughout campus. All central and distributed computers and about 18,000+ workstations and other devices are connected to the campus network providing each user with access to any computing resource. 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 UNIT operates videoconferencing and multi media facilities in Tolentine.

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 of 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 XP suite) plus course-specific software.

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 Computer Support Center (CSC) located in Vasey Hall assists students with University provided laptop computers. Technical support is complemented by Web based documentation. The use of the University owned/managed computing, information, and network resources are governed by policies included in the Student Handbook and accessible on the University's Web site. In addition to the CSC, UNIT operates the University Help Desk and provides technical support and service from 8am to 8pm M-F.

The University Card Office provides students with a smart card (WildCard) that functions as a meal plan card, library card, access card to dorms, classrooms and labs, debit card for purchases on campus and selected off campus merchants.

LIBRARY RESOURCES AND SERVICES (www.library.villanova.edu)

Falvey Memorial Library is the gateway to information resources and services for students, faculty and staff. Information is available through more than 750,000 printed

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volumes, 6,000 current serial subscriptions, approximately two hundred electronic databases, several thousand full-text electronic journals, and extensive microfilm and audiovisual collections. Beyond Villanova's collection, the regional EZBorrow system in which the university participates provides one-stop searching and access to over 30 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 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. Reference librarians answer questions, recommend resources, assist with formulation of search strategies, and instruct in the use of electronic and print resources. Every librarian serves as a liaison with an academic department to facilitate library and departmental communication. The Falvey Student Advisory Council (FSAC) and the Faculty Library Committee advise the University Librarian of the changing information needs of the Villanova student and faculty. Display areas provide information on campus activities and programs as well as highlight Falvey's Special Collections. 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.

Collaboration between the library and academic departments to integrate information literacy into academic programs ensures that students have the necessary skills for lifelong learning. Media Technologies & Creative Design (MT/CD) provides a wide variety of educational technology services to the university community, including support of classroom technology, and individual and group viewing (and listening) facilities for its collection of videotapes, CDs, audiotapes, & laser discs. Also through MT/CD, consulting and assistance is available in such areas classroom technology, graphic design, and video editing.

The Library Web page (www.library.villanova.edu/) provides access to the resources and services available through the library, and to information about policies, procedures and hours of operation. Web accessible library resource include VuCat (the online catalog), general and scholarly research databases and full-text journals and e-books, e-mail request forms, interact (chat-based) reference assistance, and subject-oriented research guides. Approximately fifty 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 for individual study. The Kolmer Group Study Rooms are available on the third and fourth floors. The Falvey Mug, available for purchase at Holy Grounds, enables students to take beverages throughout the building.

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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

(www.villanova.edu/mlrc)

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. During its hours of operation (Monday - Thursday: 1:00 - 5:00 p.m. and Sunday -Thursday 6:30 - 9:00 p.m.), the MLRC is staffed by undergraduate and graduate Villanova students. The MLRC computer lab has 15 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 and a modest video library and three TV/VCR stations, which students may use for independent learning. The Center is located on the second floor of Old Falvey, tel. (610)519-MLRC or (610)/519-5193 for voice mail messages.

NATIONAL SCHOLARSHIPS (www.honorsprogram.villanova.edu)

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, National Science Foundation, Hughes, Mellon and Ford Foundation. A mentoring program is administered by the Office of Undergraduate Grants and Awards, and begins as early as an undergraduate student’s first year. In recent years, over sixty students have received formal recognition from these various national scholarship programs.

WRITING CENTER (www.writingcenter.villanova.edu)

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 the Dalton Room (202 Old Falvey) and is open Sunday 3:30-7:30, Monday through Thursday 11:30-7:30 and Friday 11:30 a.m.-3:30 p.m. Phone: 610/519-4604.

CAMPUS LIFE

CAMPUS MINISTRY (www.campusministry.villanova.edu)

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 lower level 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 in on the website and in The Blue Book: The Villanova University Student Handbook.

CAREER SERVICES (careers.villanova.edu)

The Career Services Office assists individuals with assessing career interests, planning careers, and developing the skills to successfully pursue career plans. Individual counseling is supplemented by workshops and career programs. Interest tests are administered and interpreted. The credentialing service allows students to develop a file of recommendations to be used for graduate school and job applications. Employment services are coordinated through the office website at www.careers.villanova.edu. These services include a campus interview program with over 350 employers, a resumé referral system, and a job listing service. The Career Library provides extensive information on careers, materials for distribution on various job search topics, and registration materials for graduate school admission tests. The office is located in Corr Hall.

COUNSELING CENTER (www.studentlife.villanova.edu/counselingcenter)

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:

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- ❑ **Personal and Psychological Counseling.** Students can discuss personal concerns in a private, confidential setting. Individual counseling sessions are available, as are counseling groups. Doctoral psychologists help students deal with normal developmental adjustments common during the college years, and can also help students with issues such as: depression; anxiety; relationship concerns; eating disorders; self-defeating behaviors; family issues; and other problems that affect academic, social, or personal functioning. All contacts are completely confidential and are not recorded on the student's university records.
- ❑ **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 abused 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.** Referrals are provided for students who prefer to obtain off-campus counseling, or whose counseling needs exceed the capacity of the Counseling Center.
- ❑ **Study Skills Counseling.** The study skills counselor helps students enhance their ability in the areas of: note taking; class preparation; test preparation; test taking; and time management. The goal of these services is to help students take better advantage of the academic offerings of the University. Individual appointments are available, as are group workshops on topics of common interest.

HEALTH AND WELLNESS EDUCATION CENTER

(www.villanova.edu/healthandwellnessed)

The Center for Health and Wellness Education provides campus-wide wellness initiatives. The Center provides education on various topics so that students can make appropriate choices for healthy living. In collaboration with many departments, the center offers educational programs on issues such as Alcohol and Drugs, Sexual Assault, Sexual Health, Stress Management, Fitness and Nutrition. All programming focuses on six dimensions of wellness: social, spiritual, physical, intellectual, career and emotional. The Center is the home of the P.O.W.E.R. (Peers offering wellness education and resources) Peer Education program. Currently there are 70 students who have received 40 hours of training so they can talk to their peers about the important health issues. Some of the programming initiatives from the center are as follows: Awareness Weeks; Stall Street Journal; Wellness Institute; Wellness on the Move; WestFest; and POWER hour. The Center is located in the Health Services Buildings, first floor, tel. 610) 519-7407.

IDENTIFICATION CARDS

The official University identification card for students, staff, and faculty, is called the Wildcard. It is a photo ID with a magnetic stripe on the back. Photos are taken at the Wildcard Office on the first floor of Dougherty Hall (610/519-6202). Requirements for obtaining a Wildcard include a picture ID and proof of enrollment at Villanova. The

Wildcard is necessary for student verification, student discounts, library borrowing, and for entrance into the library on weekends and weekday evenings.

INTERNATIONAL STUDENTS (www.students.villanova.edu/iss)

The International Student Adviser's Office is a service provided by the university to aid foreign students in becoming oriented to the university and the community and to assist them with U.S. immigration requirements. The office sponsors a variety of social and cultural programs in conjunction with the International Student Association. The office offers a comprehensive orientation program at the beginning of the Fall Semester.

The International Students Office offers a comprehensive ESL program in conjunction with the office of Continuing Studies. Classes are offered in the fall, spring, and summer terms.

All foreign students must register with the International Students Office each semester. Any change of address must be reported immediately. The office is located in Corr Hall, Ground Floor (610/519-4095). NOTE: Villanova University requires that all full-time students have health insurance. The International Student Office has information and policy forms available for students who do not have health coverage from their home countries.

LEARNING DISABILITIES (learningsupportservices.villanova.edu)

The Office of Learning Support Services, in conjunction with faculty, 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 on the second floor of Kennedy Hall. For additional information about our services, contact 610-519-5636.

MULTICULTURAL AFFAIRS (www.multiculturalaffairs.villanova.edu)

The Center for Multicultural Affairs assists and supports the University in its mission of being a community of people who share common values and whose culture reflects the Augustinian spirit. The Center also engages in collaborative planning and research with all areas of the University, in meeting its commitment to work for peace and justice within the University community and the world. The Center for Multicultural

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Affairs is located in Dougherty Hall, Room 102, (610) 519-4075. The main programs are:

- ❑ **Academic Advancement Program (AAP)/Act 101:**) The purpose of this program is to provide an educational opportunity for students from Pennsylvania who meet the academic and economic criteria established by the Higher Education Opportunity Act of 1971, legislatively designated and publicly known as Act 101. 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 now offers a three-credit freshman English course, math, reading/study skills, and general sciences classes, and critical thinking workshops.
- ❑ **Affirmative Action:** Designated the Affirmative Action/Equal Employment Office, the Multicultural Affairs Office is responsible for insuring that the University complies with local, state, and federal government mandates and remains committed to equal employment and educational opportunities. This office provides training, workshops and guidance on issues relating to affirmative action/equal opportunity, diversity, and sexual harassment. Anyone seeking the help or resources of this office should call Linda Coleman at 610-519-4074.
- ❑ **The National Hispanic Institute (NHI):** Villanova University and NHI have partnered to establish the new Villanova-NHI Leadership Service Center. The new center handles NHI's northeastern U.S. initiatives and also serves the University as part of the Center for Multicultural Affairs, building opportunities for shaping future community leadership. Interested students should call Hector Lopez at 610-519-4863.
- ❑ **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 to 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 Walidah Justice whose office is located in Dougherty 102, tel. 610/519 7316.
- ❑ **Friends on Campus and Bilingual Buddies:** These programs are peer mentor programs designed to match new students with upperclass or graduate students. The goal of Friends on Campus is to help students navigate more successfully the path toward their educational goals. The Bilingual Buddies program matches students who want to practice speaking different languages

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with one another. Bilingual Buddies is a program created by students for students. Social events are an integral part of both programs.

MUSIC ACTIVITIES (www.music.villanova.edu)

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. 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).

RESIDENTIAL FACILITIES (www.reslife.villanova.edu)

The University maintains a variety of living facilities which are intended to serve as extensions of Villanova's learning environment. Approximately 3100 men and women are housed in 18 residence halls which vary from home-type buildings for 30 students to modern multi-level structures housing over 500 students. An additional 1200 upperclassmen reside in fully furnished apartments housed in eight on-campus halls.

Dining facilities for resident students are conveniently located in Dougherty Hall on the main campus, St. Mary's Hall on the west campus, and in Donahue Hall on the south campus. Lounge areas and laundry facilities are available to students in most residence halls.

Admission to the University as a resident and payment of the admission deposit guarantees placement in residential facilities for the freshman, sophomore, and junior years. Commuters and transfers are eligible for on-campus residency only on a space-available basis.

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).

STUDENT DEVELOPMENT (www.villanova.edu/studentdevelopment)

The Office of Student Development oversees the administration of over 100 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 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

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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 (www.villanova.edu/healthandwellness)

The Villanova University Student Health Center (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. The Health Center is located in the Health Services Building, second floor.

UNIVERSITY SENATE

The University Senate is an advisory group to the University President and the Board of Trustees on policy. Representation includes faculty, administration, and students. The Senate meets at least three times each semester.

VETERANS (www.registrar.villanova.edu)

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

(www.villanova.edu/enroll/admission)

GENERAL POLICY ON ADMISSIONS

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

The criteria used to assess academic potential are: the scholastic record as reflected by 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 I and ACT; participation in extracurricular and community service activities; guidance counselor recommendation; and the student essay.

Students are selected wholly 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 members, athletes, and to residents of geographical areas not strongly represented in the student body.

In conjunction with the State of Pennsylvania, Villanova University considers applicants from Pennsylvania for admission under its Act 101 (Academic Advancement Program). The purpose of the act is to provide an educational opportunity for students from Pennsylvania who meet the academic and economic criteria established by the Higher Education Opportunity Act of 1971, legislatively designated and publicly known as ACT 101. Interested and eligible applicants should note their desire to be considered for the Program on their application for admission.

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.

College of Liberal Arts and Sciences

For Liberal Arts Curriculum:

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

For Science and Mathematical Sciences Curricula:

English	4	Foreign Language	2
Chemistry	1	Physics	1

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Mathematics	4	Electives	4
 College of Commerce and Finance			
English	4	Science	1
History	2	Electives	5
Mathematics	4		
 College of Engineering			
English	4	Physics	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	Botany	1
Biology	1	Zoology	1
Physics	1		

HEALTH AFFILIATION PROGRAM (www.healthprofessions.villanova.edu)

Villanova University has Health Science Affiliation programs with a number of institutions including the Drexel University School of Medicine, Thomas Jefferson University College of Health Professions, the University of Pennsylvania School of Dental Medicine, and the Pennsylvania College of Optometry. Applications to these programs must be received by the Office of University Admission no later than November 1. SAT I or ACT must be taken no later than October of the senior year. These programs are not available to transfer students.

EARLY ACTION

Early Action admission is awarded to those exceptional students who have outstanding high school records and correspondingly high SAT I 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 SAT I or ACT scores taken prior to 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 of the senior year. Early Action selectees will be notified by December 20. These applicants need not apply only to Villanova. Unsuccessful applicants will also be notified, and will be included in the

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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 file their credentials any time after 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 judged on the basis of their three-year high school record (to include senior mid-year grades) and their scores on the College Board SAT I or ACT taken by 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 action: acceptance, waiting list, denial, scholarship award, loan assistance, and/or grant-in-aid. To secure a place in the class, accepted students must submit a non-refundable deposit of \$700 deposit postmarked no later than May 1. Notification of acceptance is made to applicants to the College of Nursing on a rolling admission basis after January 15.

Students who are admitted as resident students and pay the \$700 deposit by May 1st are guaranteed three consecutive years (freshman, sophomore and junior) of on-campus housing.

APPLICATION PROCEDURE

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

- ❑ Obtain the Preliminary Application for Undergraduate Admission from the Office of University Admission, Villanova University, Villanova, PA 19085 (1-610/519-4000) or on-line at www.villanova.edu/enroll/admission.
- ❑ Upon receiving the Preliminary Application, the candidate must complete it, sign it (along with a parent or guardian), submit a completed copy of the Common Application, enclose a non-refundable \$70 application fee, and forward it to the high school guidance counselor. The completed application must be received by Villanova no later than January 7 for Regular Decision consideration.
- ❑ Take the SAT I or ACT no later than December of the senior year (for regular decision) and have the results sent to Villanova University (CEEB Code 2959).

Students accepting the University's offer of admission, including ROTC candidates, are advised to send their registration deposits by check, credit card, or money order payable to "Villanova University" as soon as possible. All deposits must be postmarked no later than May 1. The deposit is non-refundable and is applied toward the student's first semester account. Incoming freshmen designated with residency status who accept an offer of admission by submitting deposits postmarked no later than May 1 are guaranteed on-campus housing for three consecutive years (freshman, sophomore and junior).

Candidates for Early Action follow application procedures as given above, except that:

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- ❑ The completed application must be received by Villanova on or before November 1.
- ❑ SAT I or ACT must be taken no later than October of the senior year and the results sent to Villanova University.

Information on admission requirements and procedures for Part-Time Studies can be found in the Part-Time Studies section of this Catalog.

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 semesters.

The transfer applicant must submit complete transcripts of secondary school and college records, a list of courses in progress, a catalog describing courses completed at the college-level institution, evidence of honorable withdrawal (Transfer Applicant Evaluation), 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. Students interested in transferring into the College of Nursing must have maintained at least a 2.50 cumulative grade point average.

Transfer credit towards undergraduate degrees will, in general, be granted for appropriate academic work completed with a grade "C" (2.0) 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. With the permission of the College Dean, study as part of an approved International Studies program may count towards the residency requirement.

Candidates for admission from junior colleges, community colleges, or institutes are judged by the same regulations pertaining to applicants from four-year institutions. Credits will be granted, as above, for appropriate courses completed in a two-year program, provided that the institution is regionally accredited or a candidate for such accreditation. Transfer students from two-year programs should note that graduation after two years of study at Villanova cannot be guaranteed because of the complexities of scheduling and the fulfillment of the requirements of Villanova's program.

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

PRE-MATRICULATED COLLEGE CREDIT STATEMENT

College-level work done prior to high school graduation may be awarded transfer credits upon receipt of the following: (1) an official letter from the high school principal or guidance counselor 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. 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 accepted 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 acceptance, international students must fulfill all the requirements of immigration, and achieve a minimum score of 213 on the Test of English as a Foreign Language (TOEFL).

All undergraduate international students should note that they must pay a non-refundable tuition deposit determined by the Office of University Admission after acceptance and submit a certification of finances form prior to the issuance of the I-20 form. Need-based financial aid is available to international students from University sources on a limited basis. Also see the section above on International Students and Human Services.

ADVANCED PLACEMENT PROGRAMS

Villanova recognizes advanced placement from The College Board advanced placement program (AP) and from the International Baccalaureate Program (IB). Students who have taken these courses should report to their College Dean's office to verify Villanova's receipt of the scores, and 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 but without a grade. In some cases, the advanced placement course will 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; Commerce and Finance test 68, Nursing, tests 07, 25, 31, 43, 66, 68, 80, 82. Chemistry majors only receive credit for a score of 5 in test 25.

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The following IB courses will receive Villanova credit if a student receives a score of 6 or 7: Anthropology; Biology; Chemistry; Computer Science H L; 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, 2005-2006

UNDERGRADUATE COLLEGES AND PROGRAMS

TUITION (Per Year) ¹

College	First, Second & Third Year Students	Fourth Year Students
Arts	\$28,450	\$26,480
Commerce and Finance (includes laptop)	\$29,640	\$27,800
Science and Nursing	\$28,450	\$27,150
Engineering (includes laptop)	\$30,480	\$27,670

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FEES

Application Fee (Non-refundable)	\$70
Tuition Deposit (Non-refundable) (Deposit due upon acceptance; credited to account upon registration)	\$700 (\$250 for commuters)
Orientation Fee (New Students only)	\$125
Student Health and Wellness Fee	\$125/semester
General University Fees	\$150/semester
Room (Depending on Accommodations)	\$2,155-3,130/semester
Board (Depending on Meal Plan)	\$1,105-2,360 (\$575-920 for commuters)/semester
Reinstatement Fee	\$250
Late Payment Fee ²	\$100
Returned Check Charge	\$25
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.

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, 2005-2006

Application Fee (Non-refundable)	\$25
Tuition (Evening Courses Only):	
Liberal Arts, Education	\$395 (per credit)
Science, Nursing, Non-matriculated, Visitors, Post graduates	\$395 (per credit)
Commerce and Finance ¹	\$425 (per credit)
Tuition (Day Courses Only 1-11 Credits) ²	
Liberal Arts	\$605 (per credit)
Commerce & Finance	\$630 (per credit)
Science, Nursing, Non-matriculated, Visitors, Post graduate	\$605 (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	\$25
Parking Fee ⁵	\$50

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 at the applicable full-time undergraduate school rates. These rates are 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.

REFUNDS

Refunds as a result of official withdrawal will be made according to the schedule listed below. Activities, 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 week of class that they will not enroll are entitled to a full refund.

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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

FINANCIAL ASSISTANCE

(www.finaid.villanova.edu)

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.finaid.villanova.edu).

Presidential Scholarships. Villanova University offers four-year full-tuition Presidential Scholarships to every incoming class based exclusively on academic merit. The scholarship selection committee also considers each applicant on the basis of his or her essay, interview, and high school and community involvement. Candidates who are selected as finalists and who are interviewed for the Presidential Scholarship but not selected as recipients, will be awarded a \$12,500 Villanova scholarship. Selections are based exclusively on merit, without regard for race, religion, gender, financial need, or secondary school.

Villanova Scholarships. Each year candidates to each of the four colleges are reviewed by a scholarship committee in order to identify recipients of the Villanova Scholarship. The scholarship selection committee also considers each applicant on the basis of his or her essay, interview, and high school and community involvement. This competitive program provides partial tuition scholarships that are renewable for a total of eight regular semesters. Villanova Scholars awards must be used for tuition only.

Commuting Scholarships. Partial tuition scholarships are awarded each year to outstanding students commuting from their families' homes. Commuting Scholars awards must be used for tuition only.

Presidential Scholarships for Underrepresented Students. Villanova University seeks students of diverse social, racial, economic and educational backgrounds. Each year, based on the recommendation of the Scholarship Committee, students historically underrepresented within the Villanova University community, and show evidence of their ability to make significant and diverse contributions to the academic and social culture of the University, are offered the Presidential Scholarship for Underrepresented Students. This renewable award covers full tuition, textbooks, room and board charges for the eight

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consecutive semesters. Students who wish to apply should contact the Office of Multicultural Affairs at 610-519-4075 for the Scholarship application. The application deadline is the last Monday in January.

St. Martin de Porres Grant. Villanova University provides grants valued at full tuition for traditionally underrepresented students from the Greater Philadelphia area. To be eligible for consideration, students must have exemplary high school records, correspondingly high SAT I 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.

McNair 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 on the Sixteenth Street Baptist Church in Birmingham, Alabama. This Scholarship, valued at full tuition for eight consecutive semesters, will be awarded every four years to an entering freshman 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. Candidates should have an exemplary high school record and correspondingly high SAT or ACT scores

STUDENT FINANCIAL AID

To apply for all types of student aid, prospective students must file the Free Application for Federal Student Aid (FAFSA) and the Villanova University Institutional Financial Aid Application. The FAFSA can be obtained from the high school guidance counselor or on the web at www.fafsa.ed.gov. Students wishing to complete the FAFSA on the web must request a PIN from the US Department of Education at least three weeks prior to completing the FAFSA. The student and at least one parent must have a PIN to file electronically. PINS may be requested from the US Department of Education at www.pin.ed.gov. The Villanova University Institutional Financial Aid Application can be downloaded from the financial assistance website at www.finaid.villanova.edu. To receive priority consideration for financial aid, applicants must file the FAFSA 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 (no schedules are required), W-2 forms and the Villanova University Institutional Financial Aid Application must be submitted to the Office of Financial Assistance by February 7th. All returning undergraduate students wishing to reapply for financial aid must file the Renewal FAFSA. Returning students who are new financial aid applications must file an original FAFSA. Applicants who are not Pennsylvania residents should file the appropriate application for State Grant consideration in their home state. All returning students must also 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) with signed copies of the student's and custodial parents, and stepparent's (if applicable) prior year U.S. or Puerto Rico Tax Returns and W-2 forms by April 21. Late applications will be aided only if funds remain available.

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Throughout the application process students are encouraged to check on the completeness and status of their application via NOVASIS. Additionally, award eligibility is posted to NOVASIS. The Office of Financial Assistance will notify students of their aid eligibility electronically. Students will be sent an email indicating their award is available to be viewed on NOVASIS.

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 1-610-519-4010, fax 1-610-519-7599 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 is committed to help meet the needs of families whom the federal need analysis determines cannot afford the full cost of a Villanova education with fair and equitable 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 in full time (minimum of 12 credits per semester) in the day college in an undergraduate degree program and pursuing their first baccalaureate degree. Villanova University Grants are awarded for four academic years (eight terms) and are not applicable for the summer term. All Villanova students must apply for need-based financial aid to be considered for this program. This award can be applied only to charges billed by Villanova University. Villanova University Grants are awarded for four academic years (eight terms) and are not applicable to the summer term.

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.

Federal Supplemental Educational Opportunity Grant (SEOG). This is a federal grant administered by the University based on financial need. Only undergraduate degree candidates are eligible. All Villanova students must complete the Villanova University Institutional Financial Aid Application and an initial FAFSA or the Renewal FAFSA to be considered for this program.

Federal Perkins Loan. This is a federal loan based on financial need for students accepted/enrolled in an undergraduate or graduate degree program. All Villanova students must complete the Villanova University Institutional Financial Aid Application and an initial FAFSA or the Renewal FAFSA to be considered for this loan 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. No credits will be placed in the student's account in the Bursar's office until all documents, including the Master Promissory Note, have been completed by the student borrower and returned to the Office of Financial Assistance. A hold may be placed on a student's transcript if the student does not complete the exit interview or complete and sign all documents.

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

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must complete the Villanova University Institutional Financial Aid Application and an initial FAFSA or the Renewal FAFSA to be considered for this loan 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. No credits will be placed in the student's account in the Bursar's office until all documents, including the Promissory Note, have been completed by the student borrower and returned to the Office of Financial Assistance. A hold may be placed on a student's transcript if the student does not complete the exit interview or complete and sign all documents.

Federal Work Study (FWS). Federal employment program based on financial need for students who are accepted/enrolled in either an undergraduate or graduate degree program. All students must complete the Villanova University Institutional Financial Aid Application and an initial FAFSA or the Renewal FAFSA to be considered for this program. Students are given the choice to work on or off-campus 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.villanova.edu/enroll/finaid/studentjobs.htm).

PHEAA Grant. A Pennsylvania State Grant based on financial need for students who qualify for PA state residency and who are accepted/enrolled in an undergraduate program and enroll for at least six credits each semester. For State Grant consideration, students are required to file either an initial FAFSA or a Renewal FAFSA.

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 as to 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 or financial need, 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 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 Stafford Student Loan Program. An educational loan available to students accepted/enrolled on at least a half time basis in an undergraduate degree program. Students must complete a Master Promissory Note (MPN) from their lender or State Higher Education Assistance Agency. They must also file the Villanova University Institutional Financial Aid Application and an initial FAFSA or the Renewal FAFSA. Eligibility for a Federal Stafford 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 Federally Subsidized Stafford Student Loan. Students without remaining financial need will either need to make interest payments while enrolled or capitalize interest payments (i.e. add interest to the principal balance).

Repayment of the Federal Stafford 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 will be determined by the date of the student's first student loan. Disbursement will be made either through the issuance of check or electronic fund transfer (EFT). The loan check is made payable to both the student and the school and will be forwarded to the school in two equal disbursements. A guaranty fee and/or an origination fee, up to 4%, may be charged on each loan. The maximum loan amount per year is \$2,625 for freshmen, \$3,500 for sophomores, and \$5,500 for juniors and seniors. Funds to be delivered via EFT will be directly deposited into the student's billing account.

All first time, first year borrowers are subject to delayed disbursement of the loan for the fall term. This means that the fall disbursement of the Federal Stafford loan will not be credited to the student account until thirty days (30) after the start of the fall term.

Information regarding the Stafford Loan Application.

New Borrowers at Villanova University. Once aid eligibility is determined, each applicant will receive a notice of aid eligibility from the Office of Financial Assistance. Included in the notice will be the amount of Federal Stafford Student Loan that the student is eligible to receive. This notice of eligibility will initiate the loan process by creating an electronic loan application. As a result of the electronic loan application, all students will receive an MPN from American Education Services (AES).

If you are a first-time borrower at Villanova, you must complete a mandatory entrance interview which can be completed at www.pheaa.org.

If you previously borrowed a Stafford loan at another institution and used AES as the guarantor, use the AES note with Villanova University pre-printed on the MPN to complete the application process.

If you borrowed through a guarantor other than AES contact the guarantor or your previous lender for the MPN and forward the MPN to the Villanova University Office of Financial Assistance.

NOTE: You may reduce the loan amount printed on the MPN by changing the amount directly on the MPN.

Previous Villanova University Borrowers. Once aid eligibility is determined, each applicant will receive a notice of aid eligibility from the Office of Financial Assistance. Included in the notice will be the amount of Federal Stafford Student Loan that the student is eligible to receive. This notice of eligibility will initiate the loan process.

Students who borrowed during the previous academic year and had a loan processed through AES will receive a notice of eligibility directly from AES. A Master Promissory Note will not be required. Stafford loan proceeds will be transmitted via Electronic Funds Transfer (EFT) and credited to the student account at the beginning of each academic term.

Villanova Financing Option. The Villanova 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 education. The Financing Option offers the family the opportunity to combine Interest-Free Monthly Payment Options offered by the Villanova Tuition Payment Plan administered through Tuition Management Systems (TMS) with

low cost loan options such as the Federal Parent Loan for Undergraduate Students (PLUS) and the PNC Bank Villanova Loan Program.

Villanova Tuition Payment Plan. The Villanova 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. 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 Parents Loan for Undergraduate Students (PLUS). 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 is variable but will not exceed 9% interest and principal payments are monthly. The Federal PLUS Application and Master Promissory Note can be obtained from the Office of Financial Assistance. A Villanova University PLUS Application must also be completed. NOTE: For important information concerning aid payments and student rights and responsibilities, contact the Office of Financial Assistance.

The PNC Bank Villanova Loan. The PNC Bank Villanova Loan has been specially designed to provide a low interest loan program to students. This program may be used to bridge the gap between cost and traditional need-based and/or merit-based assistance. The PNC Bank Villanova Loan requires that the borrower (the student) and a co-signer be evaluated in order to determine if they meet the minimum standards of a credit check. Refer to the Villanova University Financial Aid website (www.finaid.villanova.edu) for the latest information regarding rates and terms of the loan or call PNC at 1-877-468-2155.

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 aid assistance. Listed below is the complete statement of Minimum Standards for Satisfactory Academic Progress for Financial Aid Recipients.

Villanova University Academic Maximum Time Frames for Completing Degree Requirements.

- Students are expected to complete their program of study (degree) in the number of semesters indicated in the catalog. Transfer students and students changing programs are placed in an appropriate semester on the basis of credits transferred. Such students are expected to complete their degree according to the remaining semesters in their program plus one additional semester to allow for scheduling difficulties.
- The maximum time frame for completing Associate degree requirements is three years for full-time students and six years for part-time students.

- ❑ The maximum time frame for completing Baccalaureate degree requirements is six years for full time students and twelve years for part time students. Transfer credits earned at other institutions that are applicable to the student's program of study will be considered in determining the student's maximum time frame for program completion.
- ❑ Students must make quantitative and qualitative progress toward their educational goals each academic year to receive financial aid. The academic year consists of two regular semesters and the summer sessions.

Quantitative Standards. Full time students must successfully complete a minimum of 24 credit hours each academic year. Students admitted in January must successfully complete a minimum of 12 credits during their first Spring semester.

Students enrolled on a three-quarter basis (9-11 credits per semester) must successfully complete a minimum of 18 credit hours each academic year.

Students enrolled on a half-time basis (6-8 credits per semester) must successfully complete a minimum of 12 credit hours each academic year.

Qualitative Standards. Students must maintain a Cumulative Grade Point Average (GPA) of 2.0 calculated at the end of the academic year in order to be considered a student in good standing.

Measurement of Academic Progress Requirements. Academic progress will be measured in May of each year. 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 failed to meet the qualitative and quantitative requirements for academic progress can attempt to complete additional credits and bring up their GPA during the summer sessions. Upon completion of the additional credits, a new determination of academic progress will be made.

Transfer students are evaluated for academic progress in May, after the first Spring semester attended at Villanova University. Students that transfer in for the Fall semester are evaluated on their academic performance during their first Fall and Spring semesters. Students that transfer in beginning with the Spring semester are evaluated on their performance during their first Spring semester.

All financial aid applicants are subject to the satisfactory academic standards regardless of whether or not they received financial aid previously.

Failures and withdrawals are courses attempted but not completed. Incompletes are not counted toward credits completed until after the coursework is successfully completed and posted by the Registrar. Repeat courses will not count toward credits completed for satisfactory academic progress since the credits were already counted toward the quantitative standards the first time the course was completed.

When Minimum Standards of Academic Progress Are Not Achieved. A student who does not make satisfactory academic progress will be placed on financial aid suspension until the requirements are met. The student will be notified in writing of the financial aid suspension.

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 achieving satisfactory academic progress.

The following types of mitigating circumstances may be considered when a student appeals: extended illness, death in the family, and changes in educational objective. The Office of Financial Assistance may request additional documentation and/or require a

personal interview with the student. After the review, the Office of Financial Assistance will notify the student in writing of the action taken.

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. At the end of the probationary semester, the Office of Financial Assistance will determine if academic progress requirements have been met. If requirements have been met, the probationary status will be removed. If academic requirements have not been met, the student will be placed on financial aid suspension.

Once financial aid has been discontinued, it will be reinstated provided:

- The student has successfully achieved the required number of credits and grade point average;
- The student has requested reinstatement in writing; and
- Funds are still available.

Reinstatement is not automatic. The student is responsible for making certain that the grades and credits completed have been properly posted with the Registrar prior to requesting reinstatement of financial aid. Students are encouraged to file all financial aid application forms by Villanova University's established deadline so that once reinstatement has been achieved, he or she can be considered for aid as quickly as possible.

A student who is denied aid based on qualitative or quantitative standards will be considered for aid when standards have been achieved. Under no circumstances will aid be awarded retroactively to the semester(s) in which standards were not met.

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 Stafford Student Loan, Federal Parent Loan for Undergraduate Students [PLUS]) 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 Stafford Loan
- Subsidized Federal Stafford Loan

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Federal Perkins Loan
Federal 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 an INS district director;
- An official statement granting asylum in the US: or

Other proof from the U.S. Immigration and Naturalization Service 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). Beginning with the 2005-2006 academic year limited need-based University funds are available to International Students. For completed application information check the International Students website at www.villanova.edu/enroll/financial/international.htm.

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 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 from the IRS form; 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 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 and W-2 forms.
- (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, a signed non-tax filer statement and copies of all W-2 forms must be submitted. Non-taxable income verification such as VA Benefits, Social Security Benefits for all household members and Public Assistance Letters must be submitted to the Office of Financial Assistance.
- Villanova University Institutional Financial Aid Application.

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 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.

Class Rank. A student's rank in class is determined by the cumulative quality-point average, which is computed each July for Juniors and Seniors. The rankings for seniors will appear on the transcript. Only credits earned with Villanova University or in formally approved inter-institutional programs will be considered in determining the

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cumulative quality-point average. Credits and grades earned in the summer at other colleges are not counted in the quality point average.

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

Academic 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 limited to a schedule of four courses.

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 year with a new start on the cumulative average (though a record of the year's work will remain on the transcript).

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. A copy of the procedures is also available on request from the Academic Affairs Office, 103 Tolentine Hall, (610/519-4520).

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.

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: 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. A student who violates the academic integrity code in a course will receive an F for the assignment or a more severe penalty up to an F for the course. In addition, the student will be expected to complete an educational program, supervised by the student's college dean, to help the student come to a fuller understanding of academic integrity. For the second

offense, the student will be dismissed from the University and a record of the reason for dismissal will be retained in the student's permanent file and will appear on the student's official transcript. A student who commits an academic integrity violation outside of a specific course will receive a penalty determined by the dean of the student's college.

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 and deans.

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

DISCLOSURE OF STUDENT RECORDS

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: (1) disclosure of directory information; (2) confidentiality of personally identifiable information; and (3) student rights to inspect, review and seek amendment of their records.

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; address (local, home or electronic mail); telephone number; photograph; date and place of birth; major field of study; dates of attendance; degrees 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 the appropriate office, in writing, at the time the information is originally sought.

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

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The University will generally not disclose personally identifiable information to third parties without the written consent of the student. The 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, or in the following circumstances:

- 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 President, Vice Presidents, Deans, Directors, Department Chairs, Faculty Members, NROTC Commanding Officer, General Counsel, Deputy General Counsel, Judicial Officers, Counselors, Resident Advisers, Coaches and Admissions Officers. University officials also include individuals employed by or under contract to the University to perform a special task, such as an attorney or auditor, and individuals acting as official agents of the University who are performing a service on behalf of the University.
- Officials of other educational institutions to which the student seeks or intends to enroll (on condition that the student upon request is entitled to a copy of such records).
- Appropriate federal, state or local officials or authorities, consistent with federal regulations.
- Organizations conducting studies for, or on behalf of, educational agencies or institutions.
- Accrediting organizations to carry out their accrediting functions.
- Parents of a dependent student as defined in Section 152 of the Internal Revenue Code of 1986.
- Parents or guardians of a student, 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.
- In connection with the student's application for, or receipt of financial aid.
- 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).
- In case of an emergency, to protect the health or safety of students or other individuals.

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. 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.

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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.
- 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 not disclosed to anyone other than the individuals providing the treatment. These records may be reviewed, however, by a physician or other appropriate professional of the student's choice.
- Financial records of the parents of the student or any information contained in those records.
- 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.
- Institutional records of students which may be maintained by the University in a computer printout or similar format (so long as this computerized information is not intended to be distributed outside the University), as long as the original source of computer information is available in the office or department having original jurisdiction for the records.
- Records that only contain information about a person after that person was no longer a student at the University (e.g., information collected by the University pertaining to accomplishments of its alumni).
- Those portions of a student's records that contain information on other students.

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.

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 20202-4605. Students are encouraged to bring any complaints regarding the implementation of this policy to the attention of the General Counsel.

FINAL EXAMINATIONS AND CONFLICT

Final examinations are given in virtually all courses at a time and place designated. NOTE: It is the student's responsibility to contact the professor within 48 hours if an examination is missed. Provisions exist to alleviate scheduling problems caused by conflicts; i.e., if two of a student's examinations are scheduled at the same time or if three of his/her examinations are scheduled on the same day.

In the event of a conflict, the student must request in advance that a special examination be given by one of the instructors in accordance with the following directions.

- Group departmental examinations should take precedence over any other.
- Major or required courses should take precedence over electives.
- A regular course should take precedence over a repeat or make-up course.
- Extraordinary difficulties encountered in effecting such an arrangement will be resolved by the Dean of the respective college.

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 within two weeks of its receipt; otherwise, the record will stand as it is.

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.

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A-	
B+	
B	denotes achievement considerably above acceptable standards. Good mastery of course material is evident and student performance demonstrates a high degree of originality, creativity, or both. The grade indicates that the student works well independently and often demonstrates initiative. Analysis, synthesis, and critical expression, oral or written, are considerably above average.
B-	
C+	
C	Indicates a satisfactory degree of attainment and is the acceptable standard for graduation from college. It is the grade that may be expected of a student of average ability who gives to the work a reasonable amount of time and effort. This grade implies familiarity with the content of the course and acceptable mastery of course material; it implies that the student displays some evidence of originality and/or creativity, works independently at an acceptable level and completes all requirements in the course.
C-	
D+	
D	denotes a limited understanding of the subject matter, meeting only the minimum requirements for passing the course. It signifies work which in quality and/or quantity falls below the average acceptable standard for the course. Performance is deficient in analysis, synthesis, and critical expression; there is little evidence of originality, creativity, or both.
D-	
F	Indicates inadequate or unsatisfactory attainment, serious deficiency in understanding of course material, and/or failure to complete requirements of the course.
N	Incomplete: course work not completed.
S	Satisfactory: Assigned in Satisfactory/Unsatisfactory courses (work must be equivalent to C or better).
SP	Satisfactory Progress.
T	Transfer grade.
WX	Approved withdrawal without penalty.
W	Approved withdrawal with penalty.
U	Unsatisfactory: Assigned in Satisfactory/Unsatisfactory courses
AU	Audit.
Y	Unofficial withdrawal from course (or for freshmen, failure for excessive absences).
NG	(Or Blank): no grade reported.

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:

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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.

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. The reasons for student deficiencies are reported by the faculty member at mid-semester and at the end of the semester to the Dean of the student's college.

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. A normal scholastic load is defined by the program set forth in this catalog. Permission to take fewer than 12 credit hours or a course in excess of the normal load may be obtained in exceptional circumstances with the written approval of the Dean. All colleges require a 3.5 QPA (Engineering 3.00) for a student to be granted an overload.

TRANSFER OF CREDIT FROM ANOTHER UNIVERSITY

For students who are matriculated in degree programs at Villanova University and who seek to transfer courses taken at another university: (1) No 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. (2) 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. Effective for summer, 2006, students may not transfer back to Villanova the 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.

TRANSCRIPTS

Students may obtain transcripts of their records from the Office of the Registrar, Tolentine 202, either in person or by writing to the office. 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 Office.

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/calendar/), a student may withdraw from a course without penalty and will receive the grade of "WX." After that date, a student seeking authorized withdrawal without penalty must petition the Dean of his or her college, who has sole authority to grant withdrawals without penalty. Each college has different requirements, which may be found 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

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. Applications for withdrawal must usually be made by the end of the fourth week of school.

COLLEGE OF LIBERAL ARTS AND SCIENCES

Rev. Kail C. Ellis, O.S.A., Ph.D., Dean
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*Set love as the criterion of all that you say, and whatever you teach,
teach in such a way that the person to whom you speak, by hearing
may believe, by believing hope, and by hoping love.*

THE INSTRUCTION OF BEGINNERS by 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 sixteenth-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 thirteen 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

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College closed its doors on February 20, 1845. It was able to reopen in September, 1846, with a student population of twenty-four, and 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 fifty years of its existence, the College concentrated exclusively on the liberal arts, it nevertheless remained open to the changes in the curriculum which were required to meet the needs of the time and the demands for specialization. Responding to the demands of the medical profession for new requirements, for example, the College inaugurated its Sciences unit in 1915, and established as the standard premedical course, a four-year program leading to a Bachelor of Science degree in Biology.

Today, the College continues to offer a variety of educational programs which 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.

OBJECTIVES

The College of Liberal Arts and Sciences exists to provide an atmosphere of responsible learning to a varied group of students who will be 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 in its students, 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 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 which provide its 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 MISSION

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

- ❑ Achieve a synthesis of knowledge that provides a basis for informed judgement, not simply fact finding.
- ❑ Promote literacy as a foundation for intelligent discourse and the articulation of informed views.
- ❑ Advance 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. The educational program does not simply look to the past, but acknowledges that culture is vibrant and continuously redefined.
- ❑ Challenge students to understand that 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.
- ❑ Prepare students to become active participants within society, to engage in the process of informed political debate, to discover the impact of new technologies, and to encourage an understanding and appreciation of the diversity of cultures and experiences, a respect for the individual, and the development of a multicultural and international perspective.
- ❑ Encourage 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.

MISSION TO ITS STUDENTS FACULTY AND STAFF

The College strongly adheres to the principles of the University Mission Statement which 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 Statement. 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 Statement, 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 which makes open discussion and inquiry possible. It believes that 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, himself 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 which 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 will seek to ensure the best applicant pool possible. It will strive to retain students by offering excellent academic programs and by providing them with quality campus activities.

DEGREES OFFERED

The College of Liberal Arts and Sciences offers the Bachelor of Arts degree in Art History, Humanities, Classical Studies, Communication, Criminal Justice, Economics, English, French and Francophone Studies, Hispanic Studies, Italian, Liberal Arts, Geography, German, History, Honors Program, Human Services, Philosophy, Political Science, Psychology, Sociology, and Theology and Religious Studies.

A Bachelor of Science degree is offered in Astronomy and Astrophysics, Biology, Chemistry, Comprehensive Science, Computer Science, Secondary Education, Honors Program, Information Science, Mathematics, and Physics. The chemistry program is accredited by the American Chemical Society and the computer science program is

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accredited by the Computer Science Accreditation Commission of the Computing Sciences Accreditation Board, a specialized accreditation body.

The requirements for degrees in these majors may be found under the departmental listings contained in this *Catalog*. Students must earn an overall 2.0 grade point average. See the section on Majors and Interdisciplinary Concentrations for additional information related to degree programs.

In addition, the College of Liberal Arts and Sciences offers the following Interdisciplinary Concentrations: Augustine in Dialogue with Faith and Culture, Africana Studies, Arab and Islamic Studies, Cognitive Science, Criminal Justice, East Asian Studies, Environmental Studies, Education Elementary, Education Secondary, Ethics, Irish Studies, Latin American Studies, Military Science, Naval Science, Peace and Justice, Russian Area Studies, Women's Studies, and Writing and Rhetoric.

The College also offers minors in most of the fields listed above as well as Business, Chinese, Japanese and Theater. See the section on Majors and Interdisciplinary Concentrations for additional information for these offerings.

BACCALAUREATE DEGREE REQUIREMENTS

The requirements for a Bachelor of Arts or a Bachelor of Science degree are:

- ❑ A minimum of 40 courses of three credits or more and two labs (science degrees vary according to major), which includes the successful completion of the Core Curriculum (general core requirements and distribution requirements), an academic major, and electives.
- ❑ A minimum of 122 credits (science degrees vary according to major).
- ❑ A minimum grade point average (QPA) of 2.00.
- ❑ Residency requirement: the final 30 credits (senior year), at least half of all courses in one's major, and at least half of the courses required for the degree, must be taken at Villanova University. Students may complement their majors by taking one or more interdisciplinary concentrations, as described in the section on "Majors and Interdisciplinary Concentrations." With the permission of the College Dean, study as part of an approved International Studies program may count towards the residency requirement.

THE CORE CURRICULUM

OBJECTIVES

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 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. Fact learning alone is not enough to justify the existence of a Core Curriculum; rather the purpose of the core is to achieve a synthesis of knowledge that provides a basis for informed judgment. The Core also seeks to promote literacy as a foundation for intelligent discourse and the articulation of informed views.

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

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

SUMMARY OF CORE CURRICULUM COURSE REQUIREMENTS

Core Humanities Seminar	2 courses	Mathematics	1 course
College Ethics	1 course	Mathematics/Computer Science	1 course
Fine Arts	1 course	Philosophy	2 courses
Foreign Language	2 courses	Theology and Religious Studies	2 courses
History	2 courses	Social Sciences	3 courses
Literature	2 courses	Natural Science (with lab)	2 courses

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The courses listed above, courses required by the Major, and available electives must have attributes that include the following: five writing intensive courses which include a *sophomore year seminar*, three writing enriched courses, and two diversity courses.

EXPLANATION OF COURSE REQUIREMENTS

In general, once a sequence of courses is begun in a particular discipline, a student may not revert to a lower level course in that same discipline to fulfill a core requirement without prior approval from the Dean's Office. Courses or sections of courses that are approved to fulfill Core requirements are designated as such in the Pre-registration Master Schedule issued at pre-registration each semester. Retroactive approval of a course taken previously for fulfillment of a core requirement is not possible.

Courses that are counted towards the Core requirements cannot also be count towards the major requirements. For example, an English course taken to fulfill the Advanced Literature requirement cannot be counted towards the major requirements for English.

The Department of Humanities and Augustinian Traditions and the Honors program offer integrated, interdisciplinary curriculums. In some cases courses are designed to fulfill many of the general education requirements of the College of Liberal Arts and Sciences. Some offerings also offer alternative approaches to established courses in the Core Curriculum for the College of Liberal Arts and Sciences. *Consequently relevant Humanities and Honors courses will fulfill certain requirements for the Core Curriculum of the College of Liberal Arts and Sciences.*

LISTING OF CORE COURSE REQUIREMENTS

1) Core Humanities Seminars

The following two courses must be taken by all students during the first year of study:

CHS 1000Ancient, Medieval and Renaissance Thought

CHS 1001Modern Thought: Enlightenment to the Present

NOTE: Students are not allowed to drop or withdraw from Core Humanities Seminars courses without academic penalty.

2) College Ethics (1 course)

This course is normally taken during the sophomore year.

ETH 2050Ethical Traditions and Contemporary Life

3) Fine Arts (1 course)

Each student is required to take one course in Fine Arts. The purpose of the Fine Arts Requirement is to develop an understanding and appreciation of artistic creativity encompassing both the creative processes that go into making a work of art as well as analysis and interpretation of the products of that artistic creativity. Special designated courses in Theater, Studio Art, Art History, English and Communication (Rhetoric/Performance and Media/Film Studies) fulfill this requirement. Consult Novasis each semester at pre-registration time for a list of courses that will fulfill this requirement. Scroll down to the fine arts requirement under the Attributes window. **NOTE: Not all Studio Art courses meet the fine arts requirement.**

4) Foreign Language (2 courses in most cases)

There are three options that a student may choose to fulfill the foreign language requirement. NOTE: The credit value of language courses varies from three to six credits. Regardless of the number of credits, a language course only counts as one course. **Language Option A:** Students who choose languages listed below under Language Option A to fulfill the two course language requirement are required to complete at least two courses in the same foreign language *at or above the intermediate level*. All students who decide to continue their study of French, German, Italian, or Spanish from high school are required to complete the online language placement examination for the language in which they will enroll.

The online language placement examination consists of questions on vocabulary, grammar, and reading comprehension and generally takes about 25 minutes to complete. Based on the results of the test and a number of other factors (such as the number of years of study of the language in high school, study or time abroad, etc.) you will be placed by professors of the language of your choice. For important additional information on the online placement exam and to take the online examination, please refer to the following Website: <http://www.artsci.villanova.edu/langtest/>

Please note that if students choose a language listed below for Language Option A and *have never studied the language before* they must register for the first semester introductory course numbered 1111. They do not have to take the online placement examination. *But in this case they must successfully complete 4 semesters of that language-the two introductory courses and two intermediate courses from the Language Option A list below* in order to fulfill the language requirement.

Two courses in the same language from the following list fulfill the requirement of two courses at or above the intermediate level:

- FRE 1121/1122...Intermediate French I and II
- FRE 1131/1132...Conversation and Composition I and II
- GER 1121/1122...Intermediate German I and II
- GER 1131/1132...Conversation and Composition I and II
- ITA 1121/1122...Intermediate Italian I and II
- ITA 1131/1132...Grammar & Composition and Conversation & Comp.
- SPA 1121/1122...Intermediate Spanish I and II

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SPA 1131/1132...Conversation and Composition I and II

LAT 2031/2032 ..Intermediate Latin I and II

Language Option B: The two course language requirement may also be satisfied with two semesters of study at the introductory level for Arabic, Chinese, Greek (ancient), Japanese or Russian as follows:

ARB 1111/1112..Intensive Basic Modern Arabic I and II

CHI 1111/1112 ...Intensive Basic Chinese I and II

GRK 1001/1002..Introductory Greek (Ancient) I and II

JPN 1111/1112 ...Intensive Basic Japanese I and II

RUS 1111/1112 ..Introductory Russian I and II

Language Option C: International students (for whom English is a second language) *may choose* to fulfill their language requirement in their native language by taking *two advanced literature* courses in the language. Or they may choose to fulfill the language requirement by taking a *total of four English courses* (ENG-1050 and three advanced literature courses at the 2100 level or above) to fulfill both the literature and foreign language core requirements. International students always have the option of selecting a third language for study.

5) History (2 courses)

- HIS 1040.....Themes in Pre Modern World History, or
HIS 1050.....Themes in Modern World History
- A second history course, with a course number of 2000 or higher, chosen from the History departmental course offerings.

6) Literature (2 courses)

- ENG 1050.....The Literary Experience
- A second English literature course, with a course number of 2100 or higher, chosen from the English departmental course offerings, or a literature course in another language offered by the Department of Classical and Modern Languages.

7) Mathematical Sciences/Computing Sciences (2 courses)

- Two courses from the Department of Mathematical Sciences (MAT) **or**
- *One course* from the Department of Mathematical Sciences and *one course* from the Department of Computing Sciences (CSC).

All courses for which a student has the appropriate pre-requisites or equivalent experience may be used to satisfy this requirement. Beginning a course in a particular series does not obligate a student to finish that series. For example, a student taking MAT 1320 (Calculus I for the Liberal Arts) is not required to take MAT 1325 (Calculus II for the Liberal Arts). **NOTE: Students intending to apply to medical, dental or veterinary medicine schools must take two semesters of Calculus. For additional**

information, contact Dr. Friede (Health Professions Advisor, x94833) Students anticipating a Business Concentration should take Introductory Statistics: MAT 1230 and 1235.

8) (2 courses)

- PHI 1050.....Introduction to Philosophy
- A second philosophy course, with a course number of 2000 or higher, chosen from the Philosophy departmental course offerings. Education Majors may count EDU 4290, Philosophy of Education fulfilling their upper level Philosophy requirement .

9) Theology and Religious Studies (2 courses)

- THL 1050, or 1051 Christian Theology: An Introduction or Christianity in History
- A second Theology and Religious Studies course, with a course number of 2000 or higher, chosen from the Theology departmental course offerings.

NOTE: THL 1050 and THL 1051 are academic presentations of Christian thought and historical impact suitable for any student. In special cases courses such as the following may be substituted to fulfill the requirement with the permission of the Dean.

THL 5100The Heritage of Judaism

THL 5170.....Islamic Philosophy and Theology

THL 5270.....The Buddhist Tradition

THL 5285.....Religion in India and Southeast Asia

10) Social Sciences (3 courses)

Each student is required to take *three social science courses*; one introductory course in each of two distinct disciplines, and one advanced course (2000 level or above) in one of those two disciplines. The Social Sciences disciplines are: Criminology, Economics, Geography, Political Science, Psychology, and Sociology.

11) Natural Sciences (2 courses with 2 labs)

Each student is required to complete two semesters of natural sciences with accompanying laboratories *by the end of the sophomore year*. Each student may choose Option A or Option B as described below:

Natural Sciences Option A. A year-long sequence (two courses with two labs) in one scientific discipline usually consisting of an introductory course followed by a theme course for which an introductory course is a prerequisite. *These courses have been designed for non-science majors.* The following sequences may be used to satisfy this option:

Natural Sciences Option A: Sequence 1

- AST 1050/1051 Planet Earth I and Lab

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and

- AST 1052/1053Planet Earth II and Lab

Natural Sciences Option A: Sequence 2

- AST 1072/1073 The Birth and Death of Stars and Lab

and

- AST 1074/1075 Planetary Skies and Landscapes and Lab

Natural Sciences Option A: Sequence 3

- BIO 1505 Biology for Today

and

- One of the following Theme Courses:

BIO 1605 Heredity and Human Affairs

BIO 1625 How Microbes Rule The World

BIO 1655 Human Physiology: Body Works

BIO 1705 Life in the Sea

BIO 1785 Special Themes in Biology

NOTE: Offerings will vary from year to year. The required BIO 1505 is an introductory survey course that is suitable for any student. In special cases, a Theme course may be substituted for this course with permission from the Dean.

Natural Sciences Option A: Sequence 4

- BIO 1600-1899

and

- Any two Biology theme courses numbered between 1600 and 1899 taken in consecutive semesters.:

Natural Sciences Option A: Sequence 5

- CHM 1050/1001 Chemistry Themes: Foundations and Lab

and

- One of the following theme courses:

CHM 1054/1004..... Chemistry Themes: Environmental Chemistry/Lab

CHM 1057/1007..... Chemistry Themes: Criminalistics and Lab

Natural Sciences Option A: Sequence 6

- ENV 1050Environmental Science I

and

- ENV 1051 Environmental Science II
Courses required for Environmental Studies Concentration

Natural Sciences Option A: Sequence 7

- PHY 1050 Nature's Laws I

and

- PHY 1052.....Nature's Laws II

Natural Sciences Option A: Sequence 8

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- PHY 1020/102Great Ideas in Physics: Aristotle to Einstein I & Lab
and
- PHY 1022/1023.....Great Ideas in Physics Aristotle to Einstein II &Lab

Natural Sciences Option B. A year-long sequence (two courses with labs) in one scientific discipline. These courses are generally taken by science majors. The following course sequences satisfy this option:

Natural Sciences Option B: Sequence 1

- AST 2121/2133Solar System Astronomy and Lab
and
- AST 2122/2134Galaxies and Cosmology and Lab

Natural Sciences Option B: Sequence 2

- BIO 2105General Biology I and Lab
and
- BIO 2106General Biology II and Lab

Natural Sciences Option B: Sequence 3

- CHM 1131/1103General Chemistry I and Lab
- CHM 1134/1108General Chemistry II and Lab

Natural Sciences Option B: Sequence 4

- CHM 1151/1103General Chemistry I and Lab
and
- CHM 1152/1104General Chemistry II and Lab

Natural Sciences Option B: Sequence 5

- PHY 2410/2411University Physics: Mechanics and Lab
and
- PHY 2412/2413University Physics: Electricity and Magnetism
and Lab
or
- PHY 2414/2415University Physics: Thermodynamics and Lab

CORE CURRICULUM DISTRIBUTION REQUIREMENTS

In addition to satisfying the curricular requirements listed above, students are required to satisfy certain distribution requirements. The distribution requirements may be satisfied by courses used to satisfy either core, major or elective requirements. Additionally, a single course may satisfy more than one of the distribution requirements.

1) Writing Requirement (8 courses)

Each student must take at least five courses that are designated as *Writing Intensive*, and at least three additional courses that are designated as *Writing Enriched*. These designations will appear in the Master Schedule available during pre-registration each semester.

NOTE: *The Core Humanities Seminars (CHS 1000 and CHS 1001) the Introductory Literature course (ENG 1050m and the Research Seminar fulfill four of the five Writing Intensive course requirements. The fifth Writing Intensive course requirement is to be taken in the student's major area. College Ethics (ETH 2050) fulfills one of the three Writing Enriched requirements.*

Writing Intensive Course Characteristics

- At least 20 pages of assigned writing, a portion of which should be polished prose reflecting disciplinary conventions
- Much of the writing for the course is the result of a revision process involving discussion and un-graded evaluation of student texts
- A significant portion of class time is devoted to disciplinary prose
- Writing intensive courses are limited to 16-22 students

Writing Enriched Course Characteristics

- At least 10 pages of writing in response to at least two assignments
- At least one revision in response to evaluative feedback on rough drafts
- At least some attention to rhetorical dimensions of the disciplines

2) Integrative Sequences. (2 sequences of 2 courses each) Integrative courses enable a student to examine a topic or theme from the perspective of several disciplines. One of these sequences is to be in the humanities and the other is to be in the sciences. The two Core Humanities Seminars fulfill the former and the Natural Science core requirement fulfills the latter.

3) Research Seminar. A writing intensive seminar normally taken during the sophomore year. Each seminar focuses on a particular topic, theme or author. Science majors normally fulfill this requirement through one of their laboratory courses. Emphasis on appropriate research methodologies leading to a final research project. This seminar will usually fulfill a core distribution requirement or an elective.

4) Diversity Requirement (2 courses). Each student is required to select one course in *two* of the following three areas:

- Diversity (1): Courses which provide a focus on studies emphasizing ethnic and minority experiences in the United States
- Diversity (2): Courses which provide a focus on women's experiences and highlight the ways in which gender influences experience.
- Diversity (3): Courses which 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.*

SPECIAL PROGRAMS

ACADEMIC SEMINARS IN WASHINGTON, D.C.

Villanova University in conjunction with the Washington Center sponsors intense two week academic seminars in the District of Columbia in January, May and August. Seminars do not interfere with the University calendar. Upon successful completion of the program, three elective credits are awarded the students. Program details are available in the Internship Office, 451 St. Augustine Center (610/519-4661).

NROTC (www.nrotc.villanova.edu)

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 mission of the NROTC program is to develop midshipmen morally, mentally and physically, and to imbue them with the highest ideals of duty, honor and loyalty. They must possess a basic professional background, be motivated towards a career in the Naval Service and have a potential for future development in mind and character so as to assume the highest responsibilities of command, citizenship and government. Commissions as Ensign or 2nd Lieutenant are awarded upon successful completion of prescribed naval science courses and graduation from the University. These commissioned officers will serve on active duty for a minimum period of four to ten years, depending upon choice of warfare specialty.

Participation in the NROTC Unit is through either the Scholarship or College Programs. Students in the NROTC Scholarship Program (national selection competition) receive a substantial subsidy from the Navy, including tuition, books, and fees. A monthly subsistence allowance is also provided as follows: Freshman \$250 Sophomores \$300, Juniors \$350, and Seniors \$400. Midshipmen participate in three summer cruises on board various naval ships and installations and receive active duty pay while on these cruises.

NROTC College Program students (Non-Scholarship) apply directly to the Villanova NROTC Unit, usually prior to or early in the fall semester of their freshman year. Students in the College Program receive no government subsidy until their junior

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and senior years, during which they receive a monthly subsistence allowance of \$350 for Juniors and \$400 for Seniors. They participate in one summer cruise and receive active duty pay while on cruise. Scholarships are available each year to those NROTC College Program students who stand at or near the top of their College Program class in terms of overall academic performance and aptitude for commissioned service. The Professor of Naval Science nominates College Program students for these scholarships with the selection being made by the Commander, Naval Service Training Command (NSTC).

In addition to the four-year programs described above, two-year NROTC Scholarships and two or three year Tweeddale Scholarships are available. Both may be offered to college students who have not previously participated in an ROTC or Service Academy commissioning program. Tweeddale is a specialized scholarship designed to attract students in technical majors, engineering specialties in particular. Students must apply for these programs early in the spring semester of their sophomore year (or as early as the spring semester of their freshman year for Tweeddale Scholars). Application packages are normally due to NSTC by 31 March each year. Those selected for the two-year programs must successfully complete a six-week training course at Newport, RI, during the summer preceding their junior year. Upon enrollment in the NROTC Program at the beginning of their junior year, two-year program students have the same benefits (tuition, books, fees and stipend), and assume the same active duty obligation, as four-year program students.

All Scholarship and College Program students may select any major at the University; however, a shift in Navy Policy has placed great emphasis on students who excel academically in technical majors and some foreign languages. Midshipmen at Villanova study in a wide variety of majors in engineering, arts, sciences, business, and nursing. Detailed NROTC information may be obtained from the Naval Science Office, Room 103, John Barry Hall.

NOTE: Applicants for the NROTC Program are not relieved of the necessity for payment of the registration deposit required by their letter of acceptance for admission to Villanova University.

ARMY ROTC (<http://www.widener.edu/rotc>)

Villanova students are eligible to participate in the Army Reserve Officers' Training Corps (ROTC) Program through a partnership agreement with the Widener University Department of Military Science. Army ROTC offers students the opportunity to graduate with a college degree and commission in the United States Army, Army National Guard, or United States Army Reserve. All Army ROTC classes are conducted on the Villanova University campus.

The Army ROTC Program involves undergraduate courses taken during the freshmen and sophomore years, and advanced courses taken during junior and senior years. Students may enroll in the introductory courses without incurring any military or financial obligation and may withdraw at any time, subject to Villanova University's course withdrawal policy. Students who participated in Junior ROTC in high school or have prior military service may receive placement into the advanced courses as determined by the Army Professor of Military Science. The introductory course requirements may also be satisfied through attendance at the 28-day Leader's Training Course (LTC) at the end of the sophomore year. Students in the advanced courses are

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required to attend the 33-day Leadership Development and Assessment Course (LDAC) between their junior and senior years. Students enrolled in the advanced courses receive a stipend of \$350 to \$400 per month and may incur an active duty obligation of up to three to four years. National Guard and Reserve Forces options are also available.

Nursing students who complete the four-year or two-year program, obtain their Nursing Degree, and pass the Nursing Board Examinations are commissioned into the Army Nurse Corps.

Four-year, three-year, and two-year Army ROTC scholarships are available on a competitive basis. Scholarships pay up to \$20,000 per year for tuition, \$900 annually for books, and a tiered \$250-400 per month stipend. Additionally, up to five four-year scholarship winners receive full tuition payments through an agreement with Villanova University.

Applications for the three-year Army ROTC scholarships should be submitted early in the spring semester of the freshman year; applications for the two-year Army ROTC scholarships should be submitted early in the sophomore year. Applications for attendance to the LTC must be submitted early in the spring semester of the sophomore year.

Detailed information may be obtained from the Scholarship and Enrollment Officer, Widener University, Chester, PA 19013, (610) 490-7035 / 4098 or by the Villanova Campus Army ROTC representative at 610-519-5953.

AIR FORCE ROTC (www.det750.com/)

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

The program of Aerospace Studies offers a one to four year curricula leading to a commission as a Second Lieutenant in the Air Force. Students are under no contractual obligation to the Air Force until they accept an Air Force scholarship as sophomores or higher or enter the Professional Officer Corps.

Air Force ROTC offers 1, 2, 3 and 4 year scholarships on a competitive basis to qualified applicants. Four-year scholarships are available to high school seniors in various fields. The scholarships are offered to cadets enrolled in the AFROTC program and to college entrants to AFROTC. All scholarships cover tuition, lab fees, reimbursement for books, plus a \$250-\$400 tax-free monthly stipend, depending on academic year.

Detailed information may be obtained from the Professor of Aerospace Studies, AFROTC Det 750, Saint Joseph's University, Philadelphia, Pennsylvania 19131, (610) 660-3190.

BUSINESS MINOR PROGRAM

Students in Liberal Arts and Sciences may take courses leading to a business minor. Information on the business minor is available from the College of Commerce and

Finance, and the program is described in more detail in the Commerce and Finance section of this *Catalog*. *NOTE: Students in the Business Minor are required to purchase a notebook computer, approved by the College of Commerce and Finance (call 610/519-4334 for more information).*

ELEMENTARY EDUCATION CERTIFICATION – ROSEMONT COLLEGES

Villanova, in cooperation with neighboring Rosemont College, offers students a program leading to a Pennsylvania-approved program in elementary education certification. Students planning to teach are admitted to the teacher certification program in the sophomore year after interviews and scholastic averages indicate they have the acceptable qualifications. A Villanova student may be recommended for certification in elementary education by Rosemont College by satisfactorily completing (1) all major and core requirements of Villanova University, (2) the professional education requirements of Rosemont College, and (3) the necessary psychology and education courses at Villanova.

Interested students must make application to the Office of the Dean through the Director of Liberal Arts, St. Augustine Center, room 451, in the fall semester of their sophomore year and must have achieved a cumulative grade point average of 3.00. An interview with the Director of the Education Program at Rosemont College is required. A limited number of students may be accommodated in this program. Students should arrange their own transportation.

Students in the Elementary Education Program are required to complete professional courses, and student teaching during the first semester of the senior year. To be eligible for the student teaching experience, students must fulfill the following requirements:

- A cumulative grade point average 3.00 with a minimum grade of B- in each required professional course.
- A cumulative grade point average of 3.00 in the student's major and a recommendation from the Villanova department chairperson.
- Doctor's certification of physical and mental health.

SECONDARY EDUCATION PROGRAM AND TEACHER CERTIFICATION

Villanova University's secondary teacher education program is approved by the Pennsylvania Department of Education as satisfying the requirements for teacher certification in twelve subject areas. Students who are enrolled in the Bachelor of Science in Education program are also enrolled in the teacher education program. Upon successful completion of the degree and the National Teachers Examination (NTE/Praxis) in communication skills, general knowledge, professional knowledge and subject specialization, the student is eligible for certification.

Students in other departments may be admitted to the teacher education program upon the approval of the Undergraduate Committee. Students admitted to the teacher

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education program must complete the same requirements as the candidate for the Bachelor of Science in Education, including student teaching.

With the exception of Education 4220, 4281, 4282, 4283, 4284, 4285, 4286, 4291 and 4292, Education courses may be taken as electives by students in other departments of the University.

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 cumulative average in their teaching specialty and a 3.0 overall before they are permitted to do student teaching. Students who do not achieve the required cumulative average by senior year will not be allowed to continue in the major

All Education majors will select a Content Area in which to be certified; they are also encouraged to earn a second major in the Content Area. The specific courses in the Content Area are determined by the Department and the subject area department. Student Teaching is normally taken in the second semester of the senior year.

The core curriculum for Education majors differs in some respects from the normal Arts and Sciences core and interested students should contact the Department of Education and Human Services. 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 Department of Education and Human Services.

EXCHANGE PROGRAMS

Villanova University enjoys cooperative exchange arrangements with neighboring Rosemont College and nearby Bryn Mawr College allowing Villanova students the opportunity to take classes at these schools. Students who participate in the exchange program must possess a cumulative average of 2.75. Superior juniors and seniors in the College of Liberal Arts and Sciences may take courses at Bryn Mawr College on a limited basis. Courses taken at Bryn Mawr must be in the student's field of study and not offered at Villanova. Registration is through the Honors Program Office, St. Augustine Center, Room 103 (610/519-4650).

HONORS PROGRAM

The Honors Program is designed to bring together superior students and dedicated faculty in a small college environment of rigorous seminars, flexible requirements, and independent research in order to promote breadth, diversity, and depth throughout the students' academic careers. The Program is open to students in all undergraduate colleges with the approval of the Honors Director. The Program offers the Bachelor of Arts and Bachelor of Science degrees. To qualify for an Honors Program degree, the student must be a full-time participant in the Honors Program, must complete a specified sequence of courses, and must maintain a 3.33 QPA with periodic evaluation and approval by the Honors teaching staff. For students whose course of studies prevents them from pursuing an Honors Program degree, an Honors sequence in Liberal Studies is available, which requires a minimum of eight Honors courses, a 3.33 QPA, and periodic evaluation and approval by the Honors teaching staff. Program details can be found in

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the "Honors Program" section of this *Catalog* and are available in the Honors Program Office, 103 St. Augustine Center (610/519-4650).

HUMAN SERVICES PROGRAM

The Bachelor of Arts in Human Services is designed for the student who chooses a liberal arts degree combined with an opportunity to pursue an experiential component geared toward the human services area. The program is for those who want to combine a liberal arts education with expertise in basic communication skills, human resource development, and knowledge of the professional field and are interested in the fields of business. The practicum experience gives the student the opportunity to work in an agency setting pertinent to the chosen specialization. Upon completion of the degree requirements, students will have minors in Psychology and Sociology. The program also prepares the student to pursue graduate level courses in Counseling and Human Relations.

INTERNATIONAL STUDIES

The College of Liberal Arts and Sciences strongly encourages all majors in the College to consider studying overseas in a foreign university for a summer, a semester, or for a year during the sophomore or junior years at Villanova. Villanova has its own six-week overseas summer programs in Chile, France, Ireland, Italy, Palestine, and Spain open to all Villanova students for intensive language or area studies. Students may study subjects in their major, minor or concentrations, strengthen their modern language skills, or complete Core course requirements through Overseas Programs. In any case, students normally enhance past skills such as high school languages learned but no longer studied due to heavy course requirements at Villanova, work towards a career path through overseas internships, gain fluency in language currently being studied, or begin learning a language. 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).

INTERNSHIPS

The College of Liberal Arts and Sciences provides its students with the opportunity to earn course credit in departmentally related and academically creditable internships. Internships for academic credit must be directly related to a student's major, minor, or concentration. Internships are not restricted to the Delaware Valley, and might take place in Washington, DC, as well as other parts of the country. Qualified juniors and seniors with a 3.0 QPA are eligible to participate in the program. Internships last for the semester and can be either full-time or part-time. They are also available during the summer sessions. Program details are available from the Internship Director, St. Augustine Center, Room 451 (610/519-4661).

LAW SCHOOL ADVISEMENT

There are no suggested majors or pre-defined list of courses recommended by law schools, the Pre-Law Advisors Council, or by the Association of American Law Schools for students interested in a legal career. The Law School Admissions Council (LSAC) states “ Law schools want students who can think critically and write well, and who have some understanding of the forces that have shaped the human experience . These attributes can be acquired in any number of college courses, whether in the arts and humanities, the social sciences, or the natural sciences.” Students considering a legal career should choose a major that is of interest to them; one that is interesting, exciting and challenging. This way one will do their best work, learn, develop critical thinking and writing skill and get good grades. Dr. Karen Graziano J.D. is available to consult with students concerning the law school admission process. 463 St. Augustine Center, 610-519-7427.

MASTER OF BUSINESS ADMINISTRATION (MBA) ADVISEMENT

A Master’s in Business Administration (MBA) is a career path seen as valuable by many liberal arts students interested in business. According to the Stanford Graduate School of Business (best MBA Program, 2003 U.S. News & World Report best MBA program) a student should choose a major that they find interesting and engaging. Many MBA students come from pure liberal arts backgrounds, majoring in everything from Political Science to Philosophy and Religious Studies. While applicants are not required to take business courses before entering an MBA program, most business curricula assume a solid foundation in quantitative skills. The other skills required for success in an MBA program are precisely those provided by a strong liberal arts background. Dr Charles Cherry is available to consult with students considering an MBA and a career in business. 464 St Augustine Center, 610-519-6957.

NATIONAL SCHOLARSHIP ADVISEMENT

Villanova University provides comprehensive advisement for students who pursue prestigious national scholarship and fellowship opportunities, including the Truman, Goldwater, Udall, Fulbright, Marshall, Rhodes, National Science Foundation, Hughes, Mellon and Ford Foundation. A mentoring program is administered by the Office of Undergraduate Grants and Awards, and begins as early as an undergraduate student’s first year. In recent years, nearly over 135 students have received formal recognition from these various national scholarship programs. Office of Undergraduate Grants and Awards. Ms. Jane Morris, Director, 138 St Augustine Center, 610-519-5928.

PHI BETA KAPPA

Phi Beta Kappa is a National Honors Fraternity for Colleges of Liberal Arts and Sciences. It was founded at the College of William and Mary in 1776. Since that time, its rigorous and comprehensive standards have made election to it a premier sign of

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excellence. Villanova University became one of the colleges and universities to shelter a chapter when the Sigma of Pennsylvania 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 Villanova: education that is concerned with values as well as facts, and wisdom as well as knowledge; education that seeks freedom from ignorance, alienation, and inhumanity; that values intellectual integrity and tolerance over expediency, and breadth of scholarly achievement over specialized expertise.

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

- ❑ Candidates must have completed three semesters of work in the College of Liberal Arts and Sciences and be fully registered for a fourth.
- ❑ Candidates must have a grade point average of at least 3.50 (3.80 to be elected as a junior).
- ❑ At least three-fourths of a candidate's academic work must have been taken in the liberal arts and sciences, as distinct from applied or professional work.

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.

PRE-PROFESSIONAL HEALTH RELATED SCIENCE

Adviser (Dr. John Friede). The Health Related Science Adviser:

- ❑ Provides information to prospective students and their parents regarding Villanova University's programs in the sciences and how Villanova University can prepare them for careers in health related professions;
- ❑ Provides information to matriculated students on professional schools and their application processes;
- ❑ Prepares the evaluation materials for each Villanova student applying to a professional school in the health sciences; and
- ❑ Serves as the academic adviser for students accepted into the affiliation programs.

Additional information is available from the Health Science Adviser in 151 Mendel Science Center (610/519-4833) or from the Office of the College of Liberal Arts and Sciences.

ACADEMIC POLICIES AND INFORMATION

Unless otherwise noted, the College of Liberal Arts and Sciences follows the general 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 Liberal Arts and Sciences. Such policies may change without prior notice.* Policies specific to the College of Liberal Arts and Sciences follow, and can be seen in greater detail in *Enchiridion: The Undergraduate Handbook*:

ADVISING

Every student in the College of Liberal Arts and Sciences is assigned an academic adviser. The first phase of mentoring and academic advising (for undeclared freshman and sophomore arts and science students) is provided through the Academic Advising Office located on the fourth floor of the Saint Augustine Center for the Liberal Arts. To support an intensive system of academic mentoring, the Office provides technical and qualitative training for faculty and student mentors. Committed faculty implement a comprehensive program that assists students in defining academic, career, and personal goals--with an emphasis on integrity and responsibility.

The second phase of the College's program occurs once the student selects an academic major. At that time, the chosen department assigns a faculty advisor who will guide the student in completion of requirements for the major. The discussions and planning begun at the mentoring level continues, and goals and plans are refined as the student approaches graduation. Departmental faculty advisors have access to training provided by the Academic Advising Office; they are also able to provide the expert advice to students in their chosen disciplines.

A student's mentor and academic advisor may be called upon for assistance in making decisions, but *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.* Undeclared Arts student may declare a major at any time prior to the end of their sophomore year: but must declare a major by the end of the sophomore year.

DEGREE AUDIT-CAPP

Curriculum, Advising and Program Planning (CAPP) is a degree auditing tool available to all students in the College of Liberal Arts and Sciences via their NOVASIS accounts' It offers the ability to track a student's academic progress toward completion of their degree. When the CAPP compliance process is performed, it automatically takes a student's current academic information and compares it to the requirements for the chosen degree and outlines the remaining required courses. There is also a "What-If" function that can check the student's academic record against the requirements for a new major and high light the remaining courses.

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Students should consult CAPP prior to meeting with their mentor or advisor during the pre registration process, and immediately after registering in order to insure appropriate continual progress toward completion of their degree.

E-MAIL CORRESPONDENCE

Students are responsible for frequently checking their Villanova e-mail accounts. Important updates and information may be sent from faculty members, staff, and other students. If a student chooses to use an address other than his/her Villanova e-mail address, he/she is responsible for forwarding messages from his/her Villanova e-mail to his/her chosen e-mail address.

DEAN'S LIST

At the end of each academic year, the College of Liberal Arts and Sciences officially recognizes its best students by including their names on the Dean's List. Inclusion on the list is a tribute to a student's diligent work and superior academic performance. In an effort to retain the honor which is integral to membership on the list, the requirements for inclusion are justifiably rigorous.

In order to be named to the Dean's list, a student in the College of Liberal Arts and Sciences must maintain a minimum semester grade point average of 3.50 at the close of the academic semester. All students included on the list will receive a congratulatory letter from the Dean following the conclusion of the spring semester.

SATISFACTORY/UNSATISFACTORY OPTION

Sophomores, Juniors, and Seniors may take one elective course a semester on a satisfactory/unsatisfactory basis. The satisfactory/unsatisfactory option may not be used for courses that fulfill core, major or minor requirements, but individual departments may offer the major seminar on a satisfactory/unsatisfactory basis.

ACADEMIC STANDING, PROBATION, AND DISMISSAL FROM THE COLLEGE

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 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 be dismissed.

A student on academic probation will normally be allowed only one semester to achieve the required quality-point average. While on Academic Probation a student's course load may be limited to four courses plus any associated laboratories.

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The College Academic Standing Committees meet at the end of each regular semester to review the academic records of any student in the College who is on academic probation or experiencing academic difficulties. The Committees recommend corrective actions to the Dean that range from Letters of Concern, to Probation, to a Dismissal from the College. While on academic probation, a student's course load may be limited to four courses plus any associated laboratories, and the student on academic probation may not participate in any extra-curricular activities.

There is no requirement that a student must receive a Letter of Concern or Probation prior to being dismissed. Each student deserving corrective action will receive a letter from the Dean's Office stating the action taken.

The Academic Standing Committee may dismiss a student who is not making sufficient progress towards a degree due to excessive course drops or withdrawals even if the quality-point average is above 2.00. A Dismissal from the College may be appealed in writing. University policy does not permit students who have been dismissed by the University to attend summer sessions.

Matriculated students who fail to register for or attend classes in any given semester will be considered to have unofficially withdrawn from the College. To be considered for readmission the student must submit the request in writing to the Dean.

COURSE PRE-REGISTRATION

Each semester the Registrar's Office offers students an opportunity to register for courses for the following semester on line using the student's Novasis account. Pre-registration for courses requires a pin number obtained from the student's faculty advisor following an advisement meeting.

The registration day and time assigned is based on a priority of the total number of earned credit hours within the achieved class status of the student. Seniors register first; freshman register last. There is no guarantee that a student will have available to them a particular professor or a course section offered at a particular time. To ensure appropriate degree progress students are encouraged to register for courses and sections within a reasonable amount of time from the pre-registration date and time assigned to them by the Registrar's Office.

COURSE LOAD: OVERLOADS AND UNDERLOADS

All students in the College of Liberal Arts and Sciences except those who have matriculated through the part-time program are required to be a full time student by taking a minimum of 12 credit hours (four courses of 3 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 Dean.

The *normal course load each semester is five courses* excluding labs. Students who wish to take an overload (greater than 5 courses excluding labs) during the fall and spring semesters, and greater than 12 credit hours during the summer semester, must request permission by completing the Overload Request Form available in the Dean's Office.

In order to be granted permission for an overload, a student must have a cumulative grade point average of at least 3.5, (3.0 for the summer); or have achieved senior status

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and need a sixth course to fulfill graduation requirements. Students who enroll in an extra course without proper permission will be dropped from the course.

Some Arts Students in Military Science, Naval Science or Education may have to enroll for more than 15 credits in a given semester as required by their curriculum. In addition, some students taking Japanese, Chinese, Arabic or Russian to fulfill their language requirement may need to have their credit limit raised in order to register on line. In both cases students must complete and submit the Overload Request Form available in the Dean's Office

In no case will permission be given for a seventh course.

ACADEMIC PROGRESS AND CLASS STATUS

Officially, class status is determined by the number of credits earned as follows:

Arts

Freshman	0-29 credits
Sophomore	24-59 credits
Junior	58-89 credits
Senior	90+ credits

Science

Freshman	0-32 credits
Sophomore	33-65 credits
Junior	66-95 credits
Senior	96+ credits

CLOSED SECTIONS

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

GRADUATE-LEVEL COURSES

A fourth-year student with a minimum cumulative grade point average of 3.0 may enroll in a graduate course with the written approval of:

- 1) his/her academic advisor,
- 2) the chairperson of the department offering the course, and
- 3) the Dean

before submitting the request to the Dean of the Graduate School. Courses numbered 7000-7999 are graduate courses ordinarily available to qualified undergraduates for undergraduate credit.

DOUBLE MAJORS

Applications to request a double major are available in the Dean's Office and in the Academic Advising Office. The completed form must be approved by the Department Chair of the second major and submitted to the Dean's Office.

DROPPING/ADDING COURSES (COURSE ADJUSTMENT)

During the *first week* of each semester students are given the option of dropping or adding courses by using the pin number and going online through Novasis; or by completion of a paper form available in the Dean's Office. The form *must* be signed by the student's academic advisor. After this period students may withdraw from courses but may not add a course. See Course Withdrawal.

COURSE WITHDRAWAL AFTER CLOSE OF DROP/ADD

Students are allowed to withdraw from a course after the close of the first week drop/add period, without academic penalty, until a date published each year in the calendar, and receive the grade of "WX". The grade of WX does not affect a student's grade point average but does appear on the transcript.

After this period, students may request an authorized withdrawal from any course, up to the commencement of final examinations, by providing to the Dean a written statement of justifiable cause for withdrawal as well as the written recommendation of the instructor and the student's chairperson. Withdrawal from the course will be contingent upon the Dean's approval. Justifiable cause is a reason such as illness, which is extrinsic to the nature or difficulty of a course, and which would prevent a student from completing the substantial requirements of the course. The proper form for this procedure may be obtained in the Dean's office, Saint Augustine Center, Room 105.

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". The grade of "W" is equivalent of an "F" grade and is included in computing the student's quality point average

REPEAT FRESHMAN YEAR

The Academic Standing Committee may allow a freshman student to declare academic bankruptcy and repeat the year with a new start on the cumulative average (though a record of the year's work will remain on the transcript.) There is no refund of tuition.

CREDIT BY EXAMINATION

To encourage independent study and recognize personal knowledge and mastery of a subject matter, Villanova University provides qualified matriculated students with the opportunity to "test out" of certain courses. The student who successfully passes such an examination satisfies the requirements of and earns the credit for the respective course.

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For more information, contact: Mr. Mario D'Ignazio, Assistant Dean, Office of the Dean, 105 St. Augustine Center, and Phone: 610-519-4600.

INTERNSHIP CREDIT

The College of Liberal Arts and Sciences provides its students with the opportunity to earn course credit in departmentally related and academically creditable internships. Internships for academic credit must be directly related to a student's major, minor, or concentration. Internships are not restricted to the Delaware Valley, and might take place in Washington, DC, as well as other parts of the country. Qualified juniors and seniors with a 3.0 QPA are eligible to participate in the program. Internships last for the semester and can be either full-time or part-time. They are also available during the summer sessions. Internship credit for International Programs (study abroad) *is significantly restricted*. **No credit will be awarded for an internship experience that has not received prior approval.** Internship Program details are available from Dr. John O'Leary, the Internship Director, St. Augustine Center, Room 451 (610/519-4661).

ON LINE AND DISTANCE LEARNING COURSES

The availability to enroll in DL courses for current Arts and Science undergraduate students is limited to sophomores, juniors and seniors with a GPA of 2.75 and above.

The College will *accept up to a maximum of four courses*, commonly referred to as distance learning or online courses, taken at Villanova or at another accredited college or university towards a degree program within the college. The College reserves the right to test the student in order to assess the outcome of that course. The prior approval form to allow students to take DL courses is available in the Dean's Office, 105 St. Augustine.

ACCELERATED OR FAST FORWARD COURSES

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

SUMMER SCHOOL AT VILLANOVA

In order to accommodate students wishing to accelerate or enrich their studies, Villanova offers three summer sessions. Courses taken in Villanova Summer School are treated the same as those taken during the regular year. Prior to enrollment in Villanova Summer School, students in the College of Liberal Arts and Sciences must secure a pin number from their advisor. A student may take at most 12 credits in the summer.

SUMMER SCHOOL AT OTHER INSTITUTIONS

Students in the College of Liberal Arts and Sciences may be permitted to take summer school courses at institutions other than Villanova University *if the course is not offered as a Distance Learning (DL) course by Villanova*. A student may take at most 12 credits in the summer.

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 along with course description.

In all cases permission to enroll in summer courses at other institutions must be obtained from the student's adviser and from the Dean's Office before enrolling in the course(s). Transfer credit will not be accepted without having been approved before the student registers the class. If the summer courses are to be taken abroad permission is also required by International Studies Office.

Students seeking prior approval must complete the form, *Request To Enroll in Summer Courses At Another Institution*, available in the Dean's office and attach a copy of the course description(s) usually available on the institution's web site. The form and descriptions must be submitted to the Dean's office for approval *no later than May 15th*.

Courses will generally be approved if they are taken at accredited four year colleges or universities and if they are equivalent to course offerings at Villanova. Upon completion of the course it is the student's responsibility to see that an official, sealed transcript is sent to the College of Liberal Arts and Sciences at Villanova. Transfer credit will be awarded on the Villanova transcript only for pre-approved courses in which a student earns a grade of "C" or better. The actual grade received at the other institution does not transfer and is not calculated into the student's cumulative grade point average.

Transfer credits may be used for no more than half the courses required for the degree, no more than half the courses for the major and no more than half the courses required for the core curriculum.

Transfer students must have completed three academic semesters at Villanova before being eligible to study abroad during the academic year.

STUDY ABROAD

In order to qualify for study abroad, a student must have a 2.75 or better GPA, good health, and receive the prior approval. Transfer students to Villanova are required to have completed three semesters on campus before leaving for overseas studies. The Prior Approval Form, available in the International Studies Office, requires the approval of the various department chairs for courses in their subject area that the student wishes to take abroad and transfer, of the appropriate Foreign Language Coordinators for foreign language courses, of the departmental chairperson of the student's major, of the Director of International Studies, and the Office of the Dean.

No student will receive study abroad transfer credit for any course that has not received prior approval. Students on Leave of Absence, Suspension or Unofficial Withdrawal will not receive study abroad transfer credit.

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Courses taken abroad (except for Villanova courses) are considered transfer credit and require a “C” grade or better in order for the credits to transfer. The actual grades received at the other institution are not calculated into the student’s cumulative grade point average. Students wishing further information should contact the Director of International Studies in Middleton Hall, Second Floor (610-519-6412).

LEAVE OF ABSENCE

Students who desire to take an authorized leave of absence from the College must submit such a request in writing to the Dean. The request should indicate the reason for the leave and the anticipated length. Students on leave are not allowed to transfer credit from other institutions for course work taken while on leave except by written permission from the Office of the Dean.

SUSPENSION

Students placed on suspension are not allowed to transfer credit from other institutions for course work taken while on suspension.

WITHDRAWAL FROM THE UNIVERSITY

A student seeking an official withdrawal from the University must submit the request in writing to the Dean. The Dean may authorize refunds for tuition according to a schedule of 80%, 60%, 40%, and 20% over a four week period of last class attendance. Students who have officially withdrawn and who subsequently wish to return must submit the request in writing to the Deans in order to be considered for readmittance

Matriculated students who fail to register for or attend classes in any given semester will be considered to have unofficially withdrawn from the College. To be considered for readmission the student must submit the request in writing to the Department.

WALK IN GRADUATION

Students who have no *more than three courses left* in order to complete their degree may apply at the Office of the Dean, 105 St Augustine, for permission to “walk” in graduation. Their name will not appear in the Graduation program and they will be handed an empty envelope at the departmental reception in order for pictures to be taken. Once the final courses have been completed and a grade entered the registrar will mail the diploma to the student at their address of record.

TRANSFERRING INTO A&S FROM OTHER VILLANOVA COLLEGES

Students seeking to transfer from the Colleges of Engineering, Nursing and Commerce and Finance into the College of Liberal Arts and Sciences must do so in

writing by completing the form, Application to Enter the College Of Liberal Arts and Sciences, available in the Office of the Dean, 105 St. Augustine Center.

Students seeking to transfer from the Part Time Studies Division must do so in writing by completing the form Application to Enter the College of Liberal Arts and Sciences from the Part Time Studies Division available in the Office of the Dean.

Students seeking to transfer into the College from the Part Time Studies Division will have to be accepted into a major in order to transfer. Only a maximum of four Distance Learning courses and a maximum of four Fast Forward courses may be applied to a student's degree.

The application deadline for sophomores, juniors and seniors is May 10th for the subsequent fall semester; and December 5th for the upcoming spring semester. Students will be notified of the decision with in one week after the close of the semester. Admission to the College is competitive.

Internal transfer students may not register for business, engineering or nursing courses while enrolled in the College of Liberal Arts and Sciences without permission from the Dean's Office. The only exception is courses taken toward the Business Minor once the student has been accepted into that program.

Arts and Sciences grades for courses that have been taken while enrolled in another college at the university and which have been deleted from the computation of the student's GPA while in that college will be reinstated upon transfer to the College of Liberal Arts and Sciences. The Arts and Sciences grades and credits earned will be computed in the student's Liberal Arts and Sciences GPA and will be used to determine the student's academic standing in the College.

Once a student has successfully completed two consecutive semesters in the College of Liberal Arts and Sciences and has attained a GPA greater than or equal to 2.50 in each semester, grades for courses that do not ordinarily apply to the student's new Arts and Sciences curriculum may be excluded from the calculation of the student's GPA. This exclusion is not automatic. Students must petition the Dean's Office for the exclusion.

SAMPLE DEGREE PROGRAMS

The following chart offers a sample program for students with majors in Liberal Arts. It is just one of the many possible arrangements students may choose in pursuing a degree. Students are required to meet with an assigned adviser at least once each semester in order to select courses for registration. While a student may decide to alter the following course order, no courses may be omitted. It is exclusively the responsibility of the student to see that the appropriate courses are selected in the pursuit of any of the various degrees in the College.

College of Liberal Arts and Sciences

SAMPLE CURRICULUM FOR AN ARTS MAJOR PROGRAM

FIRST YEAR	
<i>Fall Semester</i>	<i>Spring Semester</i>
Core Humanities Seminar*	Core Humanities Seminar*
Introductory Philosophy	Introductory Literature
Social Science	Introductory History
Language	Language
Mathematical/Computing Sciences	Mathematical/Computing Sciences
SECOND YEAR	
<i>Fall Semester</i>	<i>Spring Semester</i>
Natural Science & Laboratory*	Natural Science & Laboratory*
Fine Arts	College Ethics
Introductory Theology	Social Science
Elective/Major/Social Science	Elective/Major/Social Science
Adv. Humanities (History/Philos)	Adv. Humanities (Theol/Literature)
THIRD YEAR	
<i>Fall Semester</i>	<i>Spring Semester</i>
Major	Major
Major	Major
Advanced Humanities	Advanced Humanities
Elective	Elective
Elective	Elective
FOURTH YEAR	
<i>Fall Semester</i>	<i>Spring Semester</i>
Major	Major
Major	Major
Elective	Elective
Elective	Elective
Elective	Elective

*NOTE: These courses must be taken in the semester indicated.

SAMPLE CURRICULUM FOR A SCIENCES MAJOR PROGRAM

The following chart offers a sample program for students with majors in the Sciences. Students are required to meet with an assigned adviser at least once each semester in order to select courses for registration. While a student may decide to alter the following course order, no courses may be omitted. It is exclusively the responsibility of the student to see that the appropriate courses are selected in the pursuit of any of the various degrees in the College.

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FIRST YEAR	
<i>Fall Semester</i>	<i>Spring Semester</i>
Core Humanities Seminar*	Core Humanities Seminar*
Major Science	Major Science
Science or Core	Science or Core Requirement
Mathematics	Mathematics
Foreign Language	Foreign Language
SECOND YEAR	
<i>Fall Semester</i>	<i>Spring Semester</i>
Major Science	Major Science
Major Science	Major Science
Math or Core	Math or Core
Science or Core	Science or Core
Introductory Literature	Core Elective
THIRD YEAR	
<i>Fall Semester</i>	<i>Spring Semester</i>
Major Science	Major Science
Major Science	Major Science
Science or Core	Science or Core Requirement
Advanced Humanities	Advanced Humanities
Elective	Elective
FOURTH YEAR	
<i>Fall Semester</i>	<i>Spring Semester</i>
Major Science	Major Science
Major Science	Major Science
Science or Core	Science or Core Requirement
Advanced Humanities	Advanced Humanities
Elective	Elective

*NOTE: These courses must be taken in the semester indicated.

Students wishing to receive the Bachelor of Science in Astronomy and Astrophysics, Biology, Chemistry, Computer Science, Mathematics, Physics or the Bachelor of Science Comprehensive Program must attain a QPA of 2.00 in the science and mathematics courses taken in fulfillment of their major, as well as attaining an overall QPA of 2.00.

MAJORS AND INTERDISCIPLINARY CONCENTRATIONS

AEROSPACE STUDIES

Faculty: Hopkins, Alzate, Boyd, Sutton
Website: www.csc.vill.edu/~afrotc/index.htm

Air Force Reserve Officer Training Corps participation is available through a cross-enrollment agreement with St. Joseph's University. 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. Contact AFROTC Detachment 750 at (215) 871-8324 for further details. Details are available above in the Liberal Arts and Sciences Special Programs section.

AFRICANA STUDIES PROGRAM

Director: Dr. Crystal J. Lucky
Office: 486 St. Augustine Center, tel. 610/519-4640
Website: www.artsci.villanova.edu/africanastudies/

CONCENTRATION: The Africana Studies program combines an introductory core with a number of electives. Concentrators are required to take two courses (six credits) from the introductory core. Each of these courses must be from a different discipline. In addition the student is required to take fifteen credit hours of approved electives. The list of approved electives available in any given semester is available from the Africana Studies Office, St. Augustine 451.

MINOR: For the Africana Studies minor, a student is required to take two courses (six credit hours) from the introductory core. Each of these courses must be from a different discipline. In addition the student is required to take nine credit hours of approved electives.

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Introductory Core:

COM 2700	Black Rhetoric
ENG 2505	African American Literature: Poetry
ENG 2510	African American Literature: Novel
ENG 2515	African American Literature: Drama
HIS 2291	African American History during Slavery
HIS 2292	African American History since Slavery
HIS 4115	The Roots of African Culture
HIS 4120	The Emergence of Modern Africa

Sample

Electives:

ECO 1103	The Economics of Social Issues
GEO 3700	Africa
HIS 4130	Southern Africa in Historical Perspective
HIS 4470	Third World Revolution
HIS 4490	Topics: Racism and Justice in the Americas
HON 4050	Africana Intellectualism
HON 5700	Urban Realities/Suburban Perspectives
HON 5702	Philosophy, Issues of Race
P J 5000	Race/Class/Gender
PSC 3500	Civil Rights and Civil Liberties
PSC 4700	Africa
PSC 5500	Africa in World Politics
THL 5700	Black Religious Experience
SOC 3600	Race Relations and Ethnic Relations

The number of electives, and therefore students' choices, will vary from year to year.

ARAB AND ISLAMIC STUDIES

Director:	Dr. Maghan Keita
Office:	486 St. Augustine Center, tel. 610/519-4610
Website:	www.artsci.villanova.edu/arabislamic/

CONCENTRATION: (10 courses)

AIS 4100	Senior Seminar: Topics in Arab and Islamic Studies
ARB 1111	Basic Arabic I
ARB 1112	Basic Arabic II
ARB 1121	Intermediate Arabic I
ARB 1122	Intermediate Arabic II
HIS 4031	Islamic Civilization to 1800
HIS 4041	History of the Modern Middle East

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PSC 4900	The Arab States
	or
PSC 5900	Middle East International Relations
THL 5150	Introduction to Islam
	ONE ELECTIVE

MINOR: (7 courses)

ARB 1111	Basic Arabic I
ARB 1112	Basic Arabic II
HIS 4041	History of the Modern Middle East
PSC 4900	The Arab States
	or
PSC 5900	Middle East International Relations
THL 5150	Introduction to Islam
	TWO ELECTIVES

SAMPLE ELECTIVES:

ARB 1132	Intensive Advanced Arabic I
ARB 1141	Introduction to Colloquial Egyptian Arabic
ARB 2142	Arab Culture and Civilization
ARB 2100	Arabic Literature in English Translation
HIS 4090	Women in the Middle East
HIS 4195	Islam in West Africa
PHI 3160	History of Islamic Philosophy
PSC 5950	Russia and Islamic States
PSC 5700	Oil/Power in the Middle East
THL 5160	Islamic Mysticism
THL 5170	Islamic Philosophy and Theology
THL 5180	Islamic Political Thought

The number of electives, and therefore students' choices, will vary from year to year. Students are advised to enter the program no later than the first semester of their junior year in order to complete the requirements. Approval of the program director must be obtained to enter the program.

ARMY ROTC

Faculty: Lieutenant Colonel Sewall, Major Karbel, Major Anderson, Major Farquharson, Captain Kearney, Master Sergeant Norton, Master Sergeant Perla
Office: Military Science Building
Website: www.armyrotc.villanova.edu
Course www.widener.edu/rotc
Descriptions:

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 or Army Reserve. Details are available above in the Liberal Arts and Sciences Special Programs section.

COURSES OF STUDY:

MS 101	Introduction to ROTC I	1 Credit
MS 102	Introduction to ROTC II	1 Credit
MS 201	Introduction to Military Leadership I	2 Credits
MS 202	Introduction to Military Leadership II	2 Credits
MS 301	Contemporary Military Principles and Group Dynamics I	3 Credits
MS 302	Contemporary Military Principles and Group Dynamics II	3 Credits
MS 401	Military Organization and Management I	3 Credits
MS 402	Military Organization and Management II	3 Credits
MS 499	American Military History	1 Credits

MINOR: students who successfully complete all Military Science Courses 101 through 402 (18 Credit Hours) will earn a Minor in Military Science.

ART HISTORY

Chair: Dr. Adele Lindenmeyr
Office: 403 St. Augustine Center, tel. 610/519-4660
Website: www.history.villanova.edu/arhistory/
Course descriptions: www.artsci.villanova.edu/courses/art_history.html

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

MAJOR: Art History majors must complete AAH 1101 and AAH 1102 (History of Western Art, Ancient to Medieval and Renaissance to Contemporary World) plus one Studio Art Course and seven upper-level art history courses. These seven upper-level courses must include one course in each of the four general areas of art history (Ancient, Medieval, Renaissance, Modern); an art history elective; a Senior Seminar (4000-level course); and a Senior Thesis. Majors in Art History have the opportunity to do internships at nearby museums, auction houses, or historical sites; or to participate in the Villanova-Rosemont Summer Program in Siena, Italy, which places a strong emphasis on art history.

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.

ASTRONOMY AND ASTROPHYSICS

Chair: Dr. George P. McCook
Office: 457 Mendel, tel. 610/519-4820
Website: www.astronomy.villanova.edu
Course descriptions: www.artsci.villanova.edu/courses/astronomy.html

MAJOR: AST 2120, 2121, 2122, 2133, 2134, 3141, 3152, 3162, 4121, 4122, MET 2001; CSC 4630; MAT 1500, 1505, 2500, 2705; PHY 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2601, 2603, 4100, 4200, and 3 Physics courses (9-12 credits) numbered above 3000. Recommended are PHY 4000, 4002.

MINOR: 22 credits, including:
PHY 1100 and PHY 1102 (Biology Physics), or PHY 2400 and PHY 2402, or above.

Two Semesters of Calculus, MAT 1310, MAT 1315 or above: AST 2120, AST 2121, AST 2122

Two Courses from: AST 2133, AST 2134, AST 3141, AST 3142, AST 3143, AST 3162, MET 2001 (Check with instructor for possible pre-requisite)

CONCENTRATION: AUGUSTINE IN DIALOGUE WITH FAITH AND CULTURE

Chair: Dr. Thomas Smith
Office: 304 St. Augustine Center, tel. 610/519-6165
Website: 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.

COURSES

Category A: Select two courses from Category A. These must be selected from different disciplines.

HIS 3019	Fall of Rome: Augustine and his World
PHI 3100	An Introduction to St. Augustine
PHI 3120	Augustine in the Western Tradition
THL 2500	The Formation of Tradition: Ancient Christianity

Category B: Select three courses from one of the tracks.

Track 1: Theological/Philosophical Themes

HUM 3180	Faith and Reason
HUM 4350	Problem of Love
PHI 2410	The Ethics of War
PHI 2400	Social and Political Philosophy
PHI 2500	History of Ancient Philosophy
PHI 2510	History of Medieval Philosophy
PHI 3100	Introduction to St. Augustine
PHI 3120	Augustine in Western Thought
PHI 3130	Augustine and the Existentialist Tradition
PHI 3310	Philosophy of Religion
PHI 3500	Freedom
PHI 3700	Philosophy of History

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THL 2500	Ancient Christianity
THL 2525	Reformation Christianity
THL 2590	Historical Themes
THL 2725	Christian Classics I
THL 2726	Christian Classics II
THL 2750	St. Augustine: His Life and Message
THL 2790	Themes in Patristic Studies
THL 3100	Christian Anthropology
THL 3500	God and History's Future
THL 3700	Catechism of the Catholic Church
THL 4310	War and Morality
THL 4320	Christian Social Teachings
THL 4330	Theology, Ethics, and the Christian Tradition
THL 4500	Christian Spirituality

Track 2: Historical

HIS 2280	Catholic Church in America
HIS 3018	Pagans, Jews, and Christians
HIS 3019	Fall of Rome: Augustine in the World
HIS 3101	Early Medieval History
HIS 3118	Religion Poverty in the Middle Ages
HIS 3131	Reformation
HIS 3142	Enlightenment

Track 3: Literary

HIS 3000	Catholic Imagination
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Track 4: Social/Political

PJ 2600	Catholic Social Teaching
PJ 3300	Modern Peacemakers
PJ 3400	War and Morality
PJ 5400	Ethics, Justice and the Family
PHI 2410	The Ethics of War
PSC 6000	Early Political Theories
PSC 6140	Theories of Religion and Politics
SOC 2100	Cultural Anthropology
SOC 2600	Sociology of Religion
THL 4100	Christian Ethical Traditions and Contemporary Life
THL 4310	The Social Teachings of the Christian Churches
THL 4330	Theology, Ethics, and the Christian Churches
THL 4400	Christian Marriage

Category C: Required Senior Seminar

This is an interdisciplinary capstone course that reflects the ongoing dialogue between faith and culture.

BIOLOGY

Chair:	Dr. Russell M. Gardner
Professors:	Bauer, Desmond, Gardner, Maksymowych (Emeritus), Orkwiszewski, Stephens, Wieder
Associate Professors:	Bamezai, Balsami, Curry, Dollahon, Jackman, Olson, Knepper, Russell, Webb
Assistant Professors:	DiBenedetto, Friede, Iyengar, Russo
Instructor:	Chubb
Office:	152 Mendel, tel. 610/519-4830
Website:	www.bio.villanova.edu
Course descriptions:	www.artsci.villanova.edu/courses/biology.html

MAJOR: Thirty-six credits in Biology, including BIO 2105, 2106, 3351, and 5100. Cognate requirements include: CHM 1151/1103, 1152/1104, 2211/2201, 2212/2202; MAT 1310/1315; PHY 1100/1101 and 1102/1103. In addition, Biology majors must select a minimum of five laboratory science electives from the Biology departmental offerings (five courses including laboratories) numbered 3000 and higher. At least one course with laboratory must be chosen from each of the following areas: Population Biology, Organismal Biology, Cellular/Molecular Biology. *NOTE: Courses numbered below 2000 will not apply toward a major in 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 in those courses.

NOTE: Courses numbered 7000 to 7999 are open to fourth year students 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 approval from the department and the graduate dean.

CHEMISTRY

Chair:	Dr. Barry S. Selinsky
Professors:	Giuliano, Selinsky, Wójcik
Associate Professors:	Bessel, Ludwig, Spritzer
Assistant Professors:	Ahmadi, Bausch, Casillas, Dodley, Grannas, Kassel, Lagalante, Ohta, Rucker, Zubris
Office:	215 Mendel Hall, tel. (610) 519-4840
Website:	www.chemistry.villanova.edu
Course descriptions:	www.artsci.villanova.edu/courses/chemistry.html

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 course or higher. See requirements at: <http://chemistry.villanova.edu/programs/minors.htm>.

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.

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).

CLASSICAL AND MODERN LANGUAGES AND LITERATURES

Chair:	Dr. Silvia Nagy-Zekmi
Professors:	Helmetag, Hunt, Juliá, Nagy-Zekmi, Ogden,
Associate Professors:	Nakagawa, Omran, Pastore, Peraita, Poeta, Rigaud, Trujillo
Assistant Professors:	Abraham, Briker, Chi, Gastanaga, Hamada, Jaworowski, Miralles, Modema, Muskiet, Rayevsky, Vallieres, Van Haesendonk, Waggaman, Whidden
Office:	303 St. Augustine Center, 610/519-4680
Website:	www.classicalmodernlanglit.villanova.edu/
Course descriptions:	www.artsci.villanova.edu/courses/languages.html

MAJORS: Majors in French and Francophone Studies, German, Italian, or Hispanic Studies are required to take ten courses above the intermediate level. Once a sequence of language courses has begun, a student may not revert to a lower level course. French 1133 is required of all majors in French and Francophone Studies; In addition, majors in French, German, and Italian are required to take a research seminar: ML 2100. For majors in Hispanic Studies SPA 1138, SPA 2100, and SPA 3950 are required.

A major in Classical Studies generally requires a minimum of 12 courses (minimum 36 credits) in Latin or Greek. Up to 2 Classics courses (taught in English: Archaeology, Mythology, etc.) may be included in the 12 course total. Classics 3001, Independent Study, will be considered a Latin or Greek course when the study is done in those languages.

MINORS: Students may minor in Arabic, Chinese, French and Francophone Studies, German, Italian, Japanese, Russian or Hispanic Studies. Minors in Arabic, Chinese, Japanese, and Russian must complete six courses in the language in sequence. For Minors in French and Francophone Studies, German, Italian and Hispanic Studies four courses above the intermediate level in the language are required. A minor in Classical Studies generally requires a minimum of 6 courses (minimum 18 credits) in Latin or Greek. Up to 2 Classics courses (taught in English: Archaeology, Mythology, etc.) may be included in the 6 course total. Classics 3001, Independent Study, will be considered a Latin or Greek course when the study is done in these languages.

The Department also offers 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 foreign language major or minor. An upper level literature course in any language taught in the Department may satisfy the advanced literature core

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BIO 6509	Directed Research (with Cognitive Science Program approval)
BIO 7921	Sensory Biology
CSC 4170	Theory of Computation
CSC 4380	Information Visualization
CSC 4730	Human-Computer Interaction
CSC 5900 &	Special Topics (with Cognitive Science Program approval)
CSC 5930	
CSC 5993	Independent Study (with Cognitive Science Program approval)
ECE 3420	Expert Systems Programming
HON 6002	Senior Thesis II (with Cognitive Science Program approval)
ECE 5445	Introduction to Neural Networks
PHI 2015	Logic and Critical Thinking
PHI 2950	Topics in Philosophy (with Cognitive Science Program approval)
PHI 3400	Theories of Knowledge
PHI 4200	Philosophy of Language
PHI 4975	Independent Study & Research (with Cognitive Science Program approval)
PHI 5000	Advanced Topics in Philosophy (with Cognitive Science Program approval)
PSY 2300	Perception
PSY 2800	Human Factors
PSY 3000	Special Topics (with Cognitive Science Program approval)
PSY 4050	Research Methods
PSY 4200	Physiological Psychology
PSY 5100	Animal Learning and Cognition
PSY 5900	Undergraduate Research (with Cognitive Science Program approval)

NOTE: Cognitive Science students who do not have the prerequisites for an approved course should apply through the Cognitive Science Program to have the prerequisites waived. Decisions will be made on a case-by-case basis by the course instructor or, in some instances, by the Director of the Cognitive Science Program after considering the particular student's background. In the case of courses that are required by the Cognitive Science Program, it is expected that the prerequisites will be able to be waived for Cognitive Science students. A waiver of prerequisites is also possible in other courses.

COMMUNICATION

Chair:	Dr. R. Bryan Crable
Professor Emeritus:	Lynch
Associate Professors:	Bowen, Mackey-Kallis, Michal-Johnson, Nance, Rose, Shyles
Assistant Professors:	Berens, Coonfield, Hall, Huxford, Moore, O'Leary, Wilke, Woodard
Instructors:	Arnold, Chour, Cowen, Flanagan, Wilson
Website:	www.communication.villanova.edu
Course descriptions:	www.artsci.villanova.edu/courses/communication.html

MAJOR (CLASS OF 2006-2008 ONLY): Thirty (30) credit hours are required. COM 1000, Survey of Communication Studies, and COM 1100, Public Speaking, are prerequisites which must be taken in the sophomore year. A minimum G.P.A. of 2.5 is required. COM 5000, Communication Research, should be taken in the junior year or prior to taking COM 5050, Senior Project.

After enrolling in the required prerequisites, COM 1000 and COM 1100 and declaring the Communication major, students will consult their academic advisers and choose one of three areas of emphasis: Rhetoric & Performance Studies (2000-2950), Media & Film Studies (3000 -3950), and Interpersonal and Organizational Studies (4000 - 4950). They will take three courses in the area of emphasis, one course in each of the other two areas, and one additional course in an area of their choice to complete the major. A complete listing of courses divided by area of emphasis is available in the Communication office.

Communication majors who choose internships may use three credits to satisfy major requirements. If more internship credits are taken, they must be free electives.

MAJOR (CLASS OF 2009 AND BEYOND): Thirty-six (36) credit hours are required. COM 1000, Survey of Communication Studies, COM 1100, Public Speaking, and COM 1200, Introduction to Communication Research, are prerequisites to the major and should be taken in the freshman and/or sophomore years. A minimum G.P.A. of 2.5 is required to declare the major. 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 COM 5000, Senior Project.

After enrolling in the required prerequisites, COM 1000, COM 1100, and 1200, and declaring the Communication major, students will consult their academic advisors and choose one of the Department's specializations: *Public Relations, Journalism, Organizational Communication, Media Studies, Media Production, Rhetorical Studies, Performance Studies, and Interpersonal Communication*. Based upon the selection of

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specialization, students will take two (2) courses at the theory level, and five (5) courses at the advanced topics level. A complete listing of specialization requirements and courses is available in the Communication Department main office. Students not wishing to specialize may receive a generalized Communication degree by taking any two (2) courses at the theory level, any five (5) courses at the advanced topics level, and all required courses.

MINOR (Students in College of Arts & Sciences Only): Survey of Communication Studies (COM. 1000), plus four courses from the major course offerings.

MINOR (Students *outside* College of Arts & Sciences): Survey of Communication Studies (COM 1000), plus four courses *from the following list*: Business & Professional Communication, Public Relations, Teambuilding and Small Group Communication, Gender and Communication, Intercultural Communication, Organizational Communication, Communication and Conflict, Training and Development. *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 G.P.A. of 2.75 or above, and receive a final grade of C or higher in COM 1000.*

COMPREHENSIVE SCIENCE

Director: Dr. Frederick Hartmann
Office: 451 St. Augustine Center, 610/519-4661
Website: www.comprehensivesci.villanova.edu

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 optional concentrations selected by the student.

The following courses are required of Comprehensive Science majors:

BIO 2105, 2106	General Biology I and II
CHM 1151, 1152	General Chemistry I and II
CHM 1103/1104	General Chemistry I and II Laboratory
MAT 1500/1505/2500	Mathematical Analysis I, II and III
PHY 2410/2411	University Physics: Mechanics and Lab
PHY 2412/2413	University Physics: Electricity & Magnetism & Lab
OR	
PHY 2414/2415	University Physics: Thermodynamics and Lab
CSC 1051	Algorithms and Data Structures I

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One Mathematics elective selected from the following:

MAT 2705

Differential Equations with Linear Algebra

MAT 4310

Statistical Methods

At least seven upper level science electives with appropriate laboratories chosen in consultation with the student's advisor.

The degree program allows for students to design a concentration in a particular discipline or an interdisciplinary field. Some sample concentrations follow:

Areas of Concentration:

Biological-Chemistry

Biology

Chemistry

Cognitive Science

Environmental Studies

Geography

Mathematics

Meteorology

Pre-Medical

Pre-Optical

Physics

Pre-Dental

COMPUTING SCIENCES

Chair:

Dr. Robert E. Beck

Professors:

Beck, Cassel, Fleischman, Levitin

Associate Professors:

Goelman, Japaridze, Joyce, Klassner, Lewis, Soong

Assistant Professors:

Damian, Gehlot, Papalaskari, Way

Instructors:

Helwig, Zimmerman

Office:

161 Mendel Science Center, tel. 610/519-7307

Website:

www.csc.villanova.edu

Course descriptions:

www.csc.villanova.edu/academics/courseinformationsearch.js

Two separate majors are offered by the Department of Computing Sciences. The Computer Science Major emphasizes the theory, abstraction and application of computing. Central to computer science is the investigation of algorithms, their complexity and the data structures on which they operate.

COMPUTER SCIENCE MAJOR: CSC 1051, 1052, 1200, 1300, 1600, 1700, 1800, 2053, 4170, 4700, and 4790, plus four departmentally approved elective courses; MAT 1500, 1505, and 2310; PHI 2180; a two-semester science sequence with corequisite laboratories selected from an approved set of courses in Astronomy, Biology, Chemistry or Physics; and one more approved science or engineering course. A specific list of approved electives and approved science/engineering courses can be obtained from the

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department website www.csc.villanova.edu. A total of 26 credits in science and mathematics is required. The major in computer science is accredited by the Computing Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

COMPUTER SCIENCE MINOR: CSC 1051, 1052, 1200 or ECE 2490, CSC 1300, CSC 1700, CSC 2053, and two elective courses chosen from the list of approved courses available from the department office or department website.

The Information Science 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.

INFORMATION SCIENCE MINOR: CSC 1051, 1052, 1300, 2500, 3400, and two elective courses chosen from the list of approved courses available from the department office or department website.

CRIMINAL JUSTICE PROGRAM

Director: Dr. William Waegel
Office: 204 St. Augustine Center, 610/519-4740
Website: www.artsci.villanova.edu/criminaljustice/

ACCEPTANCE: To be accepted as a Criminal Justice major applying students must have completed 30 credit hours and have a 2.50 minimum G.P.A.

The Criminal Justice Major is an interdisciplinary program designed to provide students with an understanding of the causes of crime, 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.

CONCENTRATION:

EIGHT (8) REQUIRED COURSES:

CRJ 1000	Introduction to Criminal Justice
SOC 3000	Criminology
CRJ 3200	Police and Society
CRJ 3300	Criminal Courts
CRJ 3400	Penology and Corrections
PHI 2140	Philosophy of Criminal Justice

College of Liberal Arts and Sciences

TWO OF THE FOLLOWING:

CRJ 5200	CJ Research, Methods, and Statistics
SOC 5300	Data Analysis for Social Scientists
SOC 5400	Applied Research Methods
CRJ 6500	Senior Seminar

THREE ELECTIVES FROM THE FOLLOWING:

CRJ 3320	Criminal Law and the Community
CRJ 3350	Criminal Procedure
CRJ 3500	Capital Punishment
SOC 3700	White Collar Crime
CRJ 3800	Victimology
CRJ 3850	Drugs and Society
SOC 2000	Social Problems
SOC 2200	Sociology of Deviance
SOC 3100	Juvenile Delinquency
SOC 3300	Sociology of Law
SOC 3600	Race and Ethnic Relations

Students interested in this major should consider taking Chemical Themes (CHM 1050) and Criminalistics: An Introduction to Forensic Science (CHM 1057) to fulfill their six credit college science requirement.

ECONOMICS

Chair:	Dr. Peter A. Zaleski
Professors:	Thanawala, Zaleski, Zech
Associate Professors:	Donziger, Clain, Farrell, Giordano, Wolnicki
Assistant Professors:	Asher, Barnett, Casario, Dressler, Li, Mao, Taylor,
Office:	2015 Bartley, tel. 610/519-4370
Website:	www.cf.villanova.edu/economics/
Course descriptions:	www.artsci.villanova.edu/courses/economics.html

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. Such students must take Calculus (MAT 1330 or equivalent) either to satisfy their math requirement or as a free elective. They should take ECO 1001 and ECO 1002 as two of the three social science courses in the Freshman or Sophomore year. In addition, students must successfully complete: ECO 2101, 2102, 2137 (or equivalent), 4132; and 15 elective Economics credits. 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 15

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elective credits, three courses within their specialty and focusing their seminar paper (ECO 4132) on that specialty area.

MINOR: Students must take Calculus (MAT 1330 or equivalent), and complete a total of 18 credits consisting of ECO 1001, 1002, 2101, 2102, and 2 elective courses with course numbers ECO 3000 or above.

For a list of economics courses, please see the Economics listing in the College of Commerce and Finance section of this catalog.

EDUCATION AND HUMAN SERVICES

Chair:	Dr. Connie Titone
Professors:	Brooks, Heitzmann
Associate Professor:	Davis, Durnin, Jacobs, Titone
Assistant Professors:	Fierros, Hill, Kahn, Lafferty, Monnig, Murray, Ramirez, Rosa, Schussler, Malott, Mason
Office:	302 St. Augustine Center, tel. 610/519-4620
Website:	www.education.villanova.edu
Course descriptions:	www.artsci.villanova.edu/courses/education.html

The Department of Education and Human Services 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: Courses marked with an * are for education majors and students from other departments who have been accepted into the Teacher Education Program. Education majors and minors must come to the Department each semester for advising.

MAJOR: Secondary Education majors are required to earn a total of 37 credit hours in Education courses. These 37 hours include a Senior Seminar and a 12 credit Student Teaching experience which is open only to students of the senior year who have completed all the subject matter courses in the field of specialization. Students are required to maintain a QPA of 3.0. Students are also required to successfully complete the state mandated Praxis Series of Examinations.

MINOR: A minor in Education requires at least 16 credits. Distribution requirements are: EDU 2202, 3251, 3254, 4290. An additional three credits must be earned from among the following: EDU 2201, 3263, 4220, 4245, 4301, 3266, 3262, 3260, 3258.

HUMAN SERVICES PROGRAM

The Human Service program is designed for students who desire a degree in the helping professions. The foundation of this program is a strong liberal arts framework supplemented by an experiential component. The degree culminates in a 6 credit practicum specializing in care-giving, counseling, or human resources.

MAJOR: The requirements for a major in Human Services include the following courses: HS 2000, HS 2100, HS 3000, HS 3100, HS 3400, HS 4000, and HS 4100. HS Majors must also complete minors in Psychology and Sociology, which include the following courses: Psychology 1000, 2200, 2500, 2600, and one elective; Sociology 1000, 2200, 2300, 3600, and one elective.

MINOR: A minor in Human Services requires a total of 15 credits. Distribution requirements are: HS 2000, HS 2100, HS 3000, HS 3100. An additional 3 credits must be earned from one of the following: HS 3400, HS 3500, HS 3600, HS 3700.

ENGLISH

Chair:	Dr. Evan Radcliffe
Professors:	Cherry, Delano, Kirschke, McDiarmid, Sherry, Thomas, Wilkinson
Associate Professors:	Berthold, Hicks, Hollis, Murphy, Ormsby-Lennon, Radcliffe, Shoheit
Assistant Professors:	Akoma, Bader, Bonds, Cervone, Ciociola, Dailey, Graziano, Irwin, Lucky, Lutes, Moll, Sewell, Vilmure
Office:	402 St. Augustine Center, tel. 610/519-4630
Website:	www.english.villanova.edu
Course descriptions:	www.english.villanova.edu/ course_descriptions_current.htm

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

Two courses in British 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.

Senior Seminar

Six electives

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British Literary Tradition 1 and 2 (2101, 2102) and American Literary Tradition 1 and 2 (2103, 2104) are not required for the major, but can operate as free electives with a maximum of two permitted toward the major (including any survey course taken as a Core literature requirement).

MINOR: Fifteen hours including:

At least one course from the British literature offerings.

At least one course from the American literature offerings.

At least three electives from the English departmental offerings (2000 to 4999).

ENGLISH AS A SECOND LANGUAGE: English 0990 (ESL 1), and English 0995 (ESL 2). For those foreign students who need to strengthen their oral and verbal skills in English, the ESLP provides two courses: ENG 0990 and ENG 0995. The courses will concentrate on improving students' basic grammar, as well as their pronunciation, conversation, reading comprehension, and writing skills.

ENVIRONMENTAL STUDIES CONCENTRATION

Director: Dr. John Olson
Office: 147 Mendel, tel. 610/519-4837
Website: <http://www.artsci.villanova.edu/envstuds>

The Environmental Studies Concentration promotes an interdisciplinary approach to environmental issues through both coursework and independent study/internship experience. Several requirements of the Concentration also fulfill requirements in the student's major and/or in the Core Curriculum. The Concentration is open to students from all colleges and all majors.

Concentration: Students take all of the courses in Category A-REQUIRED, including ENV 1050, ENV 1051, ENV 4000, PHI 3820, an independent study course (internship or senior thesis or independent /group project) in student's major, and one course each in statistics (e.g., MAT 1230, 1235, 1250, 2310 or BIO 3105) and calculus (several possible). In addition, students take at least one course in each of three categories: Category B-NATURAL SCIENCE AND GEOGRAPHICAL TECHNIQUES (BIO 3255, GEO 1500, 4050, 4101, 4250, 4300), Category C-POLICY AND MANAGEMENT (GEO 5100, 5200, 5300, ECO 1104, PSC 2600, 2625, 3800), and Category D-ENVIRONMENTAL SOCIAL SCIENCES & HUMANITIES (GEO 2000, 2100, 2200, 2300, HIS 2276, PHI 2160, 2430, PJ 2200, SOC 3750). Please see the Director and visit the website for advice on completing the Concentration.

ETHICS

Director: Dr. Mark Dooley
Office: 485 St. Augustine Center, tel. 610/519-4692
Website: www.ethics.villanova.edu
Course descriptions: www.artsci.villanova.edu/courses/ethics.html

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 College of Commerce and Finance 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 and takes ETH 2050, two required track courses, two additional electives from that track, and ETH 4000. Concentrators must also fulfill the service component.

Service component consists 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 director will arrange and design the service with the goal of enhancing comprehension of applied ethical issues in the track selected by the student.

TRACKS:

TRACK I: ETHICS AND HEALTH CARE

Required track courses:

PHI 2115	Ethics for Health Care Professionals
and	
THL 4200	Ethics of Life and Death
or	
THL 5950	Death and Dying

Track Electives:

BIO 3351	Genetics
BIO 3595	General Microbiology

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BIO 4205	Cell Biology
BIO 4285	Developmental Biology
ETH 3020	Bioethics: Stem Cell
ETH 3750	Medical Machines
NUR 4130	Contemporary Issues and Trends in Nursing
NUR 4800	Women's Health Issues
NUR 4802	Issues and trends in Gerontology
PHI 2116	Bioethics
PHI 2450	Catholic Social Thought
THL 4100	Christian Ethics
THL 5840	Feminist Ethics

TRACK II: ETHICS, POLITICS, AND LAW

Required track courses:

PHI 2400	Social and Political Philosophy
and	
PHI 2300	Philosophy of Law
or	
THL 4300	Ethical Issues in Peace and Justice

Track electives:

CRJ 3200	Police and Society
CRJ3320	Criminal Law and Community
CRJ 3500	Capital Punishment
PHI 2140	Philosophy of Criminal Justice
PJ 5100	Discrimination, Justice and the Law
PJ 5300	Race, Class, and Gender
PSC 3500	Supreme Court and Equality
PSC 3600	Criminal Justice System
PSC 3800	Environmental Law
SOC 3000	Criminology
THL 4600	Global Poverty and Justice
THL 5840	Feminist Ethics

TRACK III: ETHICS, ECONOMICS, AND PUBLIC POLICY

Required Track Courses:

PHI 2400/PJ 2600	Catholic Social Thought
or	
THL 4320	Christian Social Teachings
and	
PJ 5200/SOC 2950	Perspectives in U.S. Poverty

Track Electives:

ECO 3109	International Economics
ECO 3123	Labor Economics
ECO 3127	Economic Underdeveloped Area
ECO 5118	Women and the Economy

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ETH 3500	Ethics and International Economies
PHI 2121	Environmental Ethics
PHI 2130	Business Ethics
PHI 2150	Engineering Ethics
PHI 2160	Ethics of War
PHI 2170	Mass Media Ethics
PHI 2400	Social and Political Philosophy
PJ 2400	Social Learning/Charity and Solidarity
PJ 2500	Education and Social Justice
PJ 3400	War and Morality
PJ 5400	Ethics, Justice and the Family
PSC 2600	Public Policy
PSC 3500	Supreme Court and Equality
PSC 3800	Environmental Law
THL 4300	Ethical Issues in Peace and Justice
THL 4600	Global Poverty and Justice

TRACK IV: ETHICS, SCIENCE, TECHNOLOGY, AND ENVIRONMENT

Required Track Courses:

PHI 2121	Environmental Ethics
or	
PJ 2200	Caring for the Earth
and	
THL 5400	Science and Religion
or	
HIS 4527	Frankenstein to Artificial Life

Track Electives:

BIO 1555	Environmental Science
BIO 3255	Introductory Ecology
BIO 3351	Genetics
ECO 1104	Environment and the Economy
PHI 2150	Engineering Ethics
PHI 2180	Computer Ethics
PHI 2430	Eco-Feminism
PHI 2550	Technology and Society
PHI 2700	Philosophy of Science
PSC 2625	Environmental Policy
PSC 3800	Environmental Law
THL 4330	Christian Environmental Ethics
THL 4600	Global Poverty and Justice

GEOGRAPHY

Program Director:	Dr. J. Harold Leaman
Associate Professor:	Hu, Leaman
Assistant Professor:	Henderson
Office:	202 St. Augustine Center, tel. 610/519-4710
Website:	www.geography.villanova.edu/
Course descriptions:	www.artsci.villanova.edu/courses/geography.html

The geography major and minor are administered by the Political Science department.

The geography major focuses on the interaction of human and physical environments within a spatial context. 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. Students are encouraged to explore closely related academic fields and interests.

MAJOR: At least 24 credits in geography. The distribution of these credits is: GEO 1000 introductory courses (6 credits); GEO 3000 regional courses (3 credits); GEO 4000 techniques courses (3 credits); GEO 6000 seminar and independent study courses (3 credits); and 9 credits for any combination remaining of the 1000, 2000, 3000, 4000, 5000, and 6000 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 Geography Honors Society, which annually sponsors activities, lectures and field trips. Internships designed for geography majors are also available.

MINOR: Requirements are: GEO 1000 introductory courses (3 credits); GEO 3000 regional courses (3 credits); and 9 credits from any combination of the 1000, 2000, 3000, 4000, 5000, and 6000 series courses.

CORE HUMANITIES

Director:	Dr. John A. Doody
Assistant Director:	Dr. Marylu Hill
Assistant Professors:	Baard, Boettcher, Daly, Hoskins, Kelley, Makowski, Schoield, Spiro, Varias, Wilson
Post Doctoral Fellows:	Busch, Cherico, Horner, Newell, Prudhomme, Prusak, Shiffman, Wittman, Wright
Office:	104 St. Augustine Center, tel. 610/519-7325
Website:	http://www.artsci.villanova.edu/corehumanities/

The College of Liberal Arts and Sciences is committed to the view that the humanities play an essential role in university education by stimulating intellectual wonder, broadening cultural awareness, helping us examine moral values, and strengthening our search for a just and humane society. All Arts and Sciences students have an intensive exposure to the humanities in their Core Humanities Seminar in each semester of the first college year.

HUMANITIES

Chair:	Dr. Thomas W. Smith
Assistant Director:	Smith
Assistant Professors:	Couenhoven, Hefferman, McCarraher, Schindler, Tomko
Office:	304 St. Augustine Center, tel. 610/519-6165
Website:	www.humanities.villanova.edu
Course Descriptions:	http://www.artsci.villanova.edu/courses/humanities.html

ACCEPTANCE: A minimum G.P.A. of 2.75 is required to declare Humanities as a major. Students not meeting this requirement can petition the Chair for acceptance into the program. The applicant must also write a 2-3 page essay responding to a question posed by the Department faculty which relates to the study of the humanities.

MAJOR: The Humanities major requires the completion of 10 courses. Four Gateway Courses are required of all majors: HUM 2001: God, HUM 2002: Human Person, HUM

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2003: World, HUM 2004: Society. Students then take five free electives, two of which have to be taken within the Department of Humanities.

MINOR: 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.

Core Curriculum: In most cases courses offered by the Department of Humanities and Augustinian Traditions can be used to meet the upper level core curriculum course requirements.

HISTORY

Chair:	Dr. Adele Lindenmeyr
Professors:	Gallicchio, Johnson, Lindenmeyr, McLaughlin
Associate Professors:	Haas, Keita, Koven, Little
Assistant Professors:	Abugideiri, Giesberg, Kerrison, Kolsky, Mires, Rosier, Ryan, Steege, Sullivan, Winer
Office:	403 St. Augustine Center, tel. 610/519-4660
Website:	www.history.villanova.edu
Course Descriptions:	www.artsci.villanova.edu/courses/history.html

MAJOR: HIS 1040 or 1050 plus 27 additional credits in history including: HIS 5501 (Historical Methods) or HIS 5515 (Independent Research); at least six credits in United States history (2000 level courses) at least three credits of which must be HIS 2000 or HIS 2001; at least six credits in European history (3000 level courses); at least three credits in Latin American, Middle Eastern, African, or Asian history (4000-4500 level courses); and nine credits of history electives. One of the European history courses must be in a period before 1750.

MINOR: At least 18 credit hours in history. For students in the College of Liberal Arts and Sciences, the 18 credit hours must include HIS 1040 or 1050.

HONORS PROGRAM

Director:	Dr. Edwin L. Goff
Assistant Director:	Ms. Christine Muller
Office:	103 St. Augustine Center, tel. 610/519-4650
Website:	www.honorsprogram.villanova.edu
Course descriptions:	www.artsci.villanova.edu/courses/honors.html

The Villanova 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. Students in the College of Liberal Arts and Sciences may pursue the degree of B.A or B.S. Honors Program. Students in the College of Commerce and Finance can pursue the degree Bachelor of Science, Business Honors. The Honors Program Sequence in Liberal Studies (the Honors Program concentration) is open to students in all colleges.

B.A.H. DEGREE: Twelve Honors courses, including the Humanities or Social Science Seminar, a five-credit or six-credit senior thesis, and three upper-level courses (HON 2500 or above) not used to fulfill core requirements.

BACHELOR OF SCIENCE, BUSINESS HONORS DEGREE: Twelve Honors courses, at least six of which must be C & F Honors courses, including a six credit Honors Senior Thesis project. At least 4 Honors courses must be selected from an approved list of Business Honors courses.

B.S.H. DEGREE: Ten Honors courses, including the Natural Science Seminar, a five-credit senior thesis, and three upper-level courses which may be used to fulfill core requirements. (Two Honors laboratory sections are the equivalent of one course.)

HONORS PROGRAM SEQUENCE (CONCENTRATION) IN LIBERAL STUDIES: Eight courses in Honors, at least three 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 liberal arts requirements and electives. For first- and second-year students, the Program offers Honors seminars in place of the core curriculum introductory courses in the humanities, social sciences, and natural 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 Civilization in place of regular core requirements. This Honors core culminates with specially-designed seminars on methodology, current issues, and ethical questions in the humanities, social

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sciences, or natural sciences. 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 and minor requirements in specific academic disciplines.

Admission to the Honors Program is by invitation or by application to the Director. Members of the Program are expected to take Honors courses at least every other semester, and to maintain high academic standards. 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. Admission to all Honors courses requires the permission of the Director.

IRISH STUDIES

Director: Dr. James J. Murphy
Office: 467 St. Augustine Center, tel. 610/519-4647
Website: www.artsci.villanova.edu/irishstudies/

Irish Studies explores the history and culture of the Irish people from different perspectives -- literature, history, art, politics, and folklore. The program is open to students from all colleges. Interested students may also study in Ireland either in a Semester Abroad program or with the Villanova-in-Ireland Summer program at NUI Galway. Details are available in the Irish Studies Office.

CONCENTRATION: Fifteen credits including two core courses, ENG 2500 and HIS 3216, and any three of the following: AAH 3007; ENG 2450, 2460, 2500, 2700, 3615; HIS 3215, 3216; HON 5601; PSC 4950, 6875; or SOC 6500.

LATIN AMERICAN STUDIES

Director: Dr. Satya Pattnayak
Office: 273 St. Augustine Center, tel. 610/519-4773
Website: www.latinamericanstudies.villanova.edu

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

MINOR

A total of 21 credits is needed to satisfy the requirements for a Minor in the following manner: two courses in Spanish language at or above the intermediate level (6 credits), LAS 3950 (3 credits), and any four additional courses (12 credits) from the list below of core and/or elective courses

CONCENTRATION

A total of 24 credits is needed to satisfy the requirements for a Concentration in the following manner: two courses in Advanced Spanish language (6 credits), LAS 3950 (3 credits), and any combination of five courses (15 credits) from the list below of core and/or elective courses.

CORE COURSES:

CHILE	All "Study Abroad in Chile" Courses
COSTA	All "Study Abroad in Costa Rica" Courses
RICA	
ECO 4200	Special Topics: 001 The Economics of Latin American and the Caribbean; 002 Economic Development of Central America
HIS 4405	The Americas and Spanish Conquest
HIS 4410	Colonial Latin America
HIS 4415	Revolutionary Latin America
HIS 4420	Contemporary Latin America
HIS 4490	Topics in World History: 001 Racism and Justice in the Americas; 002 Modern Political History of the Southern Cone*
HIS 4495	Topics in Latin American History
HON 4000	Latin American Themes
LAS 3950	Inter-Disciplinary Latin American Seminar
LAS 3412	Special Topics: 001 Religion in Latin America; 002 Immigration, Ethnicity, and Development
PSC 4750	Latin American Politics
PSC 6875*	Modern Political History of the Southern Cone
S OC 4000	Sociological Themes: 001 Social Change in South America; 002

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	Immigration, Ethnicity, and Development
SOC 6500	Modernization and Development Seminar; Latin America in Comparative Perspective
SPA 1121	Intermediate Spanish I
SPA 1122	Intermediate Spanish II
SPA 1131	Conversation and Composition
SPA 1132	Advanced Conversation and Composition
SPA 1133	Business Spanish I
SPA 1134	Business Spanish II
SPA 1138	Advanced Grammar
SPA 2143	Spanish American Civilization
SPA 2212	Survey of Spanish American Literature
SPA 2213	Spanish American Theater
SPA 2214	Spanish American Novel
SPA 2215	Spanish American Short Story
SPA 3412	001 Poesia, Historia Y Con Politica; 002 Latin America Today; 003 Women's Voices in Latin America
SPA 3822	Spanish American Poetry
THL 5990	Religion in Latin America

ELECTIVES:

ENG 2041	Travel Writings
LAS 5000	Internship*,**
LAS 6000	Independent Study Research
PHI 2410	Ethics of War
PSC 5800	Politics of International Economics
SOC 3600	Race and Ethnic Relations
SOC 3750	Human Populations
THL 3740	Liberation Theologies
THL 4600	North/South Development Ethics

*Offered only through Villanova Summer Program in Valparariso, Chile.

**Offered through our partner institution (CIDH: International Center for Sustainable Human Development) in Costa Rica as well.

LIBERAL ARTS PROGRAM

Director:	Dr. Catherine Hill
Office:	105 St. Augustine Center, tel. 610/519-4661
Website:	www.liberalarts.villanova.edu
Course descriptions:	www.artsci.villanova.edu/courses/liberal.html

College of Liberal Arts and Sciences

NOTE: This program is only available for those students who have already enrolled in the program as of Spring Semester 2002. No other students will be accepted into this program. Students who are interested in an interdisciplinary major in the Humanities may also contact Dr. Kelley about the new Humanities Major administered by the Department of Humanities and Augustinian Traditions.

GENERAL REQUIREMENTS: A minimum of eight advanced courses are chosen for the Liberal Arts major. The normal fourth Core Writing Intensive course is satisfied with the Liberal Arts Seminar (LA 5001). Under special circumstances outlined by the Director and upon written request a student may substitute a research project (LA 6001) for the seminar. Courses which may not be used for the major in Liberal Arts include all courses numbered from 1000 to 1999 (except for Art and Art History) as well as certain specific courses numbered 2000 and above found listed in the Enchiridion or at the Office of Special Programs. The Liberal Arts degree may not be part of a double major.

CONCENTRATIONS:

The Humanities Concentration: (1) Seven non-excluded upper level electives beyond the core requirements from within the following disciplines: Art History, Classical Studies, Communication Arts, Education, English, French, German, History, Peace and Justice, Philosophy, Religious Studies, Spanish, Theatre, and appropriate Honors courses; and, (2) the Liberal Arts Seminar (LA 5001).

The Social Sciences Concentration: (1) Seven non-excluded upper level electives beyond the core requirements from within the following disciplines: Criminal Justice, Economics, Geography, Political Science, Psychology, Sociology, and appropriate Honors courses; (2) the Liberal Arts Seminar (LA 5001).

Independent Studies Concentration: (1) Seven non-excluded upper level electives beyond the core requirements from within a combination of the humanities and social sciences. This affords the student the freedom to define their educational program and goals through the design of an intellectually challenging and coherent program. Students interested in this concentration must submit to the Director of Liberal Arts an essay describing the goals and proposed program of study. With the approval of the Director and in cooperation with the student, a faculty mentor will be assigned. (2) Unless waived in lieu of a special seminar or research project (LA 6001) the student must also take the Liberal Arts Seminar (LA 5001). Students may use this option for concentrations in family studies, environmental studies, medieval thought, Catholic studies, psychology of learning, etc.

MATHEMATICAL SCIENCES

Chair:	Dr. Douglas Norton
Professors:	DeVos, Feeman, Fleischman, Hartmann, Jantzen, Marrero, Pigeon, Sprows, Woldar
Associate Professors:	Gluchoff, Kleiber, Levitan, Longman, Lynn, Norton, Pasles, Pollack-Johnson, Styer, Volpert
Assistant Professors:	Ashley, Bartlow, Belkin, Deanin, Frey, Lupinacci, Pasles, Posner, Seliktar
Instructor:	Chiacchiere, Lukens, Santomas
Director of Mathematics Learning and Resource Center:	Simone
Office:	305 St. Augustine Center, tel. 610/519-4850
Website:	www.math.villanova.edu
Course descriptions:	www.artsci.villanova.edu/courses/math.html

FRESHMAN CALCULUS: Prospective first year Villanova students who have completed a year's study of calculus in high school should take the CEEB 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, 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, e.g. 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, 2710, and courses numbered 3000 or higher. Students may petition to substitute an approved upper division course (e.g., CSC 4170, PHY 4202, CEE 3702, CHE 3231, ECE 3720, ME 4102, ME 5202) 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.

NAVAL SCIENCE

Chair:	Col. Glenn I. Wagner, USMC
Professor:	Wagner
Instructors:	Buchanan, Chalkley, Gotch, Hess, Hutchinson, King, Meyers
Office:	103 John Barry, tel. 610/519-7380
Website:	www.nrotc.villanova.edu
Course descriptions:	www.artsci.villanova.edu/courses/naval.html

Eligibility for a commission in the U.S. Navy or the U.S. Marine Corps through the NROTC Program is contingent upon successful completion of required University and naval professional courses of study. Courses required by the NROTC program 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). Also three credits each of Computer Science and American military affairs. All courses must be approved by the Naval Science Adviser.
2. Marine Option: NS 0100, 1000, 1100, 3500, 3600, 4100, 4200 and three credits of American military affairs, approved by the Marine Option Adviser.
3. Nurse Option: NS 0100, 1000, 1100, 4100, 4200, and six credits of English, approved by Naval Science Adviser.

MINOR: (Navy Option) NS 0100, 1000, 1100, 2100, 2200, 3100, 3200, 4100, 4200.
(Marine Option) NS 0100, 1000, 1100, 3500, 3600, 4100, 4200.

PEACE AND JUSTICE

Director: Dr. William Werpehowski
Office: Ground Floor, Sullivan, tel. 610/519-4499
Website: www.peaceandjustice.villanova.edu/
Course descriptions: www.artsci.villanova.edu/courses/pj.html

CONCENTRATION: Twenty-four 24 credit hours, including all requirements for the minor plus two additional courses from Peace and Justice seminar categories or cross-listed by Peace and Justice.

MINOR: Eighteen (18) credit hours, including either PJ 1100-Introduction to Peace and Justice or PJ 5300-Race, Class, and Gender; at least three courses from two different Peace and Justice seminar categories (2000, 3000, 4000, 5000); and two courses from the remaining Peace and Justice seminars or from those courses cross-listed as Peace and Justice courses.

PHILOSOPHY

Chair: Dr. John Carvalho
Professors: Betz, Brogan, Busch, Desmond, Doody, Immerwahr, Lang, Wetzel
Associate Professors: Goff, Klein, Losoncy, McCartney, Scholz, Wall
Assistant Professors: Brakman, Livingston, Mensch, Regan, Waddell
Office: 108 St. Augustine Hall, tel. 610/519-4690
Website: www.philosophy.villanova.edu
Course descriptions: www.artsci.villanova.edu/courses/philosophy.html

Requirements for Major:

In addition to fulfilling the College Core Requirements (PHI 1050, and one upper division philosophy elective), a philosophy major must take nine additional philosophy courses including:

One course in Ancient Philosophy from the following:

PHI 2500 History of Ancient Philosophy
PHI 3000 Plato and Aristotle
An Honors or Philosophy Topics course in this area. (This course must be approved by the Chair in order to fulfill the

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ANCIENT requirement.)

One course in Medieval Philosophy from the following:

PHI 2510	History of Medieval Philosophy
PHI 3100	An Introduction to St. Augustine
PHI 3120	Augustine in Western Thought
PHI 3130	Augustine and the Existential Tradition
PHI 3160	Islamic Philosophy
PHI 4600	Introduction to St. Thomas Aquinas

An Honors or Philosophy Topics course in this area. (This course must be approved by the Chair in order to fulfill the MEDIEVAL requirement.)

One course in Modern Philosophy from the following:

PHI 2520	History of Modern Philosophy
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An Honors or Philosophy Topics course in this area. (This course must be approved by the Chair in order to fulfill the MODERN requirement.)

An additional six courses from the Philosophy departmental offerings including either 2-PHI-5000 Advanced Seminars or 1-PHI-5000 Advanced Seminar and 1-PHI-6000 Research Seminar.

NOTE: Students may take one of two paths within the major. In the Track Path students will select a track and take 3 courses as part of that track. One or two of these courses may be advanced seminars. The track will serve as a focus within the major. The Five Tracks are Cultural Studies, Pre-law, Social and Political Philosophy and Ethics, History of Philosophy, Continental Philosophy. Details for these tracks may be requested from the Department of Philosophy. In the Thesis Path students will treat 5 courses as free electives, one of which must be an advanced seminar. The sixth course will be PHI 6000, the thesis, and is required of all students in this path. The thesis will provide a focal point for the student's work and development in philosophy.

A student with majors in Philosophy and another discipline may, with the approval of the Chair of the Philosophy Department, count up to two cognate related courses (six credits) from the second major toward fulfilling the Philosophy major.

Requirements for Minor:

Any five electives from the Philosophy departmental offerings. These may include all of the courses completed to satisfy the core requirement in philosophy, but no more than two courses from the following list may be applied to the philosophy minor.

PHI 1050	Introduction to Philosophy
PHI 2015	Logic
PHI 2130	Business Ethics
PHI 2115	Ethics for Health Care Professionals
PHI 2150	Engineering Ethics

PHYSICS

Chair:	Dr. Philip Maurone
Professors:	Hones, Maurone, Phares
Associate Professors:	Papaefthymiou-Davis, Schick, Shaw, Vassiliou, Wunderlich, Zamani
Assistant Professors:	Arrison, Besson, Siah, Strieb,
Office:	347 Mendel, tel. 610/519-4860
Website:	www.physics.villanova.edu
Course descriptions:	www.artsci.villanova.edu/courses/physics.html

MAJOR: PHY 2410/2411, 2412/2413, 2414/2415, 2416/2417, 2601/2603, 3310/3311, 4000/4001, 4002/4003, 4100/4102, 4200/4202, 5100, 5200, 5300; CHM 1103, 1151/1152; MAT 1500, 1505, 2500, 2705. In addition, Physics majors must select a minimum of one elective from the Physics departmental offerings and two science courses chosen from courses for Science, Mathematics or Computer Science Majors.

MINOR: Successful completion of an introductory sequence in Physics, plus a minimum of 15 credits from the upper level Physics courses numbered above 3000. Physics minors are open to all science and engineering students.

APPLIED MINOR: ALL MATH COURSES REQUIRED FOR A MATH DEGREE, PLUS MAT 4310, PHY 2410/2411, PHY 2412/2413, PHY 2414/2415, PHY 2416/2417, PHY 3310/3311, PHY 4301 AND PHY 4303.

POLITICAL SCIENCE

Chair:	Dr. Craig Wheeland
Professors:	Gustafson, Hahn, Johannes, Kerbel, Langran, Malik, Thompson
Associate Professors:	Barrett, Ellis, Kreuzer, Maranto, Sheehan, Smith, Wheeland
Assistant Professors:	Toyoda
Office:	202 St. Augustine Center, tel. 610/519-4710
Website:	www.psc.villanova.edu
Course descriptions:	www.artsci.villanova.edu/courses/psc.html

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MAJOR: Thirty credit hours in political science courses are required for a major including the two introductory courses PSC 1100 and PSC 1200 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 (6000-6800).

Political Science majors must take one course from each area in order to meet our 1-1-1 distribution requirement.

Political science majors are encouraged to take two economics courses, more than the minimum number of courses in languages, at least one geography course, and the two introductory statistics courses to complete their core math requirement (MAT 1230 and MAT 1235).

CONCENTRATION WITHIN THE MAJOR: Nine additional credits beyond the thirty credits for a major may earn a student a certificate in a concentration area. There are five concentrations: Pre-Law, Public Administration, Political Theory, International Studies and National Security Studies. The concentration does not appear on the student's transcript.

MINOR: Fifteen credits consisting of the two introductory courses, PSC 1100 and PSC 1200, plus any three advanced courses numbered PSC 2000 and above will earn a student a minor in Political Sciences. Courses taken on a satisfactory/unsatisfactory basis cannot be used to satisfy requirements for the minor.

PSYCHOLOGY

Chair:	Dr. Thomas C. Toppino
Professors:	Blewitt, Brown, Bush, Folk, Klieger, Long, Toppino
Associate Professors:	Kendzierski, Kurtz
Assistant Professors:	Brand, Fernandez-Duque, Krauss, Markey, Matell, Sheldon
Office:	334 Tolentine, tel. 610/519-4720
Website:	www.psychology.villanova.edu/
Course descriptions:	www.artsci.villanova.edu/courses/psychology.html

MAJOR: PSY 1000 plus 28 additional credits including PSY 4000, 4050, 4100, 4150, 4200, 4500, and 12 elective credits (four electives). PSY 4000 and 4050 are prerequisites for many upper level Psychology courses (PSY 4200 and above). Students who

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contemplate majoring in psychology may begin the major early by taking PSY 1000, plus any elective courses for which PSY 1000 is the only prerequisite.

To choose psychology as a major, a student must have earned a "C+" or higher in General Psychology (PSY 1000) or have a cumulative QPA of 3.00 or better earned at Villanova. 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.

MINOR: PSY 1000 plus any combination of 12 undergraduate credits in psychology.

Courses taken on a satisfactory/unsatisfactory basis cannot be used to satisfy requirements for the major or minor. PSY 1000 is a prerequisite for all other courses in psychology.

RUSSIAN AREA STUDIES

Director: Dr. Jeffrey Hahn
Office: 264 St. Augustine Center, tel. 610/519-4640
Website: 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 an exciting, important, and complex part of the world.

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 3420; HIS 3241, 3242; PSC 4401, 5351, 5950; RUS 1131, 1132, 3412, 3717, 3718, 3810, 3818, 3819; SAT 4007; THL 5510; and appropriate special topics courses in Economics and approved by the director. In addition students are required to take RAS 6000, a multi-disciplinary intensive investigation of a topic in Russian studies, generally taken in the senior year.

Students are encouraged to study in Russia for a summer or semester, either at Nizhny Novgorod State University in Central Russia or at Moscow State University (both have an exchange agreement with Villanova), or at another approved Russian university. Contact the Russian Area Studies Office or the International Studies Office for further details on available programs and transfer of credits.

SOCIOLOGY

Chair:	Dr. Thomas Arvanites
Professors:	DeFina, Gallagher, Jones, Juliani, Knapp, McFalls
Associate Professors:	Arvanites, Eckstein, Hannon, Malik, Pattnayak, Shai, Waegel
Assistant Professor:	Welch
Office:	204 St. Augustine Center, tel. 610/519-4740
Website:	www.sociology.villanova.edu
Course descriptions:	www.artsci.villanova.edu/courses/sociology.html

MAJOR: The Sociology major requires completion of 10 courses. Four courses are required of all majors, while the remaining six are selected by students on the basis of their interests or career aspirations. Introduction to Sociology (Soc 1000) is required of all majors and is the first course that students should take. In addition, 3 courses are required in the theory-methods area (5000 level courses). There are 3 sociological theory course offerings (Soc. 5000, 5050, and 5100) and 3 research methods course offerings (Soc. 5200, 5300, and 5400). Students can take 2 courses from one group and 1 course from the other group or take Soc. 6500 (Senior Seminar) as their 2nd theory or 2nd methods.

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 concentration in Criminal Justice is available for interested students.

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.

STUDIO ART AND MUSIC

Office:	205 St. Augustine Center, tel. 610/519-4760
Course descriptions:	www.artsci.villanova.edu/courses/sar.html

Courses in Studio Art and Music are administered by the chair of the Theatre Department.

THEATRE

Chair:	Rev. Peter M. Donohue, O.S.A.
Professor:	Christy
Associate Professors:	Cannuli, Power, Rotte,
Assistant Professors:	Donohue, Lloyd, Stagliano,
Office:	205 St. Augustine Center, tel. 610/519-4760
Website:	www.theatre.villanova.edu/
Course descriptions:	www.artsci.villanova.edu/courses/theatre.html

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.

THEOLOGY AND RELIGIOUS STUDIES

Chair:	Dr. Bernard Prusak
Professors:	Conn, Danove, Dobbin, Prusak, Scanlon, Van Allen, Werpehowski
Associate Professors:	Benavides, Hadley, Godzieba, Inati, Lazor, Loya, Martin, Toton, Veverka
Assistant Professors:	Doyle, Enright, Hughes, Graham, Laird, Pohlhaus, Spitaler, Weaver
Office:	107 St. Augustine Center, tel. 610/519-4730
Website:	www.theology.villanova.edu
Course descriptions:	www.artsci.villanova.edu/courses/theology.html

MAJOR: Thirty credit hours exclusive of the required introductory course, THL 1050 OR THL 1051, which students in all colleges normally take in the freshman year. Eighteen credit hours are to be taken from among the following: one course in Biblical Studies (any one of the courses from THL 2000 to 2480); one course in Historical Studies (any one of the courses from THL 2500 to 2900); Theological Studies: THL 3200

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Understanding Jesus the Christ; one course in Studies in Christian Living (any one of the courses from THL 4100 to 4690); one course in Religious and Cultural Studies (any one of the courses from THL 5100 to 5285); Advanced Seminar THL 6500. A student chooses the remaining twelve credit hours from the other Theology and Religious Studies courses, in consultation with his or her academic advisor.

MINOR: Eighteen credit hours inclusive of the required introductory course (THL 1050 OR THL 1051). All courses required for the major are highly recommended for minors.

THL 1050 OR THL 1051 is a prerequisite for all other courses in Theology and Religious Studies.

WOMEN'S STUDIES

Director: Dr. Sheryl Bowen
Office: St. Augustine Center, tel. 610/519-6142
Website: www.villanova.edu/womenstudies/
Course descriptions: www.villanova.edu/courses/ws.html

The Women's Studies Program is an interdisciplinary program providing courses, a minor and a concentration in Women's Studies. It is open to students in all degree programs.

MINOR: an Integrating Seminar and five additional courses of which at least two must be from those listed below. The Integrating Seminar is required of all students and is offered every spring.

CONCENTRATION: An Integrating Seminar and 7 additional courses of which at least 3 must be from those listed below. The Integrating Seminar is required of all students and is offered every spring.

WS 2050	Introduction to Women's Studies
ENG 2300	Women in Literature
PHI 2425	Philosophy of Women
HIS 2296	History of American Women
HIS 3360	Women in Pre Modern Western Civilization
SOC 3500	Sociology of Gender Roles
THL 5850	Women in Religion and Society
COM 4150	Gender and Communication
WS 3050	Introduction to Feminist Analysis
WS 3000	Independent Study
WS 5000	Integrating Seminar (required)
AAH 3001	Women in Art

PSC 2700	Women and Politics
COM 3700	Gender and Film
SOC 2300	Sociology of the Family
NUR 4800	Women's Health Issues
PSY 3000	Psychology of Women
CLA 3051	Women in Classical World
PJ 5300	Race, Class and Gender
TOPICS	WS Director can approve other courses offered by departments

(Please see Master Schedule)

WRITING AND RHETORIC

Director:	Dr. Karyn Hollis
Office:	458 St. Augustine Center, tel. 610/519-7872
Website:	www.writingprogram.villanova.edu/concentration

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: Students must complete 24 credit hours comprising 8 courses. All courses are to be Writing Enriched or Writing Intensive. Three courses in Writing Practice, one of which must be in non-fiction or journalistic writing: ENG 2000, 2010, 2015, 2020, 2021, 2045, 2050, 2060; COM 2070, 3950. Other courses meeting the Writing Practice requirement include: ENG 2005, 2006, 2007, 2008; COM, 2000, 2050, 2100, 2150, 2250, 2950. Two courses in theory of composition, rhetorical theory or critical theory: ENG 2040, 2045, 2250; COM 2210, 2310, 2540, 2550, 3800, 4150, 4200. One practicum course: ENG 2030, 2040, 2045, 2090, 2095, 2993; COM 2993. Two Writing Enriched or Writing Intensive English literature courses at the 2100 level or above. See website for additional requirements.

Minor: Students must complete 18 credit hours comprising 6 advanced courses, numbered 2000 or above. All courses are to be Writing Enriched or Writing Intensive. Three courses in writing practice, Groups A and B. Only one of the three courses may come from Group B. (A) ENG 2000, 2005, 2006, 2007, 2008, 2010, 2020, 2030, 2045, 2050, 2060, 2070, 2993; COM 2150, 3150, 3950. (B). COM 2000, 2100, 2050, 2250, 2959. Two courses in theory of composition, rhetorical theory or critical theory: ENG 2250, 2045; COM 2210, 2310, 2540, 2550, 3800, 4150, 4200. One Writing Enriched or Writing Intensive English literature course at the 2100 level or above. See website for additional requirements.

COLLEGE OF COMMERCE AND FINANCE

James M. Danko, MBA, Dean

Dennis Kuhn, Ph.D., Acting Associate Dean and
Director of Graduate Business Programs

Melinda B. German, MBA, Associate Dean for Undergraduate Studies in Business

Robert I. Blanchard, Assistant Dean for Administrative Services

Office: Bartley Hall 1045, Tel. 610-519-4330

Website: www.cf.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 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 College 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. Today it offers the following undergraduate degrees: Bachelor of Science in Accountancy, Bachelor of Science in Economics, Bachelor of Science in Business Honors, and Bachelor of Science in Business Administration with majors in Finance, Management, Management Information Systems, and Marketing. In addition, an International Business Co-major is also available and must be taken in conjunction with another business major. Graduate programs include the Executive MBA, Professional MBA, Full-time Equivalent (FTE) MBA, Master of Taxation, Master of Accountancy and Professional Consultancy (MAC), Master of Technology Management (MTM), Master of Science in Finance, and a JD/MBA program offered jointly with the Villanova Law School.

The undergraduate and graduate business programs of the College 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.

The College faculty consists of 91 full-time professors, with over ninety percent holding the terminal degree in their area of expertise. Approximately 25 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.

MISSION

The College of Commerce and Finance seeks to be a leader among business schools in fostering a learning environment that enables members of our community to develop the knowledge, experience, values, and capabilities needed for a lifetime of learning consistent with the moral vision of St. Augustine. Strengthened by our liberal arts foundation, we also strive to collaborate with the business and academic communities to create, share, and apply knowledge.

We value and support:

- the rich tradition of Catholic Social Teaching and the guidance it provides for all College activities
- an environment of mutual respect, professional development, and continuous improvement
- a quest to achieve educational distinctiveness in the markets in which we choose to compete
- active partnership with other units of the University
- the mutually supportive activities of teaching, research, and service
- innovation and experimentation by faculty and staff in achieving continuous improvement in the educational delivery process
- all dimensions of scholarship, including teaching, discovery, integration, and application
- stakeholder-based perspectives in decision-making
- life-long relationships with our graduates
- the creation of a learning environment the end product of which is adaptive problem solvers
- diversity of opinion and thought, as they relate to the development of operational strategies and tactics chosen to accomplish our mission

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 six strategic initiatives form the curriculum framework for the development of *The Learning Environment* within the College.

- **Technological Competence:** Ability to use the processes and tools of information management in problem-solving such as computer hardware and software.
- **Ethics and Social Responsibility:** Set of moral principles and values governing individual conduct and fulfilling obligations to society.

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- **Experiential Learning:** Active participation in events or activities leading to the accumulation of knowledge and skill.
- **Integrated Curriculum:** Presenting business principles in a cross-functional manner so as to create connections across disciplines with an integrated view of life.
- **Communication Skills:** Exchange of thoughts, information, and ideas through various media.
- **Multicultural & Global Perspective:** Comprehensive, worldwide view.

DEGREE PROGRAMS

UNDERGRADUATE DEGREES OFFERED

The College of Commerce and Finance offers the following undergraduate degrees: Bachelor of Science in Accountancy; Bachelor of Science in Economics; Bachelor of Science in Business Honors; and Bachelor of Science in Business Administration with majors in Finance, Management, Management Information Systems, and Marketing. In addition, an International Business Co-major is also available and must be taken in conjunction with another business major.

BACCALAUREATE DEGREE REQUIREMENTS

The Bachelor of Science degree in the College of Commerce and Finance has the following requirements:

- 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. Beginning with the class of 2008, a minimum technical GPA of 2.0 is also required. **Please note:** the curriculum requirements of Bachelor of Science in Business Honors are different. See course requirements listed under *Special Programs* for more detailed information.
- At least 50% of the business credit hours and 50% of major course credit hours required for degrees in the College must be completed at Villanova University. (Transfer students only.)
- No more than 60 credits (20 courses) may be transferred into a program including AP, transfer, and study abroad.
- The final 30 hours of one's academic program must be completed at Villanova (residence requirement). With permission of the College Dean, a student may study abroad during the first semester of senior year.
- Successful completion of C&F Freshmen Seminar I and II (BA 1001 and BA 1002) in freshman year.
- Successful completion of the diversity requirement by participating in one of the following activities: Habitat for Humanity trip, Study Abroad, Special Olympics, or Freedom School/Martin Luther King Day activities.
- 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 the College, 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. It incorporates some modifications based on particular majors. However, this suggested sequence should not be viewed as limiting since individual adjustments are made to meet desired educational objectives.

FRESHMAN YEAR		Credits
ACC 1101	Principles of Financial Accounting	3
BL 1090	Legal Environment of Business and Society	3
CHS 1000	Ancient Medieval Renaissance Thought	3
CHS 1001	Modern Thought: Enlightenment to Present	3
DIT 1006	Intro to MIS	3
ECO 1001, 1002	Intro to Microeconomics/Macroeconomics	6
ENG 1010	Composition	3
MAT 1330, 1335	Calculus for Business I and II	6
PHI 1050	Intro to Philosophy	3
BA 1001, BA 1002	C&F Freshman Seminar I & II	0

Group A
 ACC 1101
 DIT 1006
 CHS 1001
 ECO 1001
 MAT 1330
 BA 1001

Group B
 BL 1090
 ENG 1010
 CHS 1000
 ECO 1001
 MAT 1330
 PHI 1050
 BA 1001

Either Group A or Group B is taken in the fall semester and the remaining courses in the spring semester. Students taking a language in the fall, take courses listed in Group B and defer either ENG 1010 or PHI 1050. Students continuing their language in the spring should also defer ENG 1010 or PHI 1050 to the next semester.

SOPHOMORE YEAR		Credits
ACC 1102	Principles of Managerial Accounting	3
COM 1101 ¹	Business & Professional Communication	3
DIT 2010	Business Statistics	3
ENG 1050	The Literary Experience	3
ETH 2050 ^{2 & 9}	Ethics	3

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FIN 1113 ³	Principles of Finance	3
HIS xxxx ⁴	History Elective	3
MGT 1102	Management Essentials	3
MKT 1137	Principles of Marketing	3
THL 1050 Or THL1051	Christian Theology or Christianity in History	3

JUNIOR YEAR		Credits
Behavioral Science Elective ⁵		3
ECO 3109	International Economics	3
DIT 1141	Operations Management	3
Humanities Elective ⁶		3
Major Courses		9
Natural Science ⁷		3
Social/Natural Science ⁸		3
Non-Business Electives		3

SENIOR YEAR		Credits
Major courses		9
MGT 3301 ⁹	Policy Formulation and Administration	3
THL xxxx ¹⁰	Theology Elective	3
Free Electives ¹¹		15

¹ Internal transfer students who have taken COM 1100 may use COM 1100 to substitute for the required COM 1101.

² Economics major take ECO 2101 & ECO 2102 in the sophomore year and defer ETH 2050 and HIS xxxx elective to the junior year.

³ ACC 1101, ECO 1001/1002, DIT 1006/2010 are prerequisites of FIN 1113. DIT 2010 can be taken concurrently with FIN 1113.

⁴ HIS xxxx: choose any offering from the History department.

⁵ Behavioral Science: choose PSY 1000 or any SOC course.

⁶ Humanities: choose from Art & Art History, Classical Study, English, Humanities, Modern Languages, Philosophy, Studio Art & Music, or Theater.

⁷ Natural Science: choose from Astronomy & Astrophysics, Biology, Chemistry, or Physics.

⁸ Social/Natural Science: choose from Geography, History, Political Science, Psychology, Sociology, or the Natural Sciences.

⁹ ETH 2050 and MGT 3301 must be taken at Villanova.

¹⁰ THL xxxx: choose any THL elective with a course number of 2000 or above.

¹¹ BL 2185 is recommended for ACC majors who want to sit for CPA certification.

SPECIAL PROGRAMS

BACHELOR OF SCIENCE IN BUSINESS HONORS

The Honors Program at Villanova is a comprehensive four year program of challenging seminars, research opportunities, and cultural and social events designed to bring together superior students and dedicated faculty. Honors courses emphasize extensive reading and writing, and attempt to develop the critical abilities of judgment and analysis.

Incoming freshmen are invited to apply for admission in late May. Current Villanova students may apply directly to the Honors Program at any time. Twelve Honors courses (36 credit hours) are required:

- Six of the Honors courses (18 credits) must be C&F Honors courses
- At least four (12 credits) must be selected from the following:

ACC 1101 (HON 1101)	DIT 2010 (HONORS)
ACC 1102 (HON 1102)	ECO 1001 (HON 1080)
BL 1090 (HON 1090)	ECO 1002 (HON 1081)
DIT 1006 (HONORS)	FIN 1113 (HON 1113)
DIT 1141 (HONORS)	MKT 1137(HON 1137)
- Six credit senior thesis

BUSINESS MINORS

(1) MINORS FOR NON-BUSINESS MAJORS:

A. General Business Minor (Traditional Track; spread over several semesters)

Students enrolled in other colleges of the University may seek a General Business Minor upon application to, and approval by, the Dean of the College of Commerce and Finance. Acceptance is determined on a competitive basis. Required business courses are ACC 1101, BL 1090, DIT 1006, ECO 1001, ECO 1002, FIN 1113, MGT 1102, and MKT 1137. In addition to the business courses, a statistics sequence is also required. The statistics requirement may be fulfilled by successfully completing:

- MAT 1230 and MAT 1235 or
- DIT 2010 (or ECO 2137 or MAT 2310 or MAT 4310) if a student has completed a calculus course or
- Statistics requirement is waived for Engineering and Math majors.

Students in the General Business Minor program are required to either purchase the College laptop or purchase the necessary software programs for their pre-owned laptops. Students who complete the General Business Minor may then minor in Accounting, Economics, Entrepreneurship, Finance, International Business, Management Information Systems, or Marketing. (See course requirements listed under *Departments* for more detailed information).

B. Business Law and Corporate Governance Minor (*Business Minor status is not required to pursue this C&F minor*)

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Students must complete BL 1090 (Legal Environment of Business and Society) and MGT 1102 (Management Essentials) before applying for the Business Law and Corporate Governance minor. Other required minor courses are:

ETH 2050 (Ethics) - may be taken concurrently
BL 2185 (The Law of Contracts and Commercial Transactions)
BL 2135 (The Business Entity: Law, Governance, and Ethics)
MGT 2206 (Leadership) **OR** MGT 2208 (Global Corporate Social Responsibility)

C. Villanova Summer Business Institute (One full summer – 10 weeks)

The Villanova Summer Business Institute (SBI) is an innovative, intensive program seeking to provide the motivated, non-business student with broad exposure to the major foundational areas of modern business and is recognized as a general business minor by the College. The SBI's unique aspect is the integrated, cross-functional teaching approach employed. Faculty from each of the subject areas follow a truly interdisciplinary teaching approach. Specific modules included are:

- SBI 1107 Financial Decision Making I – 5 credits
- SBI 1108 Strategic Analysis & Implementation – 5 credits
- SBI 1110 Financial Decision Making II – 3 credits
- SBI 1112 Ethical Business Leadership – 3 credits

Recognizing the pervasive influence of law, appropriate topics of business law and ethics are included in SBI 1108 – Strategic Analysis & Implementation. Applicants may come from any college (except business) of the University or any other college or university. An applicant must have completed his/her freshman year, usually 30 credits and be in good academic standing. Because of the computational aspects of several of the SBI modules, students are encouraged to take MAT 1230, 1250, DIT 2010, or their equivalent at their home institution. These courses are not prerequisites; students may apply without having taken any of these courses. Applications are accepted beginning December 1 each year and must be received by April 15. Decisions are made on a rolling basis on all complete application packages, so early submission of applications is encouraged. Space is limited; applications will continue to be accepted until April 15 or the SBI is full. Complete details and applications are available from the SBI web site at www.cf.villanova.edu/sbi. Additional questions may be directed to the SBI office at (610) 519-6715 or email at sbi@villanova.edu.

Students who successfully complete a general business minor through either the SBI or the General Business Minor may also pursue a minor in the following business areas: Accounting, Economics, Entrepreneurship, Finance, International Business, Management Information Systems, and Marketing. (See course requirements listed under *Departments* for more detailed information)..

(2) MINORS FOR BUSINESS MAJORS:

Students in the College of Commerce and Finance may pursue a minor in various business disciplines. See course requirements listed under *Departments* for more detailed information.

CO-MAJOR INTERNATIONAL BUSINESS

The IB Co-Major is restricted to College of Commerce and Finance (C&F) majors. The Co-Major must be taken in conjunction with a major in Accounting, Economics, Finance, Management Information Systems, Management, or Marketing.

The International Business Co-Major course requirements are as follows:

- MGT 2350 (International Comparative Management)
 - Three (3) **International Business** elective courses (9 credits) choose from:
 - ACC 2420 (International Accounting)
 - BL 2160 (International Business Law)
 - FIN 2335 (International Financial Management)
 - MKT 2280 (International Marketing and Trade)
 - MGT 2208 (Special Topic in International Management)
- Or other approved IB Electives.

Please Note: Accounting, Finance, Management, and Marketing majors must select the international course offered by their major department. This course will also fulfill a major elective requirement.

- One (1) international-related History or international related Social Science selected from Geography, History, Psychology, Political Science, or Sociology.
- Language Requirement: two semesters of a foreign language (minimum 6 credits) at or above intermediate level if French, German, Italian, or Spanish is chosen or two semesters at the introduction level if Arabic, Chinese, Japanese, Russia is chosen. If a student took two years or more of Arabic, Chinese, Japanese, or Russia in high school, then the student must complete the intermediate II of the language to satisfy the language requirement for IB Co-Major.
- Required international experience.

HONORS AND AWARDS

Awards for distinguished scholarship in the College are made annually at the Beta Gamma Sigma dinner when the top 10% of the senior class and the top 7% 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.

The College awards the Bartley Medallion for distinguished scholarship and service each year at the C&F 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

The College of Commerce and Finance 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

College of Commerce and Finance

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 chairperson of the student's major.

INTERNSHIPS AND COOPS

The College encourages all students to participate in an internship during their academic career. Internships, whether taken for academic credit or not for credit, provide valuable insight into career interests and objectives, provide concrete opportunities for students to make connections between classroom and theory, and often lead to permanent employment. Academic internships ("for credit" internships) are graded on a satisfactory/unsatisfactory basis and fulfill a free elective requirement (not a major elective requirement). Full-time CoOp opportunities are also available to C&F students. Students should contact the Center for Student Advising and Professional Development, Bartley Hall 0023, 610-519-5532 for complete information and procedures.

NON-BUSINESS MINORS FOR BUSINESS MAJORS

Students enrolled in the College of Commerce and Finance 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. Students pursuing minors may receive permission for overloads, if necessary.

LAPTOP COMPUTERS

Computing technology is integrated throughout the undergraduate program of the College of Commerce and Finance. The University supports the College's learning environment by assigning state-of-the-art laptop computers to students. This computer is fully configured, and contains the hardware features and software necessary to support the College's academic programs and to access all of the University's information resources. The University operates a Computer Support Center (Vasey Hall, Room 101, Phone: 610-519-7777) that offers hardware and software assistance, and also provides a loaner pool of laptops for business students whose machines require service. At the conclusion of the Sophomore year, students return the assigned computer in good working order to the University, and then receive a new laptop for use during their junior and senior years. Students return this second computer in good working order to the University at the conclusion of their senior year. If a student leaves the College for any reason, the student must immediately return the computer to the College in good working order. Further information on the College's laptop computer program can be obtained by contacting the Computer Support Center at (610) 519-6646 or <http://unit.villanova.edu/support/menu/csc>.

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. The College of Commerce and Finance sponsors the following organizations: Accounting Society, Advertising Society, American Production and Inventory Control Society (APICS), Association of Information Technology Professionals, Beta Gamma Sigma, Beta Alpha PSI, Economics Society, Entrepreneurship Society, Equity Management Society, Financial Management Association, Gamma Phi Honor Society, International Business Society, Marketing Society, Omicron Delta Epsilon - Economics Honor Society, Phi Beta Lambda, Pi Sigma Epsilon (Marketing Profession Fraternity), Small Business Consultants,,and Society for the Advancement of Management.

ACADEMIC POLICIES AND INFORMATION

Unless otherwise noted, the College of Commerce and Finance follows the general university academic policies and regulations listed in the University section of this Catalog. The specific policies for the College of Commerce and Finance are listed in the Commerce and Finance Undergraduate Handbook, which is available from the Office of the Dean. *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 Commerce and Finance. Such policies are subject to change without prior notice.*

DEPARTMENTS

ACCOUNTANCY

Chair:	Dr. Wayne G. Bremser
Professors:	Bremser, Clay (Emeritus), Derstine, Monahan
Associate Professors:	Barsky, Bierstaker, Borden, Catanach, Emig, Hildebeitel, Licata, O'Mara, Rhoades-Catanach, Ward
Assistant Professors:	Pelesh, Peters, Stiner, West
Business Fellow:	McParland
Office:	3019 Bartley Hall, tel. 610/519-4340
Website:	www.cf.villanova.edu/accountancy
Course Descriptions:	www.cf.villanova.edu/accountancy/courses.html

The program is designed to provide academic preparation for those who seek employment in a wide-range of accounting, tax, and accounting-related areas. The program is also designed to provide a solid background for those individuals who intend to pursue graduate studies in business, law, or independent research. The program is separately accredited by the AACSB International – The Association to Advance Collegiate Schools of Business.

COURSE REQUIREMENTS FOR ACCOUNTING MAJOR:

- ACC 1101 (Principles of Financial Accounting)
- ACC 1102 (Principles of Managerial Accounting)
- ACC 2310 (Intermediate Accounting I)
- ACC 2320 (Intermediate Accounting II)
- ACC 2430 (Auditing)
- ACC2460 (Federal Income Tax I)
- ACC 2470 (Cost Accounting, Analysis and Control)
- Plus one (1) more **Accounting** elective course

Please Note: The following courses do not count toward **Accounting** elective course: ACC 3300 (Financial Statements Analysis), ACC 3430 and ACC 3460 (Accounting Internship), ACC 3470 (Accounting Co-Op), and ACC 3500 (independent study)

COURSE REQUIREMENTS FOR ACCOUNTING MINOR:

ACC 1101 (Principles of Financial Accounting)

ACC 1102 (Principles of Managerial Accounting)

Plus three (3) **Accounting** elective courses from the following list:

ACC 2310 (Intermediate Accounting I)

ACC 2320 (Intermediate Accounting II)

ACC 2420 (International Accounting)

ACC 2430 (Auditing)

ACC 2450 (Advanced Accounting)

ACC 2460 (Federal Income Tax I)

ACC 2470 (Cost Accounting, Analysis and Control)

ACC 2480 (Federal Income Tax II)

ACC 3350 (Fraud Examination)

ACC 3300 (Financial Statement Analysis) can also be used to fulfill the minor requirement as long as the other two **Accounting** elective courses are not ACC 2310 or ACC 2320.

BUSINESS LAW

Associate Professors:	Kuhn, Rainone, Walsh
Assistant Professors:	Cerino, DiLullo
Office:	3015 Bartley Hall, tel. 610-519-4350
Website:	www.cf.villanova.edu/businesslaw
Course Descriptions:	www.cf.villanova.edu/bl/blcourse.html

The Business Law program is administered by the chair of the Marketing Department. Business Law provides the student with an understanding of individual legal responsibilities arising from the interaction of persons, property and government, and creates an awareness of the legal environment of business.

COURSE REQUIREMENTS FOR BUSINESS LAW & CORPORATE GOVERNANCE MINOR (*Business minor status is not required for this minor*):

Students must complete BL 1090 (Legal Environment of Business and Society) and MGT 1102 (Management Essentials) before applying for the Business Law and Corporate Governance minor. Other required minor courses are:

ETH 2050 (Ethics) - may be taken concurrently with the courses for the minor

BL 2185 (The Law of Contracts and Commercial Transactions)

BL 2135 (The Business Entity: Law, Governance, and Ethics)

MGT 2206 (Leadership) **OR** MGT 2208 (Global Corporate Social Responsibility)

DECISION AND INFORMATION TECHNOLOGIES

Chair:	Dr. Robert L. Nydick
Professors:	Andriole, S. Chaudhry, Liberatore, Najdawi, Wolek (Emeritus)
Associate Professors:	Chung, Luo, Nydick, Sipiior, Varano, Wagner
Assistant Professors:	Sloane, Webster, Wright
Business Fellow:	Powell
Instructor:	J. Hill
Office:	3080 Bartley Hall, tel. 610-519-4395
Website:	www.cf.villanova.edu/dit
Course descriptions:	www.cf.villanova.edu/dit/ditcourse.html

The MIS Major prepares students to better understand and utilize information technology in the management and operation of business organizations.

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) major elective courses from the following:

DIT 2160 (Business Decision Making)

MIS 3010 (Business Data Communications)

MIS 3020 (Enterprise Systems and Applications)

MIS 3030 (Enabling Technologies in E-Business)

MIS 3040 (MIS Seminar)

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. Peter A. Zaleski
Professors:	Thanawala, Zech, Zaleski
Associate Professors:	Clain, Donziger, Farrell, Giordano, Wolnicki,
Assistant Professors:	Asher, Barnett, Casario, Dressler, Kelly, Li, Mao, Taylor
Office:	2015 Bartley Hall, tel. 610-519-4370
Website:	www.cf.villanova.edu/economics
Course descriptions:	www.cf.villanova.edu/economics/economicscourse.html

BACHELOR OF SCIENCE IN ECONOMICS: The Economics major offers a challenging intellectual experience designed for those who intend to enter business, government, legal, or teaching professions. It offers sound training in economic theory and institutions which foster the ability to analyze the problems of business and society through use of modern quantitative methods. The curriculum for the Economics major combines grounding in fundamentals with the opportunity to pursue individual interests in the selection of advanced courses. The required courses are:

ECO 1001 (Principles of Microeconomics)

ECO 1002 (Principles of Macroeconomics)

ECO 2101 (Macro-Economic Theory)

ECO 2102 (Micro-Economic Theory)

ECO 4132 (Senior Seminar)

Plus three (3) additional **Economic** elective courses above ECO 3000

BACHELOR OF ARTS IN ECONOMICS: Students in the College of Liberal Arts and Sciences who major in Economics earn the degree of Bachelor of Arts in Economics. Such students must take Calculus (MAT 1330 or equivalent) either to satisfy their math requirement or as a free elective. They should take ECO 1001 and ECO 1002 as two of the three social science courses in the Sophomore year. In addition, students must successfully complete: ECO 2101, 2102, 2137, 15 elective Economics credits numbered above 3000, and ECO 4132. 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 15 Economic credits, three courses within their specialty and focusing their seminar paper (ECO 4132) on that specialty area.

COURSE REQUIREMENTS FOR ECONOMICS MINOR:

MAT 1330 (Calculus or equivalent)

ECO 1001 and ECO 1002 (Principles of Microeconomics & Macroeconomics)

ECO 2101 and ECO 2102 (Macro Economic Theory & Micro Economic Theory)

Plus two (2) additional **Economics** elective courses above ECO 3000.

FINANCE

Chair:	Dr. Andrea L. DeMaskey
Professors:	McWilliams, Nawrocki, Olson
Associate Professors:	Cochran, Dellva, DeMaskey, J. Heck, Shawn Howton, Shelly Howton, LeClair,
Assistant Professors:	Grover, Hanouna, Matthews, Pagano, Shaffer
Business Fellow:	Jablonksi, Suckow
Instructor:	N. Heck
Office:	2019 Bartley Hall, tel. 610-519-7395
Website:	www.cf.villanova.edu/finance
Course descriptions:	http://www.cf.villanova.edu/finance/financecourse.html

The Finance Major is designed for those students interested in domestic and international business finance, financial institutions, and investments. The curriculum also provides a solid foundation for individuals in pursuing postgraduate study in business and law. All finance majors are required to take designated courses in Advanced Financial Management, Financial Markets, and Investments. In addition, elective courses are selected from other offerings in the Finance Department with the exception of Finance Internship, Independent Study, and Finance CoOp.

COURSE REQUIREMENTS FOR FINANCE MAJOR:

FIN 1113 (Principles of Finance)

FIN 2114 (Advanced Financial Management)

FIN 2227 (Financial Markets)

FIN 2323 (Financial Institutions)

Plus three (3) other **Finance** elective courses or two (2) other **Finance** elective courses plus one of the following: ACC2310 (Intermediate Accounting I), ECO 2101 (Macro-Economic Theory), and ECO 2102 (Micro-Economic Theory).

Please Note: FIN 3350 (Finance Internship), FIN 3360 (Independent Study – Finance), and FIN 3470 (Finance Co-Op) do not count toward **Finance** elective courses.

COURSE REQUIREMENTS FOR FINANCE MINOR:

FIN 1113 (Principles of Finance)

Plus three (3) additional **Finance** elective courses except FIN 3350, 3360, and FIN 3470.

MANAGEMENT

Chair:	Dr. Walter G. Tymon
Professors:	Pearce, Stumpf
Associate Professors:	Rongione, Tymon
Assistant Professors:	Arvanites, P. Chaudhry, Clark, Doh, Fitzpatrick, Klingler, McKendrick, Newbert, Quigley
Instructor:	Glasgow
Office:	2083 Bartley Hall, tel. 610-519-6924
Website:	www.cf.villanova.edu/management
Course descriptions:	www.cf.villanova.edu/management/managementcourse.html

The Management major prepares students for success after graduation in either the pursuit of further study in business or law, or their entry into the business world.

COURSE REQUIREMENTS FOR MANAGEMENT MAJOR:

- MGT 2155 (Organizational Behavior)
- MGT 2350 (International Comparative Management)
- DIT 2160 (Business Decision Making)
- Plus three (3) **Management** elective courses.

COURSE REQUIREMENTS FOR INTERNATIONAL BUSINESS CO-MAJOR:

- MGT 2350 (International Comparative Management)
- Three (3) **International Business** elective courses (9 credits) choose from:
 - ACC 2420 (International Accounting)
 - BL 2160 (International Business Law)
 - FIN 2335 (International Financial Management)
 - MKT 2280 (International Marketing and Trade)
 - MGT 2208 (Special Topic in International Management)

Or other approved IB Electives.

Please Note: Accounting, Finance, Management, and Marketing majors must select the international course offered by their major department. This course will also fulfill a major elective requirement.

- One (1) international-related History or international related Social Science selected from Geography, History, Psychology, Political Science, or Sociology.
- Language Requirement: two semesters of a foreign language (minimum 6 credits) at or above intermediate level if French, German, Italian, or Spanish is chosen or two semesters at the introduction level if Arabic, Chinese, Japanese, Russia is chosen. If a student took two years or more of Arabic, Chinese, Japanese, or Russia in high school, then the student must complete the intermediate II of the language to satisfy the language requirement for IB Co-Major.
- Required international experience.

COURSE REQUIREMENTS FOR ENTREPRENEURSHIP MINOR:

ENT 2020 (Entrepreneurial Management)
ENT 2021 (Entrepreneurial Marketing)
ENT 2022 (Entrepreneurial Finance)
ENT 2023 (Entrepreneurial Practicum)

COURSE REQUIREMENTS FOR INTERNATIONAL BUSINESS MINOR:

MGT 2350 (International Comparative Management)

Two (2) **International Business** elective courses (6 credits) choose from the following list (*must be from two different functional areas*):

ACC 2420 (International Accounting)
BL 2160 (International Business Law)
FIN 2335 (International Financial Management)
MKT 2280 (International Marketing and Trade)
MGT 2208 (Special Topic in International Management)
Or other Approved IB Electives

Please Note: Accounting, Finance, Management, and Marketing majors must select the international course offered by their major department. This course will also fulfill a major elective requirement.

Language: If you have two years of a foreign language in high school, your language requirement is waived; otherwise, you are required to take two semesters of a foreign language (minimum 6 credits) at or above the introductory level.

International experience is OPTIONAL

MARKETING

Chair:	Dr. P. Greg Bonner
Professors:	Sanchez, Taylor
Associate Professors:	Bang, Bonner
Assistant Professors:	Capella, Karson, Kozup, Landreth, O'Neill, Pirsch
Instructor:	Mullen
Office:	3015 Bartley Hall, tel. 610-519-4350
Website:	www.cf.villanova.edu/marketing
Course descriptions:	www.cf.villanova.edu/marketing/marketingcourse.html

The Marketing major focuses on a systematic and analytic study of the marketing process for goods and services in consumer, industrial, governmental, and international markets,

with particular emphasis on the development and implementation of products, pricing, promotion, and physical distribution programs.

COURSE REQUIREMENTS FOR MARKETING MAJOR:

MKT 1137 (Principles of Marketing)

MKT 2197 (Marketing Research)

MKT 2375 (Marketing Management)

Plus four (4) additional **Marketing** elective courses choosing from:

MKT 2120 (Buyer Behavior)

MKT 2220 (Advertising Management)

MKT 2224 (Personal 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).

COURSE REQUIREMENTS FOR MARKETING MINOR:

MKT 1137 (Principles of Marketing)

Plus three (3) other **Marketing** elective courses, one of which must be either MKT 2120 or 2197.

Please Note: MKT 3450 does not count toward the minor requirements.

College of Commerce and Finance

COLLEGE OF ENGINEERING

Barry Johnson, Ph.D., Dean

John Molyneux, Ph.D., P.E., Associate Dean, Undergraduate Studies

Joan F. Chrestay, MSW, Associate Dean, External Affairs

H. Keith Moo-Young, Jr., Ph.D., P.E., Associate Dean, Research and Graduate Studies

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, an Interdisciplinary Doctoral Program was instituted. All of the College's undergraduate degree programs are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET). There are three research units in the College: The Center for Advanced Communications (CAC), The Center for Nonlinear Dynamics and Control (CENDAC), and the Villanova Center for the Environment (VCE), a joint effort with the College of Liberal Arts and Sciences.

MISSION STATEMENT

Villanova University is an independent coeducational institution of higher learning founded by the Augustinian Order of the Roman Catholic Church. The University is a community of persons of diverse professional, academic, and personal interests who, in a spirit of collegiality, cooperate to achieve their common goals and objectives in the transmission, the pursuit, and the discovery of knowledge. The College of Engineering is a tangible expression of the University's mission, tradition, and commitment to society.

As a major engineering college under Catholic auspices, it is committed to the education of engineers within the framework of the University's Judeo-Christian humanistic tradition and the heritage of the Order of St. Augustine.

The College of Engineering, consistent with the mission of Villanova University, is dedicated to the education of engineers who are technically competent, liberally educated, and ethically motivated. The College emphasizes undergraduate instruction and encourages research and scholarly activities in all of its departments. High quality research develops the faculty's intellectual skills and contributes to society's reservoir of knowledge. Graduate engineering programs within the College provide opportunities for advanced study, professional development, and participation in research.

The College mission is to provide an engineering education and to perform research in a manner that benefits society, yields an education based on established enduring values, and attracts quality students and faculty.

OBJECTIVES

The College of Engineering strives to prepare its graduates to understand their roles in a technological society, to make constructive contributions to it, and to provide ethical and moral leadership in their profession and communities. It accomplishes this 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, 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 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 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

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 engineering programs offered by Villanova University are fully accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

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, and management. Studies 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 normally 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 2004 OR LATER

Freshman Year						
First Semester		Credits		Second Semester		Credits
CHM 1151	General Chemistry	4		Elective	Science Elective ²	3/4
CHM 1103	General Chemistry Laboratory I	1		CHS 1001 ¹	Modern Thought: Enlightenment to Present	3
CHS 1000 ¹	Ancient Medieval and Renaissance Thought	3		EGR 1705	Engineering Computation	3
EGR 1700	Introduction to Engineering	3		MAT 1505	Calculus II	4

MAT 1500	Calculus I	4		PHY 2400	Physics I, Mechanics	3
THL 1050 or THL 1051	Christian Theology, an Introduction or Christianity in History	3				

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

NOTE ²: Science elective depends upon proposed major. Students should consult adviser for correct course.

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 1050 Christian Theology: an Introduction or THL 1051 Christianity in History
- One 3-credit Theology course at the 2000 level or above.
- Two additional 3-credit courses chosen from among the following:
 - o Theology courses at the 2000 level or above
 - o Any Philosophy course
 - o Any Peace and Justice course
 - o ETH 2050 Ethical Traditions and Contemporary Life
 - o EGR 2001 Engineering: The Humanistic Context. (This course is required in some programs. Students should consult adviser.)

ELECTIVES

All students select their remaining humanities and social science electives from among the courses listed in this 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 (for eligible students only) Modern Languages (except speaking courses in native language) Philosophy Theatre (except skills courses) Theology (2000 and above)	Economics Geography Peace and Justice Political Science Psychology Sociology Women's Studies

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

DECLARATION OF MAJOR

All engineering students are enrolled in a common freshman year curriculum with the exception of a science elective taken in the second semester. Prior to the end of their freshman year all 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 make this request in writing to the Dean of Engineering. 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.

DEGREE PROGRAMS

BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING

The chemical engineer typically uses the principles of mathematics, chemistry, physics and engineering sciences 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 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 - The overall educational objectives of the Bachelor of Science in Chemical Engineering Program are:

- To prepare our graduates to enter the chemical engineering profession immediately after receiving the bachelor's degree, as well as to develop the

personal capabilities that allow them to enter a variety of other professions should they choose to do so.

- ❑ To develop an understanding of the scientific principles underlying technology, upon which the practice of the profession of chemical engineering is based.
- ❑ To develop the technical skills needed to practice the chemical engineering profession, at an entry level immediately upon graduation, and to pursue an advanced degree in chemical engineering at some time after graduation if qualified.
- ❑ To develop those personal and interpersonal skills that facilitate effective practice of the chemical engineering profession and lead to the opportunity for career success.
- ❑ To develop broadly educated, well-rounded graduates, as is consistent with the Augustinian tradition.
- ❑ To prepare graduates whose capabilities will enable them to continue to learn and grow professionally, and who are able to take advantage of professional opportunities as they arise, to enhance their career.

The department has formulated specific educational outcomes that will achieve these overall educational objectives. For a detailed listing of these outcomes, please refer to the department website at www.engineering.villanova.edu/che.

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 course.

Technical electives in the junior and senior years allow the student to tailor the program toward career goals. In the senior year, the student develops the ability to work independently by carrying out a chemical engineering 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 technical electives, to be chosen from a list of approved courses under the guidance of a faculty member designated as the student's academic adviser. The student may elect one such technical elective outside the Chemical Engineering Department, as described in the guidance manual. (A copy of the guidance manual which lists acceptable elective courses and describes the advising process is available from the ChE academic advisers or from the department, as well as on the ChE website: www.engineering.villanova.edu/che).

Program of Studies for students matriculating before Fall 2003

Sophomore Year					
First Semester		Credits	Second Semester		Credits
CHE 2041	Chemical Process Calculations	4	CHE 2032	Chemical Engineering Thermodynamics I	3

CHM 3415	Physical Chemistry for Engineers I	3		CHE 2232	Fluid Flow Operations	3
CHM 3401	Physical Chemistry Lab I	1		CHE 2811	Professional Development I	1
MAT 2705	Differential Equations with Linear Algebra	4		CHE 2432	Modeling and Numerical Methods I	3
PHY 2402	Physics II: Electricity and Magnetism	3		CHM 3416	Physical Chemistry for Engineers II	3
Elective	Humanities THL>2000	3		CHM 3402	Physical Chemistry Lab II	1
				PHY 2403	Physics Lab for Engineering	1
				Elective	Humanities from THL, PHI, PJ, ETH 2050, EGR 2001	3

Junior Year						
First Semester		Credits		Second Semester		Credits
CHE 3031	Heat Transfer Operations	3		CHE 3032	Principles of Mass Transfer	3
CHE 3131	Chemical Engineering Thermodynamics II	3		CHE 3232	Dynamic Simulation and Control Applications	3
CHE 3132	Chemical Engineering Economics	3		CHE 3231	Modeling and Numerical Methods II	3
CHE 3911	Chemical Engineering Lab I	1		CHE 3922	Chemical Engineering Lab II	2
CHE 3821	Professional Development II	2		CHE 3822	Professional Development III	2
CHM 2211	Organic Chemistry I	3		CHM 2212	Organic Chemistry II	3
CHM 2201	Organic Chemistry Lab I	1		CHM 2202	Organic Chemistry Lab II	1
Elective	Humanities from THL, PHI, PJ, ETH 2050, EGR 2001	3				

Senior Year						
First Semester		Credits		Second Semester		Credits
CHE 4131	Process Design	3		Electives	Technical	9
CHE 4031	Chemical Reaction Engineering	3		Elective	Humanities/ Social Science	3
CHE 4921	Chemical Engineering Lab III	2		Elective	Free	3
CHE 4831	Chemical Engineering Project	3				
CHE 4821	Professional Development IV	2				
Electives	Technical	6				

Program of Studies for students matriculating Fall 2003 or later

Sophomore Year						
First Semester		Credits		Second Semester		Credits
CHE 2041	Chemical Process Calculations	4		CHE 2032	Chemical Engineering Thermodynamics I	3
CHM 2211	Organic Chemistry I	3		CHE 2232	Fluid Flow Operations	3
CHM 2201	Organic Chemistry Lab I	1		CHM 2212	Organic Chemistry II	3
MAT 2705	Differential Equations with Linear Algebra	4		CHM 2202	Organic Chemistry Lab II	1
PHY 2402	Physics II: Electricity and Magnetism	3		PHY 2403	Physics Lab for Engineering	1
Elective	Humanities THL>2000	3		Elective	Humanities/ Social Science	3
				Elective	Ethics from any department	3

Junior Year						
First Semester		Credits		Second Semester		Credits

CHE 3031	Heat Transfer Operations	3		CHE 3032	Principles of Mass Transfer	3
CHE 3131	Chemical Engineering Thermodynamics II	3		CHE 3232	Simulation and Control	3
CHE 2432	Modeling and Numerical Methods I	3		CHE 3842	Safety Analysis	2
CHE 3841	Applied Statistics	2		CHE 3922	Chemical Engineering Lab II	2
CHE 3911	Chemical Engineering Lab I	1		CHM 3416	Physical Chemistry for Chemical Engineers	3
	Technical Elective	3		CHM 3402	Physical Chemistry Lab for Chemical Engineers	1
Elective	Humanities from THL, PHI, PJ, ETH 2050, EGR 2001	3			Technical Elective	3

Senior Year							
First Semester			Credits	Second Semester			Credits
CHE 4131	Process Design I	3		CHE 4832	Chemical Engineering Research II	3	
CHE 4031	Chemical Reaction Engineering I	3			Technical Electives	9	
CHE 4831	Chemical Engineering Research I	3		Elective	Humanities/ Social Science	3	
CHE 4821	Tech. Literature Investigations	1					
CHE 4921	Chemical Engineering Laboratory III	2					
	Technical Elective	3					

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 - Graduates of our Department will be 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 areas 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.engineering.villanova.edu/ce.

Program of Studies

Sophomore Year						
First Semester		Credits		Second Semester		Credits
CEE 2104	Mechanics: Statics & Dynamics	4		CEE 2103	Mechanics of Solids	3
CEE 2602	Civil Egr. Measurements	3		CEE 2311	Environmental Egr. Science	3
MAT 2500	Calculus III	4		MAT 2705	Differential Equations with Linear Algebra	4
PHY 2402	Physics II: Electricity and Magnetism	3		Elective	Humanities THL>2000	3
GLY 2805	Geology for Engineers	3		Elective	Free	3

Junior Year						
First Semester		Credits		Second Semester		Credits
CEE 3321	Water & Wastewater Treatment	3		CEE 3211	Transportation Engineering	3
CEE 3401	Structural Analysis	3		CEE 3412	Structural Design	3
CEE 3500	Fluid Mechanics	3		CEE 3511	Hydraulic Egr. & Hydrology	3
CEE 3704	CE Numerical & Statistical Analysis	3		CEE 3801	Soil Mechanics	3
CEE 3902	CE Materials	2		CEE 3901	Soil Mechanics Laboratory	1
CEE 3921	Environmental Egr. Laboratory	1		CEE 3911	Fluid Mechanics Laboratory	1
				CEE 3912	Structural Egr. Laboratory	1
				Elective	Humanities from THL, PHI, PJ, ETH 2050	3

Senior Year						
First Semester		Credits		Second Semester		Credits
CEE 4601	CEE Professional Practice	3		CEE 4606	CEE Capstone Design Project	3
CEE 4701	Economy and Risk	3		EGR 2001	Engineering: Humanistic Context	3
Elective	CEE Senior Elective ¹	3		Elective	Social Science from ECO, GEO, PJ, PSC, PSY, SOC, WS	3
Elective	CEE Senior Elective ¹	3		Elective	Humanities Elective	3
Elective	CEE Senior Elective ¹	3		Elective	Free	3
Elective	Technical Elective ²	3		Elective	Technical Elective ²	3

¹CEE Senior Electives include:

- CEE 4224 Transportation Facilities Design
- CEE 4331 Solid & Hazardous Waste
- CEE 4412 Advanced Structural Engineering
- CEE 4521 Water Resources Engineering Design
- CEE 4801 Foundation Design

²Technical Electives include

- CEE 4235 Advanced Transportation Engineering
 - CEE 4612 CEE Undergraduate Research,
- and other courses defined as Technical Electives by the College of Engineering

BACHELOR OF SCIENCE IN COMPUTER ENGINEERING

The objectives of the computer engineering program are to prepare graduates for successful professional careers in computer engineering and to nurture in them the skills required for career-long learning whether through informal self-study, continuing education, or formal advanced study in computer engineering or a related discipline.

Program Educational Objectives - The educational objectives for the computer engineering program are listed below.

- Graduates will master, to the satisfaction of the faculty, the fundamentals of the discipline.
- Graduates will have substantial experience in engineering design.
- Graduates will develop and nurture skills for life-long learning and continuing professional development.
- Graduates will be able to communicate effectively.
- Graduates will have opportunities to explore the technological and social implications of their professional activities.

A more detailed description of these objectives is available.

The curriculum is structured to provide a thorough foundation in the fundamentals of computer engineering, electrical engineering and computer science. Design, as well as analysis, is emphasized throughout the curriculum, using a project-based structure to teach students how to learn on their own, work in teams, and synthesize new engineering solutions by using their knowledge and analytical skills. Great importance 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 in computer algorithms, digital system design, computer architectures, microprocessor systems, computer interfacing, and the C programming language. This provides a foundation for the senior year which includes electives and an in-depth design project. Students can tailor their senior year towards a variety of objectives by carefully choosing electives in computer engineering, the humanities, and other subjects. The Electrical and Computer Engineering Department provides these specialized areas: computer communications security, multimedia, fuzzy logic, neural networks, microcontrollers, software engineering, computer networks, and real-time digital signal processing.

Senior electives can also be used to complement the computer engineering requirements with studies in fields outside of the department. Possibilities include a computer science minor, a mathematics minor, a business minor, and a minor or concentration in cognitive science. Selection of specializations and study options require

each student to assume an active and responsible role in the planning and decision making as the program unfolds. To aid in this, detailed information is available from the departmental office and can be discussed with the Department Chair or the Computer Engineering program adviser.

Dual Degree Program Leading to a Bachelor of Science in Computer Engineering and a Bachelor of Science in Electrical Engineering

Superior students may earn both the Bachelor of Science in Computer Engineering and the Bachelor of Science in Electrical Engineering degrees. The two degrees are awarded simultaneously upon completion of all requirements for both degrees. Because of the significant overlap between the two programs, it is possible to earn both degrees in four and a half years. Interested students should consult the ECE special programs adviser as early in their undergraduate studies as possible to obtain additional information.

Program of Studies – Class of 2006 & 2007

Sophomore Year						
First Semester		Credits		Second Semester		Credits
CSC 1051	Algorithms and Data Structures I	4		CSC 1052	Algorithms and Data Structures II	4
ECE 2042	Fundamentals of Computer Engineering I	3		ECE 2044	Fundamentals of Computer Engineering II	3
ECE 2043	Fundamentals of Computer Engineering I Lab I	1		ECE 2045	Fundamentals of Computer Engineering II Lab II	1
ECE 2052	Fundamentals of Electrical Engineering I	3		ECE 2054	Fundamentals of Electrical Engineering II	3
ECE 2053	Fundamentals of Electrical Engineering I Lab I	1		ECE 2055	Fundamentals of Electrical Engineering II Lab II	1
ECE 2409	Fundamentals of MATLAB	2		PHY 2402	Physics II: Electricity and Magnetism	3
MAT 2705	Differential Equations with Linear Algebra	4		Elective	Humanities ³	3

Junior Year						
First Semester		Credits		Second Semester		Credits
CSC 1300	Discrete Structures	3		CSC 4700	Software Engineering	3

CSC 1600	Operating Systems	3		ECE 3240	Discrete-Time Signals and Systems	4
ECE 3424	Expert Systems Programming	3		ECE 3450	Digital Electronics	3
ECE 3445	Computer Architecture	4		ECE 3720	Engineering Probability and Statistics	3
ECE 3900	Professional Development Seminar	2		ECE 3971	Design Seminar - CPE	3

Senior Year						
First Semester		Credits		Second Semester		Credits
ECE 4470	Computer Networks	4		ECE 4973	Design Project Report - CPE	1
ECE 4971	Design Project – CPE	3		Elective	Technical Elective ¹	3
Electives	Technical Electives ¹	6		Elective	Restricted Elective ²	3
Elective	Humanities THL \geq 2000	3		Elective	Free	3
				Elective	Humanities from THL, PHI, PJ, ETH 2050, EGR 2001	3
				Elective	Humanities/Social Science	3

¹Technical electives must be chosen from the approved list of computer engineering or computer science courses. At least 2 must be taken from the computer engineering list of approved electives.

²Restricted elective must be an approved technical elective or have the approval of the ECE Department Chair.

³Choose from EGR 2001, ETH 2050, PHI 1600, PHI 2130, PHI 2150, PHI 2180, PHI 3820, PHI 3825.

Program of Studies – Class of 2008

Sophomore Year						
First Semester		Credits		Second Semester		Credits
ECE 2042	Fundamentals of Computer Engineering I	3		ECE 2044	Fundamentals of Computer Engineering II	3
ECE 2043	Fundamentals of Computer Engineering I Lab I	1		ECE 2045	Fundamentals of Computer Engineering II Lab II	1

ECE 2620	C++ Programming, Algorithms & Data Structures	4		ECE 2052	Fundamentals of Electrical Engineering I	3
ECE 2409	Fundamentals of MATLAB	2		ECE 2053	Fundamentals of Electrical Engineering I Lab I	1
ECE 2900	Intro to Electrical and Computer Engineering	1		ECE 3445	Computer Architecture	3
MAT 2705	Differential Equations with Linear Algebra	4		ECE 3720	Engineering Probability Statistics	3
Elective	Humanities THL ≥ 2000	3		Elective	Science or Mathematics	3

Junior Year							
First Semester			Credits	Second Semester			Credits
CSC 1300	Discrete Structures	3		ECE 3240	Discrete-Time Signals and Systems	4	
CSC 1600	Operating Systems	3		ECE 3XXX	(Course under development)	3	
ECE 3450	Digital Electronics	3		ECE 4470	Computer Networks	4	
ECE 3XXX	Software Engineering	1		Elective	Technical Elective*	3	
ECE 3900	Professional Development Seminar	2		ECE 3971	Design Seminar - CPE	2	
Elective	Science or Math	3					

Senior Year							
First Semester			Credits	Second Semester			Credits
ECE 4971	Design Project - CPE	3		ECE 4973	Design Project Report - CPE	1	
Elective	Technical Elective*	3		Elective	Technical Elective**	3	
Electives	Professional Electives***	6		Electives	Professional Electives***	6	
Elective	Ethics Elective	3		Elective	Humanities from THL, PHI, ETH, PJ, EGR 2001	3	

				Elective	Free	3
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*At least two (2) technical electives must be chosen from the Computer Engineering Technical Electives list.

**Technical elective must be chosen from the Computer Engineering Technical Electives list or the Computer Science Technical Electives.

***Professional elective must meet one of the following criteria: (a) be from the approved list for Computer Engineering Technical Electives or Computer Science Technical Electives; (b) be a course used to satisfy a minor or concentration requirement after the Free elective and, where applicable, the Humanities/Social Science elective have been used toward the minor or concentration; (c) be Math 2500; (d) be another course approved by the ECE Department Chair.

Note: See “Engineering Curriculum Elective Requirements” for list of approved courses.

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

The objectives of the electrical engineering program are to prepare graduates for successful professional careers in electrical engineering and to nurture in them the skills required for career-long learning, whether through informal self-study, continuing education, or formal advanced study in electrical engineering or a related discipline.

Program Educational Objectives - The educational objectives for the electrical engineering program are listed below.

- Graduates will master, to the satisfaction of the faculty, the fundamentals of the discipline.
- Graduates will have substantial experience in engineering design.
- Graduates will develop and nurture skills for life-long learning and continuing professional development.
- Graduates will be able to communicate effectively.
- Graduates will have opportunities to explore the technological and social implications of their professional activities.

A more detailed description of these objectives is available.

The curriculum is structured to provide a thorough foundation in the fundamentals of electrical and computer engineering. Design, as well as analysis, is emphasized throughout the curriculum, using a project-based structure to teach students how to work on their own, work in teams, and synthesize new engineering solutions by using their knowledge and analytical skills. Great importance 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 electives and an in-depth design project. Students can tailor their senior year towards a variety of objectives by carefully choosing electives in electrical engineering, the humanities, and other subjects. The Electrical and Computer Engineering Department provides these specialized areas: control systems, digital signal processing, microwave networks, communication electronics, optoelectronics, analog and digital integrated electronics, microcontrollers, and power systems.

Senior electives can also be used to complement the electrical engineering requirements with studies in fields outside of the department. Possibilities include minors

in business, cognitive science, computer engineering, computer science, mathematics, and physics and concentrations in cognitive science and mechatronics.

Students in the electrical engineering program acquire a working knowledge of computers and their applications by studying algorithms, programming, and the design and interfacing of computers. The year-long, sophomore-level Fundamentals of Computer Engineering sequence and junior-level courses on Digital Electronics and Analog Electronics provide hands-on-experiences with software and hardware interfacing techniques. Senior electives provide applications of computer-aided analysis and design, simulation, and real-time laboratory processing in areas such as control, communication electronics, signal processing, integrated electronics, optoelectronics, microcontrollers, and microwave networks. Selection of specializations and electives require each student to assume an active and responsible role in the planning and decision making as the program unfolds. To aid in this, detailed information is available from the departmental office and can be discussed with the Department Chair and the Electrical Engineering program adviser.

Dual Degree Program Leading to a Bachelor of Science in Computer Engineering and a Bachelor of Science in Electrical Engineering

Superior students may earn both the Bachelor of Science in Computer Engineering and the Bachelor of Science in Electrical Engineering degrees. The two degrees are awarded simultaneously upon completion of all requirements for both degrees. Because of the significant overlap between the two programs, it is possible to earn both degrees in four and a half years. Interested students should consult the ECE special programs adviser as early in their undergraduate studies as possible to obtain additional information.

Program of Studies – Class of 2006 & 2007

Sophomore Year						
First Semester		Credits		Second Semester		Credits
ECE 2042	Fundamentals of Computer Engineering I	3		ECE 2044	Fundamentals of Computer Engineering II	3
ECE 2043	Fundamentals of Computer Engineering I Lab I	1		ECE 2045	Fundamentals of Computer Engineering II Lab II	1
ECE 2052	Fundamentals of Electrical Engineering I	3		ECE 2054	Fundamentals of Electrical Engineering II	3
ECE 2053	Fundamentals of Electrical Engineering I Lab I	1		ECE 2055	Fundamentals of Electrical Engineering II Lab II	1
ECE 2420	Engineering Programming and Applications	3		ECE 2409	Fundamentals of MATLAB	2

MAT 2705	Differential Equations with Linear Algebra	4		MAT 2500	Calculus III	4
PHY 2402	Physics II: Electricity and Magnetism	3		PHY 2403	Physics Lab for Engineering	1

Junior Year						
First Semester		Credits		Second Semester		Credits
ECE 3220	Signal Processing	4		ECE 3550	Analog Electronics	4
ECE 3450	Digital Electronics	3		ECE 3690	Engineering Electromagnetics	4
ECE 3500	Electronic Materials and Devices	4		ECE 3770	Electrical Communications	4
ECE 3720	Engineering Probability and Statistics	3		ECE 3970	Design Seminar - EE	3
ECE 3900	Professional Development Seminar	2		Elective	Humanities THL \geq 2000	3

Senior Year						
First Semester		Credits		Second Semester		Credits
ECE 4290	Engineering System Models and Control	4		ECE 4972	Design Project Report – EE	1
ECE 4970	Design Project - EE	3		Elective	Technical Elective ¹	3
Elective	Technical Electives ¹	6		Elective	Restricted Elective ²	3
Elective	Humanities ³	3		Elective	Free	3
				Elective	Humanities from THL, PHI, PJ, ETH 2050, EGR 2001	3
				Elective	Humanities/Social Science	3

¹Technical electives must be chosen from the approved list of electrical engineering courses.

²A Restricted elective must be an approved technical elective or have the approval of ECE Department Chair.

³Choose from EGR 2001, ETH 2050, PHI 1600, PHI 2130, PHI 2150, PHI 2180, PHI 3820, PHI 3825.

Program of Studies – Class of 2008

Sophomore Year						
First Semester		Credits		Second Semester		Credits
ECE 2052	Fundamentals of Electrical Engineering I	3		ECE 2054	Fundamentals of Electrical Engineering II	3
ECE 2053	Fundamentals of Electrical Engineering I Lab I	1		ECE 2055	Fundamentals of Electrical Engineering II Lab II	1
ECE 2409	Fundamentals of MATLAB	2		ECE 2042	Fundamentals of Computer Engineering I	3
ECE 2900	Intro to Electrical and Computer Engineering	1		ECE 2043	Fundamentals of Computer Engineering I Lab I	1
MAT 2705	Differential Equations with Linear Algebra	4		ECE 3720	Engineering Probability and Statistics	3
PHY 2402	Physics II, Electricity & Magnetism	3		MAT 2500	Calculus III	4
PHY 2403	Physics Lab for Engineering	1		Elective	THL \geq 2000	3

Junior Year						
First Semester		Credits		Second Semester		Credits
ECE 3220	Signal Processing	4		ECE 3450	Digital Electronics	3
ECE 3500	Electronic Materials and Devices	4		ECE 3690	Engineering Electromagnetics	4
ECE 3550	Analog Electronics	4		ECE 3770	Electrical Communications	4
ECE 3900	Professional Development Seminar	2		ECE 3970	Design Seminar - EE	2
Elective	Science, Technical, Mathematics	3		ECE 4290	Engineering System Models and Control	4

Senior Year							
First Semester			Credits	Second Semester			Credits
ECE 4970	Design Project - EE	3		ECE 4972	Design Project Report - EE	1	
Elective	EE Track*	3		Elective	EE Track*	3	
Electives	Professional Electives***	6		Electives	Professional Electives***	6	
Elective	Ethics Elective**	3		Elective	Humanities from THL, PHI, ETH, PJ, EGR 2001	3	
				Elective	Free	3	

*Track Electives chosen from one of the following tracks: Signal Processing Systems, High Frequency Systems, Embedded Systems, Electronic Systems, Power Systems, or General Electrical Engineering. See Approved Lists of Courses of EE Tracks.

**Ethics-based Elective chosen from EGR 2001, ETH 2050, PHI 1600, PHI 2130, PHI 2150, PHI 2180, PHI 3820, PHI 3825.

***Professional Elective, preapproved by EE Academic Advising Committee, for the pursuit of minors, concentrations, and other academic plans

Note: See “Engineering Curriculum Elective Requirements” for list of approved courses.

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

Mechanical Engineering is 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 mission of the Department of Mechanical Engineering is to provide a sound, broad-based educational experience that prepares students for the societal and professional aspects of their lives. Students will be educated, competent, and socially responsible mechanical engineers who clearly possess the following characteristics:

- Proficiency in the design of mechanical components and systems,
- Proficiency in analyzing and solving fundamental engineering problems,
- Proficiency in written, oral, and graphical communications,
- Preparedness for employment, graduate studies, and continuing education,
- A broad education that includes an understanding of professional and ethical responsibilities.

This mission statement is consistent with the goals in the strategic plan and the university mission statement.

Program Educational Objectives

- ❑ Have the skills and abilities needed for successful employment in the mechanical engineering and related professions.
- ❑ Understand the fundamental scientific principles that underpin the mechanical engineering profession,
- ❑ Possess the necessary communication and interpersonal skills to enable them to be successful in mechanical engineering and other professions.
- ❑ Know the importance of life-long learning for enhancing their personal and professional growth, and their careers.
- ❑ Be broadly educated, 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 one of the elective courses offered by the department, designated as the ME elective in the program of studies. Ordinarily students will take two 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. All concentrations and minors must be approved by the Chair of Mechanical Engineering. 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.

Program of Studies

Sophomore Year						
First Semester		Credits		Second Semester		Credits
MAT 2500	Calculus III	4		CEE 2103	Mechanics of Solids	3
ME 2100	Statics	3		COM 1101	Business and Professional Communication	3
ME 2502	Professional Development	1		MAT 2705	Differential Equations with	4

	Seminar				Linear Algebra	
ME 2505	Mechanical Engineering Analysis & Design	4		ME 2113	Manufacturing Engineering	3
PHY 2402	Physics II: Electricity and Magnetism	3		ME 2900	Mechanical Engineering Laboratory I	1
PHY 2403	Physics Lab for Engineering	1		ME 3100	Thermodynamics I	3

Junior Year							
First Semester			Credits	Second Semester			Credits
ME 3150	Introduction to Dynamics	3		ECE 6020	Introduction to Electrical Systems	3	
ME 3300	Materials Science I	3		ME 3403	Solid Mechanics & Design II	3	
ME 3402	Solid Mechanics and Design I	3		ME 3950	Heat Transfer	3	
ME 3600	Fluids and Fluid Systems	3		ME 3802	Vibrations	3	
Elective	Humanities THL>2000	3		ME 3900	Mechanical Engineering Laboratory II	1	
				ME 4800	Design Seminar in ME I	1	
					Humanities from THL, PHI, PJ, ETH 2050	3	

Senior Year							
First Semester			Credits	Second Semester			Credits
ME 4902	Mechanical Engineering Laboratory III	1		ME 4802	Design Seminar in Mechanical Engineering III	1	
ME 4102	System Dynamics	3		Electives	Career/ME Electives	6	
ME 4801	Design Seminar in Mechanical Engineering II	2		Elective	Career/Free ¹	3	
ME 4850	Thermal-Fluid System Design	1		Elective	Professional Development ²	3	
Elective	Ethics Elective ³	3		Elective	Social Science/	3	

					Humanities	
Elective	ME Elective	3				

¹This is a career elective for those students pursuing a concentration as described above; for all other students it serves as a free elective.

²Choose from BL 1090, BL 2135, CEE 4601, EGR 2001, ME 5600.

³Choose from EGR 2001, ETH 2050, ETH 3500, ETH 3650, HON 1380, PHI 2121, PHI 2180, PHI 2550.

SPECIAL PROGRAMS

DUAL DEGREE PROGRAMS, MINORS AND OPTIONS

The College of Engineering provides the flexibility for its students to pursue various program additions and options. These include a dual degree program leading to a Bachelor of Arts degree, or a Bachelor's degree through the College of Commerce and Finance; a dual degree program leading to a Bachelor of Science in Computer Engineering and a Bachelor of Science in Electrical Engineering; academic minors in Business, Chemistry, Computer Engineering, Computer Science, Mathematics, Mechatronics, and Physics; the Honors Program; and the ROTC Programs. Also the College of Engineering offers a Five-Year Combined Bachelors/Masters Program in all programs.

BACHELOR OF ARTS - DUAL DEGREE PROGRAM

Engineering students wishing to enter a Dual Degree Program must write a letter to the Dean of Engineering requesting admission into the program.

MINORS OUTSIDE THE COLLEGE OF ENGINEERING

Students should contact the Dean's Office in the respective college regarding the specific program.

COMPUTER ENGINEERING MINOR

The department offers a minor in computer engineering to students outside the major. The requirements include five required courses and two electives. The required courses are:

ECE 1620: Engineering Programming and Applications

ECE 2042 & 2043: Fundamentals of Computer Engineering I & Lab

ECE 2044 & 2045: Fundamentals of Computer Engineering II & Lab

ECE 2052 & 2053: Fundamentals of Electrical Engineering I & Lab

ECE 3445: Computer Architecture (prerequisites ECE 2042 & 2043)

The two electives must be selected from the following list.

ECE 5240: Multimedia

ECE 5430: Microcomputer System Design (prerequisites ECE 2042 & 2043)

ECE 5444: Introduction to Fuzzy Logic (prerequisite ECE 2409)

ECE 5445: Introduction to Neutral Networks (prerequisite ECE 2409)
ECE 5450: Microcontrollers and Applications (prerequisites ECE2042 & 2043)
ECE 5470: Topics in Computer Networks
ECE 5477: Computer Communications Security
ECE 5484: Advanced Digital System Design (prerequisite ECE 3450)
ECE 5540: Digital Integrated Electronics (prerequisite ECE 3450)
ECE 5790: Digital Signal Processing (prerequisite ECE 3220 or ECE 3240)
ECE 5792: Real-Time Digital Signal Processing (prerequisite ECE 5790)

Prerequisite courses must be satisfied.

MECHATRONICS MINOR

The purpose of the mechatronics minor is to provide interested undergraduate Mechanical Engineering and Electrical and Computer Engineering students an opportunity to undertake interdisciplinary courses of relevance to state-of-the-art electromechanical system applications. The requirements of the minor according to major are the following. Contact your academic adviser if you wish to pursue this minor.

Mechanical Engineering Majors (One course is taken in place of ECE 6020)

Required ME Courses:

ME 2100: Statics

ME 3150: Introduction to Dynamics

ME 4102: System Dynamics

Required ECE Courses:

ECE 2052 and ECE 2053 (lab): Fundamentals of Electrical Engineering I

ECE 2054 and ECE 2055 (lab): Fundamentals of Electrical Engineering II

ECE 2042 and ECE 2043 (lab): Fundamentals of Computer Engineering I

One of the remaining courses must be chosen from the following ECE electives:

ECE 3550: Analog Electronics

ECE 4290: Engineering System Models and Controls

ECE 5450: Microcontrollers

ECE 5800: Electric Machines

One of the remaining courses must be chosen from the following ME electives:

ME 5411: Mechatronics

ME 5421: Robotics

Electrical and Computer Engineering Majors

Required ME Courses:

ME 2100: Statics

ME 3150: Introduction to Dynamics

ME 4102: System Dynamics

Required ECE Courses:

ECE 2052 and ECE 2053 (lab): Fundamentals of Electrical Engineering I

ECE 2054 and ECE 2055 (lab): Fundamentals of Electrical Engineering II

ECE 2042 and ECE 2043 (lab): Fundamentals of Computer Engineering I

One of the following courses must be chosen from the following ME electives:

ME 5411: Mechatronics

ME 5421: Robotics

ME 5203: Introduction to Automatic Control

One of the remaining courses must be chosen from the following ECE electives:

ECE 5390: Control System Design

ECE 5450: Microcontrollers

ECE 5800: Electric Machines

FIVE-YEAR COMBINED BACHELORS/MASTERS PROGRAMS

In many fields, the Master's degree is rapidly becoming the entry level requirement for engineering graduates seeking employment. The College of Engineering offers the opportunity to those students who wish to obtain a Bachelor's and Master's degree in five years. This program is academically demanding and requires a recommendation from the student's undergraduate program adviser.

The Combined Bachelors/Masters program may permit students, who enter the program in their senior year, to take a maximum of nine graduate credits which could be counted toward both the baccalaureate and masters degrees. The baccalaureate is awarded upon completion of the undergraduate requirements. Students apply to the Combined Bachelors/Masters program early in the second semester of their junior year. Recommendation from the appropriate undergraduate program adviser is required, and the standard department graduate admission process is used. The Combined Bachelors/Masters program requirements will vary; interested students should contact the department in which they would like to pursue graduate study. All departments in the College of Engineering offer the Combined Bachelors/Masters program.

ACADEMIC POLICIES & GENERAL INFORMATION

Unless otherwise noted, the College of Engineering 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 Engineering. Such policies may change without prior notice. Policies specific to the College of Engineering follow:

ACADEMIC STANDING

In order to remain in good academic standing, undergraduate engineering students must maintain a cumulative Grade Point Average (GPA) of at least 2.00 and a cumulative Technical Grade Point Average (TGPA) of at least 2.00. Technical courses are defined as all engineering, science, and mathematics courses.

ADVANCED PLACEMENT CREDIT

Information on advanced placement credit is found at www.engineering.villanova.edu/prospective/apcreditpolicyrevisions.pdf

ADVISING

During the freshman year a student is encouraged to learn more about the engineering profession in order to make a more informed choice of a major field of study. Assistance necessary to arrive at this decision (which is made at the end of the freshman year) is provided by the College of Engineering in the following ways:

As a freshman, a student is assigned to a faculty adviser, who provides career planning advisement and when appropriate, referrals. In addition, the College of Engineering sponsors programs which inform freshman students about career opportunities available in each major field of engineering.

Academic advisement for freshmen, i.e. class scheduling and course adjustments, is provided by the office of the Dean of Engineering.

Academic advisement for upper class engineering students is provided by the student's faculty adviser.

AUDIT

A student may elect to audit a course to reinforce and strengthen his/her current knowledge or to explore new areas without the pressure of tests and grades. No academic credit is earned for auditing a course. However, the audited course is noted on the student's official record. Permission to audit a course must be obtained from the student's adviser.

AWARDS AND HONORS

Full-time engineering students who achieve a semester Grade Point Average of 3.25 or higher qualify for the Dean's List in the College of Engineering.

The Dean's Award for Academic Achievement is presented to engineering seniors in recognition of outstanding academic performance in their undergraduate studies in the College of Engineering. Seniors with a cumulative Grade Point Average of 3.50 or more, after seven semesters are eligible for this award.

The Dean's Award for Meritorious Service is presented to engineering seniors in recognition of exceptional dedication and service unselfishly given to the College of Engineering over an extended period of time. The quality and consistency of the service to the College are recognized by means of this award.

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.

BANKRUPTCY POLICY

A freshman engineering student may request to declare academic bankruptcy in any required course in the freshman engineering curriculum, and repeat the course with a new start on the grade earned for that course. The grade earned in the first attempt for any

such "bankrupted" course will remain on the transcript, but only the grade from the second attempt at that course will be used in computing the future cumulative and technical grade point average.

The following restrictions apply to this policy:

1. This option applies only to freshman engineering students, defined as those students who have earned fewer than 36 credits toward an engineering degree at Villanova.
2. This option applies only to those courses designated in the University Catalog as requirements for the freshman year of studies in engineering.
3. This option may be exercised only one time per course, but there is no limit on the number of different courses in the freshman curriculum for which this option may be employed.
4. Once this option is exercised and the grade previously earned for any specified course is declared "bankrupt," this decision may not be revoked and therefore the original grade may not be reinstated.
5. The student must agree that the course for which the policy is exercised must be retaken at Villanova, and must be completed by the end of the next semester of the normal academic year (i.e., a fall course must be completed in the following spring semester, and a spring course must be completed in either the following summer or the following fall semester).

COMPUTING

College and University Computing. The entire campus is linked via a high-speed network and is connected to the internet. The College has multiple 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 several remote access solutions, such as Terminal Services for remote application execution, and Virtual Private Networks, for campus equivalent network connectivity. Beginning with the freshman class of 2003-04, 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, with a walk-in, on-line, and telephone help desk system.

Departmental Computing. There are more than 100 microcomputer workstations located in engineering classrooms, laboratories, and the four engineering departments.

The Chemical Engineering Department makes available a number of personal computers for student use in carrying out classroom assignments. It has also dedicated several personal computers to data acquisition and control in laboratory experiments. Chemical Engineering students utilize a dedicated departmental intranet of personal computers to run packaged software for simulation of process systems, including AspenTech's ASPEN-PLUS. The departmental computer laboratory also provides a wide range of special-purpose software prepared by the department faculty in the sciences of material and energy balances, thermodynamics, process control, fluid flow and heat/mass transfer.

The Civil and Environmental Engineering Department utilizes a variety of industry specific software in its classes. Examples include AUTOCAD, MATLAB, STAAD, PCA BEAM, PCA COL, HEC-RAS, HEC-HMS, HCS, SIM Traffic and others. These packages are available through the college laptop program and computer labs. Student

exposure to computer based applications includes spreadsheet and economic analysis, structural design and analysis of buildings and bridges, slope stability, stream water quality modeling and waste load allocations, sensitivity and matrix analysis of civil engineering systems, watershed hydrology and river hydraulics, and transportation system planning and simulation of traffic systems. The department maintains computers in its laboratories to support senior level projects undergraduate research.

The Electrical and Computer Engineering Department utilizes Sun file servers with Sun workstations, which are available in the Advanced Computer Systems Laboratory. In addition the department has PC's, CAE workstations and Microcontroller Development Systems. The department software includes UNIX, SMP, ILS, HP ECE Design Center software, VHDL CAD Tools, MATLAB, SIMULINK, Electronics Workbench, and PSpice. This software is used for digital signal processing, real-time control and robotics, microwave measurement, and the design of analog and digital circuits and systems.

The Mechanical Engineering Department has personal computers that are equipped with data acquisition systems and software for graphing, designing, and calculating. Software includes MATLAB, FLUENT, Mathcad, ANSYS, AUTOCAD, PCDEFORMTM, DADS, Working Model 3DTM and other applications programs used for finite element analysis, heat transfer and fluid flow, and multi-body dynamic analysis.

INTERNATIONAL STUDIES

The College of Engineering, recognizing the continued changes globally in both the learning and practicing of the skills of engineering, encourages all majors to consider studying in an overseas university some time during their four years at Villanova. By enhancing language and communication skills, in addition to taking courses in engineering where appropriate, Villanova Engineers will strengthen their own liberal arts program so integral to a Villanova Engineering degree.

For more information contact your Department Chair or the International Studies Office, Middleton Hall, 2nd floor (phone 610-519-6412).

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 three 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 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, measurements, 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 ft² 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, Intelligent Systems, 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. Laboratories currently available include Manufacturing Processes, Thermodynamics, Engine Testing, Materials Testing and Material Science, Vibration, Stress, Heat Transfer, Fluid Mechanics, and Wind Tunnel.

REGISTRATION OPTIONS

Qualified undergraduate engineering students are permitted and encouraged to enroll in more challenging courses than those specified in their standard curriculum, provided that they obtain approval from their Department Chair and other appropriate individuals where necessary, as indicated below.

Required and elective courses in the humanities and social sciences may be taken through the Honors Program for those students who qualify. Application should be made directly to the Director of the Honors Program.

Undergraduate students wishing to enroll in an engineering graduate course must have written approval from their Department Chair and the chair of the department offering the course. Permission will normally be granted only to seniors who have a cumulative Grade Point Average of 3.0 or higher. Permission to enroll in graduate courses offered by other Colleges within the University must be obtained from the Dean of that College as well as the chair of the department offering the course and the student's Department Chair.

SATISFACTORY/UNSATISFACTORY GRADE POLICY

Upperclass engineering students may elect to take, on a Satisfactory/Unsatisfactory basis, one course per semester which meets all of the following criteria: 1) it is not specifically designated by course number in the curriculum of the student's major; 2) it is not being given by the department in which the student is majoring; 3) it is not designated as a Technical Elective in the curriculum of the student's major; and 4) permission to take the course has been specifically granted by the chair of the department in which the student is majoring.

To take a course on a Satisfactory/Unsatisfactory basis, the student must first register for the course by the normal procedure. After registration has been completed, the student must complete a Satisfactory/Unsatisfactory form (supplied by the Registrar's Office); this form must be signed by the student's Department Chair.

Other pertinent information can be found under the “Grading System” policies in the University section of this Catalog.

SCHOLASTIC LOADS AND OVERLOADS

The individual engineering majors are comprised of appropriately sequenced course groupings referred to as “regular semester course loads.” Students enrolled in the College of Engineering may take up to four credits, or one course overload, in any given semester provided that (1) a freshman has permission from the office of the Dean of Engineering. Normally, only second semester freshmen with a GPA of at least 3.5 are permitted to overload, or (2) an upperclassman has approval from his adviser and chair. Normally a GPA of at least 3.0 is required in this case.

TECHNICAL ELECTIVES

Students who are required to select technical electives as part of their departmental program are required to select these electives from among the courses listed in this Catalog and offered by the following departments: Astronomy, Biology, Chemistry, Chemical Engineering, Civil and Environmental Engineering, Computing Sciences, Electrical and Computer Engineering, Mathematical Sciences, Mechanical Engineering, and Physics. The selection must be done with the advice and approval of the student's adviser and chair.

TRANSFER OF CREDIT

With recommendation of their Department Chair, and approval of the Dean, engineering students are permitted to earn course credit at other schools. In order to initiate a request to do this, the student must obtain and complete a Course Elsewhere Form, available in the Office of the Dean of Engineering. A complete description of the substitute course content in the form of a copy of the other institution's official course catalog or a copy of the other institution's web description must be attached to this form. The student should allow 7-10 days for final action to be taken on the request. After that time, the student making the request should contact the Dean's Office to determine the outcome.

Students who have completed approved courses elsewhere must request that institution to forward a transcript to their Department Chair. NOTE: only courses in which a grade of “C” (or the equivalent) or better is received will be transferred for credit. Grades of courses taken elsewhere are not included in the calculation of the Grade Point Average (GPA) or Technical Grade Point Average (TGPA) at Villanova University.

College-level work done prior to high school graduation may be awarded transfer credits upon receipt of evidence that the course was/is taken beyond the minimum requirements for high school graduation, according to the curriculum requirements of the school. In addition, all other University requirements must be fulfilled.

WITHDRAWAL FROM COURSES

Engineering student requests for authorized withdrawal from a course without penalty (WX) will be granted automatically until approximately three and a half weeks after mid-term break (see academic calendar @ www3.villanova.edu/calendar/index.html)

for exact date). After that date the student must present a valid reason for the request, such as insufficient information to determine standing in the course, (i.e., grades on tests and assignments), or serious personal or medical problems. The Associate Dean of Academic Affairs will decide whether or not to grant these requests based on the information supplied by the student and recommendations from the faculty member teaching the course and, in the case of upperclass students, the chair of the department in which the student is majoring.

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.

Refer to the website: www.engineering.villanova.edu/students for information on student organizations.

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. C. Michael Kelly
Professors: Joye, C.M. Kelly, Punzi
Associate Professors: Muske, Ritter, Skaf, Weinstein
Assistant Professors: W. Kelly
Office: 217 White Hall, tel. 610-519-4950
Website: www.engineering.villanova.edu/che
Courses: catalog.villanova.edu/courses/che.html

CIVIL AND ENVIRONMENTAL ENGINEERING

Chair: Dr. Ronald A. Chadderton
Professors: Chadderton
Associate Professors: Dinehart, Suri, Traver, Yost
Assistant Professors: Duran, Glynn, Gross, Liu, Wadzuk, Welker
Office: 139 Tolentine Hall, tel. 610-519-4960
Website: www.engineering.villanova.edu/ce
Courses: catalog.villanova.edu/courses/cee.html

ELECTRICAL AND COMPUTER ENGINEERING

Chair: Dr. Pritpal Singh
Professors: Amin, Buckley, Hoorfar, Zygmunt
Associate Professors: Bukowski, Caverly, DiMeo, Dwyer, Kresch, Mobasserri, Perry, Peyton-Jones, Singh
Assistant Professors: Jupina, Konyk, Kulkarni, McKeough, Mercede
Instructor: Char
Office: 411 Tolentine Hall, tel. 610-519-4970
Website: www.engineering.villanova.edu/ece
Courses: catalog.villanova.edu/courses/ece.html

MECHANICAL ENGINEERING

Chair: Dr. Gerard Jones
Professors: Ashrafiuon, Jones, Nataraj, Whitman
Associate Professors: Chun, Jen, Kroos, Radhakrishnan, Santhanam
Assistant Professors: Fleischer, Hoffman, Koffke, O'Brien, Rauli
Instructor: Fulmer
Industrial Professor: Casey
Office: 131 Tolentine Hall, tel. 610-519-4980
Website: www.engineering.villanova.edu/me
Courses: catalog.villanova.edu/courses/me.html

COLLEGE OF NURSING

M. Louise Fitzpatrick, Ed.D., Dean

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

M. Frances Keen, DNSc, Assistant Dean and Director of Undergraduate Program

Office: St. Mary's Hall, first floor, tel. 610/519-4900

Website: www.nursing.villanova.edu

Course descriptions: www.catalog.villanova.edu/courses/nur.html

Faculty

Professors: Fitzpatrick, Sharts-Hopko, Smeltzer

Associate Professors: Cantrell, Copel,

Haynor, Keen, Mynaugh, Ott, Pickett, Schlag, Weingarten, Zamerowski,

Assistant Professors: Bradley, Costello, Crumlish, DeSilets, Dowdell,

Erickson, Fetter, Frain, Keech, , McGovern,

O'Driscoll, Pizzi, Reeder, Smith,

Sullivan, Todd, Willens, Zawacki

Clinical Associate Professor: Capriotti

Clinical Assistant Professors: Bruderle, Lieb, McKenna, Wimmer

Adjunct Assistant Professor: Wildgust

*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 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 National League for Nursing Accreditation Commission and the Commission on Collegiate Nursing Education. The Nurse Anesthesia concentration in the graduate program is accredited by the Council on Accreditation of Nurse Anesthesia Educational Programs. The Continuing Education Program is accredited as a provider of Continuing Education in Nursing by the American Nurses Credentialing Center, Commission on Accreditation.

Contact Information:

American Nurses Credentialing Center
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/

College of Nursing

National League for Nursing Accreditation
Commission
61 Broadway
New York, NY 10006
Phone: (212) 363-5555 x153
Fax:(212) 812-0390
www.nlnac.org/index.html

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 academic programs in the College of Nursing are directed to interpretation of 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 which includes all sectors and strata of the population; as such, graduates are prepared to assume roles in all settings where health care is delivered.

Within this context, nursing draws its worth and spirit from motives based on love of one's fellow men and women who are made in the image and likeness of God. As a social service to the community, nursing responds to the needs of the sick, poor and disabled, and promotes wellness as the pre-eminent goal of nursing care. The practice of nursing within a Christian environment requires that those who nurse recognize and respect the needs of each person and that they teach while they nurse in order to assist their patients and the community to achieve the highest possible level of wellness of body, mind, and spirit.

The 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, research and organizational leadership within nursing's professional and educational communities. It views with great seriousness its prominent role with the constellation of collegiate nursing programs under Catholic auspices.

Villanova University

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 junior college programs and who have not yet attained the baccalaureate, college graduates with degrees in other disciplines who have 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 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, case managers, clinical teachers, faculty, nurse practitioners, and nurse anesthetists. The Graduate Program also awards the Doctor of Philosophy degree in nursing (PhD) to individuals who are prepared as teacher-scholars for academic careers in higher education.

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 critique of papers and ideas relevant to current issues or trends in 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.

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 junior college programs and who have not yet attained the baccalaureate, college graduates with degrees in other disciplines who have made a later decision to study nursing, and mature adults who are studying for their first college degree.

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College of Nursing

sharing and critiquing of papers and ideas relevant to current issues or trends in health care.

DEGREE REQUIREMENTS

Bachelor of Science in Nursing Curriculum (136 credits)

FRESHMAN

<i>Fall Semester</i>	<i>credits</i>	<i>Spring Semester</i>	<i>credits</i>
CHM 1131	3	CHM 1134	3
CHM 1103	1	CHM 1108	1
CHS 1000	3	CHS 1001	3
NUR 1101	2	NUR 1103	2
PSY 1000 or SOC 1000	3	SOC 1000 or PSY 1000	3
THL 1050 or PHI 1050	3	PHI 1050 or THL 1050	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 health screening tests may be required by the various agencies utilized for clinical experience in nursing courses.

Students are required to be certified in Basic Cardio-pulmonary Resuscitation prior to enrolling in NUR 2106 and 2107. Continuing re-certification is the responsibility of the student throughout the remainder of the program. As a prerequisite to entry into clinical settings, all students are required to have criminal background checks that comply with the Older Adults Protective Services Act and Child Protective Services Law.

All materials concerning health examinations, diagnostic tests, immunizations, health screening and cardio-pulmonary resuscitation are course requirements for the following courses: 2107, 3113 (Spring Semester Offering) and 4103. They must be on file in the College of Nursing by the end of the Spring final examination period or prior to the first day of class in the *first semester* of enrollment.

All junior and senior 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.

ACADEMIC GRIEVANCE PROCEDURE

If a student has a grievance within a nursing course, he/she is advised to speak with the individual teaching the course. If the problem is not resolved at this level, it may be taken to the Course Leader, Program Director, and Dean in that order.

ACADEMIC POLICIES

Students are expected to abide by the policies and professional standards established by the College of Nursing. The College of Nursing reserves the right to change program requirements without prior notice to reflect advances in the professional field. If a student withdraws from the College of Nursing and is readmitted at a later date, the requirements in effect at the time of readmission will be applied.

- A grade of "C" or better must be attained in all nursing courses for progress in the nursing major.
- 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.
- 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.
- Students must successfully complete, in sequence, courses in the nursing major as indicated in the curriculum plan.
- The College of Nursing reserves the right to place on probation or withdraw any student whose performance is deemed unsatisfactory.
- Students whose primary language is not English will be encouraged to bring translation dictionaries to their examinations and be given untimed tests.
- International students, who are in the BSN program or RN completion program but who are not ex-patriates 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 junior 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.

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 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. 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 2.75 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. Applicants should apply for admission through the Office of Admissions of the University.

Through a series of nursing examinations and clinical validation, a registered nurse student may demonstrate current nursing knowledge earning 45 credits in nursing. Specific policies and procedures may be obtained through the College of Nursing. Credit

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by examination is available through the College of Arts and Sciences for non-nursing courses. See the section on Registered Nurses, below.

ADMISSION TO CLOSED SECTIONS OF COURSES

Students will not be permitted to enroll in closed sections. Exceptions to this rule will be made only by the Assistant Dean and Program Director of the Undergraduate Program 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 Dean of the College of Nursing.

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 Director of the Undergraduate Nursing Program or his/her academic adviser as early as possible. 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 International Studies in the Villanova University section of this *Catalog* or contact the Office of International Studies, St. Augustine Center, Room 415, (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." Withdraw 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

All registered nurse students are expected to have the following on file prior to enrollment in Nursing 3000 and 3005:

- Entrance Health Examination and Laboratory Studies.
- Current CPR Certification including resuscitation and choking measures for infant, child, and adult with one person and two-person rescue procedures, and review of an Automated External Defibrillator.
- Current Pennsylvania R.N. License.
- Current Malpractice Insurance Certificate.
- Criminal background checks that comply with the Older Adults Protective Services Act and Child Protective Services Law.

TRANSFER OF LIBERAL EDUCATION COURSE CREDIT

Up to 64 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 advisers.

ADVISEMENT

RN students are assigned a faculty adviser when admitted to the College and are expected to consult with the adviser on a regular basis.

EXCELSIOR VALIDATION EXAMS IN NURSING

Four of the five tests are owned and administered by Excelsior College. Within the immediate area, these tests are offered at 6 different colleges. There are six test sessions each year, scheduled between October and August. Registration materials and study guides are available from Excelsior College (Tel. 518/464-8631; Address: 7 Columbia Circle, Albany, NY 12203-5159, www.excelsior.edu).

The four required Excelsior exams are:

- Professional Strategies in Nursing (#426)
- Maternal-Child Nursing, Baccalaureate (#457)
- Adult Nursing (#554)
- Health Restoration, Area I (#425)

The passing score for each of these exams is a standard score of 45. Each exam may be repeated once, if necessary. All four Excelsior exams must be passed to earn 27 credits in nursing at Villanova. The exams are NOT required for admission to the College, however. Scores are valid for 5 years.

The fifth exam is incorporated within the first required nursing course at Villanova (NUR 3000) and is entitled Clinical Validation Exam. It assesses foundational clinical nursing skills and is designed and implemented by Villanova Nursing faculty. It may be repeated once if necessary, and must be passed to earn 20 additional credits in nursing and to progress in the program.

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

COURSE/CREDIT REQUIREMENTS (136 credits)

Physical Sciences/Math	(25 crs)	Nursing	(71 crs)
Anatomy & Physiology	(6-8 crs)	Excelsior Exams and/or	
Organic/Biochemistry	(3-4 crs)	AAS Nursing Credit Transfer	(27 crs)
Microbiology	(3-4 crs)	NUR 3110*	(3 crs)
Nutrition	(3 crs)	NUR 3000/3005	(4 crs)
Statistics	(3 crs)	Clinical Validation Exam	(20 crs)
Electives	(3 crs)	NUR 4102	(6 crs)
NUR 4107	(5 crs)		
NUR 4110	(6 crs)		
Humanities	(21 crs)	Social/Behavioral Sciences	(12 crs)
English/Literature	(3 crs)	General Psychology	(3 crs)
Philosophy-Health		Developmental Psychology	(3 crs)
Care Ethics	(3 crs)	Introductory Sociology	(3 crs)

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Religious Studies	(6 crs)	Elective	(3 crs)
Humanities Elective	(9 crs)		
Free Electives	(6 crs)		

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:

- Albert Einstein Medical Center, Philadelphia, PA
- Alfred I. DuPont for Children, Wilmington, DE
- Belmont Center for Comprehensive Treatment, Philadelphia, PA
- Broomall Presbyterian Village, Broomall, PA
- The Bryn Mawr Hospital, Bryn Mawr, PA
- Chestnut Hill Hospital, Chestnut Hill, 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
- Graduate Hospital, Philadelphia, PA
- Holy Redeemer Nazareth Visiting Nurse Agency, Philadelphia, PA
- Hospital of the University of Pennsylvania, Philadelphia, PA
- Jefferson Home Health, Radnor, Pa
- Lankenau Hospital, Philadelphia, PA
- Learning Resource Center, College of Nursing
- Little Flower Manor, Darby, PA
- Mercy Fitzgerald Hospital, Darby, PA
- Mercy Hospital of Philadelphia, PA
- Montgomery Hospital, Norristown, PA
- Pennsylvania Hospital, Philadelphia, PA
- Riddle Memorial Hospital, Media, PA
- Presbyterian Hospital Home Health, Philadelphia, PA
- St. Christopher's Hospital for Children, Philadelphia, PA
- St. Ignatius Nursing Home, Philadelphia, PA
- St. Joseph's Villa, Flourtown, PA
- Thomas Jefferson University Hospital, Philadelphia, PA
- Veterans Administration Medical Center, Philadelphia, PA

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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 7080. Students then choose one of the following courses to complete the requirement: NUR 4800, NUR 4802, NUR 7040, 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

James R. Johnson, M.S., Director
Suzanne F. Allen, M.Ed., Associate Director

HISTORY AND OBJECTIVES

For more than 85 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 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. 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 transfer from Part-Time Studies to one of the full-time colleges without loss of credit.

Indeed, many high school graduates begin their degree programs in Part-Time Studies and subsequently transfer to the appropriate day college. Conversely, students who, usually for financial reasons, are obliged to discontinue as full-time students, are able to continue their studies as part-time students in Part-Time Studies.

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. 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.parttime.edu and 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 do so as may high school seniors with strong academic backgrounds who have permission from their 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 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 will be 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 or Leadership Studies.

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, Communication, Computer Science, Education (Secondary Education, Teacher Certification), English, General Arts, History, and Human Services.

In addition to the Bachelor's degree, the following programs are available: Associate of Arts, Accountancy Certificate, Business Administration 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. 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.

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 and Leadership Studies. 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 will apply *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.

BACHELOR OF INTERDISCIPLINARY STUDIES CORE CURRICULUM (45 credits)

Humanities in Augustinian Tradition (3 courses; 9 credits)

CHS 1000	Ancient, Medieval and Renaissance Thought	3
PHI 1050	Introduction to Philosophy	3
THL 1050	Christianity: Traditions and Transitions	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	Public Speaking	3
ENG 1050	The Literary Experience	3

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.	
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History, Philosophy, Theology, English, Communication, Fine Arts, Social Science		3 3 3
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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.

BACHELOR OF INTERDISCIPLINARY STUDIES/ INFORMATION SYSTEMS MAJOR

Information Systems (10 courses; 32 credits)

CSC 1020	Computers and the Web	3
CSC 1051	Algorithms and Data Structures I	4
CSC 1052	Algorithms and Data Structures II	4
CSC 1200	Computer Organization & Operating Systems	3
CSC 1300	Discrete Mathematics	3
CSC 2500	Survey of IS Environments	3
Systems Analysis	MIS 2040 (Systems Analysis and 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 3070	Emerging Technology Trends	
CSC 3080	Information Security and Protection	
MIS 3020	Enterprise Systems and Application	
CSC 2053	Algorithms and Data Structures III	
CSC 4900	Computer Networks OR MIS 3010 (Business Data Communication)	
	Financial Information Systems	
	Health Information Management	3
	Managing Information in Government and Community	3
	Human Resource Information Management	3
	Pharmaceutical Information Systems	3
MIS 3030	Enabling Technology in E-Business	3
CSC 1600	Operating Systems	
CSC 4490	Data Warehousing and Mining	
ECE 5477	Computer Communications Security	

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, Information Systems, 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 Behavior	3
COM 4250	Organizational Communication	3
COM 4950	Leadership in a Diverse and Global Environment	3
COM 4950	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, Leadership Studies, Business and Communication.

BACHELOR OF ARTS/BACHELOR OF SCIENCE

Students in the Bachelor of Arts program in Part-Time Studies may major in Communication, Education, English, History, Human Services, 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, Human Services, Philosophy, Political Science and Sociology.

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, Communication, English, History, and Human Services; and Bachelor of Science in Computer Science, Education, and Information Science. A description of the 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, Communication, English, History, and Human Services, 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 Information Sciences, 40 courses and a minimum of 124 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 61 credits. At least half of the credits (30) must be taken at Villanova. A 2.0 cumulative QPA 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
CHS 1000, 1001 Core Humanities Seminar	6
PHI 1050	3
THL 1050	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 123 credits. Details are to be found in the College of Commerce and Finance Section of this *Catalog*.

BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION

The B.S. in Business Administration requires a minimum of 41 courses and 123 credits. The following courses are required.

FRESHMAN YEAR

<i>Courses</i>	<i>credits</i>	<i>Courses</i>	<i>Credits</i>
DIT 1006	3	ENG 1010	3
ECO 1001, 1002	6	MAT 1330, 1335	6
PHI 1050	3	CHS 1000, 1001	6
BL 1090	3		
SOPHOMORE YEAR			
ACC 1101, 1102	6	DIT 2010	3
Social Science ¹	3	HISTORY ²	3
COM 1101	3	THL 1050	3
ENG 1050	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
DIT 1141	3	Non-business Electives ⁴	6
MKT 1137	3		
ECO 3109	3		

³Natural Science: choose from AST, BIO, CHM or PHY with corresponding lab.

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
MGT 3301	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, the 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 liberal 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 24 accounting 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. Eight courses must be completed: ACC 1101, 1102, 2310, 2320, 2430, 2450, 2460, and 2470. Students are required to have any prerequisite courses necessary (indicated in the course description) for any particular course in the certificate program. A maximum of 2 courses, specifically Principles of Financial Accounting and Principles of Managerial Accounting, will be allowed in transfer. No other course substitutions will be allowed. 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 liberal 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 allowed.

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

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

ACC 2310, 2320, 2340, 2430, 2450, 2460, 2470,

BL 1090, 2135, 2150, 2170, 2185

DIT 1141, 2006, 2010,

ECO 1001 or 1002 (the one not taken for the required course) 2110, 3106,

FIN 1113, 2323

MGT 2153, 2155

MKT 2220, 2225, 2277, 2280

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.

CONTINUING STUDIES

The Office of Continuing Studies offers a great variety of non-credit educational opportunities. These offerings range from one day seminars to eight, twelve, and twenty-five week programs. Many are offered on Villanova's campus; others are delivered off-campus, at convenient Delaware Valley corporate training sites. Some of the programs offered include: Alcohol and Drug Counseling; Paralegal Education; Marketing Communications; Management Courses; Human Resource Management; Fund Raising; Payroll Administration; Commercial Real Estate; American Society of Training and Development Seminars; Project Management Training; and Microsoft Certified Systems Engineer Training.

Many of these programs lead to or prepare one for professional certification. For information on any of these programs or for a complete listing of all offerings, contact the Office of Continuing Studies (610/519-4310), 102 Vasey Hall.

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

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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.

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.

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 Saturdays, either in the morning or afternoon, for a class period of 3 1/2 hours, and will be 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.

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).

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).

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 classes via Internet and video 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 also check their Villanova e-mail and Novasis accounts for information from the Registrar and other offices.

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 maximum of 60 transfer credits, which could include CLEP credits and credits from other colleges or universities, may be accepted toward a degree program.

A score of 60 or higher on an approved Subject Examination will be considered for credit. For further information, students should contact the Part-Time Studies office.

ADVISING

The Director and Assistant 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	Mr. James Johnson/Ms. Suzanne Allen
Accountancy Certificate	Ms. Suzanne Allen
Business Administration	Mr. James Johnson/Ms. Suzanne Allen
Business Administration Certificate	Ms. Suzanne Allen
Communication	Dr. B. Crable
Computer Science	Dr. Georgi Japaridze
Education, Teacher Certification	Dr. Connie Titone
English, Liberal Arts, History	Mr. James Johnson/Ms. Suzanne Allen
Human Services	Dr. Beverly Kahn
Non-Matriculated and Assoc. of Arts	Mr. James Johnson/Ms. Suzanne Allen
Postgraduates	Mr. James Johnson/Ms. Suzanne Allen

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 adviser's 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 Novavis. 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 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-imbusement 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 line at www.parttime.villanova.edu. *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 walk-in registration or 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.

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.

STUDENT PROGRAMS

Part-Time Studies offers assistance to help students become acquainted with the resources on campus and to aid in the transition to academic life. In the past the following programs have been scheduled: Orientation, Campus Tour, College Survival Skills (study skills workshop), Library Tour, and Career Services workshops. All of these resources are now available to part-time students via the PTS web site at www.parttime.villanova.edu. New programs can be added as the need arises. Suggestions are always welcome. Information on various programs is available from the PTS office.

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.*

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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 (the Friday 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.

FULL-TIME FACULTY

- 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; Professor, Theology and Religious Studies*
- LEE ABRAHAM, 2004; B.A., 1993, Temple University; M.A. 1996 Arizona State University; Ph.D., 2001, University of New Mexico. *Assistant Professor, Classical and Modern Languages and Literatures*
- HIBBA E. ABUGIDEIRI, 2005; B.A., 1992, University of Maryland; M.A., 1994, Ph.D., 2001 Georgetown University, *Assistant Professor, History*
- TEMERSHAH AHMADI, 2001; B.S., 1988, California State University, Hayward; M.S., 1993, Ph.D., 1996, University of California, Los Angeles. *Assistant Professor, Chemistry*
- CHIJI AKOMA, 2001; B.A., 1988, University of Calabar, Nigeria; M.A., 1991, University of Ibadan, Nigeria; Ph.D., 1998, Binghamton University. *Assistant Professor, English*
- MARIE ALTER, 1974; B.A. 1948, University of Oklahoma; M.A. 1951, University of Oklahoma; Ph.D., 1961, University of Maryland, *Professor Emeritus, Classical and Modern Languages and Literature*
- CAROL AMBRUSTER, 1987; B.S., 1971, Northeastern University; Ph.D., 1984, University of Pennsylvania. *Assistant Professor, Astronomy and Astrophysics*
- SEEMEE ALI, 2001, B.A., 1989, Austin; M.A., 1998, Ph.D., 2000, University of Dallas. *Post Doctoral Fellow, Core Humanities*
- MOENESS G. AMIN, 1984; B.S.E.E., 1976, Cairo University, Egypt; M.S.E.E., 1980, University of Petroleum and Minerals, Saudi Arabia; Ph.D., 1984, University of Colorado. *Professor, Electrical and Computer Engineering*
- STEPHEN J. ANDRIOLE, 2002, 1971; B.A., LaSalle College; M.A., 1973, Ph.D., 1974, University of Maryland. *Professor, Decision and Information Technologies*
- DEREK ARNOLD, 2004; B.A., 1987, LaSalle University; M.A., 1992, Purdue University. *Instructor, Communication.*
- JAMES W. ARRISON, 1992; B.S., 1983, Villanova University; Ph.D., 1990, University of Pennsylvania. *Assistant Professor, Physics*
- DEBRA A. ARVANITES, 1983; B.S., State University of New York, 1977; M.B.A., 1979; Ph.D., 1982, Rensselaer Polytechnic Institute. *Assistant Professor, Management*
- THOMAS ARVANITES, 1989; B.A., 1977, M.A., 1979, Ph.D., 1986, State University of New York at Albany. *Associate Professor, Sociology*
- CHERYL CARLETON ASHER, 1984; B.A., 1977, Boston College; Ph.D., 1981, University of Pennsylvania. *Assistant Professor, Economics*
- CHARLES E. ASHLEY, 1988; B.S., 1981, University of Toledo; M.S., 1983, Rensselaer Polytechnic Institute; Ph.D., 1986, Rensselaer Polytechnic Institute. *Assistant Professor, Mathematical Sciences*
- HASHEM ASHRAFIUON, 1988; B.S., 1982, M.S., 1984, Ph.D., 1988, State University of New York at Buffalo. *Professor, Mechanical Engineering*

EARL D. BADER, 1968; B.A., 1963, Ohio State University; M.A., 1965, Ph.D., 1969, Indiana University. *Assistant Professor, English*

WILBER W. BAKER, 1968; A.B., 1956, Grinnell College; M.S., 1959, Iowa State University; Ph.D., 1964, Oregon State University. *Associate Professor, Biology*

RONALD A. BALSAMO, 1998; B.S., 1984, Delaware Valley College; M.S., 1986, Washington State University; Ph.D., 1994, University of California, (Riverside). *Associate Professor, Biology*

ANIL K. BAMEZAI, 2002; B.S., 1979, M.S., 1982, Jammu University; Ph.D., 1987, All India Institute of Medical Sciences. *Associate Professor, Biology*

HAE-KYONG BANG, 1997; B.A., 1983, Ewha Women's University; M.A., 1986, University of Texas at Austin; Ph.D., 1993, Michigan State University. *Assistant Professor, Marketing*

RICHARD C. BARNETT, 2004; B.S., 1978, Kansas State University; M.S., 1980, Purdue University; Ph.D., 1989, University of Minnesota. *Assistant Professor, Economics*

DAVID M. BARRETT, 1990; B.A., 1973, University of Notre Dame; M.A., 1985, University of Essex (England); Ph.D., 1990, University of Notre Dame. *Associate Professor, Political Science*

NOAH P. BARSKY, 1998; B.S./M.S., 1992, Pennsylvania State University; Ph.D., 1998, University of Connecticut. *Associate Professor, Accountancy*

THOMAS L. BARTLOW, 1968; B.S., 1963, State University of New York at Albany; M.S., 1966, Ph.D., 1969, State University of New York at Buffalo. *Assistant Professor, Mathematical Sciences*

AARON M. BAUER, 1988; B.S., 1982, Michigan State University; Ph.D., 1986, University of California, Berkeley. *Professor, Biology*

JOSEPH W. BAUSCH, 1993; B.S., 1985, University of Evansville; Ph.D., 1990, University of Southern California. *Assistant Professor, Chemistry*

ROBERT E. BECK, 1966; B.S., 1963, Harvey Mudd College; M.A., 1965, Ph.D., 1969, University of Pennsylvania. *Professor, Computing Sciences*

MARILYN R. BELKIN, 1992; B.A., 1970, M.S., 1974, Carnegie-Mellon University. *Assistant Professor; Mathematical Sciences*

GUSTAVO BENAVIDES, 1989; B.A., 1971, Universidad de San Marcos (Lima); M.A., 1977, Ph.D., 1982, Temple University. *Associate Professor, Theology and Religious Studies*

EILEEN BERENS, 1990; B.A., 1957; Immaculata College; M.A., 1968, Ph.D., 2000, Temple University. *Assistant Professor, Communication*

JAMES M. BERGQUIST, 1963; B.A., 1955, University of Notre Dame; M.A., 1956, Ph.D., 1966, Northwestern University. *Professor Emeritus, History*

CAROL A. BESSEL, 1995; B.S., 1988; Ph.D., 1993, State University of New York at Buffalo. *Associate Professor, Chemistry*

MICHAEL BERTHOLD, 1987; B.A., 1977, Cornell University; M.A., 1979, Ph.D., 1987, Harvard University. *Associate Professor, English*

MORGAN BESSON, 1984; B.S., 1975, Villanova University; M.A., 1979, Boston University; Ph.D., 1986, Lehigh University. *Assistant Professor, Physics*

JOSEPH BETZ, 1966; B.S., 1961, St. Joseph's University; M.A., 1964, University of Chicago; M.A., 1966, Villanova University; Ph.D., 1973, University of Chicago. *Professor, Philosophy*

JAMES L. BIERSTAKER, 2004; B.S., 1988; Fordham University; Ph.D., 1995, University of Connecticut. *Associate Professor, Accountancy*

EMILY M. BINNS, 1977; A.B., 1963, College of Chestnut Hill; M.A., 1966, Ph.D., 1969, The Catholic University of America. *Professor Emeritus, Theology and Religious Studies*

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- PAMELA BLEWITT, 1976; B.A., 1967, University of Rochester; M.A., 1969, Teachers College, Columbia University; Ph.D., 1977, University of Rochester. *Professor, Psychology*
- ELLEN BONDS, 1997; B.A., 1974, University of Louisville; M.A., 1983, West Chester University; Ph.D., 1996, Lehigh University. *Assistant Professor, English*
- P. GREG BONNER, 1985; A.B., 1968, Boston College; M.A., 1974, Ph.D., 1984, Temple University. *Associate Professor, Marketing*
- VALERIE BOOTH, 2002; B.A., 1985, McGill University; M.A., 1990, George Washington University; Ph.D., 1996 Emory University. *Visiting Assistant Professor, Core Humanities*
- JAMES P. BORDEN, 1986; B.A., 1979, East Stroudsburg University; M.B.A., 1981, Carnegie-Mellon University; Ph.D., 1986, Drexel University. *Associate Professor, Accountancy*
- SHERYL PERLMUTTER BOWEN, 1987; B.A., 1978, Pennsylvania State University; M.A., 1982, University of North Carolina; Ph.D., 1986, University of Massachusetts. *Associate Professor, Communication*
- PATRICIA K. BRADLEY, 1997; B.S.N., 1977, Temple University; M.S.N., 1986, Ph.D., 1998, University of Pennsylvania. *Assistant Professor, Nursing*
- SARAH VAUGHAN BRAKMAN, 1993; B.A., 1986, Mount Holyoke College; M.A., 1990, Ph.D., 1994, Rice University. *Assistant Professor, Philosophy*
- REBECCA J. BRAND, 2002; B.A., 1996, Vassar College; M.S., 1998, University of Oregon; Ph.D., 2002, University of Oregon. *Assistant Professor, Psychology*
- WAYNE G. BREMSER, 1974; B.S., 1965, M.B.A., 1966, Drexel University; Ph.D., 1974, University of Pennsylvania. *Professor, Accountancy*
- BORIS BRIKER, 1998; B.A./M.A. 1976, University of Chernovtsy; Ph.D. 1986, University of Alberta. *Assistant Professor, Classical and Modern Languages and Literatures*
- WALTER BROGAN, 1986; B.A., 1968, Catholic University; M.A., 1973, Northern Illinois University; Ph.D., 1981, Duquesne University. *Professor, Philosophy*
- VICTOR D. BROOKS, JR., 1974; B.A., 1968, La Salle College; M.S., 1969, Ed.D., 1974, University of Pennsylvania. *Professor, Education and Human Services*
- MICHAEL BROWN, 1985; B.A., 1980, University of Michigan; Ph.D., 1985, University of California, Berkeley. *Professor, Psychology*
- ELIZABETH BRUDERLE, 1990; B.S.N., 1988, Neumann College; M.S.N., 1990, Villanova University, 2002, D.N.Sc., Widener University. *Clinical Assistant Professor, Nursing*
- KEVIN BUCKLEY, 1997; B.E.E., 1976, M.S.E.E., 1980, Villanova University; Ph.D., 1986, University of Southern California. *Professor, Electrical and Computer Engineering*
- JULIA BUKOWSKI, 1985; B.S., 1974, University of Pennsylvania; D.I.C., 1976, Imperial College, University of London; Ph.D., 1979, University of Pennsylvania. *Associate Professor, Electrical and Computer Engineering*
- MICHAEL E. BURKE, 1967; A.B., 1964, Holy Cross College; M.A., 1967, Ph.D., 1971, Duke University. *Associate Professor Emeritus, History*
- DONALD X. BURT, O.S.A., 1967-72, 1982; A.B., 1952, Villanova University; M.A., 1955, Ph.D., 1960, The Catholic University of America. *Professor Emeritus, Philosophy*
- PETER BUSCH, 2002; B.S., 1991, Michigan State University, Ph.D., 1999, University of Toronto. *Visiting Assistant Professor, Core Humanities*

THOMAS W. BUSCH, 1964; B.A., 1960, St. Joseph's College (Indiana); M.A., 1962, Ph.D., 1966, Marquette University. *Professor, Philosophy*

DAVID F. BUSH, 1972; B.A., 1965, University of South Florida; M.A., 1968, University of Wyoming; Ph.D., 1972, Purdue University. *Professor, Psychology*

RICHARD G. CANNULI, O.S.A., 1979; B.F.A., 1973, Villanova University; M.F.A., 1979, Pratt Institute. *Professor, Theatre*

MARY ANN CANTRELL, 1993; B.S.N., 1983, Duquesne University; M.S.N., 1989, Villanova University, Ph.D., 1997 University of Maryland. *Associate Professor, Nursing*

FRANCIS J. CAPONI, O.S.A., 2005; B.A., 1983, B.A.H., 1983, Villanova University; 1989, M.A., Washington Theological Union; 2000, Th.D., Harvard University, *Assistant Professor, Theology and Religious Studies*

MICHAEL L. CAPELLA, 2005; B.B.A., 1991, Mississippi State University; M.B.A., 1992, Georgia State University; Ph.D., 2005, Mississippi State University. *Assistant Professor, Marketing*

THERESA CAPRIOTTI, 1995; B.S.N., 1978, State University of New York; D.O., 1983, New York College of Osteopathic Medicine; M.S.N., 1995, N.P., 1999, Villanova University. *Clinical Associate Professor, Nursing*

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.....STEPHEN MCWILLIAMS, M.A.
Director, University Counseling Center JOAN G. WHITNEY, PH.D.
Associate Director NORMAN W. PITT, PH.D.
Director, Career ServicesNANCY DUDAK, M.A.
Career Counselor BRIDGET BOWERS, M.S.
Director, Office of Residence LifeTHOMAS DEMARCO, J.D.
Director, Student Health Center MARY MCGONIGLE, D.O.
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COURSE LISTINGS

The following section of the *Catalog* lists all of the undergraduate courses offered at Villanova as of Summer 2005. Villanova University changes its course offerings frequently to keep in touch with changing developments in the various fields. Please see www.catalog.villanova.edu for current courses listings. Each listing gives the name of the course, a brief description, the number of credits that the course carries, and the restrictions and prerequisites (if any). Each listing also gives a history, showing when the course was offered most recently. While the course histories give a rough indication of how frequently the course may or may not be offered in the future, students with questions about whether specific courses will be offered should contact the department that offers the course.

In this section, the courses are listed alphabetically by subject (not by department). The table below explains the abbreviations, and also shows the department (or program) and the college that offers the course. Sometimes a department will offer courses in two or more subjects. Programs (such as the Ethics program) usually offer courses under their own name but also rely on courses taught by other departments. The chart below lists the abbreviation, the subject name, the department that offers the course, and the college (Liberal Arts and Sciences, Engineering, Commerce and Finance, or Nursing).

<i>Code</i>	<i>Subject</i>	<i>Department or Program</i>	<i>College</i>
AAH	Art History	History Dept.	LA&S
ACC	Accountancy	Accountancy Dept.	C&F
AER	Aerospace Studies	Aerospace Studies Dept.	A&S
AFR	Africana Studies	Africana Studies Program	LA&S
AIS	Arab and Islamic Studies	Arab and Islamic Studies Program	LA&S
ARB	Arabic	Classical and Modern Languages and Literature Dept.	LA&S
AST	Astronomy and Astrophysics	Astronomy and Astrophysics Dept.	LA&S
BA	Business Administration	College of Commerce and Finance	C&F
BIO	Biology	Biology Dept.	LA&S
BL	Business Law	Marketing Dept.	C&F
CEE	Civil and Environmental Engineering	Civil and Environmental Engineering Dept.	Engr.
CGS	Cognitive Science	Cognitive Science Program	LA&S
CHE	Chemical Engineering	Chemical Engineering Dept.	Engr.

CHI	Chinese	Classical and Modern Languages and Literature Dept.	LA&S
CHM	Chemistry	Chemistry Dept.	LA&S
CHS	Core Humanities	Core Humanities Program	LA&S
CLA	Classical Studies	Classical and Modern Languages and Literature Dept.	LA&S
COM	Communication	Communication Dept.	LA&S
CRJ	Criminal Justice	Sociology Dept.	LA&S
CSC	Computing Sciences	Computing Sciences Dept.	LA&S
DIT	Decision and Information Technologies	Decision and Information Technologies Dept.	C&F
ECE	Electrical and Computer Engineering	Electrical and Computer Engineering Dept.	Engr.
ECO	Economics	Economics Dept.	C&F and LA&S
EDU	Education	Education and Human Services Dept.	LA&S
EGR	Engineering	College of Engineering	Engr.
ENG	English	English Dept.	LA&S
ENV	Environmental Studies	Environmental Studies Concentration	LA&S
ETH	Ethics	Ethics Program	LA&S
FIN	Finance	Finance Dept.	C&F
FRE	French	Classical and Modern Languages and Literature Dept.	LA&S
GEN	General Arts	Liberal Arts and Sciences	LA&S
GEO	Geography	Political Science Dept.	LA&S
GER	German	Classical and Modern Languages and Literature Dept.	LA&S
GLY	Geology	Civil and Environmental Engineering	Engr.
GRK	Greek	Classical and Modern Languages and Literature Dept.	LA&S
HIS	History	History Dept.	LA&S
HUM	Humanities	Humanities and Augustinian Traditions	LA&S
HON	Honors	Honors Program	LA&S
HS	Human Services	Education and Human Services Dept	LA&S
IS	Irish Studies	Irish Studies Program	LA&S
ITA	Italian	Classical and Modern Languages and Literature Dept.	LA&S
JPN	Japanese	Classical and Modern Languages and Literature Dept.	LA&S
LA	Liberal Arts	Liberal Arts Program	LA&S
LAS	Latin American Studies	Latin American Studies Concentration	LA&S

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LAT	Latin	Classical and Modern Languages and Literature Dept.	LA&S
MAT	Mathematical Sciences	Mathematical Sciences Dept.	LA&S
ME	Mechanical Engineering	Mechanical Engineering Dept.	Engr
MET	Meteorology	Astronomy and Astrophysics Dept.	LA&S
MGT	Management	Management Dept.	C&F
MIS	Management Information Systems	Decision and Information Technologies	C&F
MKT	Marketing	Marketing Dept.	C&F
ML	Modern Languages	Classical and Modern Languages and Literature Dept.	LA&S
MS	Military Science	Military Science Dept. (Army ROTC)	LA&S
NS	Naval Science	Naval Science Dept. (Navy ROTC)	LA&S
NTR	Nutrition	College of Nursing	Nursing
NUR	Nursing	College of Nursing	Nursing
PHI	Philosophy	Philosophy Dept	LA&S
PHY	Physics	Physics Dept.	LA&S
PJ	Peace and Justice	Peace and Justice Program	LA&S
PSC	Political Science	Political Science Dept.	LA&S
PSY	Psychology	Psychology Dept.	LA&S
RAS	Russian Area Studies	Russian Area Studies Program	LA&S
RUS	Russian	Classical and Modern Languages and Literature Dept.	LA&S
SAR	Studio Art and Music	Theatre Dept.	LA&S
SBI	Business	Summer Business Institute	C&F
SCI	Comprehensive Sciences	Comprehensive Sciences Dept.	LA&S
SOC	Sociology	Sociology Dept.	LA&S
SPA	Spanish	Classical and Modern Languages and Literature Dept.	LA&S
STA	Statistics	Decision and Information Technologies Dept	C&F
THE	Theatre	Theatre Dept.	LA&S
THL	Theology and Religious Studies	Theology and Religious Studies Dept.	LA&S
WS	Women's Studies	Women's Studies Program	LA&S

AAH 1101 His West Art: Ancient - Med Architecture, sculpture, and painting in the West from ancient times through medieval and High Gothic periods. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

AAH 1330 Contemporary Cinema (3 cr) *Last Offered: Fall 1997.*

AAH 1903 Internship Elective An internship in an elective area of concentration. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2004, Fall 2003, Fall 2002, Fall 2001.*

AAH 2001 Medieval Art The development of Western art from the death of Jesus to 1300 A.D. with emphasis on the Catholic Church as the main patron of painting, sculpture, and architecture during the Middle Ages. (3 cr) *Last Offered: Spring 2005, Fall 2003, Fall 2002, Fall 2001.*

AAH 2002 Renaissance Art New trends and forms in European Art from 1300 to 1600; an examination of leading artists, their lives and works: Giotto, Leonardo Da Vinci, Michelangelo, among others. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 2005, Fall 2004, Spring 2003, Spring 2002.*

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: Spring 2005, Fall 2004, Spring 2004, Summer 2003.*

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 techn (3 cr) *Last Offered: Summer 2005, Summer 2004, Spring 2003.*

AAH 2006 American Art The history of painting, sculpture, and architecture in America from the colonial period to modern times. (3 cr) *Last Offered: Spring 2005, Summer 2004, Spring 2003, Summer 2002.*

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: Fall 2005, Spring 2004, Summer 2003, Fall 2002.*

AAH 2008 Spirit of the Renaissance The relationship of painting, sculpture, architecture, and graphic arts from the rise of the Sienese and Florentine School to the end of the Venetian school. (3 cr) *Last Offered: Summer 2005, Summer 2004, Summer 2003, Summer 2002.*

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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: Fall 2005, Spring 2005, Fall 2003, Spring 1998.*

AAH 2993 Internship (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Spring 2004, Fall 2002, Fall 2001.*

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: Summer 2005, Spring 2003, Summer 2002, Spring 2001.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

AAH 3007 The Art of Ireland The visual arts in Ireland concentrating on the Golden Age from the 5th to the 9th Century: architecture of the early monastic settlements, manuscript illumination and its influence, and the cultural impact of the Irish forms of monasticism. (3 cr) *Last Offered: Summer 2005, Fall 2004, Summer 2004, Fall 2003.*

AAH 3009 Topics in Art History Selected themes or periods in the history of art examined in depth. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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

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 2005, Spring 2005, Fall 2004, Spring 2004.*

AAH 4001 American Architecture Seminar on architecture and city planning in the United States from colonial times to the present. (3 cr) *Last Offered: Fall 2003, Spring 2001, Fall 1996, Fall 1995.*

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 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 2002, Spring 2000, Spring 1998, Spring 1997.*

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 instru (3 cr) *Last Offered: Fall 2004, Spring 2004, Spring 2003, Fall 1998.*

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 Hist (3 cr) *Last Offered: Fall 2005, Fall 2004.*

AAH 5515 Independent Research An intensive research project under individual direction. Permission of chairperson required. Restricted to AAH Majors. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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, invest (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

ACC 1102 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 c (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

ACC 2310 Intermediate Accounting I Intensive study and application of GAAP for asset valuation, income measurement, and financial statement presentation for business organizations, and the processes through which these principles evolve. Coverage of topics essential to preparing, reading, (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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, (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

ACC 2420 International Accounting (3 cr) *Last Offered: .*

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 wr (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

ACC 2460 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 planni (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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ACC 2470 Cost Accounting Introduction to modern cost accounting systems and the accounting information needs of managers, including: cost- ing approaches (job-order process, standard, and absorp- tion); cost behavior analysis; differential costs for dec- ision-making; activity- b (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

ACC 2480 Advanced Taxes Advanced federal income tax problems and issues as they pertain to individuals, partnerships, corporations, and estates and trusts. Emphasis on tax planning, including use of appropriate computer software. (3 cr) *Last Offered: Fall 2005, Spring 2005, Spring 2004, Spring 2003.*

ACC 2490 Advanced Cost Accounting (3 cr) *Last Offered: .*

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 2005, Summer 2005, Spring 2005, Spring 2003.*

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 (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 Accou (6 cr) *Last Offered: .*

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 (6 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

ACC 3500 Ind Study: Accounting (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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: .*

AER 1011 Air Force Today 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: Spring 2005, Fall 2004, Fall 2003, Spring 2003.*

AER 1012 Leadership Lab (cr) *Last Offered: Spring 2005, Fall 2004, Spring 2004, Fall 2003.*

AER 1021 Evol of USAF: 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, clos (1 cr) *Last Offered: Spring 2005, Spring 2004, Fall 2003, Spring 2003.*

AER 1022 Leadership Lab (cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

AER 1031 The Air Force Way 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: Spring 2005, Fall 2004, Spring 2004, Fall 2003.*

AER 1041 Evol of USAF: Aerospace Pwr 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 2005, Spring 2004, Spring 2003, Spring 2002.*

AER 2011 Air Force Leadership and MGT 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: Spring 2005, Fall 2004, Spring 2004, Fall 2003.*

AER 2021 Air Force Leadership & Mgt II An interdisciplinary approach to leadership which includes study of human behavior and relationships, and motivation. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

AER 2031 National Security Issues 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 secu (3 cr) *Last Offered: Spring 2005, Fall 2004, Spring 2004, Fall 2003.*

AER 2041 National Security Issues 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 2005, Spring 2004, Spring 2003, Spring 2002.*

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) (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 4100 Sem: Arab & Islamic st (3 cr) *Last Offered: Spring 2003, Fall 2002, Spring 2002, Spring 2001.*

ARB 1111 Basic Arabic I Functional use of Modern Standard Arabic for students with no prior knowledge of Arabic. Recitations, readings and oral drills, supplementary language laboratory work. (6 cr) *Last Offered: Fall 2005, Summer 2005, Fall 2004, Summer 2004.*

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. (6 cr) *Last Offered: Summer 2005, Spring 2005, Summer 2004, Spring 2004.*

ARB 1121 Intermediate Arabic I Review of grammar and vocabulary. Recitations, readings and oral drills. Supplementary language laboratory work. (5 cr) *Last Offered: Fall 2005, Summer 2003, Fall 2002, Summer 2002.*

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ARB 1122 Intermediate Arabic II Review of grammar and vocabulary. Recitations, readings and oral drills. Supplementary language laboratory work. (5 cr) *Last Offered: Summer 2003, Summer 2002, Spring 2002, Summer 2001.*

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: Spring 2005, Fall 2000, Fall 1999, Summer 1999.*

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: Summer 1999, Spring 1998, Spring 1997.*

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 2000, Fall 1999, Spring 1999, Fall 1998.*

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

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: Spring 2005, Summer 2003, Summer 2002, Summer 2001.*

AS 1903 Internship (3 cr) *Last Offered: Summer 2005.*

AS 1906 Internship (6 cr) *Last Offered: Summer 2005.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

AST 1052 Planet Earth II A continuation of AST 1050 (Planet Earth I). (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

AST 1053 Planet Earth Lab II A continuation of AST 1051 (Planet Earth II). (1 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 supernov (3 cr) *Last Offered: Fall 2005, Summer 2005, Fall 2004, Summer 2004.*

AST 1073 Stellar Lab Laboratory focuses on stellar and galactic problems. Co-requisite: AST 1073, 2122 or 2120. (1 cr) *Last Offered: Fall 2005, Summer 2005, Fall 2004, Summer 2004.*

AST 1074 Planets 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; t (3 cr) *Last Offered: Summer 2005, Spring 2005, Summer 2004, Spring 2004.*

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 2005, Spring 2005, Summer 2004, Spring 2004.*

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 1151 Astronomical Ideas The evolution (and revolution) of human views and understanding of the sky from pretechnology cultures (e.g., Stonehenge, the American Southwest), through the sophisticated cultures of the ancient Near East, the ancient Greeks, the Renaissance (Copernicus (3 cr) *Last Offered: Spring 1999, Fall 1997, Fall 1996, Fall 1995.*

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. Pre (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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 (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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. Open to science, engineering and math major (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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 (2 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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AST 2134 Observational Lab II Continuation of AST 2122. (2 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 2005, Spring 2004, Fall 2003, Spring 2003.*

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, (3 cr) *Last Offered: Fall 2004, Fall 2002, Fall 2000, Fall 1998.*

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, nov (3 cr) *Last Offered: Spring 2005, Spring 2003, Spring 2001, Spring 1999.*

AST 3152 Astrodynamics Problems dealing with orbit determination, artificial satellites, space travel and related subjects. MAT 1505 or above. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 bla (3 cr) *Last Offered: Spring 2004, Spring 2002.*

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 2005, Spring 2004, Spring 2003, Spring 2002.*

AST 4122 Undergrad Research II Continuation of AST 4121. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

BA 1001 C&F Freshman Seminar I C&F freshman fall seminar; meets once with additional out-of-classroom requirements. Eases transition to college and aids in professional development. (cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004.*

BA 1002 C&F Freshman Seminar II C&F freshman spring seminar; meets once with additional out-of-classroom requirements. Eases transition to college and aids in professional development. (cr) *Last Offered: Spring 2005.*

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: C&F sophomore, junior, or senior status, minimum GPA; appro (3 cr) *Last Offered: Summer 2005, Summer 2004, Spring 2004, Summer 2003.*

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

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

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 C & F majors. (3 *cr*) *Last Offered:* Fall 2005, Spring 2005, Fall 2004, Spring 2004.

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 (3 *cr*) *Last Offered:* Fall 2005, Fall 2004, Fall 2003, Summer 2003.

BIO 1205 Human Anat & 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. Open to Nursing majors. (4 *cr*) *Last Offered:* Fall 2005, Summer 2005, Fall 2004, Summer 2004.

BIO 1206 Human Anat & Physiol II Continuation of Biology 1205. The structure and function of the blood, vascular, lymphatic, respiratory, digestive, urinary, and reproductive systems. Open to Nursing majors. (4 *cr*) *Last Offered:* Summer 2005, Spring 2005, Summer 2004, Spring 2004.

BIO 1303 General Biology II (3 *cr*) *Last Offered:* .

BIO 1401 Microbiology Fundamentals of structure, function, and characteristics of microorganisms and their interaction with host organisms; basic microbiological techniques carried out or demonstrated in laboratory. Open to Arts sophomores. (3 *cr*) *Last Offered:* Spring 2000, Spring 1998, Spring 1997, Fall 1996.

BIO 1402 Microbiology Lab Basic microbiological techniques carried out or demonstrated in laboratory. Open to Arts sophomores. (1 *cr*) *Last Offered:* Spring 2000, Spring 1998, Spring 1997, Spring 1996.

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 text (4 *cr*) *Last Offered:* Fall 2005, Summer 2005, Fall 2004, Summer 2004.

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. Open to Arts sophomores. (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. Open to Arts sophomores. (4 *cr*) *Last Offered:* Summer 2005, Spring 2005, Summer 2004, Spring 2004.

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

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detoxification of wastes. Microbes as the causative agents of disease and as agents to produce lifesaving cures through biotechnology (4 cr) Last Offered: Spring 2003, Spring 2002, Spring 2001, Spring 2000.

BIO 1655 Human Physiology - Body Works The principles and mechanisms underlying how the human body functions, with emphasis on physical fitness. Open to Arts sophomores. (4 cr) Last Offered: Summer 2005, Spring 2005, Summer 2004, Spring 2004.

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 included (4 cr) Last Offered: Fall 2005, Spring 2001, Spring 1999, Spring 1997.

BIO 1785 Special Themes in Biology A selected theme on some aspect of biology. Topics will be announced. Specific information will be available in the department office. Open to Arts sophomores. (4 cr) Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.

BIO 1903 Internship Elective Open to BIO and BSC majors. (3 cr) Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.

BIO 1906 Internship Elective Open to BIO and BSC majors. (6 cr) Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.

BIO 1909 Internship Elective Open to BIO and BSC majors. (9 cr) Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.

BIO 2101 General Biology I (3 cr) Last Offered: Summer 1995.

BIO 2102 General Biology I Lab (1 cr) Last Offered: Summer 1995.

BIO 2103 General Biology II (3 cr) Last Offered: Summer 1995, Spring 1995.

BIO 2104 General Biology II Lab (1 cr) Last Offered: Summer 1995, Spring 1995.

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 2005, Summer 2005, Fall 2004, Summer 2004.

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 2005, Spring 2005, Summer 2004, Spring 2004.

BIO 2993 Internship Open to BIO and BSC majors. (3 cr) Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.

BIO 2996 Internship Open to BIO and BSC majors. (6 cr) Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.

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: Summer 2005, Summer 2004, Spring 2004, Spring 2002.*

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: Summer 2005, Summer 2004, Spring 2004, Spring 2002.*

BIO 3055 Animal Physiology The basic principles underlying how animals function and the mechanisms used to solve physiological problems. (4 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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: Fall 2005, Fall 2004, Fall 2002, Fall 2001.*

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 2005, Spring 2004, Spring 2003, Spring 2002.*

BIO 3225 Intro to Electron Microscopy Introduction to specimen production for and use of scanning and transmission electron microscopes. (4 cr) *Last Offered: Fall 2004, Fall 2002, Fall 2000, Spring 1999.*

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 pro (4 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Summer 2003.*

BIO 3351 Genetics Transmission genetics, cytogenetics, gene expression and regulation and population genetics. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Fall 2003, Fall 2001, Spring 1998.*

BIO 3455 Histology The microscopic study and demonstration of cells, tissues and organ systems of the mammalian body. (4 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 2005, Fall 2003, Fall 2000, Fall 1998.*

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 2005, Spring 2001, Spring 1999, Spring 1997.*

BIO 3595 General Microbiology Bacteria, viruses, eukaryotic microbes, immune function. Microbes in air, water, soil: interactions with plants and animals. Agricultural, commercial,

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industrial, and medical applications. Laboratory studies in growth and analysis of selected organisms (4 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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 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 2004, Spring 2002, Fall 1998, Spring 1997.*

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 2004, Fall 2002, Fall 2000, Fall 1998.*

BIO 4105 Bacterial Pathogens The nature and activities of bacterial pathogens. Mechanisms of pathogenesis and invasiveness, and the physical evidence of infection and defense mechanisms of the host. Laboratory focus on isolation and identification methods and cultivation techniques. (4 cr) *Last Offered: Spring 2001, Spring 2000.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

BIO 4251 Comp Endocrinology Mechanisms of endocrine control of growth, metabolism, reproduction, adaptation, and behavior. The endocrine glands. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

BIO 4252 Comp Endocrinology Lab Laboratory experience in endocrinology, demonstrative and analytical. (1 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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. Prerequisite: (4 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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 2005, Spring 2003, Spring 2001, Spring 1999.*

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) Prereq: BIO 3351; MAT 1310-1315. (4 cr) *Last Offered: Spring 2003, Spring 2001, Spring 1999, Spring 1997.*

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, bio (2 cr) *Last Offered: Fall 2005, Spring 2004, Spring 2002, Summer 2001.*

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 (2 cr) *Last Offered: Spring 2004, Spring 2002, Summer 2001, Spring 2000.*

BIO 4485 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 (estu) (4 cr) *Last Offered: Spring 2004, Spring 2003, Spring 2002, Spring 2000.*

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 exer (4 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

BIO 6100 Affiliation Study (cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

BIO 6401 Independent Study Supervised laboratory/field research (1 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

BIO 6402 Independent Study Supervised laboratory/field research. (1 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

BIO 6403 Independent Study Supervised laboratory/field research. (1 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

BIO 6404 Independent Study Supervised laboratory/field research. (1 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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BIO 6409 Senior Thesis Directed laboratory research. Students will conduct original research and submit a written thesis. (2 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

BIO 6509 Directed Research Library and/or laboratory research under thesis. (2 cr) Sem 1&2. Prereq: Bio the direction of a student-selected Biology faculty member. Prerequisite for senior. 2105, 2106; consent of mentor; 3.0 QPA. Restricted to junior or senior biology majors. (2 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

BIO 6940 Special topics Current topics in biology. Topics will be announced on a semester by semester basis. Specific information will be available in the department office. (2 cr) *Last Offered: Spring 1999, Spring 1996.*

BIO 6950 Advanced Topics in Biology More intensive coverage of current topics in biology. Topics will be announced on a semester by semester basis. Specific information available in the departmental office. (3 cr) *Last Offered: Fall 2005, Spring 2005, Spring 2004.*

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

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: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 Assoc & Commerc Tran 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 2004, Spring 2003, Spring 2002, Spring 2001.*

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: Spring 2005, Spring 2003, Spring 2002, Fall 1995.*

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 2005, Spring 2004, Spring 2003, Spring 2002.*

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 2005, Spring 2005, Fall 2004, Fall 2003.*

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 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 2103 Mechanics of Solids Stress resultants in bodies from tension, compression, shear, flexure, torsion and temperature; stress and strain transformations; combined stresses; load deformation relationships; Euler buckling. (3 cr) *Last Offered: Summer 2005, Spring 2005, Summer 2004, Spring 2004.*

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: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Spring 2004, Spring 2003.*

CEE 2602 Civil Egr Measurements Two major group projects: environmental study of local stream and test model of bridge truss; "as needed" topics include map skills, photo interpretation, plane surveying, water quality, stream hydraulics, material properties and testing, beam flexure; fi (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

CEE 2805 Geology for Engineers Development and composition of minerals, rocks and soils; geologic structure and deformation of rock masses; weathering, mass wasting, erosion, groundwater, streams, ocean currents and glaciers. (3 cr) *Last Offered: .*

CEE 3211 Transportation Egr Transportation planning; system modes and roles of government agencies. Facility design: alignment, geometrics, pavement, economic evaluation of alternatives. Operations: capacity, level of service, traffic control, queuing, safety. Rail, air, public and (3 cr) *Last Offered: Spring 2005, Spring 2004, Fall 2002, Fall 2001.*

CEE 3321 Waste & 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 (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

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 2005, Spring 2004.*

CEE 3500 Fluid Mechanics Fluid properties; fluid statics, kinematics of flow; conservation of mass, energy and momentum; dynamic similarity; fluid resistance, boundary layer theory,

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flow in conduits; lift and drag; potential flow; compressible flow. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Spring 2004, Spring 2003, Spring 2002.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

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 2005, Spring 2004.*

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 2005, Spring 2004, Spring 2003, Spring 2002.*

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 2005, Fall 2004, Fall 2003.*

CEE 3911 Fluid Mechanics Lab Experiments and demonstrations illustrating principles of flow behavior including computer-aided analysis and interpretation. (1 cr) *Last Offered: Spring 2005, Spring 2004, Fall 2002, Fall 2001.*

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 2005, Spring 2004.*

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 2005, Fall 2004, Fall 2003.*

CEE 4224 Trans Facilities Design (CEE Senior Elective) Engineering applications of planning/design/operation process including design philosophies, environmental impact evaluations, and design of highway facilities. Use of national and state codes and computer-aided design software. (3 cr) *Last Offered: Fall 2005, Fall 2004.*

CEE 4235 Advanced Trans Egr (Technical Elective) Fundamentals of urban traffic engineering, including data collection, analysis, and design. Traffic engineering studies, traffic control devices, capacity and level of service analysis of freeways and urban streets with software appl (3 cr) *Last Offered: Spring 2005.*

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 2005, Fall 2004.*

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 d (3 cr) *Last Offered: Fall 2005, Fall 2004.*

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 2005, Fall 2004.*

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 (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 1995.*

CEE 4606 CEE Capstone Design Project Written and oral reports on a design project in one or more civil engineering disciplines. Prerequisites: CEE Senior elective in the specific discipline corresponding to that design project. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

CEE 4607 Selected Topics in CEE Independent study or research on a current engineering topic. Prerequisites: Senior standing and permission of the chairperson. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Summer 2002.*

CEE 4611 Civ Engr Service Learning Service learning experience related to civil engineering. Mandatory weekly group meetings for preparation and reflection on service activities and their impacts. Consent of instructor required. (1 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003.*

CEE 4612 CEE Undergraduate Research (Technical Elective) Individual participation in modern analytical or experimental research activities under faculty supervision; required technical report and presentation at end of semester. Consent of department chair required. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

CEE 4801 Foundation Design (CEE Senior Elective) Soil testing, site investigation, design of both shallow and deep foundations. (3 cr) *Last Offered: Fall 2005, Fall 2004.*

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 2005, Spring 2004, Spring 2003, Spring 2002.*

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: P (3 cr) *Last Offered: .*

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 2005, Spring 2004, Spring 2003, Spring 2002.*

CHE 2041 Chem Process Calculat Application of physical and chemical principles to the solution of steady-state material balances. (4 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

CHE 2232 Fluid Flow Operations 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 2005, Spring 2004, Spring 2003, Spring 2002.*

CHE 2432 Modeling & Numerical Methods I Application of rate laws and conservation equations to modeling by differential equations of physical systems. numerical methods related to solution of system models involving algebraic equations and ordinary differential equations. Errors, stability and (3 cr) *Last Offered: Fall 2005, Fall 2004, Spring 2003, Spring 2002.*

CHE 2811 Professional Development I Introduction to professionalism: Engineering ethics; professional responsibility; environmental responsibility. (1 cr) *Last Offered: Spring 2003, Spring 2002, Spring 2001, Spring 2000.*

CHE 3031 Heat Transfer Operations 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 2005, Fall 2004, Fall 2003, Fall 2002.*

CHE 3032 Principles of 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 2005, Spring 2004, Spring 2003, Spring 2002.*

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, applicatio (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

CHE 3132 Chemical Engineering Economics Methods of economic evaluation and decision making, applied to engineering problems. Cost estimation and indexing, time value of money, depreciation, comparison of alternatives. Prerequisite: Junior standing in Engineering. (3 cr) *Last Offered: Fall 2004, Fall 2003, Fall 2002, Fall 2001.*

CHE 3231 Modeling Numerical Methods II Application of conservation equations to the development of dynamic models of chemical engineering processes, analysis of system models using analytical and numerical methods. Introduction to systems described by partial differential equations and their (3 cr) *Last Offered: Spring 2004, Spring 2003, Spring 2002, Spring 2001.*

CHE 3232 Simulation and 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 2005, Spring 2004, Spring 2003, Spring 2002.*

CHE 3821 Professional Development II Professionalism: Oral and written communication; experimentation, data handling, elementary statistical analysis; lab safety; professional portfolio. (2 cr) *Last Offered: Fall 2003, Fall 2002, Fall 2001, Fall 2000.*

CHE 3822 Professional Development III Professionalism: Systematic safety analyses, hazard identification, fault-free analysis, redundant control; data handling; design of experiments; career issues; professional portfolio. (2 cr) *Last Offered: Spring 2004, Spring 2003, Spring 2002, Spring 2001.*

CHE 3841 Statistical Analysis for CHE Statistical analysis of experimental data; standard normal, F-, t-, and chi-squared distributions; linear regression, analysis of variance; experimental design. (2 cr) *Last Offered: Fall 2005, Fall 2004.*

CHE 3842 Safety Analysis Hazard identification; flammability; material properties; pressure relief; toxicity; risk analysis. (2 cr) *Last Offered: Spring 2005.*

CHE 3911 Chem Eng Laboratory I Illustration of chemical engineering principles using laboratory and pilot scale equipment. (1 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

CHE 3922 Chem Eng Laboratory II Continuation of CHE 3921. Oral technical presentations. (2 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

CHE 4031 Chem Reaction Engineering I Principles and methods of chemical kinetics and reactor design, applied to homogeneous reactive systems of industrial importance. Stoichiometry and rate laws for simple and complex reactions, analysis of reaction rates, isothermal reactors, introduction (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

CHE 4821 Tech Literature Investigation Contemporary topics of technology and society; independently researched seminar; lifelong professional development. (2 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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). Prerequisite: Senior standing in chemical engineering. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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 2005, Spring 2004, Spring 2003, Fall 2002.*

CHE 4921 Chem Eng Laboratory III Continuation of CHE 3922, extended experimental investigations. (2 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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. Prerequisite: Junior standing in engineering. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2002, Fall 2001.*

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

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devices, VOC abatement technologies, NO_x and SO_x abatement, and meteorological effects. Prerequisite (3 cr) *Last Offered: Spring 2004, Spring 2002, Fall 2000, Spring 2000.*

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 2005, Spring 2004, Spring 2003, Spring 2002.*

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. Prerequisite: Junior standing in E (3 cr) *Last Offered: Spring 2005, Fall 2003, Fall 2002, Fall 2001.*

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 (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 2005, Fall 2000, Spring 1997.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

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. Prerequisite (3 cr) *Last Offered: .*

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 2005, Spring 2004, Spring 2003, Spring 2002.*

CHE 5633 Nanomaterials & Surface Sci 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 structures (3 cr) *Last Offered: Spring 2005, Spring 2004.*

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 2005, Summer 2005, Fall 2004, Summer 2004.*

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 2005, Spring 2005, Summer 2004, Spring 2004.*

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: 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 2005, Fall 2004, Fall 2003, Fall 2002.*

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: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 2005, Fall 2004.*

CHI 1132 Advanced Chinese II Advanced communication skills including reading and discussing topics on current events. Supplementary language laboratory work. (3 cr) *Last Offered: Spring 2005.*

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 2005, Fall 2004, Spring 2004, Fall 2003.*

CHI 2144 Chinese Film & Novel The history and development of Chinese fiction from its beginning to the present. Taught in English, Satisfaction of Diversity 3 Requirement, Writing enriched, Chinese Minor and Advanced English literature replacement. (3 cr) *Last Offered: Fall 2005, Fall 2004, Spring 2004, Spring 2003.*

CHI 3412 Chinese Special Topics Conducted in English. Satisfied with Chinese minor and East Asian Studies electives. Fulfills Diversity 1, Diversity 2, or Diversity 3 upon the subject. (3 cr) *Last Offered: Fall 2005.*

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 pla (1 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

CHM 1004 Environmental Chemistry Lab Environmental chemistry analysis, with emphasis on soil, wastewater, and air analysis, sampling techniques, and matrix effects. (1 cr) *Last Offered: 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 2005, Spring 2004, Spring 2003.*

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, principle (3 cr) Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.

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 (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. Prereq: CHM 1050, 1000; Coreq: CHM 1002. (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 (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 (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, chiral species, electronically delocalized species, aromatic and anti-aromatic species, fluxional species, rigid, (3 cr) Last Offered: Spring 2000, Spring 1998.

CHM 1056 Supermarket Chemistry For non-science majors. The chemistry of products found in the supermarket: food processing, food additives, soaps and detergents, cosmetics, and over-the-counter pharmaceuticals. (3 cr) Last Offered: Spring 1998.

CHM 1057 Chem Theme: Criminalistics For non-science 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 (3 cr) Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.

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 (1 cr) Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.

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 (1 cr) Last Offered: Summer 2005, Spring 2005, Summer 2004, Spring 2004.

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 (1 cr) *Last Offered: Summer 2005, Spring 2005, Summer 2004, Spring 2004.*

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 chemist (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Spring 2005, Summer 2004, Spring 2004.*

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 and engineering students. (4 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 and engineering studen (4 cr) *Last Offered: Summer 2005, Spring 2005, Summer 2004, Spring 2004.*

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. For engineering students. (4 cr) *Last Offered: Spring 2005.*

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 applic (2 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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. For chemistry majors onl (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

CHM 1502 Quant Anal Lab Laboratory experiments to complement CHM 1512 covering the following: gravimetric analysis, acid-base titrations (weak acid; mixed acid), compleximetric titration and redox reactions. (2 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 2005, Spring 2004, Spring 2003, Spring 2002.*

CHM 1903 Internship Elective (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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CHM 1906 Internship Elective (6 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

CHM 1909 Internship Elective (9 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 (1 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Spring 2005, Summer 2004, Spring 2004.*

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 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Spring 2005, Summer 2004, Spring 2004.*

CHM 2993 Internship (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

CHM 2996 Internship (6 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

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 a (2 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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; n (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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 r (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 2005, Fall 2004, Fall 2003, Spring 2003.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

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 chem (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 w (1 cr) *Last Offered: Summer 2005, Summer 2004, Fall 2003, Fall 2002.*

CHM 3402 Physical Chem Lab II Experimental methods of chemical kinetics will be covered. Spectroscopic, polarimetric, and conductimetric methods will be used. (1 cr) *Last Offered: Summer 2005, Spring 2005, Summer 2004, Spring 2003.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

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 2005, Spring 2004, Spring 2003.*

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. (3 cr) *Last Offered: Fall 2005, Summer 2005, Fall 2004, Summer 2004.*

CHM 3412 Physical Chemistry II The course will present an introduction to atomic and molecular structure and spectroscopy, chemical kinetics and chemical dynamics. (3 cr) *Last Offered: Summer 2005, Spring 2005, Summer 2004, Spring 2004.*

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 2005, Spring 2003, Spring 2002.*

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,

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spectrofluorometry and atomic absorpti (2 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

CHM 3503 Analytical 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 2001, Fall 2000, Fall 1999, Fall 1998.*

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 separ (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 2005, Fall 2004, Fall 2003, Fall 2002.*

CHM 3514 Analytical 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 2001, Fall 2000, Fall 1999, Fall 1998.*

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, electroanal (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 (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 1999, Spring 1998, Spring 1997, Spring 1996.*

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: .*

CHM 4301 Practical Appls Chm Laboratory This laboratory course will focus on practical applications of chemistry particularly involving problems in environmental chemistry, solid state materials and forensic science. (2 cr) *Last Offered:* .

CHM 4311 Practical Appls of Chemistry This lecture course will focus on practical applications of chemistry particularly involving problems in environmental chemistry, solid state materials and forensic science. (3 cr) *Last Offered:* .

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:* .

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 an (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 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 Biochemistry Laboratory An introduction to laboratory techniques in biochemistry; enzyme kinetics, column chromatography, electrophoresis, standard biochemical assays and interpretation of data. (1 cr) *Last Offered:* Fall 2005, Spring 2005, Fall 2004, Spring 2004.

CHM 4603 Biochem Tech. and Pract. A laboratory course to complement CHM 4621 and 4622. Emphasis on enzyme purification, enzyme characterization, nucleic acid analysis, polysaccharide analysis and coupled enzyme systems. (2 cr) *Last Offered:* Fall 2005, Fall 2004, Fall 2003, Fall 2002.

CHM 4611 Intro Biochemistry Basic areas of biochemistry; carbohydrates, lipids, proteins, nucleic acids, enzymes, vitamins and hormones; consideration of their utilization and metabolism in living systems. (3 cr) *Last Offered:* Fall 2005, Summer 2005, Spring 2005, Fall 2004.

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CHM 4621 Biochemistry I 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 2005, Spring 2004, Spring 2003, Spring 2002.*

CHM 4622 Intermediary 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 diseases (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

CHM 4623 Biochemistry III Integration of metabolism in organisms, membrane receptors expression of genes, gene manipulation, translation, transcription. Prereq: CHM 4622 (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 2005, Summer 2005, Spring 2005, Fall 2004.*

CHM 4802 Research II Continuation of CHM 4801. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

CHM 4803 Research III Continuation of CHM 4802. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

CHS 1000 Anc Med Renaiss Thought 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 Rena (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

CHS 1001 Mod Thgt:Enlight to Pres 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, M (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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. Fulfills advanced literature requirements. (3 cr) *Last Offered: 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. Fulfills advanced literature requirements. (3 cr) *Last Offered: Fall 2003, Fall 2002, Fall 2001, Fall 1997.*

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. Fulfills advanced literature requirements. (3 cr) *Last Offered: Spring 2005, Fall 2004, Spring 2004, Fall 2003.*

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. Fulfills advanced literature requirements. (3 cr) *Last Offered: Fall 2005, Fall 2004, Spring 2004, Fall 2003.*

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: .*

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 (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 C&F requirement. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 Commerce and Finance requirement; not (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

COM 1200 Intro to COM Research (3 cr) *Last Offered: .*

COM 1300 Film Analysis (3 cr) *Last Offered: .*

COM 1903 Communication Internship Supervised work/study program in radio, television, advertising, publicity or public relations. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

COM 1906 Communication Internship Supervised work/study program in radio, television, advertising, publicity or public relations. (6 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

COM 1909 Communication Internship Supervised work/study program in radio, television, advertising, publicity or public relations. (9 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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COM 2000 Voice and Diction Improvement of vocal quality and articulation through study of vocal anatomy, phonetics, projection, and expressiveness. Emphasis on live and taped performances of readings. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Summer 2004.*

COM 2050 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: Spring 2005, Fall 2004, Spring 2004, Fall 2003.*

COM 2100 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: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

COM 2150 Screenwriting Development of narrative strategies through improvisation and techniques of mediated visualization using video. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

COM 2210 Rhetoric and Public Discourse 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 2005, Fall 2004, Fall 2003, Fall 2002.*

COM 2240 Theories of Perform Studies (3 cr) *Last Offered: .*

COM 2250 Argumentation and Debate Argumentation theory and practice, emphasizing the construction of well-reasoned arguments and attacks on and defense of arguments. Participation in a number of in- class debates. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

COM 2280 Theories of Persuasion (3 cr) *Last Offered: .*

COM 2300 Theories of Mass Communication (3 cr) *Last Offered: .*

COM 2310 African American Rhetoric The symbolic construction of African American identity in the United States through an analysis of speeches, films, television and other media. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

COM 2340 Theories of Visual Com & Cultu (3 cr) *Last Offered: .*

COM 2350 Rhetoric & Social Ritual Focused reading of contemporary rhetorical theorists. Examines the cultural use of symbols for the generation of community; rhetoric as performed through ritual acts; and correct and incorrect enactment, resulting in social acceptance and alienation. (3 cr) *Last Offered: Spring 2004.*

COM 2400 Theories of Interpersonal Com (3 cr) *Last Offered: .*

COM 2440 Theories of Organizational Com (3 cr) *Last Offered: .*

COM 2450 Media and 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: Spring 2005, Fall 2004, Fall 2002, Fall 2001.*

COM 2500 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 piece (3 cr) *Last Offered: Spring 2005.*

COM 2510 Broadcast Performance 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 2005, Spring 2005, Fall 2004, Spring 2004.*

COM 2540 Rhet & Demo in Ancient Greece An upper-level course in which students study important ancient Greek rhetorical and philosophical texts and their influence on significant archaeological sites. THIS COURSE IS ONLY OFFERED IN THE SUMMER STUDY ABROAD IN GREECE PROGRAM. (3 cr) *Last Offered: Summer 2004, Summer 2003, Summer 2002, Summer 2001.*

COM 2550 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. THI (3 cr) *Last Offered: Summer 2005, Summer 2003, Summer 2002, Summer 2001.*

COM 2950 Spec Top in Rhetoric & Perf Topic or problem in the Rhetoric & Performance area of communication selected by the instructor. (3 cr) *Last Offered: Fall 2005, Summer 2005, Fall 2004, Summer 2004.*

COM 2993 Communication Internship Supervised work/study program in radio, television, advertising, publicity or public relations. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

COM 2996 Communication Internship More intensive, in depth work/study/program in radio, television, advertising, publicity or public relations. (6 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

COM 3000 Mass Communication Studies 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 con (3 cr) *Last Offered: Summer 2005, Spring 2005, Fall 2004, Summer 2004.*

COM 3050 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 (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

COM 3060 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 (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

COM 3100 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 2005, Summer 2005, Spring 2005, Fall 2004.*

COM 3150 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 writ (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

COM 3160 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 (3 cr) *Last Offered: Spring 2005, Fall 2004, Spring 2004, Fall 2003.*

COM 3170 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 (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004.*

COM 3180 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 b (3 cr) *Last Offered: Fall 2005.*

COM 3201 Rhetoric & Social Justice (3 cr) *Last Offered: .*

COM 3202 Rhetoric & Social Ritual (3 cr) *Last Offered: .*

COM 3203 Communication Law & Policy (3 cr) *Last Offered: .*

COM 3204 Rhet & Demo in Ancient Greece (3 cr) *Last Offered: .*

COM 3205 Adv Speaking & Speechwriting (3 cr) *Last Offered: .*

COM 3206 Argumentation & Debate (3 cr) *Last Offered: .*

COM 3207 African American Rhetoric (3 cr) *Last Offered: .*

COM 3210 Television Production 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 tel (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

COM 3240 Performance for Social Change (3 cr) *Last Offered: .*

COM 3241 Performance of Literature (3 cr) *Last Offered: .*

COM 3242 African American Performance (3 cr) *Last Offered: .*

COM 3243 Performance Art (3 cr) *Last Offered: .*

COM 3244 Folklore & Oral Traditions (3 cr) *Last Offered: .*

COM 3245 Voice & Diction (3 cr) *Last Offered: .*

COM 3246 Performance of Greek Lit (3 cr) *Last Offered: .*

COM 3250 Advanced Television Production Extends students' knowledge of basic television production; involves the writing, planning, and creation of varied formats of television programming, culminating in a semester project intended for broadcast or other media outlet. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Fall 2002.*

COM 3260 Creativity in TV Production 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. Hel (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004.*

COM 3270 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 microp (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004.*

COM 3290 Spec Top in Rhetoric & Perf (3 cr) *Last Offered: .*

COM 3301 Intro to Film & Video Prod (3 cr) *Last Offered: .*

COM 3302 Advanced Film & Video Prod (3 cr) *Last Offered: .*

COM 3303 Screenwriting (3 cr) *Last Offered: .*

COM 3304 Documentary Theory & Practice (3 cr) *Last Offered: .*

COM 3305 Radio Broadcasting (3 cr) *Last Offered: .*

COM 3306 Audio Production (3 cr) *Last Offered: .*

COM 3307 Multimedia Production (3 cr) *Last Offered: .*

COM 3310 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 an (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

COM 3340 Film History (3 cr) *Last Offered: .*

COM 3341 Gender and Film (3 cr) *Last Offered: .*

COM 3342 International cinema (3 cr) *Last Offered: .*

COM 3343 Contemporary Cinema (3 cr) *Last Offered: .*

COM 3350 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 co (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

COM 3351 Media & Society (3 cr) *Last Offered: .*

COM 3352 Media & Technology (3 cr) *Last Offered: .*

COM 3353 Media & Politics (3 cr) *Last Offered: .*

COM 3354 Media Criticism (3 cr) *Last Offered: .*

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- COM 3355 Media Effects** (3 cr) *Last Offered:* .
- COM 3360 Introduction to Journalism** (3 cr) *Last Offered:* .
- COM 3361 Journalism Practices** (3 cr) *Last Offered:* .
- COM 3362 Feature Writing** (3 cr) *Last Offered:* .
- COM 3363 Broadcast Journalism** (3 cr) *Last Offered:* .
- COM 3364 Photojournalism** (3 cr) *Last Offered:* .
- COM 3390 Spec Top in Media & Film** (3 cr) *Last Offered:* .
- COM 3400 Film History** Evolution of film as an art form; includes the impact of technology. (3 cr) *Last Offered:* Fall 2004, Fall 2003, Fall 2002, Fall 2001.
- COM 3401 Relational COM Studies** (3 cr) *Last Offered:* .
- COM 3402 Family Communication** (3 cr) *Last Offered:* .
- COM 3403 Intercultural Communication** (3 cr) *Last Offered:* .
- COM 3404 Communication & Conflict** (3 cr) *Last Offered:* .
- COM 3405 Health Communication** (3 cr) *Last Offered:* .
- COM 3406 Gender & Communication** (3 cr) *Last Offered:* .
- COM 3407 Nonverbal Communication** (3 cr) *Last Offered:* .
- COM 3440 Leadership** (3 cr) *Last Offered:* .
- COM 3441 Negotiation & Dialogue** (3 cr) *Last Offered:* .
- COM 3442 teambuilding & Small Group Com** (3 cr) *Last Offered:* .
- COM 3443 Training & Development** (3 cr) *Last Offered:* .
- COM 3444 Interviewing** (3 cr) *Last Offered:* .
- COM 3445 COM Consulting in Organization** (3 cr) *Last Offered:* .
- COM 3450 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:* Spring 2005, Spring 2002.
- COM 3460 Public Relations** (3 cr) *Last Offered:* .
- COM 3461 Advertising** (3 cr) *Last Offered:* .
- COM 3462 Public Relations Writing** (3 cr) *Last Offered:* .
- COM 3464 Public Relations Campaigns** (3 cr) *Last Offered:* .
- COM 3490 Spec Top in Interpersonal Org** (3 cr) *Last Offered:* .

COM 3510 Contemporary Cinema Seminar course in which various strategies are applied to the analysis of contemporary films. (3 cr) *Last Offered: Fall 2004, Fall 2003, Fall 2002, Fall 2001.*

COM 3550 Film Genre Study Exploration of a particular genre's significance within film history and its reflection of contemporary political, social, and cultural issues. (3 cr) *Last Offered: Spring 2005, Spring 2004, Summer 2003, Spring 2003.*

COM 3650 The Film Auteur Intensive chronological study of the work of one European or American film director. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

COM 3700 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. (3 cr) *Last Offered: Fall 2004, Fall 2003, Fall 2002, Spring 2002.*

COM 3800 Media Criticism Analysis of contemporary film, television, music, print media and electronic media from a cultural studies perspective. (3 cr) *Last Offered: Spring 2002.*

COM 3900 Media Analysis 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 o (3 cr) *Last Offered: .*

COM 3950 Spec Top in Media & Film Topic or problem in the Media & Film area of Communication selected by the instructor. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

COM 4000 Interpersonal Comm 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 2005, Spring 2005, Fall 2004, Spring 2004.*

COM 4001 Qualitative Research in COM (3 cr) *Last Offered: .*

COM 4002 Quantitative Research in COM (3 cr) *Last Offered: .*

COM 4050 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 2005, Fall 2003, Fall 2001, Fall 1999.*

COM 4150 Gender and 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. (3 cr) *Last Offered: Fall 2005, Summer 2005, Fall 2004, Summer 2003.*

COM 4200 Intercultural Communication The impact on culture of communication styles, and practices. The role of communication in personal and professional intercultural relationships. (3 cr) *Last Offered: Fall 2004, Spring 2001, Spring 2000.*

COM 4250 Organizational Communication Role of communication in organizing; supervisory- subordinate relationships, group relationships, organizational culture and communication networks, communication technologies, communication based training and development, and human resource applications. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

COM 4300 Communication and Conflict Communicative elements of conflict that arise out of personal and cultural differences in a variety of interpersonal interactions and relationships. Intergroup conflicts between dominant and minority groups also examined. (3 cr) *Last Offered: Fall 2002.*

COM 4350 Training & Development Competencies of the successful training professional. Organizational needs assessment, individual skill assessment, technology and modern training techniques. Program design, execution and evaluation. (3 cr) *Last Offered: Spring 2005, Fall 2004, Fall 2003.*

COM 4400 Health Communication The role of communication in: constructing the health beliefs of individuals, interactions between providers and patients, dyadic and team encounters promoting healthy lifestyles, the rhetorics of orthodox and alternative medicine organizations, strategi (3 cr) *Last Offered: Spring 2003.*

COM 4450 Com Processes & Disabilities Explore communication processes of disability through personal and public narratives. It engages intrapersonal, interpersonal, organizational, public and media/technology contexts. Team taught with Campus Ministry. (3 cr) *Last Offered: Fall 2004.*

COM 4500 Marriage & Fam 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 2005, Fall 2004.*

COM 4950 Spec Top in Interpersonal Org Topic or problem in the Interpersonal/Organizational area of communication selected by the instructor. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Spring 2005, Fall 2004, Summer 2004.*

COM 5100 Directed Study Supervised project culminating in term paper. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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: Spring 2005, Spring 2004, Fall 2003, Spring 2003.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

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 empow (3 cr) Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.

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: Spring 2005, Fall 2004.

CRJ 3320 Criminal Law & Community Survey of the aims of the criminal law in the community; the common-law and statutory law definitions of crimes; the problem of criminal responsibility; sentencing; and the comparison of criminal and civil laws in the social order. (3 cr) Last Offered: .

CRJ 3350 Criminal Procedure 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 af (3 cr) Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.

CRJ 3400 Penology & Corrections 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 2005, Spring 2005.

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 2005, Spring 2005, Fall 2004, Spring 2004.

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 "crim (3 cr) Last Offered: .

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 c (3 cr) Last Offered: Fall 2005.

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: 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: .

CRJ 5000 Independent Study Supervised research project which results in a major research paper. (3 cr) Last Offered: .

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 2004.

CRJ 6003 Internship Supervised work experience in a criminal justice agency. (3 cr) *Last Offered:* .

CRJ 6006 Internship Supervised work experience in a criminal justice agency. (6 cr) *Last Offered:* .

CRJ 6009 Internship Supervised work experience in a criminal justice agency. (9 cr) *Last Offered:* .

CRJ 6500 Senior Seminar This course focuses on a particular substantive area and integrates criminological theory and research methodology. (3 cr) *Last Offered: Spring 2005.*

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: hyp (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; PC based e (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2002, Fall 2001, Spring 2001, Fall 2000.*

CSC 1035 Databases for Beginners 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 2005, Spring 2005.*

CSC 1040 Computing with Images Computing systems as tools for design and publishing of graphically-rich material in many forms: Image processing techniques and systems; image style and related tools; digital image processing theory; computational complexity; multimedia. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

CSC 1051 Algorithms & Data Struct I Object-oriented design: objects, classes, methods, encapsulation; Programming fundamentals: data, variables, selection, loops, arrays, input/output; basic graphics; extensive programming required. (4 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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; grap (4 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

CSC 1200 Computer Organization Computer structure; central processing unit; binary number representation and arithmetic; digital logic design; storage units; machine language; introduction to assembly language. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

CSC 1300 Discrete Structures Mathematical structures that support computer science: sets, logic and proof, mathematical induction, relations, functions, counting techniques, probability, boolean algebra, matrices, graphs and trees. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

CSC 1700 Analysis of Algorithms Efficiency classifications and mathematical analysis of recursive and nonrecursive algorithms: sorting, searching, string processing, graphs, arithmetic. (3 cr) *Last Offered: Spring 2005, Spring 2004, Fall 2003, Spring 2003.*

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 2005, Fall 2004, Spring 2004, Fall 2003.*

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 2005, Spring 2005.*

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; database fundamentals; tables, relations, queries; exte (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

CSC 2500 Survey of Information Science Brief introductions to several areas in which problems in information use are important. Examples are business, law, biology, medicine, electronic commerce, and libraries. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

CSC 2993 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. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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: .*

CSC 3080 Info Security & Protection Explores the criticality of protecting information's availability, accuracy, authenticity, confidentiality, and integrity. Analysis of topics to include

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redundancy, backup and recovery, business continuity, security technologies, and controls such as aud (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 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 2005, Fall 2004, Fall 2003, Fall 2002.*

CSC 4181 Compiler Construction Lexical and syntactical analysis; code generation; error recovery; recursive descent compilation; handling of run-time environment. (3 cr) *Last Offered: Fall 2002, Spring 2002.*

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 (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: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

CSC 4380 Info Visualization The presentation of information; project based course - possible topics: 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 4400 Microprocessors Introduction to 8-, 16-, and 32-bit microprocessors; programming model; system architecture and software; instruction sets; addressing modes; input-output protocols; interrupt handling; RISC architecture. (3 cr) *Last Offered: .*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

CSC 4550 Expert & Knowledge Systems Knowledge representation, uncertainty, automated knowledge acquisition, practical aspects of implementing expert systems. Prerequisite: Junior standing. (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 2005, Spring 2004, Spring 2003, Spring 2001.*

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 2005, Spring 2004, Spring 2003, Spring 2002.*

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 projec (3 cr) *Last Offered: Fall 2005.*

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 2004, Fall 2003, Fall 2002, Fall 2000.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

CSC 4797 Information Systems Capstone Student driven project on the application of an emerging technology that demonstrates learned project management, system design and communication skills. A cumulative experience to complete a student's portfolio of expertise in information systems. (3 cr) *Last Offered: .*

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 2005, Spring 2004, Spring 2003, Spring 2002.*

CSC 4900 Computer Networks Application development over the TCP/IP and OSI network environments; client server computing; use of the WWW as a distributed platform; hypermedia; directories; network protocols; authentication and authorization. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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

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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: Spring 2005, Fall 2004, Spring 2004, Fall 2003.*

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 2005, Summer 2005, Spring 2005, Fall 2004.*

DIT 1006 Intro to MIS Fundamentals of business computing applications an an introduction to the concepts of Management Information Systems. Laptop required. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

DIT 1141 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 2005, Summer 2005, Spring 2005, Fall 2004.*

DIT 2006 Info Systems for Mgt Structure and applications of computer-based Management Information Systems in organizations. Topics: impact of information technology on organizations, ethical issues, technical foundations of hardware/software, management of data, and telecommunicatio (3 cr) *Last Offered: Spring 2003, Fall 2002, Summer 2002, Spring 2002.*

DIT 2010 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 2005, Summer 2005, Spring 2005, Fall 2004.*

DIT 2150 Operations Plan Control Concepts and techniques for problems in production, planning and scheduling, inventory control and maintenance management. (3 cr) *Last Offered: .*

DIT 2160 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 comp (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

DIT 2171 Database Fundtl & CRM Integ Practical issues related to the management of a relational database in a business environment and its role in implementing a Customer Relationship Management (CRM) application. Database architecture, design, SQL, and application management. Students wil (2 cr) *Last Offered: Spring 2001.*

DIT 2173 CRM Systems Consulting Common consulting practices and their application to Customer Relationship Management (CRM) systems. Current technologies in the CRM

marketplace, methods used in consultative selling, and building CRM consulting practices and programs. Case studies and p (2 cr) *Last Offered: Fall 2001.*

DIT 2174 XML and E-Commerce Concepts and strategic impact of eXtensible Markup language (XML). Markup languages in general, with attention to XBRL and ebXML. Hands-on experience in developing XML applications. 100% online. (2 cr) *Last Offered: Spring 2002, Fall 2001.*

DIT 2176 Entr Computing & E-Commerce Concepts and impact of Enterprise Computing. "Open systems" architecture, integration of data and applications, and "process review" in Enterprise Resource Planning systems (ERP). Integration of ERP systems with CRM and XML applications. 100% online. (2 cr) *Last Offered: Spring 2002, Fall 2001.*

DIT 3310 Business Admin Internship Employment with approved business firms where various meaningful assignments are performed with appropriate training, instruction, and supervision. (3 cr) *Last Offered: Summer 2005, Spring 2005, Summer 2004, Spring 2004.*

DIT 3330 Ind Study-Operations Mgt Study with faculty member's guidance in area of special interest to student. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

DIT 3331 Ind Study - Mgt Info Sys Study with faculty member's guidance in area of special interest to student. (3 cr) *Last Offered: Summer 2005, Summer 2004, Spring 2004, Fall 2003.*

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: Summer 2005, Spring 2005.*

ECE 2040 Fund Computer Engineering I Computer arithmetic; Boolean algebra; logic circuit design; assembly language programming; computer architecture. Practicum includes logic circuit design exercises and assembly language programming of the 68000 microprocessor. Required first course for C (4 cr) *Last Offered: Fall 2002, Spring 2002, Fall 2001, Spring 2001.*

ECE 2041 Fund Computer Engineering II Additional assembly language programming; microprocessor hardware and interfacing; interrupts; memory; input/output. Practicum includes assembly language programming of the 68000 microprocessor and interfacing exercises. Three lecture hours and a two-hour (4 cr) *Last Offered: Spring 2003, Summer 2002, Spring 2002, Summer 2001.*

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 2005, Spring 2005, Fall 2004, Fall 2003.*

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 2005, Spring 2005, Fall 2004, Fall 2003.*

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 2005, Spring 2004.*

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 2005, Spring 2004.

ECE 2050 Fund Electrical Engineering I Basic electrical concepts; dc circuit analysis; diodes and applications; signals and amplifiers; BJT transistor and switching circuits; energy storage devices. Required first course for CPE and EE majors. Three lecture hours and a two-hour practicum per (4 cr) Last Offered: Spring 2003, Fall 2002, Spring 2002, Fall 2001.

ECE 2051 Fund Electrical Engineering II Transient circuit analysis; ac circuit analysis; ac power; frequency response; resonance; complex frequency. Three lecture hours and a two-hour practicum per week. (4 cr) Last Offered: Spring 2005, Fall 2003, Summer 2003, Spring 2003.

ECE 2052 Fund Electrical Engineering I Basic electrical concepts, dc circuit analysis, network theorems, energy storage devices, basic theory and analysis of circuits with op-amps, diodes and BJTs. (3 cr) Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.

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 2005, Spring 2005, Fall 2004, Spring 2004.

ECE 2054 Fund of Elect Engineering II First-order transient circuits, ac circuit analysis, ac power, ideal transformer, frequency response, basic theory and analysis of circuits with MOSFETs. (3 cr) Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.

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 2005, Spring 2004.

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 pairs (2 cr) Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.

ECE 2420 Eng Programming & Applications Topics in C programming: File input/output, error recovery, bit operators, pointers, dynamic memory allocation, structures, functions and function operators. Applications: engineering numerical computations, Boolean algebra, circuits, signal processing. (3 cr) Last Offered: Fall 2004, Fall 2003, Fall 2002, Fall 2001.

ECE 2620 C++, Algorithms & Data Struct This is an introductory course in algorithms and data structures, and object-oriented programming using C++. Topics include algorithm analysis, lists, stacks, queues, trees, hashing, searching, sorting, graph algorithms and C++. Some class time will be (4 cr) Last Offered: Fall 2005.

ECE 2900 Intro to Elec & Comp Engr Hands-on exploration of electrical and computer engineering projects involving both hardware and software components. Possible topics include digitally manipulating images, digital timing circuits, power generation and distribution (field trip). (1 cr) Last Offered: Fall 2005.

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 lec (4 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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 fil (4 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

ECE 3420 Expert Systems Programming Functional, rule-based, and object-oriented features of CLIPS. Forward chaining using CLIPS. Backward chaining using Prolog. (3 cr) *Last Offered: Fall 2002, Fall 2001, Fall 2000, Spring 2000.*

ECE 3424 Expert Systems Programming Functional, rule-based, and object-oriented features of CLIPS. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003.*

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. (4 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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 2005, Spring 2005, Fall 2004, Summer 2004.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

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 pract (4 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 (4 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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 con (4 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

ECE 3900 Prof Development 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 or (2 cr) *Last Offered: Fall 2005, Fall 2004.*

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 (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 p (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 cr (4 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

ECE 4420 Reliability w Eng Applications Introduction to the theory and practice of reliability evaluation. Reliability function, hazard rates, MTTF, component reliability, reliability network modeling, various approaches to reliability evaluation, reliability of systems with repair, MTBF, appro (3 cr) *Last Offered: Fall 2002, Fall 1997, Fall 1996, Fall 1995.*

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 p (4 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

ECE 4950 EE Project I Electrical engineering design process including specifications, tradeoffs, revisions, economic constraints, organization, scheduling, test plans. Project reconfirmation from ECE 3950. Requirements: progress reports, written interim project report, oral pr (2 cr) *Last Offered: Fall 2001, Summer 2001, Spring 2001, Fall 2000.*

ECE 4951 CPE Project I Computer engineering design process including specifications, tradeoffs, revisions, economic constraints, organization, scheduling, test plans. Project reconfirmation from ECE 3951. Requirements: progress reports, written interim project report, oral pres (2 cr) *Last Offered: Fall 2001, Fall 2000, Fall 1999, Fall 1998.*

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 stan (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

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: Spring 2005, Spring 2004, Spring 2003.*

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 2005, Spring 2004, Spring 2003.*

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 Comp (3 cr) *Last Offered: Summer 2005.*

ECE 5091 Special Topics in E E Topics of current interest and importance in electrical engineering, including an examination of pertinent literature. (3 cr) *Last Offered: Spring 2000, Spring 1999.*

ECE 5092 Special Topics in CPE Topics of current interest and importance in computer engineering, including an examination of pertinent literature. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003.*

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 bro (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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 wee (4 cr) *Last Offered: Spring 2004, Spring 2003, Spring 2002, Spring 2001.*

ECE 5430 Microcomputer System Design Design and construction of a functional microcomputer using a lab trainer, a set of integrated circuit chips, a microprocessor, RAM, ROM, and interface components. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2001.*

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 5448 Proc & Mem Microarchitecture Instruction and thread level parallelism, memory hierarchy design, speculation (e.g., branch, data value, and address prediction), advanced pipelines (e.g., forwarding, register renaming, instruction dispatch and routing), modern superscalar and VLIW proc (3 cr) *Last Offered: Fall 2005, Fall 2004.*

ECE 5450 Microcontrollers & Applic Architecture of an 8-bit microcontroller, I/O ports, serial interface, external memory and I/O, A/D converters, UARTS, pulse width modulators. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

ECE 5460 Intro to VLSI Design Design disciplines for Very Large Scale Integration, switching models of MOS systems, basic device equations, combinational and sequential

systems design, simulation, timing verification. UNIX CAD VLSI tools will be used for projects. (3 cr) *Last Offered:* .

ECE 5470 Topics in Computer Networks High speed ATM and SONET networks. Techniques such as MPLS for fast packet switching/forwarding. Implementation approaches for Quality of Service (QoS). The future of IP addressing (IPv6). Introduction to current and future mobile wireless networks. (3 cr) *Last Offered:* Spring 2005, Spring 2004, Spring 2003.

ECE 5477 Computer Comm Security Theory and practice of computer communications security, including cryptography, authentication, and secure electronic mail. Topics include secret and public key cryptography; message digests; password-based, address- based, and cryptographic authenticat (3 cr) *Last Offered:* Spring 2003, Spring 2002, Spring 2001.

ECE 5484 Adv Digital System Design In-depth treatment of combinational logic design, state machine design, and systems-level design. CAD tools, hardware description languages (VHDL) for design and simulation, field programmable gate arrays (FPGA). (3 cr) *Last Offered:* Fall 2002, Fall 2001, Fall 2000, Fall 1999.

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 5540 Digital Integrated Electronics Implementation and design of high speed bipolar and MOS digital integrated circuits. TTL, ECL, CMOS, and BiCMOS logic families. Emphasis on practical design issues involving signal integrity and interfacing between logic families. (3 cr) *Last Offered:* Spring 1999, Spring 1998, Spring 1996.

ECE 5545 Microelectronic Fabrication Basic fabrication processes of silicon microelectronic circuits. Interrelationships between the material processing and the operational characteristics of a device. Integration of the various material processes in forming bipolar and MOS integrated circui (3 cr) *Last Offered:* .

ECE 5560 Analog Systems I Modeling of active and passive components, characterization of IC subcircuits and their applications, theory and application of op-amps in analog circuit design. Use of manufacturer's data sheets, use of CAE tools for analog circuit design and simulation, (3 cr) *Last Offered:* Spring 2001, Spring 1999, Spring 1998, Spring 1997.

ECE 5565 Analog Systems II Advanced topics in analog circuit design. Linear and switching power supplies, regulators, filter specifications, design and sensitivity analysis, oscillators, A/D and D/A converters, VFC, FVC, opto-coupler/isolators, waveshaping circuits. Application of (3 cr) *Last Offered:* Spring 1996, Spring 1995.

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 micr (4 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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-base (3 cr) *Last Offered: Spring 2005.*

ECE 5750 Communication Electronics Analysis of circuits used in radio frequency communication transmitters and receivers. Elements of radio systems, electrical noise, modulation, detection, oscillators, mixers, power amplifiers and design. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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 2005, Spring 2004, Spring 2003, Spring 2002.*

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-ho (4 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

ECE 5792 Real-Time Dig Sig Processing Real-time computation of digital signal processing including reverberation effects, band selective filtering, multirate processing, adaptive filtering, and spectrum estimation; implementation on a real-time DSP signal processing chip; chip architecture, a (3 cr) *Last Offered: Fall 2005, Spring 2005, Spring 2004, Spring 2003.*

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 2005, Fall 2004, Spring 2004, Fall 2003.*

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: Summer 2004, Fall 2002, Spring 2002, Fall 2001.*

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 2005.*

ECE 5820 Operation of Elec Power System Economic operation, system stability, unbalanced fault analysis, protective relaying, voltage control, power line communication, power control. (3 cr) *Last Offered: Spring 2003, Spring 2000, Spring 1999, Spring 1998.*

ECE 5990 Intro to Entrep Egr Mgr Course is geared to seniors and second semester juniors to prepare for the technical business environment. It includes such topics as: entrepreneurship, forms of companies, business plan development, project management, R&D management, relationship buil (3 cr) *Last Offered: .*

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 2005, Summer 2005, Spring 2005, Fall 2004.*

ECE 5992 Elec Eng Research II Continuation of ECE 5991. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2001, Spring 2000.*

ECE 6020 Intro to Electrical Systems A survey course for non-electrical engineering students. Electrical components, dc circuits, ac circuits, power systems, electric machines, analog and digital electronics. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

ECO 1001 Intro to Micro The price system; demand and supply analysis; the production process; analysis of market structures. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Summer 2005, Spring 2005, Fall 2004.*

ECO 1103 Econ of Social Issues Major economic and social problems facing the American economy: evaluation of the various policy alternatives for solving these problems. Topics include population, discrimination, environment, poverty and international trade. Students may receive credit (3 cr) *Last Offered: .*

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 (3 cr) *Last Offered: Summer 2005, Summer 2004, Summer 2003, Fall 2002.*

ECO 1906 Internship Elective (6 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

ECO 1909 Internship Elective (9 cr) *Last Offered: Spring 2004, Spring 2003, Spring 2002, Spring 2001.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

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 (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

ECO 2993 Internship (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

ECO 2996 Internship (6 cr) *Last Offered: Summer 2005, Spring 2005, Summer 2004, Spring 2004.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

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; mul (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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. This is a writing enriched course. (3 cr) *Last Offered: Spring 2002, Spring 2001, Spring 2000, Spring 1999.*

ECO 3112 Public Finance The economic role 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. Topics include economic welfare, public expenditure analy (3 cr) *Last Offered: Fall 2004, Fall 2003, Fall 2002, Spring 2002.*

ECO 3115 Alternative Econ Systems Presentation, comparative analysis and discussion of the structure, performance, efficiency and growth aspects of various economic systems. This is a writing enriched course. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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) Sem 2. Prereq: EC (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 (3 cr) *Last Offered: Fall 2005, Spring 2003, Spring 2002, Spring 2001.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

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. This is a writing enriched course. (3 cr) *Last Offered: .*

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. This is (3 cr) *Last Offered: Fall 2002, Spring 1997, Spring 1996, Spring 1995.*

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 (3 cr) *Last Offered: Spring 2005, Spring 2004, Fall 2002.*

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 pro (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 produc (3 cr) *Last Offered: Spring 2005, Fall 2003, Fall 2001, Fall 1999.*

ECO 3141 Urban Economics Economic structure of urban areas and problems associated with it; growth of urban areas; urban and suburban economic inter- dependence, finances, tax base and burden, urban poverty, social welfare, housing and transportation problems. This is a writing e (3 cr) *Last Offered: Spring 1997, Spring 1995.*

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. This is a writing intensive course. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

ECO 4200 Topics in Economics Selected topics in economics currently of interest to faculty and students. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Summer 2004.*

ECO 4201 Population & Eco Develop (3 cr) *Last Offered: .*

ECO 4204 Eco Lat Amer & Caribbean (3 cr) *Last Offered: Spring 2005, Spring 2003.*

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 4207 Poverty and American Eco An economic perspective on poverty in United States. Measurement of poverty and how it has changed. Underlying causes of poverty during past decade. Policies used to combat poverty. (3 cr) *Last Offered: Spring 2002, Fall 2000, Fall 1998, Fall 1997.*

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 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Summer 2005, Fall 2004, Summer 2004.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

EDU 3251 Psychology of Learning The application of learning theory to classroom teaching. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

EDU 3254 Prin & Tech of Instruct The school curriculum; principles for selecting and using instructional materials; principles of educational measurement and evaluation; practical exercises in the use of media and materials, and in educational measurement; (4 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Fall 2004, Fall 2003, Spring 2003.*

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 2004.*

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 (3 cr) *Last Offered: Spring 2005, Spring 2004.*

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 (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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: .*

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 4224 Language Art Elem School (2 cr) *Last Offered: .*

EDU 4243 Read in the Sec School (3 cr) *Last Offered: .*

EDU 4245 Read & Cur Issue Sec Edu Techniques for evaluation of reading skills; methods of teaching reading in the subject areas; strategies for basic skill development; current issues in secondary education, and student observation in the schools. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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 techniq (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

Villanova University

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 techniq (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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 techniq (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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 techniqu (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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 tech (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

EDU 4286 Sem & Apr Sec Sch Teach (3 cr) *Last Offered: .*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

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. (12 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

EDU 4292 Sen Sem & Student Teach 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 teacher (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Spring 2004.*

EDU 5000 Technology in Sec. Schools Integrating technology in secondary classrooms. Use and discussion of basis software packages developed to help motivate students and enhance the learning process in the classroom. (3 cr) *Last Offered: Spring 1999.*

EDU 5003 On-Line Communications Basic introduction to networks, the Internet and E-mail and their application to classroom teaching. Includes discussion of and experience with terminology and academic subject specific information locations. (3 cr) *Last Offered: Summer 1999.*

EDU 5005 Technology Elementary Classrms Integrating technology in elementary classrooms. Use and discussion of basic software packages developed to help motivate students and enhance the learning process in the classroom. (3 cr) *Last Offered: Spring 1999.*

EGR 1700 Introduction to Engineering Course introduces students to various fields of engineering utilizing both lecture and laboratory experiences. Students are introduced to computer aided drawing and modeling, and engineering graphics. (3 cr) *Last Offered: Fall 2005, Fall 2004.*

EGR 1705 Engineering Computation Course serves as an introduction to the use of computers in engineering and to problem solving in engineering. The analysis of problems will be accomplished using Mathcad, Excel, and Matlab. Programming structures such as decisions, loops and functions (3 cr) *Last Offered: Summer 2005, Spring 2005.*

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, t (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

EGR 4000 Undergraduate Research I (1 cr) *Last Offered: Summer 2005.*

ENG 1010 Composition The writing of expository prose; readings examined as aids to composition. Restricted to C&F freshman. Writing intensive. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

ENG 1050 The Literary Experience An introduction to literature and the methods of literary analysis founded upon close readings of texts from a variety of perspectives and including works from a range of genres and periods. The course is designed to instill within the student a sense of (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

ENG 1903 Internship Elective (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

ENG 1906 Internship Elective (6 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

ENG 1909 Internship Elective (9 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

ENG 2000 Adv Expository Writing Practice in writing reports, reviews, arguments, description; emphasis on organization and development. Permission of instructor required. (3 cr) *Last Offered: Fall 2005, Fall 2004, Summer 2004, Spring 2004.*

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 2004.*

ENG 2005 Writing of Short Story Instruction in writing short story. (3 cr) *Last Offered: Spring 2003, Fall 2002, Fall 2001, Spring 2001.*

ENG 2006 The Writing of Poetry Instruction in writing poetry. Limited to 15 students. Permission of instructor required. (3 cr) *Last Offered: Fall 2005, Spring 2005, Spring 2004, Spring 2002.*

ENG 2007 The Writing of Screenplays Instruction in writing screenplays. Limited to 15 students. Permission of instructor required. (3 cr) *Last Offered: Spring 2004.*

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ENG 2008 The Writing of Plays Instruction in writing plays. Limited to 15 students. Permission of instructor required. (3 cr) *Last Offered: Fall 2000.*

ENG 2009 Writing the Traditional Novel An exploration of strategies in writing the traditional novel. (3 cr) *Last Offered: Fall 2005, Fall 2003.*

ENG 2010 Technical Writing The writing of formal reports and proposals and descriptions of mechanisms and processes. (3 cr) *Last Offered: Spring 1997, Spring 1996.*

ENG 2011 Writing the Experimental Novel Students will read a variety of experimental fictional models and apply these models to the construction of a larger experimental group novel, thus expanding their repertoire of narrative technique. (3 cr) *Last Offered: .*

ENG 2012 Advanced Creative Writing Usually taught by visiting professors, the class is open to writers of poetry and short fiction. Students will read models of exemplary technique and apply these to their own work which will receive critical feedback from peers and professors alike. (3 cr) *Last Offered: .*

ENG 2015 Business Communication The essential elements of corporate communication, with emphasis on writing. (3 cr) *Last Offered: 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 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Spring 2004, Spring 2003, Spring 2002.*

ENG 2040 Literacy and Society The social implications of reading and writing. (3 cr) *Last Offered: Spring 1996.*

ENG 2041 Travel Writing Students will write their own travel narratives, focusing on descriptive and narrative techniques to render their voyages vivid and bring them to life. In addition, students will read contemporary travel tales as well as the critical theory associated with (3 cr) *Last Offered: Spring 2005, Spring 2004.*

ENG 2042 Web Writing Theory & Practice With theoretical and critical attention to the different rhetorical situations facing print and hypertext media, students will complete several web writing projects and design their own web sites with Front Page. (3 cr) *Last Offered: .*

ENG 2043 Writing About US Pop Culture From the Simpsons to Disney World, objects for written analysis will come from TV, advertising, the visual arts, music, the Internet, sports, and best-selling books. Much writing for the class will be on individual student web pages. (3 cr) *Last Offered: Fall 2005, Fall 2004.*

ENG 2044 Nature/Environmental Writing The course will examine the poetics, the personal and the political in nature and environmental writing. Students will read model essays and write two personal essays, three critical papers and keep a naturalist's journal. (3 cr) *Last Offered: .*

ENG 2045 Sp Top in Writing & Rhetoric Special writing and rhetoric topics selected by the instructor. (3 cr) *Last Offered: Summer 2005, Spring 2005, Spring 2004, Fall 2003.*

ENG 2050 Writing for Magazines A comprehensive introduction to 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 2005, Fall 2004, Spring 2004, Fall 2003.*

ENG 2060 Desktop Publishing Use of Pagemaker 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 using FrontPage. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

ENG 2070 Legal Writing Introduction to the fundamentals of legal writing and analysis. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003.*

ENG 2090 Internship: Journalism (3 cr) *Last Offered: .*

ENG 2095 Internship: Publishing (3 cr) *Last Offered: .*

ENG 2101 Brit Literary Trad 1 A study of the growth of British literature from Anglo-Saxon to the Neo-Classical periods. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Summer 2004.*

ENG 2102 Brit Literary Trad 2 Study of British literature from the genesis of Romanticism in the 19th century to the literature of modern times. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

ENG 2103 Amer Literary Trad 1 Development of American literature from the Colonial Period to the area of Walt Whitman and other writers whose lives and works largely precede the Civil War. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

ENG 2104 Amer Literary Trad 2 The development American literature from the Civil War to modern times. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

ENG 2200 Hist of English Language The development of the English language from Old English to Modern English. (3 cr) *Last Offered: Fall 2005, Spring 2004, Spring 2003, Spring 2002.*

ENG 2250 Ways of Reading: Intro to Lit An exploration of how we engage, understand, explicate, and enjoy texts of all sorts. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 1999.*

ENG 2300 Women in Literature Study of the place of women in literature, with emphasis on modern fiction, drama and poetry written in English. Diversity 2 requirement. Writing enriched. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Summer 2004.*

ENG 2301 Lit of Science Fiction Science fiction as a significant genre. Writing enriched. (3 cr) *Last Offered: Fall 2004, Spring 1998, Spring 1997.*

ENG 2305 Intro to Folklore A survey of American folklore as an academic discipline. (3 cr) *Last Offered: Fall 2001, Spring 2001, Fall 2000, Spring 2000.*

ENG 2310 Study of Poetry Concepts of poetry with detailed analyses of selected poems. Writing enriched. (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 2005, Fall 2001, Spring 2001, Spring 2000.*

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ENG 2330 Forms of Drama Introduction to 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 2005, Spring 2004, Spring 2003, Fall 2002.*

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. Writing intensive. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

ENG 2401 Western World Literature II Readings, chiefly in translation, of some of the classics of Western literature from the Enlightenment to today, by such writers of Moliere, Voltaire, Goethe, Flaubert, Tolstoy, Ibsen, Brecht, Kafka, and Pirandello. Western World Literature is not a prer (3 cr) *Last Offered: .*

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. Writing enriched. Irish studies requirement. (3 cr) *Last Offered: Fall 2005, Summer 2005, Fall 2004, Summer 2004.*

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. Writing enriched. Irish studies requ (3 cr) *Last Offered: Fall 1999, Fall 1997, Fall 1995.*

ENG 2470 Modern Irish Drama A study of the major Irish playwrights of the twentieth century including: Yeats, Lady Gregory, Shaw, Synge, O'Casey, Beckett, and Friel. (3 cr) *Last Offered: Spring 2005, Fall 2003, Fall 2002, Fall 2001.*

ENG 2500 Irish Renaissance Selected readings in the drama and fiction literature of Ireland in the 20th century. Writing enriched. Irish studies requirement. (3 cr) *Last Offered: Summer 2005, Spring 2005, Summer 2004, Spring 2004.*

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. Diversity 1 requirement. (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. Writing enriched. Diversity 1 requirement. (3 cr) *Last Offered: Summer 2003, Fall 2002, Fall 2001, Fall 2000.*

ENG 2515 Black Literature: Drama Major works of the Harlem Renaissance, the Black Arts Movement, and the present. Diversity 1 requirement. (3 cr) *Last Offered: Fall 2003, Spring 2000, Spring 1995.*

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 2005, Spring 2004, Spring 2002, Spring 2001.*

- 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 2005, Fall 2004, Fall 2003.*
- 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 r (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Summer 2004.*
- ENG 2620 Seminar** Individual authors or topics chosen by the instructor. Writing intensive. (3 cr) *Last Offered: Spring 2005, Spring 2004, Fall 2003, Spring 2003.*
- ENG 2700 Studies in Literature** Specific topics vary each semester. Writing intensive. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*
- ENG 2710 The American Revolutionary Era** The most interesting and instructive lives and writings of the American Revolutionary Era Founders. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Spring 2003.*
- ENG 2720 Amer Criminal Trial Narratives** Significant Modern American narratives in the sub-form of Criminal Trials and Courts Martial. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2002, Spring 2001.*
- 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 2005, Spring 2005, Fall 2004, Spring 2004.*
- ENG 2993 Internship** Internship (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*
- ENG 2996 Internship** Prerequisite: 133-2020 (6 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*
- ENG 3000 Intro to OE Lang & Lit** Old English literary works in translation and original language. (3 cr) *Last Offered: .*
- ENG 3100 Anglo-Saxon Lit Culture** Material and cultural artifacts of the period ca. 450-1066 within historical, art-historical, archaeological, and literary contexts (works in translation). (3 cr) *Last Offered: .*
- ENG 3101 Early Brit Lit Translatn** Literature of England, Ireland, and Scotland from the beginnings through the 15th century. (3 cr) *Last Offered: Spring 1999, Spring 1998, Spring 1997, Spring 1996.*
- ENG 3150 Chaucer** The Canterbury Tales, Troilus and Criseyde, and additional works. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*
- ENG 3200 Sem: Medieval Literature** Topics vary each semester. Consult departmental bulletin. (3 cr) *Last Offered: Spring 2005.*
- ENG 3201 English Renaissance** Non-dramatic literature of the English Renaissance. (3 cr) *Last Offered: Fall 2004, Fall 2003, Fall 2002, Fall 2001.*
- ENG 3230 Eliz & Jacobean Drama** Playwrights of the English Renaissance excluding Shakespeare. (3 cr) *Last Offered: Fall 2000, Fall 1999, Fall 1998, Spring 1997.*
- ENG 3250 Shakespeare** A selection of plays by Shakespeare. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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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. Women's studies requirement. (3 cr) *Last Offered: Fall 2004, Spring 2004, Fall 2002, Fall 2001.*

ENG 3420 18th cent British Novel Writings by Defoe, Fielding, Sterne, and others; and the Gothic novel of terror. (3 cr) *Last Offered: Fall 2004, Fall 2003, Spring 2002, Spring 2001.*

ENG 3430 Restor & 18th cent Drama Dramatists from Dryden to Sheridan. (3 cr) *Last Offered: 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 2004, Fall 2002, Fall 2001, Spring 1999.*

ENG 3501 Early Romantic Writers Wordsworth, Coleridge and other writers of the first half of the Romantic period. Writing intensive. (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 2003, Fall 2001, Fall 1998, Spring 1996.*

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 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: Fall 2004, Spring 2004, Spring 2001, Spring 2000.*

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 2005, Spring 2005, Fall 2004, Fall 2003.*

ENG 3525 Dickens Selected novels by Charles Dickens. (3 cr) *Last Offered: Spring 2001.*

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: Summer 2005, Summer 2004, Summer 2003, Spring 2003.*

ENG 3615 James Joyce A study of the novels and short stories of James Joyce, with concentration on Ulysses. Writing enriched. Irish studies requirement. (3 cr) *Last Offered: Fall 2005, Spring 2004, Fall 2002, Fall 2000.*

ENG 3616 Irish American Drama & Film Depictions of the American Irish in popular drams 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 *Jo* (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

ENG 3620 Modern British Novel The British novel from the turn of the century to World War II. (3 cr) *Last Offered: Fall 2004, Fall 2003, Spring 2002, Fall 2000.*

ENG 3621 Contemp British Novel The development of the novel since World War II. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Fall 2000.*

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 4001 Major Amer Writers I The masterpieces of selected American writers from early times to the Civil War era. (3 cr) *Last Offered: Spring 2005, Fall 2004, Spring 2004, Fall 2003.*

ENG 4002 Major Amer Writers II Masterpieces of the chief American writers since the Civil War. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

ENG 4040 American Short Story Development of the short story in America from Washington Irving to the present. (3 cr) *Last Offered: Fall 2005, Summer 2005, Fall 2004, Fall 2003.*

ENG 4500 American Slave Narrative Slavery as a central paradox of American history and literature with emphasis on race and gender. Readings by Douglass, Brent, Stowe, Morrison, and others. Previous course work in American literature is recommended. Diversity requirement. Diversity req (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Fall 2001.*

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 A in-depth examination of the major works of and interactions between Concord's most celebrated writers, Ralph Waldo Emerson, Henry David Thoreau, Nathaniel Hawthorne, Bronson, and Louisa May Alcott. (3 cr) *Last Offered: Spring 2005, Fall 2003.*

ENG 4510 19th Cent Amer Poetry American poetry from its beginning to Emily Dickinson. (3 cr) *Last Offered: Fall 2005, Spring 2002, Spring 2000, Spring 1999.*

ENG 4515 American Gothic The nature and evolution of horror writing in America from the eighteenth-century to today. (3 cr) *Last Offered: Fall 2004, Fall 2003.*

ENG 4520 American Novel to 1895 The genesis of the American novel. (3 cr) *Last Offered: Spring 2001, Spring 2000, Fall 1999, Spring 1999.*

ENG 4530 The American Renaissance Pre-Civil War text, primarily from 1850-1855. (3 cr) *Last Offered: Spring 2002, Fall 1996.*

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 2005, Fall 2002, Spring 2001, Spring 1999.*

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 2004, Fall 2001, Spring 2001, Fall 1998.*

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ENG 4619 The Works of Edith Wharton Socio-sexual tensions in the world of Edith Wharton. The external world she knew: upper class New York society, its totems and taboos, tribal aspects, and sexual tension; and the internal world of Wharton herself with its repressive sexuality and psycho (3 cr) *Last Offered: Fall 1999, Fall 1998.*

ENG 4620 American Novel 1895-1950 Representative novelists from Crane to Steinbeck. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Spring 2003.*

ENG 4621 Amer Novel since 1950 Novels of the late Modern Period and of the early Post-modern period. (3 cr) *Last Offered: Fall 2005, Spring 2004, Fall 2003, Spring 2002.*

ENG 4630 20th Cen American Drama Major plays of the period. (3 cr) *Last Offered: Summer 2005, Spring 2005, Fall 2004, Spring 2004.*

ENG 4631 Eugene O'Neill The life and plays of Eugene O'Neill. (3 cr) *Last Offered: 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: Fall 2005.*

ENG 4636 Contemp Amer Women's Poetry The work of American women poets from the last forty years. Diversity 2 requirement. (3 cr) *Last Offered: Fall 2003, Spring 1999.*

ENG 4640 Contemp Amer Women's Lit Writings by women from WW II to the present. Works by Ann Petry, Maxine Hong Kingston, Toni Morrison, Joyce Carol Oates, Kathy Acker, Bobby Ann Mason, and others. Diversity 2 requirement. (3 cr) *Last Offered: Fall 2002, Fall 2001, Fall 2000, Fall 1999.*

ENG 4645 Post Modern Amer Fiction Experimental narratives by American writers of the last four decades. Works by Vladimir Nabokov, Thomas Pynchon, Ishmael Reed, Don DeLillo, Joanna Russ, and others. (3 cr) *Last Offered: Fall 2004, Summer 2003, Spring 2002, Summer 2001.*

ENG 4646 Race & Ethnicity: Amer Novel Introduction to a variety of canonical texts that treat questions of race and ethnicity. the critical role of language and literature play in determining how racial categories are constructed and deconstructed. (3 cr) *Last Offered: Spring 2003, Summer 2002, Spring 2001, Spring 2000.*

ENG 5000 Senior Seminar Capstone experience combining immersion in primary and secondard materials with an intensive writing experience. Limit of 15 students. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

ENV 1050 Environmental Science I First semester of two-course sequence providing multidisciplinary foundation in Environmental Science. Lectures include instruction in environmental biology and chemistry, earth science, natural resources, and energy. Laboratories emphasize techniques and (4 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003.*

ENV 1051 Environmental Science II Continuation of Environmental Science I (ENV 1050). Multidisciplinary foundation in Environmental Science. Required for all students completing the Environmental Studies Concentration; fulfills second semester of the Natural Science requirement of the Cir (4 cr) *Last Offered: Spring 2005, Spring 2004.*

ENV 4000 Seminar Environmental Issues Interdisciplinary coverage of current environmental issues. Emphasizes multidimensional analysis and complexity of environmental issues. Required capstone course for students in the Environmental Studies Concentration. (3 cr) *Last Offered: Spring 2005, Spring 2004.*

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. This course satisfies the Arts and Sciences Writing Enriched requirement. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

ETH 2051 Service Learning Practicum Ethics Service Learning Practicum that will meet one hour each week for reflection/critique of required service commitment. Permission of the instructor. (1 cr) *Last Offered: Fall 2005, Fall 2004, Spring 2004, Fall 2003.*

ETH 3020 Bioethics Stem Cells: Developing 21st century ethics to deal with current technologies. (3 cr) *Last Offered: Spring 2004.*

ETH 3250 Ethics & The 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; do (3 cr) *Last Offered: Fall 2004.*

ETH 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.*

ETH 3500 Ethics & Int'l Economics Comparative advantage; gains from foreign trade; Heckschler-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; mu (3 cr) *Last Offered: .*

ETH 3650 Globalization from Eco. & Eth This course will address the complexities of globalization from economic and ethical perspectives. Topics will include the architecture of international finance and trade and the effects of global trade on labor, income distribution, and the environment. (3 cr) *Last Offered: Spring 2005.*

ETH 3750 Medical Machines Explore selected ethical and policy issues with the use of medical technology in health care. (3 cr) *Last Offered: Fall 2004.*

ETH 4000 Integrating Seminar This is a capstone course which integrates many of the themes of the concentration. It is required for all concentrators in addition to the course requirements listed in catalog. (3 cr) *Last Offered: Spring 2005, Spring 2004.*

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 2005, Summer 2005, Spring 2005, Fall 2004.*

FIN 2114 Adv Financial Mgt 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 (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

FIN 2227 Financial Markets An introduction to the structure and operation of the money, capital, mortgage, derivatives, and international financial markets; flow of funds from savers

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to borrowers; efficiency of financial markets; theories of interest rates; term structure of interest rates (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

FIN 2323 Intro to Investments Risk and return; organization of securities markets; term structure of interest rates; valuation of bonds; bond trading; valuation of common stock using fundamental and technical analysis; options, warrants, and financial futures; real estate; precious metals (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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; (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

FIN 2325 Introduction to Derivatives Financial and non-financial derivatives, including options, forwards, futures, and swaps. Quantitative analysis of pricing and strategies and use of derivative strategies to manage financial risks of businesses. Prerequisite senior standing. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

FIN 2330 Corporate Restructuring The acquisition process and other methods of corporate restructuring. Advantages of internal and external expansion, types of combinations, financial analysis required, negotiation strategies, tax options, and the role of government. Benefits and limitations (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003.*

FIN 2335 Intl Financial Management The financial operations of multinational corporations and financial institutions with an emphasis on the international financial environment, foreign exchange risk management, multinational working capital management, foreign investment analysis, financing (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

FIN 2340 Contemporary Topics in Finance Contemporary issues and topics in Financial Management, Financial Markets, Investments, or International Finance. Senior Standing (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

FIN 2342 Student-Managed Funds I Students working in teams, manage real-dollar portfolios using various investment styles. The following areas required to manage an investment fund are covered: Business Cycle Analysis, Industry Analysis, Investment Objective Screening, Security Analysis (1.5 cr) *Last Offered: Fall 2005.*

FIN 2343 Student-Managed Funds II (1.5 cr) *Last Offered: .*

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. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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: (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 (6 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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, or one year of high school French. Supplementary language laboratory work and oral drills. (4 cr) *Last Offered: Fall 2005, Summer 2005, Fall 2004, Summer 2004.*

FRE 1112 Introductory French II Groundwork in French, including oral proficiency, aural comprehension and reading; for students with no prior knowledge of French, or one year of high school French. Supplementary language laboratory work and oral skills. (4 cr) *Last Offered: Summer 2005, Spring 2005, Summer 2004, Spring 2004.*

FRE 1113 French-Reading Knowledge Essentials of grammar and exercises in expository French prose to prepare students for independent research in specialized fields. (3 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 1111 and 1112 or the equivalent. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Summer 2005, Spring 2005, Fall 2004.*

FRE 1131 Conversation and Composition I Intense practice in conversation and composition with emphasis on developing advanced language skills in French. A writing enriched course. Students should have completed FRE 1121 and 1122 or the equivalent. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

FRE 1132 Conversation & Composition II Intense practice in conversation and composition with emphasis on developing advanced language skills in French. A writing enriched course. Students should have completed FRE 1131 or the equivalent. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

FRE 1133 Advanced Grammar Intensive practice of spoken and written French. (3 cr) *Last Offered: Spring 2005, Fall 2002, Fall 2001, Fall 2000.*

FRE 1134 Business French An introduction to French business terminology and discourse related to economic, finance, and management. (3 cr) *Last Offered: Spring 2002, Spring 2001, Spring 2000, Spring 1999.*

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: Spring 2005, Fall 1995.*

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FRE 1136 Contemp Fren Lang I Offered as part of the Villanova Summer Program at the Universite de Rennes 2 - Haute Bretagne to provide practice to speaking and writing on an advanced level. The use of French in everyday situations and subject-related discussions. Students will read (3 cr) *Last Offered: Summer 2004, Summer 2003, Summer 2002, Summer 2001.*

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 2004, Summer 2003, Summer 2002, Summer 2001.*

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: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

FRE 2100 French/Franco Lit in Trans The major works of French literature in translation. Fulfills diversity 3 requirement. (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. Writing intensive. Fulfills advanced literature requirement. (3 cr) *Last Offered: Spring 2004, Spring 2003.*

FRE 2102 Love/Sexuality in Franco Film Analysis of films that deal with this topic. (3 cr) *Last Offered: .*

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: .*

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. Fulfills diversity 3 requirement. (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 2004, Summer 2003, Summer 2002, Summer 2001.*

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 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. Fulfills advanced literature course and diversity 2. (3 cr) *Last Offered: Fall 2003, Fall 2000, Fall 1998, Fall 1996.*

FRE 2218 Franco Writers & Cult Identity Regions may include North Africa, the Caribbean islands and Canada. Fulfills diversity 3 requirement. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2001, Fall 1999.*

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: Fall 2002, Fall 1996, Spring 1995.*

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: Spring 2005, Spring 2003, Spring 1997, Spring 1995.*

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 literature. Topics to be arranged. Course may be repeated for credit. Fulfills advanced literature requirements. (3 cr) *Last Offered: Summer 2005, Spring 2005, Fall 2004, Spring 2004.*

FRE 3512 Paris, Capital of the 19th-C Literary, artistic, political, and social overview of France's capital city following the French revolution. Fulfills advanced literature. (3 cr) *Last Offered: .*

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. A writing enriched course. Students should have completed FRE 1131 or the equivalent. Fulfills advanced literature requirements. (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. A writing enriched course. Fulfills advanced requirement. (3 cr) *Last Offered: Spring 2001, Fall 1998.*

FRE 3716 French Rev Feminine Persp French women writers and thinkers from the pre-to the post-revolutionary period through the study of the "salons", political texts, fictional and historical writings. A writing enriched course. Fulfills advanced literature and diversity 2 requirement. (3 cr) *Last Offered: Fall 1999, Spring 1995.*

FRE 3717 Prostitutes 19th-C French Lit Focus on the figure of the prostitute in literary texts and in the painting of prominent artists of the period. Fulfills advanced literature requirement. (3 cr) *Last Offered: .*

FRE 3818 The Literature of Initiation Examines the experiences of the "coming of age" theme through literary works chosen from different centuries. Fulfills advanced literature requirement. (3 cr) *Last Offered: .*

FRE 3819 Existentialism in France Saint-Germain des Pres, jazz, Sartre, Camus, de Beauvoir, Vian, Greco. A writing enriched course. Fulfills advanced literature requirement. (3 cr) *Last Offered: .*

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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. A writing enriched course. Fulfills advanced literature requirement. (3 cr) *Last Offered:* .

FRE 3921 20th Century Theatre Authors may include: Jarry, Claudel, Giraudoux, Anouilh, Camus, Satre, Beckett, Ionesco, Genet, Koltes. Fulfills Advanced Literature requirement. (3 cr) *Last Offered:* Spring 1996.

FRE 3922 20th Century Novel A study of French novels of the 20th century that include classic and lesser-known works. A writing enriched course. Fulfills advanced literature requirement. (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. A writing enriched course. Fulfills advanced literature requirement. (3 cr) *Last Offered:* Fall 2002, Spring 1999, Fall 1995.

FRE 3950 Research Seminar Bibliographical principles and the techniques of literary research; preparation of a paper. Writing Intensive. Require course for French majors. Fulfills advanced literature requirements. (1 cr) *Last Offered:* Fall 2004, Spring 2004, Fall 2003, Spring 2003.

FRE 4110 French Classical Theatre Readings and discussions on the major dramatists and theorists of the French 17th century. Conducted in English. Fulfills advanced literature requirements. (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. Fulfills advanced literature requirements. (3 cr) *Last Offered:* .

FRE 4130 Food and Culture in France Through selected readings and films, the course will examine French society and its peculiar approach to the culture of the table. (3 cr) *Last Offered:* .

FRE 5900 Independent Study (3 cr) *Last Offered:* .

GEN 2993 Internship Credits may be applied to requirements for the major in General Arts in the required General Arts elective slots. Permission of Program Director. Juniors and Seniors with an overall GPA of 3.0 only. (3 cr) *Last Offered:* Spring 2001, Fall 2000, Summer 2000, Spring 2000.

GEN 2996 Internship Credits may be applied to requirements for the major in General Arts in the required General Arts elective slots. Permission of Program Director. Juniors and Seniors with an overall GPA of 3.0 only. (6 cr) *Last Offered:* Spring 2001, Fall 2000, Summer 2000, Spring 2000.

GEN 5001 General 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 2001, Fall 2000, Spring 2000, Fall 1999.

GEN 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 2001, Fall 2000, Spring 2000, Fall 1999.*

GEO 1001 Internatil Approach Geography The human and physical realms of Geography. Focus on current geographic problems facing specific regions of the world. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

GEO 1500 Physical Geography World climates, water, landforms, soil, and vegetation form the basis of this global environmental approach. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

GEO 1700 Cartography From the concept of mental mapping to computer cartography, integrated with a series of hands-on (3 cr) *Last Offered: Summer 1999, Spring 1997, Fall 1996, Summer 1996.*

GEO 1903 Internship Elective (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

GEO 1906 Internship Elective (6 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

GEO 1909 Internship Elective (9 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

GEO 2000 Political Geography Spatial attributes of political process and structure, with an emphasis on current geo-political issues in the world. (3 cr) *Last Offered: .*

GEO 2100 Economic Geography Locational analysis of the major agricultural, manufacturing, and service industries in an increasing interdependent world. (3 cr) *Last Offered: Fall 1995.*

GEO 2200 Urban Geography The location, structure, functions and growth problems of cities; possible solutions for preserving or restoring a livable urban environment. (3 cr) *Last Offered: Fall 2000, Fall 1999, Fall 1998, Fall 1997.*

GEO 2300 Population Geography Spatial patterns of human population; population size, growth, and characteristics; vital statistics, projection and forecasting techniques, the relationship of population to environmental problems. (3 cr) *Last Offered: Spring 2000, Spring 1999, Spring 1998, Spring 1997.*

GEO 2993 Internship (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

GEO 2996 Internship (6 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

GEO 3500 North America The physical and cultural environments of the United States and Canada. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Spring 2003.*

GEO 3600 Europe The strengths and weaknesses and the human and natural resources of Europe and the Common Market. (3 cr) *Last Offered: .*

GEO 3700 Africa Major geographic problems facing contemporary Africa, with a special emphasis on spatial planning within a number of national contexts. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

GEO 3800 Islamic World The physical environments and life patterns of the Islamic peoples in Asia and Africa. The historical and contemporary interrelationship between the Islamic World and the West. (3 cr) *Last Offered: Summer 1998, Summer 1996, Spring 1996.*

GEO 3900 Geography of Asia A regional study of the physical environment, culture, and development of Asia. (3 cr) *Last Offered: Fall 2000, Spring 1999, Spring 1996.*

GEO 4050 Air Photo Interpretation Basic skills necessary to identify a variety of phenomena on aerial photographs employing a number of film types. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Spring 2002.*

GEO 4101 Geographic Info Systems Principles and applications of Geographic Information Systems (GIS), with an emphasis on vector data structures and relational data base management systems. Pc-based GIS provides experience with methods to store, retrieve, manipulate and manage spatial an (3 cr) *Last Offered: Spring 2005, Spring 2004, Summer 2003, Fall 2002.*

GEO 4250 Remote Sensing The technology used to produce reliable interpretive data about objects and environmental phenomena by recording, analyzing, and interpreting wave/force fields and patterns of transmitted, reflected, and emitted energy. New developments in imaging techniq (3 cr) *Last Offered: Spring 2003, Spring 2000, Spring 1999, Spring 1998.*

GEO 4300 Advanced Cartography The study and practical experience map production from conception to color proofing. Students design and execute maps of publishable quality. (3 cr) *Last Offered: .*

GEO 5100 Resource Mangt & Conservation Problems and policies arising from the use and misuse of the environment; assessment of the consequences of applying various policies, and the development of an environmental/resource ethic. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

GEO 5200 Geo of Land Use Management Land-use decisions and policies: agricultural, recreational, nuclear, urban, and industrial environments. (3 cr) *Last Offered: Spring 1999, Fall 1996.*

GEO 5300 Disasters: Nat Hazards Environmental hazards that threaten health and safety at national and global levels. Mechanics, distributions, risks, mitigation control and case histories for each major hazard: earthquakes, tsunamis, volcanoes, coastal erosion, avalanches, tornadoes, hu (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Summer 2002.*

GEO 6000 Geography Seminar Student research on the historical development of geographic thought. (3 cr) *Last Offered: Spring 1996, Spring 1995.*

GEO 6001 Seminar Geographic Educ Readings on teaching and learning, historic and contemporary, with emphasis on geographic education. Students assist in some lower division courses and evaluate teaching philosophies and methodologies. Restricted to geography majors. (3 cr) *Last Offered: .*

GEO 6100 Geography Seminar Student research on trends in current geographic literature. (3 cr) *Last Offered: Spring 2005, Fall 1998, Spring 1995.*

GEO 6200 Independent Study Individual projects or studies in geography. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

GER 1111 Introductory German I Groundwork in German, including oral, aural and reading skills. Supplementary oral drills. (4 cr) *Last Offered: Fall 2005, Summer 2005, Fall 2004, Summer 2004.*

GER 1112 Introductory German II Groundwork in German, including oral, aural and reading skills. Supplementary laboratory work and oral drills. (4 cr) *Last Offered: Summer 2005, Spring 2005, Summer 2004, Spring 2004.*

GER 1113 German for Translation Essentials of grammar and exercise for reading comprehension and translation. (3 cr) *Last Offered: Fall 2005, Fall 2004, Summer 2004, Spring 2003.*

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 2005, Summer 2005, Fall 2004, Summer 2004.*

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: Summer 2005, Spring 2005, Summer 2004, Spring 2004.*

GER 1131 Conversation & Composition I Intensive practice in conversation and composition with emphasis on developing advanced language skills in German. Writing enriched. Students should have completed GER 1121 and 1122 or the equivalent. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

GER 1132 Conversation & Composition II Intensive practice in conversation and composition with emphasis on developing language skills in German. Writing enriched. Students should have completed GER 1131 or the equivalent. (3 cr) *Last Offered: Spring 2005, Fall 2004, Spring 2004, Spring 2003.*

GER 1133 Business German I Business and professional writing and readings in applicable publications. Students should have completed GER 1121 and 1122 or the equivalent. (3 cr) *Last Offered: Fall 2005, Fall 2003, Fall 2001, Spring 2001.*

GER 1134 Business German II Business and professional writing and readings in applicable publications. Students should have completed GER 1121 and 1122 or the equivalent. (3 cr) *Last Offered: Fall 2004, Fall 1998, Spring 1997.*

GER 1135 Practical German I Intercommunication with supplemental readings in newspapers and magazines. Students should have completed GER 1121 and 1122 or the equivalent. (3 cr) *Last Offered: Summer 2003, Summer 2002, Summer 2001, Summer 2000.*

GER 1136 Practical German II Intercommunication with supplemental readings in newspapers and magazines. Students should have completed GER 1121 and 1122 or the equivalent. (3 cr) *Last Offered: Summer 2003, Summer 2002, Summer 2001, Summer 2000.*

GER 2100 German Lit in Engl Translation The major works of German literature in translation. Conducted in English. Fulfills advanced literature requirements. (3 cr) *Last Offered: .*

GER 2142 Ger Civ and Culture to 1989 Study of German civilization and culture from their beginnings until the fall of the Berlin Wall. (3 cr) *Last Offered: Spring 2005, Summer 2003, Summer 2002, Spring 1998.*

GER 2143 Ger Civ & Culture Since 1989 Contemporary German civilization and culture in their manifold aspects. Students should have completed GER 1121 and 1122 or the equivalent. (3 cr) *Last Offered: Fall 1997.*

GER 3211 Survey of German Lit I From its beginnings to 1750. Students should have completed GER 1131 or the equivalent. Fulfills advanced literature requirements. (3 cr) *Last Offered: Fall 2003.*

GER 3212 Survey of German Lit II From 1750 through 1900. Students should have completed GER 1131 or the equivalent. (3 cr) *Last Offered: Fall 1999, Fall 1995.*

GER 3213 Survey of German Lit III From 1900 through 2000. Students should have completed GER 1131 or the equivalent. Fulfills advanced literature requirements. (3 cr) *Last Offered: Fall 2004, Spring 1996.*

GER 3411 Medieval Masterpieces Selections from medieval German literature read in modern German. Fulfills advanced literature requirements. (3 cr) *Last Offered: .*

GER 3412 Special Topics Topics of interest in German literature. Topics to be arranged. Course may be repeated for credit. Fulfills advanced literature requirements. (3 cr) *Last Offered: Fall 2005, Spring 2005, Spring 2004, Summer 2003.*

GER 3714 Enlightenment to Romanticism Students should have completed GER 1131 or the equivalent. Fulfills advanced literature requirements. (3 cr) *Last Offered: Spring 1997.*

GER 3716 Goethe Study of selected works. Students should have completed GER 1131 or the equivalent. Fulfills advanced literature requirements. (3 cr) *Last Offered: Spring 2004.*

GER 3717 German Drama in 19th Century The German drama from Romanticism to Naturalism, with emphasis on the major dramatic works of Kleist, Grillparzer, Büchner and Hebbel. Fulfills advanced literature requirements. (3 cr) *Last Offered: .*

GER 3718 The German Novelle The German Novelle as a genre from Goethe to the 20th century. Students should have completed GER 1131 or the equivalent. Fulfills advanced literature requirements. (3 cr) *Last Offered: Fall 2003, Fall 2002.*

GER 3818 Romanticism The philosophy, lyric and prose of the Romantic period. Students should have completed Ger 1131 or the equivalent. Fulfills advanced literature requirements. (3 cr) *Last Offered: .*

GER 3819 Realism The major works of Poetic Realism. Students should have completed GER 1131 or the equivalent. Fulfills advanced literature requirements. (3 cr) *Last Offered: Summer 2004, Summer 2003, Spring 1995.*

GER 3920 Austrian Literature Selected works of Austrian literature from 1850 to the present. Students should have completed GER 1131 or the equivalent. Fulfills advanced literature requirements. (3 cr) *Last Offered: Spring 2001, Summer 2000, Spring 1999, Fall 1995.*

GER 3921 20th Century Drama German drama from Naturalism to the present. Students should have completed GER 1131 or the equivalent. Fulfills advanced literature requirements. (3 cr) *Last Offered: Spring 2003, Spring 1999, Fall 1998, Summer 1995.*

GER 3922 20th Century Prose I Novels and short stories. Students should have completed GER 1131 or the equivalent. Fulfills advanced literature requirements. (3 cr) *Last Offered: Fall 1998, Fall 1996.*

GER 3923 20th Century Prose II Novels and short stories. Students should have completed GER 1131 or the equivalent. Fulfills advanced literature requirements. (3 cr) *Last Offered: Summer 2002, Spring 1997.*

GER 3950 Research Seminar Bibliographical principles and the techniques of literary research; preparation of a paper. Writing Intensive. Fulfills advanced literature requirements. (1 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2001.*

GER 4110 German Epic Theatre Evolution of the genre culminating in the political documentary theatre. Conducted in English. Fulfills advanced literature requirements. (3 cr) *Last Offered: .*

GER 4120 German Theatre and Film Plays by Brecht, Hasenclever, Kaiser, etc. Films such as Caligari, Nosferatu, Metropolis, M. Conducted in English. Fulfills advanced literature requirements. (3 cr) *Last Offered: .*

GER 4140 150 Years of German Drama The main currents in German drama evolving into the modern period: Kleist, Grillparzer, Hebbel, Hauptmann, Kaiser, Brecht, Frisch, Duerrenmatt. Conducted in English. Fulfills advanced literature requirements. (3 cr) *Last Offered: .*

GER 4150 German Culture & Civilization The culture and civilization of the German-speaking countries. Conducted in English. Fulfills advanced literature requirements. (3 cr) *Last Offered: Fall 1999.*

GER 5900 Independent Study (3 cr) *Last Offered: .*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

GRK 1001 Intro Greek Ancient I The basic forms, syntax and vocabulary of Ancient Attic Greek; selected prose in second semester. (5 cr) *Last Offered: Fall 2004, Fall 2003, Fall 2002, Fall 2001.*

GRK 1002 Elementary Greek II The basic forms, syntax and vocabulary of Ancient Attic Greek; selected prose in second semester. (5 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 Intro Greek Ancient I (5 cr) *Last Offered: Fall 2005.*

GRK 1112 Elementary Greek II (5 cr) *Last Offered: .*

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GRK 1121 Intermediate 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 2005.*

GRK 1122 Intermediate Greek II (3 cr) *Last Offered: .*

GRK 3001 Readings in Authors Selected readings from a variety of Greek authors. Fulfills advanced literature requirements. (3 cr) *Last Offered: Fall 2004, Fall 2003, Fall 2002, Fall 2001.*

GRK 3002 Intermediate Greek II Continuation of Greek 3001. (3 cr) *Last Offered: Spring 2001.*

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: Spring 1995.*

GRK 5850 Greek Tragedy Selected plays, read and interpreted in the light of contemporary Greek institutions and thought, with attention to their poetic and dramatic structure. (3 cr) *Last Offered: .*

GRK 5900 Greek: Independent Study Supervised study, activity or research. May be taken more than once. Prior approval of chair and instructor. (3 cr) *Last Offered: .*

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: .*

HIS 1000 The United States to 1877 For AP elective credit only; does not fulfill Arts and Sciences core history requirements. (3 cr) *Last Offered: Spring 2001, Fall 2000, Fall 1999, Fall 1998.*

HIS 1001 The United States since 1877 For AP elective credit only; does not fulfill Arts and Sciences core history requirements. (3 cr) *Last Offered: Fall 2001, Summer 2001, Spring 2001, Fall 2000.*

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 Introduction to the discipline of history through the comparative exploration of at least three different world civilizations during their formative, pre-modern periods (pre-1750). Cultural contact and exchange; pre-modern economies, political institut (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

HIS 1050 Themes in Modern World History Introduction to the discipline of history through the investigation of major historical moments and themes in the transformation of diverse nations and regions of the world since 1500. Political, technological, and economic revolutions; cross-cultural exc (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

HIS 1903 Internship Elective (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

HIS 1906 Internship Elective (6 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

HIS 1909 Internship Elective (9 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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 (3 cr) *Last Offered: Fall 2005, Fall 2004, Spring 2004, Fall 2003.*

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 (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Summer 2004.*

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 2003, Fall 2000, Fall 1999, Fall 1996.*

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 2005, Fall 2004, Fall 2001, Spring 2000.*

HIS 2171 Building a Nation 1800-50 The development of the Republic from the presidency of Jefferson through the Mexican War; revolutions in transportation and commerce, struggles of nationalism and sectionalism; issues of race and gender and the ferment of reform. (3 cr) *Last Offered: Spring 2004, Fall 2000, Fall 1998, Fall 1997.*

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 (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Summer 2002.*

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 2003, Spring 2002, Spring 1996.*

HIS 2201 United States 1914-1945 Major problems and domestic developments in the United States in World War I, the 1920s, the Great Depression and World War II. (3 cr) *Last Offered: Fall 2002, Spring 1999, Summer 1998, Fall 1997.*

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 2005, Spring 2004, Fall 2001, Fall 2000.*

HIS 2251 U. S. Foreign Rel 1776-1914 The completion of independence, hemispheric diplomacy, expansion, Civil War, and imperialism. (3 cr) *Last Offered: Fall 2005, Spring 2001, Fall 1997, Summer 1997.*

HIS 2252 U.S. For Rel 1914 - Present Diplomatic history from World War I to the present, including involvement in European and Asian struggles, cooperation in international organizations. (3 cr) *Last Offered: Spring 2003, Summer 2000, Summer 1998, Spring 1996.*

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 2005, Fall 2004, Spring 2003, Fall 2001.*

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 (3 cr) *Last Offered: Summer 2005, Fall 2004, Fall 2002.*

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 2005, Spring 2004.*

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 2005, Fall 2003.*

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 iden (3 cr) *Last Offered: Fall 2005, Spring 2004.*

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 (3 cr) *Last Offered: Spring 2005, Spring 2003.*

HIS 2281 Immigration in Amer Hist Population factors in the development of the American nation; the processes of migration, assimilation and intergroup relations and their effects in society and politics; intensive study of selected ethnic groups. (3 cr) *Last Offered: Fall 2005, Fall 2004, Spring 2002, Fall 2000.*

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 2002, Fall 2001, Fall 2000, Spring 1999.*

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 2005, Summer 2004, Fall 2003, Fall 2002.*

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 2004, Summer 2003, Spring 2001, Spring 2000.*

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 pres (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 (3 cr) *Last Offered: Fall 2005, Summer 2004, Fall 2003, Fall 2001.*

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 1997.*

HIS 2309 Material Culture 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: .*

HIS 2993 Hist Internship An internship in a local historical archive, museum, park, or library. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

HIS 2996 Hist Internship A more extensive internship in a local historical archive, museum, park, or library. (6 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

HIS 2998 Topics in American History Selected topics in American history of interest to faculty and students. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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

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world of Islam in the (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2002, Summer 2001.*

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: Spring 2003, Spring 2001, Fall 1998, Spring 1997.*

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 (3 cr) *Last Offered: Summer 2005, Spring 2004, Spring 2002, Fall 2000.*

HIS 3014 Medit Wrld Alexander to Caesar The interaction of cultural forces between the conquests of Alexander the Great and the consolidation of Roman rule under Caesar; Hellenistic civilization, the rise of Rome in Italy, Rome and the Greek world, and the fall of the Roman Republic. (3 cr) *Last Offered: Fall 2005, Spring 2004, Fall 2001, Spring 2000.*

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 deca (3 cr) *Last Offered: Fall 2004, Summer 2003, Spring 2003, Summer 2002.*

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 pers (3 cr) *Last Offered: Summer 2003, Spring 2001.*

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 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 2001, Fall 2000, Spring 2000, Fall 1999.*

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: Fall 2001, Fall 1998, Spring 1997, Spring 1995.*

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 2005, Summer 2004, Fall 2002, Fall 1999.*

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 (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Fall 2000.*

HIS 3126 Hist of Italian Cities (3 cr) *Last Offered: Summer 2004, Summer 2003, Summer 2002, Spring 2002.*

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 "c (3 cr) *Last Offered: Fall 2005, Fall 2002, Fall 2001, Spring 2000.*

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 (3 cr) *Last Offered: 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: Fall 2004, Fall 2000, Fall 1997, Fall 1995.*

HIS 3161 20th Century Europe Social, political, and cultural history of Europe from the fin de siècle to European unification; world wars and revolution, East-West divide, consumer society and popular protest. (3 cr) *Last Offered: Fall 2005, Summer 2003, Summer 2002, Summer 2001.*

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 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; wh (3 cr) *Last Offered: Fall 2005, Fall 2002, Spring 2001, Spring 2000.*

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 deve (3 cr) *Last Offered: Spring 2005, Fall 2003, Fall 2000, Fall 1999.*

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 f (3 cr) *Last Offered: Spring 2003, Spring 2001, Fall 1998, Fall 1996.*

HIS 3214 Early Ireland 1300-1800 Early Ireland from the Norman invasions to the Act of Union (1800); cultural history and early struggles for independence. (3 cr) *Last Offered: Fall 2000, Fall 1999, Fall 1998.*

HIS 3216 Ireland since 1800 The social and political history of the Irish state in the 19th and 20th centuries. (3 cr) *Last Offered: Summer 2005, Summer 2004, Spring 2004, Summer 2003.*

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 2004, Summer 2003, Spring 2002, Spring 2000.*

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: Spring 2004, Fall 1996.*

HIS 3230 Modern Germany The German lands from 1800 to the present, changing conceptions of Germany and dilemmas of German history. (3 cr) *Last Offered: Spring 2005, Summer 2002.*

HIS 3233 Hitler and Nazi Germany Germany from the rise of Hitler to the end of the Second World War. (3 cr) *Last Offered: Fall 2005, Fall 2004, Spring 2002, Fall 2000.*

HIS 3234 Two Germanies 1945-1990 The end of the Second World War, the division of Germany, the Cold War, Detente, reunification, and contemporary problems. (3 cr) *Last Offered: Spring 1998, Spring 1996, Summer 1995.*

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 rebe (3 cr) *Last Offered: 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 u (3 cr) *Last Offered: Fall 2004, Spring 2002, Spring 2000, Fall 1997.*

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 po (3 cr) *Last Offered: Spring 2005, Spring 2003, Spring 2001, Fall 1998.*

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 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 (3 cr) *Last Offered: Spring 2005, Fall 2001, Spring 2000, Fall 1998.*

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 f (3 cr) *Last Offered: Spring 2004, Fall 2002, Spring 1999, Spring 1997.*

HIS 3995 Topics in European History Selected topics in European history of interest to faculty and students. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Spring 2004.*

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: Fall 2005, Fall 2002, Spring 1999, Spring 1998.*

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 2004, Fall 2003, Fall 2001, Fall 2000.*

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 (3 cr) *Last Offered: Fall 2003, Spring 2002, Fall 2000, Fall 1999.*

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, (3 cr) *Last Offered: Fall 2005, Spring 2001.*

HIS 4095 Top Middle Eastern Hist Selected topics in Middle Eastern history of interest to faculty and students. (3 cr) *Last Offered: Spring 2005, Fall 2002, Summer 1999, Summer 1998.*

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 2005, Fall 2003, Spring 2002, Fall 1999.*

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 opportuni (3 cr) *Last Offered: Fall 2004, Fall 2002, Spring 2000, Spring 1998.*

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 re (3 cr) *Last Offered: 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 o (3 cr) *Last Offered: Spring 2005, Spring 2003.*

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HIS 4315 China and Japan to 1850 The traditions and influences that formed the civilizations of China and Japan before modern times. (3 cr) *Last Offered: Fall 2003, Fall 2002, Spring 2001, Fall 1998.*

HIS 4320 China Japan since 1850 Contact with the West, evolution of the modern states of East Asia, and the background of contemporary international problems. (3 cr) *Last Offered: Fall 2001, Spring 1999, Spring 1998, Spring 1997.*

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 Japan in 20th Century The development of the modern industrial Japanese state. (3 cr) *Last Offered: Fall 2004, Fall 2003, Fall 2002, Spring 2001.*

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 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 (3 cr) *Last Offered: .*

HIS 4395 Topics in Asian History Selected topics in Asian history of interest to faculty and students. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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 repercussio (3 cr) *Last Offered: 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 2003, Fall 2001, Fall 1997, Spring 1995.*

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 revolu (3 cr) *Last Offered: Spring 2004, Spring 2002, Summer 1999, Spring 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: Summer 1999, Fall 1998.*

HIS 4495 Topics Latin Amer Hist Selected topics in Latin American history of interest to faculty and students. (3 cr) *Last Offered: Fall 2005, Summer 2004, Spring 2004, Summer 2003.*

HIS 4499 Topics in World History Selected topics in world or non-western history of interest to faculty and students. (3 cr) *Last Offered: Spring 2004, Spring 2003.*

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 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 a (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Spring 2002.*

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 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: Fall 2002, Spring 2000, Spring 1999, Spring 1998.*

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: Spring 2005, Spring 2003, Fall 2001, Spring 2000.*

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: Spring 2004, Spring 2001, Summer 2000, Fall 1999.*

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 2005, Fall 2004, Fall 2003.*

HIS 4995 Topics Comparative Hist Selected topics in non-Western and world history of interest to faculty and students. (3 cr) *Last Offered: Fall 2005, Spring 2004, Fall 2003, Spring 2003.*

HIS 4996 Topics History of Gender Selected themes in the history of gender examined in depth. (3 cr) *Last Offered: .*

HIS 4997 Topics in the History of Race Selected themes in the history of race examined in depth. (3 cr) *Last Offered: .*

HIS 4998 Topics in Public History Selected themes in public history examined in depth. (3 cr) *Last Offered: .*

HIS 5501 Sem in Historical Methodology Student research and reports. Seminar format. Permission of department chairperson required. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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HIS 5515 Independent Research An intensive research project under individual direction. Permission of department chairperson required. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Fall 2004, Fall 2003, Fall 2000.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

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 2003, Spring 2002, Spring 2001, Spring 2000.*

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 2005, Spring 2004, Spring 2003, Spring 2002.*

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 2005, Spring 2004, Spring 2003, Spring 2002.*

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: .*

HON 1060 Conservation, Laws & Apps. Kinematics; Newton's laws of motion and universal law of gravitation; rotational dynamics; hydrostatics and hydrodynamics. Linear momentum, energy and angular momentum conservation: collisions, space travel, satellite and planetary motion, static equili (4 cr) *Last Offered: Fall 2002.*

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: Concepts of the Gene Thematic development of concepts of the gene. Laboratory exercises include exploration of issues through problem-based learning methods. (4 cr) *Last Offered: Fall 2005, Spring 1997.*

HON 1075 BIO: Gen Biology & Laboratory See BIO 2105. Lecture with BIO 2105; Honors laboratory section. (4 cr) *Last Offered: Fall 2004, Fall 2003, Fall 2002, Fall 2001.*

HON 1076 BIO: Gen Biology II & Lab See BIO 2106. Lecture with BIO 2106; Honors laboratory section. (4 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

HON 1077 BIO: General Biology I Lab (1 cr) *Last Offered: Fall 2005.*

HON 1078 BIO: General Biology II Lab (1 cr) *Last Offered: .*

HON 1080 ECO: Microeconomics The price system; demand and supply analysis; the production process; analysis of market structures. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

HON 1081 ECO: Macroeconomics The economic system and its fundamental principles; economic functions of government, monetary and fiscal policy, and international trade. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

HON 1090 BL:Legal Env Bus & Society The sources, nature and substantive principles of American law; its moral and ethical dimensions; the judicial process; comparison with other legal system impact of government regulations. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

HON 1095 ACC: Adv. Computer App & Actg Communication, database, presentation, and advanced spreadsheet software; the Internet; web site design. Financial accounting concepts and terms, transaction analysis, financial statements, and ration analysis. Critical evaluation of new technologies. Ba (3 cr) *Last Offered: Fall 2000.*

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 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, investi (3 cr) *Last Offered: Fall 2005, Fall 2004.*

HON 1102 ACC: Prin of Managerial Acc 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 c (3 cr) *Last Offered: Spring 2000.*

HON 1113 FIN: 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: Fall 2004, Fall 2003, Fall 2002, Fall 2001.*

HON 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 th (3 cr) *Last Offered: Fall 2004.*

HON 1219 CSC: Artificial Intelligence Formal systems, modeling of intelligent processes by computer programs, representation of knowledge; Natural Language Processing. Historical and philosophical foundations of AI. (3 cr) *Last Offered: Spring 1995.*

HON 1241 CHS:Anc Med Renaiss Thought Core 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 Re (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

HON 1242 CHS: Mod Tht: Enlight to Pres Core humanities seminar based principally on texts and readings drawn from primary sources, 1650 to the present. Extensive written work and seminar discussions. Readings from different genres and disciplines in each of the following five historical eras: (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

HON 1380 ETH:Trad & Contemp Life Major Western ethical traditions as they apply to selected contemporary ethical problems, with special consideration of Jewish and Christian perspectives. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

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-cult (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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 computer languages. Philosophical and historical pers (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 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 1755 PHI: Intro to Philosophy Issues of God, persons and nature, and knowledge. Special consideration of classical and Christian perspectives. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

HON 1771 PHY: General Physics I Lab Experiments in mechanics, heat, and sound with emphasis on individual and group research. (1 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

HON 1772 PHY: General Physics II Lab Experiments in light and electricity with emphasis on individual and group research. (1 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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: Fall 2005, Fall 2004, Fall 2002, Fall 2001.*

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: Spring 2004, Fall 2003, Spring 2003, Spring 2002.*

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 1998, Fall 1997, Spring 1995.*

HON 1825 THL: Christianity Trad & Trans Major themes of the Christian traditions from historical, scriptural, and theological perspectives. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Fall 2003.*

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 (3 cr) *Last Offered: Spring 2004, Fall 2003.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

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: .*

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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 2003, Fall 2002, Fall 2001.*

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 2005, Fall 2004, Fall 2000, Fall 1999.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

HON 2114 FIN: Adv Financial Management 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. (3 cr) *Last Offered: Fall 2005, Spring 2005, Spring 2004, Spring 2003.*

HON 2140 FIN: Intro to Derivatives 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. This course is writing (3 cr) *Last Offered: Fall 2004, Spring 2004, Fall 2003, Fall 2002.*

HON 2150 Intl Financial Management The financial operations of multinational corporations and financial institutions with an emphasis on the international financial environment, foreign exchange risk management, multinational working capital management, foreign investment analysis, financi (3 cr) *Last Offered: Fall 2005, Fall 2004.*

HON 2160 Contemporary Topics in Finance Contemporary issues and topics in Financial Management, financial markets, investments or international finance. Senior standing. (3 cr) *Last Offered: Fall 2004.*

HON 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: Spring 2005.*

HON 2200 ME: Introduction to Dynamics Kinematics, velocity and acceleration of points on rigid bodies using cartesian, cylindrical, and tangent-normal reference frames. Mass center motion of contact force free bodies; projectile motion, planetary, satellite, and ballistic missile motion. Tr (3 cr) *Last Offered: Fall 2005, Fall 2004.*

HON 2227 FIN: Financial Markets An introduction to the structure and operation of the money, capital, mortgage, derivatives, and international financial markets; flow of funds from savers to borrowers; efficiency of financial markets; theories of interest rates; term structure of interest (3 cr) *Last Offered: Fall 2005.*

HON 2250 Corporate Social/Environ Resp. Social, ethical, political, and spiritual dimensions of corporate social and environmental responsibility; external pressures

contributing to corporate responsibility; contemporary examples of strategic, operational and marketing initiatives; corporate le (3 cr) *Last Offered: Spring 2004, Spring 2003.*

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: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

HON 2560 Social Science Seminar Methodology of empirical and statistical analysis in the social sciences. Computer applications to data analysis, model designs and theory testing. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 2005, Spring 2004, Spring 2003, Spring 2002.*

HON 2700 FIN: Topics in Finance (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Fall 2001.*

HON 2750 FIN: Topics in Finance (3 cr) *Last Offered: .*

HON 2800 MKT: Topics in Marketing (3 cr) *Last Offered: .*

HON 2850 MKT: Topics in Marketing (3 cr) *Last Offered: .*

HON 2993 Internship (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

HON 2996 Internship (6 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Summer 2004.*

HON 3000 Art and Art History (3 cr) *Last Offered: Fall 2004, Fall 2001, Fall 2000, Fall 1999.*

HON 3050 Art and Art History (3 cr) *Last Offered: Spring 2005, Spring 2003, Spring 2002, Spring 2001.*

HON 3100 Classics (3 cr) *Last Offered: Fall 2003, Fall 1996.*

HON 3150 Classics (3 cr) *Last Offered: Spring 1997.*

HON 3200 Economics (3 cr) *Last Offered: Fall 2002, Fall 2000, Fall 1998, Fall 1997.*

HON 3250 Economics (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2002, Spring 1999.*

HON 3300 Education (3 cr) *Last Offered: Fall 2005, Fall 2000, Fall 1999.*

HON 3350 Education (3 cr) *Last Offered: Spring 2001.*

HON 3400 Communication (3 cr) *Last Offered: Fall 2004, Fall 2002, Fall 2001, Fall 2000.*

HON 3450 Communication (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

HON 3600 Literature (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

HON 3601 Literature (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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HON 3602 Literature (3 cr) *Last Offered: Fall 2002, Fall 2001, Fall 1999, Fall 1997.*

HON 3650 Literature (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

HON 3651 Literature (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

HON 3652 Literature (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2002, Spring 2000.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

HON 4001 History (3 cr) *Last Offered: Fall 2005, Fall 2003, Fall 2002, Fall 2000.*

HON 4002 History (3 cr) *Last Offered: Fall 2000.*

HON 4050 History (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

HON 4051 History (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2002, Spring 2001.*

HON 4052 History (3 cr) *Last Offered: Spring 2005, Spring 2002.*

HON 4100 Mathematics (3 cr) *Last Offered: .*

HON 4101 Mathematics (3 cr) *Last Offered: .*

HON 4150 Mathematics (3 cr) *Last Offered: Fall 2004, Fall 2003, Spring 2001, Spring 2000.*

HON 4151 Mathematics (3 cr) *Last Offered: .*

HON 4300 Philosophy (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

HON 4301 Philosophy (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

HON 4302 Philosophy (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

HON 4350 Philosophy (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

HON 4351 Philosophy (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

HON 4352 Philosophy (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

HON 4353 Philosophy (3 cr) *Last Offered: Spring 2005, Spring 2001, Spring 2000.*

HON 4500 Political Science (3 cr) *Last Offered: Fall 2005, Fall 2003, Fall 2002, Fall 1999.*

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 2005, Spring 2003, Spring 2002, Spring 2001.

HON 4551 Political Science (3 cr) Last Offered: Spring 2002, Spring 2001, Spring 1998.

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 2005, Spring 2003, Spring 2002, Spring 2001.

HON 4751 Psychology (3 cr) Last Offered: .

HON 4800 Theology & Religious Studies (3 cr) Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.

HON 4801 Theology & Religious Studies (3 cr) Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.

HON 4850 Theology & Religious Studies (3 cr) Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.

HON 4851 Theology & Religious Studies (3 cr) Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.

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: Fall 2005, Spring 2005, Spring 2004, Spring 1999.

HON 4951 Sociology (3 cr) Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.

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. (4 cr) Last Offered: 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 (4 cr) Last Offered: Fall 1996, Fall 1995.

HON 5200 Ideas and Texts Six professors from as many disciplines analyze a text of significance that has had an impact on their own intellectual development. May be repeated for credit. (3 cr) Last Offered: Spring 2005, Spring 2004, Spring 2002, Fall 2001.

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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: Spring 2005, Fall 2004, Spring 2004, Fall 2003.

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: Spring 2005, Fall 2004, Spring 2004, Fall 2003.

HON 5420 Performing Arts: Theatre Intensive experiential courses in performance, literary, and plastic arts. Individual and group participation directed toward reflexive understanding of one's self as engaged in the process of creativity. (1 cr) Last Offered: Spring 1996, Spring 1995.

HON 5430 Performing Arts: Voice Intensive experiential courses in performance, literary, and plastic arts. Individual and group participation directed toward reflexive understanding of one's self as engaged in the process of creativity. (1 cr) Last Offered: 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 2004.

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 2005, Spring 2004, Fall 2002, Spring 2001.

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: Spring 2003, Spring 2002, Fall 2000, Fall 1999.

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: .

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 2002, Spring 2001, Spring 2000, Spring 1999.

HON 5500 Ind Study & Research Independent Study and Research (3 cr) Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.

- HON 5501 Ind Study & Research** Independent Study and Research (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*
- HON 5506 Ind Study & Res Science** Independent Study and Research in Science (3 cr) *Last Offered: Fall 2004, Fall 2003, Fall 2002, Fall 2001.*
- HON 5507 Ind Study & Res Science** Independent Study and Research in Science (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*
- HON 5600 Seminar for Visiting Professor** Seminar topic to be determined by visiting professor. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2002, Spring 2000.*
- HON 5601 Seminar for Visiting Professor** (3 cr) *Last Offered: .*
- HON 5700 Colloquia** (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*
- HON 5701 Colloquia** (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*
- HON 5702 Colloquia** (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2001, Spring 2001.*
- HON 5703 Colloquia** (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2001, Fall 2000.*
- HON 5750 Colloquia** (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*
- HON 5751 Colloquia** (3 cr) *Last Offered: Spring 2004, Spring 2002, Spring 2001, Spring 2000.*
- HON 5752 Colloquia** (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*
- HON 5753 Colloquia** (3 cr) *Last Offered: Spring 2004, Spring 2002, Spring 2001.*
- 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 pr (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*
- 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 2005, Spring 2005, Fall 2004, Spring 2004.*
- 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 2005, Spring 2005, Fall 2004, Spring 2004.*
- 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 2005, Spring 2005, Fall 2004, Spring 2004.*
- HS 2000 Intro:Prin & Survey Prac** (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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HS 2100 Assessment and Referral (3 cr) *Last Offered: Fall 2005, Spring 2005, Spring 2004, Spring 2003.*

HS 3000 Lab Communication Skills (3 cr) *Last Offered: Fall 2005, Summer 2005, Fall 2004, Fall 2003.*

HS 3100 Lab in Group Process (3 cr) *Last Offered: Spring 2005, Spring 2004, Fall 2003, Spring 2003.*

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) (3 cr) *Last Offered: Fall 2005.*

HS 3500 Gerontology (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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 (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

HS 3700 Human Service Systems Organizational structures, trends and influences that impact Human Services Systems. Special emphasis upon managed care and case management as well as Human Resource Development. (3 cr) *Last Offered: Spring 2005, Fall 2004, Fall 2003, Fall 2002.*

HS 4000 Seminar Human Services Integration of the theoretical and practical aspects of the student's program. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Spring 2003.*

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 2005, Spring 2004, Spring 2003, Spring 2002.*

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. Rest (3 cr) *Last Offered: Fall 2005.*

HUM 2002 PHI: 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? Fulfills an upper level (3 cr) *Last Offered: .*

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 Curri (3 cr) *Last Offered: Fall 2005.*

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 dependant, rational nature developed through marriage, family, work, markets, and government? Fulfills an upper level P (3 cr) *Last Offered:* .

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 pers (3 cr) *Last Offered: Spring 2005.*

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 (3 cr) *Last Offered:* .

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 (3 cr) *Last Offered: Spring 2004.*

HUM 2900 Topics Topics chosen according to the instructor's area of expertise. (3 cr) *Last Offered:* .

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 english 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 a (3 cr) *Last Offered: Fall 2005.*

HUM 3002 ENG: Romantic Religion & Lit 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, (3 cr) *Last Offered: Fall 2005.*

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 i (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 (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 Political 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:* .

HUM 3180 THL: Faith and 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 theology in t (3 cr) *Last Offered: .*

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 scie (3 cr) *Last Offered: 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; doe (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 Political Science in the core curriculum. (3 cr) *Last Offered: .*

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 Political (3 cr) *Last Offered: .*

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 di (3 cr) *Last Offered: .*

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 l (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 metaphys (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: .*

HUM 5000 HIS: History, Mystery, Destiny Historians often reluctant to explore the moral, religious implications of their work, are wary about engaging concerns with human meaning. Students will study historians who have practiced their craft, not only as a "discipline," but as a moral, politic (3 cr) *Last Offered: .*

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 (3 cr) *Last Offered:* .

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. (3 cr) *Last Offered: 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 5800 THL: Religion & Literature This course examines ways in which modern literature explores, develops, confirms and challenges concerns central to Christianity. Course fulfills an upper level Theology in the Core curriculum, writing enriched. (3 cr) *Last Offered: Fall 2005.*

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 2005.*

HUM 6950 Ind Study & Research (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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 particip (3 cr) *Last Offered: Spring 2005, Fall 2004, Spring 2004, Fall 2003.*

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 2005, Summer 2005, Fall 2004, Summer 2004.*

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 2005, Spring 2005, Summer 2004, Spring 2004.*

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 2005, Summer 2005, Fall 2004, Summer 2004.*

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 2005, Spring 2005, Summer 2004, Spring 2004.*

ITA 1131 Conversation & Composition I Intensive practice in conversation and composition with emphasis on developing advanced language skills in Italian. Writing enriched. Course conducted in Italian. Students should have completed ITA 1121 and 1122 or the equivalent. (3 cr) *Last Offered: Fall 2005, Fall 2004, Summer 2004, Fall 2003.*

ITA 1132 Conversation & Composition II Further practice in conversation and composition with focus on advanced proficiency in Italian. Writing enriched. Students should have completed ITA 1131 or the equivalent. (3 cr) *Last Offered: Spring 2005, Summer 2004, Spring 2004, Summer 2003.*

ITA 2142 Italian Civilization 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 2005, Fall 2003, Summer 2003, Summer 2002.*

ITA 2143 Italian Civilization 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. (3 cr) *Last Offered: Spring 2004, Fall 2002, Spring 2001, Spring 2000.*

ITA 2211 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: Fall 2004, Summer 2004, Summer 2003, Fall 1997.*

ITA 3211 Survey of Italian Literature I Introduction to Italian Literature from Dante to Machiavelli. Students should have completed ITA 1131 and 1132 or the equivalent. Fulfills core requirement for advanced literature. (3 cr) *Last Offered: .*

ITA 3212 Survey of Literature II Introduction to Italian Literature from Galileo to the Moderns. Students should have completed ITA 1131 and 1132 or the equivalent. Fulfills core requirement for advanced literature. (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, Pirandella, D'Annunzio, Moravia and contemporaries. Students should have completed ITA 1131 and 1132 or the equivalent. Fulfills co (3 cr) *Last Offered: 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. Fulfills core require (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 Topics of special interest in Italian literature. Topics to be arranged. Course may be repeated for credit. (3 cr) *Last Offered: Summer 2004, Summer 2003, Summer 2002, Summer 2001.*

ITA 3421 Dante's Divine Comedy Dante's masterpiece with special emphasis on the "Inferno". Students should have completed ITA 1131 and 1132 or the equivalent. Course conducted in Italian. (3 cr) *Last Offered: 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 3611 Seventeenth-Eighteenth Cen Lit Readings from the works of Campanella, Marino, Galileo, Goldoni, Alfieri, Parini. Students should have completed ITA 1131 and 1132 or the equivalent. Fulfills core requirement for advanced literature. (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. St (3 cr) *Last Offered:* .

ITA 3816 Nineteenth-Twentieth Cen Novel Novels by Foscolo, Manzoni, Verga, D'Annunzio, Pirandello, Borgese, Svevo, Manzini, and Buzzati. The neorealists, the postwar generation and contemporary trends. Students should have completed ITA 1131 and 1132 or the equivalent. Fulfills core requirem (3 cr) *Last Offered:* .

ITA 3920 The Italian Theatre From the Renaissance to modern times, including Machiavelli, DeFilippo, Verga, D'Annunzio, Goldoni, Pirandello, Giacosa, Bracco, Fo. Students should have completed ITA 1131 and 1132 or the equivalent. Fulfills core requirement for advanced literature. (3 cr) *Last Offered: Spring 2005.*

ITA 3950 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 res (3 cr) *Last Offered: Fall 2005, Spring 2005.*

ITA 4100 Ital Lit in English Transl Major works of Italian literature in translation. Conducted in English. (3 cr) *Last Offered:* .

ITA 4110 Dante's Divine Comedy Dante's Masterpiece in the context of the medieval vision of man and his destiny. Conducted in English. (3 cr) *Last Offered: Fall 2004, Fall 2003, Fall 2002, Fall 2001.*

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. Writing enriched, fulfills core requirement for literature. Conducted in English. (3 cr) *Last Offered: Fall 2004, Spring 2003, Spring 2002, Fall 2000.*

ITA 4120 Boccaccio The Decameron as an expression of the individual's struggle to emerge from the collectivity of medieval society and of Boccaccio's fascination with the infinite resources of human intelligence. Conducted in English. (3 cr) *Last Offered:* .

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. Conducted in English. (3 cr) *Last Offered: Summer 1999.*

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. Conducted in English. Satisfies Diversity and Women's Studies requirements. Thi (3 cr) *Last Offered: Fall 2005, Spring 2004, Spring 2003, Spring 2002.*

ITA 4150 Italian Art and Literature Italian literature as reflected in painting, sculpture and architecture. Course is offered as part of the Villanova summer program in Urbino, Italy. Fulfills core requirement for advanced literature. Conducted in English. Fulfills core requirements for (3 cr) *Last Offered: Summer 2004, Summer 2003, Summer 2002, Summer 2001.*

ITA 5900 Independent Study (3 cr) *Last Offered: .*

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 2005, Summer 2005, Fall 2004, Summer 2004.*

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 2005, Spring 2005, Summer 2004, Spring 2004.*

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 2005, Fall 2002, Fall 2001, Fall 2000.*

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 2002, Spring 2001, Spring 2000, Spring 1999.*

JPN 1123 Intermediate Japanese I Further practice of communication skills (speaking and listening), reading and writing skills. Supplementary practice with computer. (3 cr) *Last Offered: Fall 2004, Fall 2003, Fall 2002.*

JPN 1124 Intermediate Japanese II Further practice of communication skills (speaking and listening), reading and writing skills. Supplementary practice with computer. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003.*

JPN 1125 Intermediate Japanese III Further practice of communication skills (speaking and listening), reading and writing skills. Supplementary practice with computer. (3 cr) *Last Offered: .*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

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 2005, Spring 2004, Spring 2003, Spring 2002.*

JPN 2100 Japanese Lit Eng Trans The masterpieces of Japanese literature with a component on women writers. Fulfills cultural diversity requirement. Fulfills core requirements for advanced literature. Conducted in English, writing enriched. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 writing enriched, Diversity 3, and minor in Japanese. (3 cr) *Last Offered:* .

JPN 2142 Japanese Culture Various aspects of Japanese culture, society, and people from the early history to the present. Conducted in English. Writing enriched. Fulfills diversity 3 requirement and core requirement for advanced literature. (3 cr) *Last Offered:* Fall 2005, Fall 2004, Fall 2003, Spring 2003.

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 requirements for writing enriched, Diversity 2, Women's Studies, and minor in Japanese. (3 cr) *Last Offered:* Fall 2005.

JPN 3412 Special Topics Topics of special interest in Japanese language, culture, business and literature. Topics to be arranged. Course may be repeated for credit. Fulfills core requirements for advanced literature. (3 cr) *Last Offered:* Fall 2005, Spring 2005, Fall 2004, Summer 2004.

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:* Spring 2005.

LA 1903 Internship Elective Permission of Program Director. Junior or Seniors with a 3.0 overall GPA only. (3 cr) *Last Offered:* Spring 2004, Fall 2003, Spring 2003, Fall 2002.

LA 1906 Internship Elective Permission of Program Director. Juniors and Seniors with 3.0 overall GPA only. (6 cr) *Last Offered:* Spring 2004, Fall 2003, Spring 2003, Fall 2002.

LA 1909 Internship Elective Permission of Program Director. Junior or Seniors with a 3.0 overall GPA only. (9 cr) *Last Offered:* .

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:* Summer 2004, Spring 2004, Fall 2003, Summer 2003.

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:* Summer 2004, Spring 2004, Fall 2003, Summer 2003.

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 1100 Latin American Seminar (3 cr) *Last Offered:* Spring 2005, Spring 2004, Spring 2003, Spring 2002.

LAS 3412 Special Topics Study of topics of special interest in Latin American Studies. Topics to be arranged. (3 cr) *Last Offered:* Fall 2004.

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LAS 3950 Latin American Studies Seminar (3 cr) *Last Offered:* .

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 2004, Summer 2003, Summer 2002.

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 2005, Fall 2004, Spring 2004, Fall 2003.

LAT 1001 Introductory Latin I Basic forms, syntax and vocabulary; selected Latin prose in second semester. (3 cr) *Last Offered:* Summer 2005, Fall 2004, Summer 2004, Fall 2003.

LAT 1002 Introductory Latin II Basic forms, syntax and vocabulary; selected Latin prose in second semester. (3 cr) *Last Offered:* Summer 2005, Spring 2005, Summer 2004, Spring 2004.

LAT 1111 Introductory Latin I (3 cr) *Last Offered:* Fall 2005.

LAT 1112 Introductory Latin II (3 cr) *Last Offered:* .

LAT 1121 Intermediate Latin I (3 cr) *Last Offered:* Fall 2005.

LAT 1122 Intermediate Latin II (3 cr) *Last Offered:* .

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 2032 Intermediate Latin II Review of Latin syntax; selected readings from prose (3 cr) *Last Offered:* Spring 2005, Spring 2004, Spring 2003, Fall 2002.

LAT 3001 Readings in Authors Selected readings from a variety of Latin authors. (3 cr) *Last Offered:* Spring 1998, Summer 1997, Fall 1995, Spring 1995.

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's 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:* .
- LAT 6001 Seminar** 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:* Spring 2005, Spring 2004, Spring 2003.
- MAT 1010 Math Anxiety Workshop** Techniques to reduce the negative thoughts and feelings some people have when confronted with main situations (numbers, graphs, statistics, etc.). (1 cr) *Last Offered:* Fall 1999, Fall 1997, Spring 1997, Fall 1996.
- 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:* Summer 2005, Summer 2004, Spring 2004, Fall 2003.
- 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 (3 cr) *Last Offered:* Fall 2005, Spring 2005, Fall 2004, Spring 2004.
- 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 2005, Summer 2005, Spring 2005, Fall 2004.
- 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:* Fall 2005, Spring 2005, Fall 2004, Spring 2004.
- MAT 1250 Stats in Health Care Research** Descriptive and inferential statistics: graphical displays, estimation, and hypothesis testing. (3 cr) *Last Offered:* Fall 2005, Spring 2005, Fall 2004, Spring 2004.

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 (3 cr) *Last Offered: Spring 2005, Spring 2004.*

MAT 1300 Calculus Business Appl I (3 cr) *Last Offered: Fall 2001, Fall 2000, Fall 1999, Fall 1998.*

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 (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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 (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

MAT 1325 Calculus II for Liberal Arts Techniques of differentiation and integration, applications and further developments of calculus. (3 cr) *Last Offered: Spring 2005, Fall 2004, Spring 2004, Spring 2003.*

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, (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 multiplier (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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) (4 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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, introduction (4 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

MAT 1903 Internship Elective Internship Elective (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

MAT 1906 Internship Elective Internship Elective (6 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

MAT 1909 Internship Elective Internship Elective (9 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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 calcul (4 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Summer 2005, Spring 2005, Fall 2004.*

MAT 2710 Advan Math analysis II Complex number system, analytic functions, Cauchy-Riemann equation, Cauchy integral formula, power series, Laurent expansion, residues, applications to Fourier and Laplace Transforms, differential equations. (4 cr) *Last Offered: .*

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 2005, Fall 2003, Fall 2001, Fall 1999.*

MAT 2993 Internship Internship (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

MAT 2996 Internship Internship (6 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

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,

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diagonalization, symmetric, applications. (3 cr) *Last Offered: Spring 2005, Spring 2004, Fall 2003, Spring 2003.*

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, \mathbb{f} (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Fall 2003.*

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 1999, Fall 1996, Fall 1995.*

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: 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 1998, Spring 1995.*

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 2005, Spring 2005, Spring 2004, Spring 2003.*

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 2005, Fall 2003.*

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: Spring 1999, Fall 1996.*

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 2004, Fall 2002, Fall 2000, Fall 1998.*

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 2005, Spring 2003, Spring 2002, Fall 1997.*

MAT 5500 Topology Topological equivalence, connectedness, compactness, topology of subsets of \mathbb{R}^n , manifolds, topological embeddings, topological spaces. (3 cr) *Last Offered: Fall 2004, Fall 2003, Spring 2003, Fall 2001.*

MAT 5600 Differential Geometry Geometry of curves and surfaces, curvature, first and second fundamental forms, minimal surfaces, use of MAPLE. (3 cr) *Last Offered: Spring 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 2004, Fall 2001, Fall 1999, Fall 1997.*

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 2005, Spring 2000, Spring 1998, Spring 1996.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

MAT 5920 Topics in Applied Mathematics Lecture course in an area of applied mathematics. May be repeated for credit if topics are different. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

MAT 5930 Topics in Pure Mathematics Lecture course in an area of pure mathematics. May be repeated for credit if topics are different. (3 cr) *Last Offered: Fall 2005, Spring 2005, Spring 2002, Spring 2001.*

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: Summer 2005, Spring 2005, Summer 2004, Spring 2004.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Summer 2005, Spring 2005, Fall 2004.*

ME 2000 Independent Study Course provides opportunity for sophomore students to work on independent study projects such as Space Shuttle experiment. Sophomore standing. (1 cr) *Last Offered: Fall 1999, Spring 1999, Fall 1998, Spring 1998.*

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 2005, Fall 2004, Fall 2003.*

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ME 2113 Manufacturing Engineering Principles and processes of metal cutting, metal forming, metal casting and welding; related topics in materials and current manufacturing trends. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 op (1 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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 (4 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Spring 2003.*

ME 2900 ME Laboratory I Basic experiments related to manufacturing, temperature, flow rate, pressure, and strain measurement and data analysis; includes CNC programming and data collection through a PC using LabView, test of an internal combustion engine. (1 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

ME 3000 Independent Study Independent study for junior students on various projects such as the Space Shuttle. Junior standing. (1 cr) *Last Offered: Fall 1999, Spring 1999, Fall 1998, Spring 1998.*

ME 3100 Thermodynamics I 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 2005, Spring 2005, Fall 2004, Spring 2004.*

ME 3101 Thermodynamics II Applications of thermodynamics, theory of power and refrigeration cycles, mixtures, elements of psychrometry, combustion, Maxwell Relations, equilibrium. (3 cr) *Last Offered: Summer 2003, Spring 2003, Summer 2002, Spring 2002.*

ME 3150 Introduction to Dynamics Kinematics, velocity and acceleration of points on rigid bodies using cartesian, cylindrical, and tangent-normal reference frames. Mass center motion of contact force free bodies; projectile motion, planetary, satellite, and ballistic missile motion. Tr (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

ME 3300 Materials Science I Introduction to atomic and molecular structure, origin of cohesive forces, micro and macro structures of crystalline and amorphous materials, mechanical properties, nature and influence of defects, physics of electrical, magnetic, and thermal properties, (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Spring 2005, Fall 2004.*

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: Fall 2005, Spring 2005, Fall 2004.*

ME 3600 Fluids & Fluid Systems 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 2005, Fall 2004, Fall 2003.*

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: Fall 2005, Spring 2005, Fall 2004.*

ME 3900 ME Laboratory II Test of engineering materials, experiments related to basic stress analysis, thermodynamics and materials science. (1 cr) *Last Offered: Fall 2004, Fall 2003, Fall 2002, Fall 2001.*

ME 3901 ME Laboratory III Experiments related to vibrations, fluid mechanics, and thermodynamics. Computer data acquisition and data analysis. (1 cr) *Last Offered: Spring 2004, Spring 2003, Spring 2002.*

ME 3950 Heat Transfer I (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

ME 4102 System Dynamics Lumped modeling of basic physical systems, modeling of electromechanical and other combined physical systems, analysis of free and forced response, transfer functions, frequency response. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

ME 4800 Design Seminar in ME I Product design; durability, economic, safety, producibility and environmental considerations; robust and quality design; decision-making, planning, scheduling and estimating; design proposal preparation. (1 cr) *Last Offered: Spring 2005, Spring 2004, Fall 2003, Fall 2002.*

ME 4801 Design Seminar in ME II Continuation of ME 4800, project design, design review process. Must be taken the semester following ME 4800. (2 cr) *Last Offered: Fall 2005, Fall 2004, Spring 2004, Spring 2003.*

ME 4802 Design Seminar in ME III Continuation of ME 4801, oral presentation of design projects, preparation of final design report. (1 cr) *Last Offered: Spring 2005.*

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: Fall 2005, Spring 2005, Fall 2004.*

ME 4902 ME Laboratory III Experiments related to vibrations, controls, fluid mechanics and thermodynamics. Computer data acquisition and data analysis. (1 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004.*

ME 5000 Selected Topics in ME Independent study or research on a current engineering topic. Senior standing and permission of chairperson. (4 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

ME 5010 ME 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 Engineer (3 cr) *Last Offered: Fall 2005, Fall 2004, Spring 2004, Summer 2003.*

ME 5100 Heat Transfer II Selected topics in heat transfer and fluid flow, boundary layers and turbulence, thermal stresses, similitude, numerical methods. (3 cr) *Last Offered: .*

ME 5101 Elements of Aerodynamics The standard atmosphere, two-dimensional incompressible flow, Reynolds and Mach number, generation of lift based on airfoil and wing platform characteristics, drag force, propulsive force, overall airplane performance, static stability and control. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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 2003, Spring 2002, Spring 2001, Spring 1997.*

ME 5104 Energy Conversion Cost of electricity, elements of power generating systems, fuels fossil and nuclear fuel power plants, power plant environmental impact. (3 cr) *Last Offered: Fall 1997, Fall 1996, Fall 1995.*

ME 5105 Prime Movers Elements of steam and gas turbine design, internal combustion engines, thermodynamics of combustion, combustion charts, applications. (3 cr) *Last Offered: Fall 2001, Fall 2000, Fall 1999, Fall 1998.*

ME 5107 Environmental Engineering The engineering principles underlying the current practices of heating, ventilating, air conditioning, and refrigeration systems design. (3 cr) *Last Offered: Fall 2005, Summer 2005, Fall 2004, Summer 2004.*

ME 5120 Env Control-Air Quality Understanding of environmental issues related to air quality, sources of pollution, method of control, and air quality standards and regulations. (3 cr) *Last Offered: Spring 2001, Spring 2000, Spring 1999, Spring 1998.*

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 2005, Spring 2004, Spring 2003, Fall 1999.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Fall 1995.*

ME 5204 Dynamics of Flight Static stability and control of aircraft, equations of unsteady motion, stability derivatives, uncontrolled longitudinal and lateral motion, open loop control mechanisms, closed loop control concepts. (3 cr) *Last Offered: Spring 1996, Spring 1995.*

ME 5300 Advanced Materials Techniques for studying microstructures and failure of materials, reflected light microscopy, scanning electron microscopy, transmission electron microscopy, field ion microscopy, energy-dispersive spectroscopy, failure analysis. (3 cr) *Last Offered: Spring 1995.*

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: Summer 2005, Summer 2004, Summer 2003, Summer 2002.*

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 2005, Fall 2002.*

ME 5420 Computer Aided Mech Design Modeling, analysis, and design of mechanical systems such as automobile suspension systems, machinery, compressors, linkages, gears, cams, robots, etc.; analytical and computational methods in kinematics and dynamics; extensive use of commercial software. (3 cr) *Last Offered: Fall 2000, Fall 1999, Spring 1999, Spring 1998.*

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 2005, Fall 2004, Spring 2004, Fall 2003.*

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 2005, Spring 2004, Spring 2003.*

ME 5600 Legal Problems in Engineering (3 cr) *Last Offered: .*

ME 5650 Forensic Engineering (3 cr) *Last Offered: .*

ME 6621 Legal Problems in Engineering American legal system; fundamentals of contracts, agency and business associations, engineer's responsibilities; real property; zoning laws and building codes; construction contracts, mechanical contracts; subcontracts and pricing; surety bonds; arbitrati (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

MET 1221 Fundamentals of Meteorology The science of meteorology in its present state of development with attention to the elements of weather and climate and related atmospheric processes; atmospheric circulation, wind, cloud formation, cyclones and anti-cyclones, weather analysis and interp (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Fall 2003.*

MET 1222 Meteorology and Climatology Fundamentals of climatology classification of climatic types and their distribution; the relation between the elements of weather and climate to biotic environment and human activities with special emphasis on air pollution. Prerequisite: MAT 1505 or ab (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 (3 cr) *Last Offered: Fall 2005, Fall 2003, Fall 2001, Fall 1999.*

MGT 1102 Management Essentials Introduction to organizational structures and functions; management processes and behavior of individuals and groups in organizations. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

MGT 2208 International Topic 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 C&F IB Co-Major and IB M (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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: Fall 2004, Fall 2003, Fall 2002, Fall 2001.*

MGT 2350 International Compar Mgt 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 2005, Summer 2005, Spring 2005, Fall 2004.*

MGT 3301 Policy Formulation Admin Strategic management of organizations. Strategic planning and cross-functional decision making. Lecture and analysis are employed. Senior standing. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Summer 2004, Summer 2003, Summer 2002.*

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 2005, Summer 2005, Spring 2005, Fall 2004.*

MGT 3320 Ind Study- Admin Science Study with faculty member's guidance and approval in area of special interest to student. Department chair approval required. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Spring 2005, Fall 2004, Summer 2004.*

MGT 3350 Ind. 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 faculty member. that contribute to success or failures. Permission of that contribu (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

MGT 3360 Ind Top: Entrepreneurial Exp Study with faculty member's guidance and approval in a area of special interest to student. Department chair approval required. Restricted to MGT Majors. (3 cr) *Last Offered: Fall 2002.*

MGT 4132 Seminar in Management Study of selected topics in Management including disussion and lecture materials prepared and presented by individual students. Topics to be announced each semester, when seminar is offered. (3 cr) *Last Offered: .*

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 spec (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004.*

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 th (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004.*

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 (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004.*

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 ne (3 cr) *Last Offered: Fall 2005.*

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 Resour (3 cr) *Last Offered: Fall 2005, Fall 2004.*

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 JavaS (3 cr) *Last Offered: Fall 2005, Fall 2004.*

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 w (3 cr) *Last Offered: Spring 2005, Fall 2004.*

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 2005.*

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 2005, Fall 2004.*

MIS 3331 MIS Independent Study Study with faculty member's guidance in area of special interest to student. (3 cr) *Last Offered: Fall 2005, Fall 2004.*

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; mini (6 cr) *Last Offered: Fall 2005.*

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 th (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

MKT 2120 Buyer Behavior Consumer orientation in the development and attainment of organizational goals within the framework of human behavior and its relationship to the field of marketing. Theory from psychology, sociology, and social psychology, with an emphasis on application (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

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 fun (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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 managemen (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

MKT 2230 Marketing of Services Application of marketing principles to service organizations; differences between goods and services marketing and how these differences influence marketing strategy and the tactical design of the marketing mix variables. (3 cr) *Last Offered: Spring 2004, Spring 2003, Spring 2002, Spring 2001.*

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 multidimensi (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

MKT 2349 Cont. Topics in Marketing Contemporary issues and topics which affect a firm's marketing strategies. (3 cr) Sem 1&2; Prereq: MKT 1137 and junior or senior standing. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

MKT 3350 Independent Study - Marketing Independent study under faculty guidance in an area of student's special interest. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Spring 2004.*

ML 2100 Research Seminar Course examines the complexities of literary analysis from many perspectives. This is an introductory course to enable students to deal with and carry out textual analysis. In addition to offering simple definition of certain theories that help in the c (3 cr) *Last Offered: .*

ML 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: Fall 2002, Spring 2002, Summer 1999, Summer 1998.*

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 cou (2 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 sys (3 cr) *Last Offered: Spring 2005, Spring 2004, Fall 2003, Spring 2003.*

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 (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

NS 3100 Navigation The theory and technique of piloting and celestial navigation. Normally taken by juniors. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Spring 2003.*

NS 3200 Naval Operations The maneuvering board, tactical communications, rules of the road, and seamanship. juniors. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Fall 2002.*

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 2004, Spring 2002, Spring 2000, Fall 1997.*

NS 3600 Amphibious Operations Amphibious operations throughout history to their present role in military policy. (3 cr) *Last Offered: Spring 2005, Spring 2003, Spring 2002, Spring 2001.*

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. Normal (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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 (3 cr) *Last Offered: Spring 2005, Spring 2004, Summer 2003, Spring 2003.*

NTR 2120 Principles of Nutrition Principles of normal nutrition and the interrelatedness of economics, culture and health. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Fall 2004, Fall 2003, Summer 2003.*

NUR 1103 Intro Prof Nursing II Use of effective communication and assessment process in professional nursing practice. (2 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Summer 2005, Spring 2005, Fall 2004.*

NUR 2105 Nur Process Hlth Lab I Practice of selected assessment skills in a laboratory setting. (1 cr) *Last Offered: Fall 2005, Summer 2005, Fall 2004, Summer 2004.*

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 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Summer 2005, Spring 2005, Fall 2004.*

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: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Fall 2004, Fall 2003, Spring 2003.*

NUR 3005 Practicum in Nur & Health Nursing Assessment of individuals and families in laboratory and clinical practice. (1 cr) *Last Offered: Fall 2004, Fall 2003, Spring 2003, Fall 2002.*

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 2005, Fall 2004, Fall 2003, Spring 2003.*

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, a (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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: Fall 2005, Summer 2005, Spring 2005, Summer 2004.*

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 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Spring 2005, Summer 2004, Spring 2004.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Spring 2005, Summer 2004, Spring 2004.*

NUR 4110 Leader & Management NUR Leadership and management principles related to the practice of nursing. (5 cr) *Last Offered: Spring 2005, Fall 2004, Spring 2004, Spring 2003.*

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NUR 4130 Contemp Issues & Trends Critical analysis of major issues and trends in nursing and health care. (2 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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: Fall 2004, Spring 2003, Spring 2002, Spring 2001.*

NUR 4802 Issues Trend Gerontology Aging and the effects of transitions associated with aging. Emphasis is on functional assessment, chronicity and the impact of demography. Open to nursing and other majors with interest in gerontology. (3 cr) *Last Offered: .*

NUR 4900 Guided Study in Nursing Study or project development in a special interest area in nursing under faculty guidance. Includes tutorial sessions as necessary. Registration with the permission of the Dean. (1 cr) *Last Offered: Spring 2005, Fall 2004, Spring 2004, Spring 2003.*

NUR 4901 Guided Study in Nursing (2 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

NUR 4902 Guided Study in Nursing (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

NUR 4903 Guided Study in Nursing (4 cr) *Last Offered: Spring 2003.*

NUR 4904 Guided Study in Nursing (5 cr) *Last Offered: Fall 2004, Fall 2003, Spring 2003, Spring 2000.*

NUR 4905 Guided Study in Nursing (6 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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 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: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

PHI 1600 Business and Society The role of government in business, consumer demands, corporate social responsibility. Particular emphasis placed on social justice and individual ethics. (3 cr) *Last Offered: Summer 1998, Spring 1998, Fall 1997, Summer 1997.*

PHI 2010 Logic & Critical Thinking (3 cr) *Last Offered: Fall 2005.*

PHI 2015 Logic and 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: Summer 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Summer 2005, Spring 2005, Fall 2004.*

PHI 2116 Bioethics (3 cr) Last Offered: .

PHI 2121 Environmental Ethics (3 cr) Last Offered: Fall 2005.

PHI 2125 Phil of Death and Dying Theories and conceptions of human suffering, death and life; issues of suicide, bereavement, grief and euthanasia. (3 cr) Last Offered: Spring 2003, Fall 1999.

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: Fall 2005, Spring 2005, Spring 2004, Spring 2003.

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: Fall 2005, Spring 2005, Fall 2004, Fall 2003.

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 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 soc (3 cr) Last Offered: Fall 2003, Fall 2000.

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 2005, Spring 2004, Spring 2003, Spring 2002.

PHI 2190 Freedom (3 cr) Last Offered: .

PHI 2200 Philosophy and Film Analysis of selected classics and current films from the perspective of basic philosophical concepts and questions. questions. (3 cr) Last Offered: Summer 2005, Fall 2004, Summer 2004, Spring 2004.

PHI 2300 Philosophy of Law (3 cr) Last Offered: Fall 2005.

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 2005, Summer 2005, Fall 2004, Summer 2004.

PHI 2410 Philosophy of Sex & Love 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 2005, Spring 2005, Spring 2004, Spring 2003.

PHI 2420 Philosophy of Women (3 cr) Last Offered: Fall 2005.

PHI 2425 Philosophy of Women Nature and status of woman from ancient times to the present, with consideration of the more general context of self-identity; contemporary feminist

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theories; feminism as a political movement. (3 cr) *Last Offered: Spring 2005, Fall 2004, Spring 2004, Fall 2003.*

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: Fall 2002, Spring 2000, Spring 1999, Fall 1998.*

PHI 2440 Amer Indian Thought & Culture (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 2005, Spring 2005, Fall 2004, Spring 2004.*

PHI 2500 History of Ancient Phil Plato, Aristotle and selected pre-Socratic and Hellenistic philosophers in the context of ancient and classical Greek civilization. (3 cr) *Last Offered: Spring 2005, Fall 2004, Spring 2004, Fall 2003.*

PHI 2510 History of Medieval Phil 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 2004, Spring 2004, Fall 2003, Spring 2003.*

PHI 2520 History of Modern Phil The systems of Descartes, Spinoza, Leibniz, and the empiricists - Locke, Berkeley, and Hume; Kant; selections read and evaluated. (3 cr) *Last Offered: Spring 2005, Fall 2004, Spring 2004, Fall 2002.*

PHI 2550 Technology & Society (3 cr) *Last Offered: .*

PHI 2650 Philosophy of Sport (3 cr) *Last Offered: .*

PHI 2700 Philosophy of Science (3 cr) *Last Offered: Fall 2005.*

PHI 2710 Theories of Knowledge (3 cr) *Last Offered: .*

PHI 2750 Philosophy of Art (3 cr) *Last Offered: Fall 2005.*

PHI 2760 Philosophy & Literature (3 cr) *Last Offered: Fall 2005.*

PHI 2800 Philosophy of History 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 2003, Spring 1999, Fall 1998, Spring 1998.*

PHI 2900 Philosophy of Religion (3 cr) *Last Offered: .*

PHI 2910 Mysticism & Philosophy (3 cr) *Last Offered: .*

PHI 2920 Asian Philosophies (3 cr) *Last Offered: Fall 2005.*

PHI 2950 Topics in Philosophy Special topic in philosophy of current interest to faculty and students. (3 cr) *Last Offered: Spring 2005, Fall 2004, Spring 2004, Fall 2003.*

PHI 2990 Topics in Philosophy (3 cr) *Last Offered: Fall 2005.*

PHI 2993 Internship Departmentally related and academically creditable field work experience. See department chair for more information. Permission of Department Chair required. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

PHI 2996 Internship Departmentally related and academically creditable field work experience. See department chair for more information. (6 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

PHI 3000 Plato & Aristotle Selected texts and themes from Plato and Aristotle. (3 cr) *Last Offered: Spring 2005, Spring 2004, Fall 2003, Spring 2003.*

PHI 3010 Majors Sem: Approaches & Meth Preparation for advanced work in philosophy by exploring a representative variety of approaches and methods characteristic of the discipline. (3 cr) *Last Offered: Fall 2001, Fall 2000, Fall 1999, Fall 1998.*

PHI 3020 History of Ancient Philosophy (3 cr) *Last Offered: Fall 2005.*

PHI 3030 History of Medieval Philosophy (3 cr) *Last Offered: Fall 2005.*

PHI 3050 Kant & 19th Cent Philosophy (3 cr) *Last Offered: .*

PHI 3100 Intro to St. Augustine 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 2005, Fall 2001, Spring 1997, Fall 1995.*

PHI 3120 Augustine in Western Thought 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: Fall 1999, Fall 1998.*

PHI 3130 Augustine & Existentialist Existential themes in Augustine and their influence on such thinkers as Luther, Kierkegaard, Heidegger, Marcel, Camus. (3 cr) *Last Offered: Fall 2004, Fall 2002, Fall 2000, Fall 1997.*

PHI 3160 History of Islamic Phil Islamic thought, concentrating particularly on Islamic medieval theology and philosophy. (3 cr) *Last Offered: Spring 2005, Fall 2004, Fall 2002, Fall 2000.*

PHI 3200 Metaphysics Questions regarding the nature and possibility of metaphysics; selected texts from Greek philosophy to the present. (3 cr) *Last Offered: Fall 2004, Summer 2004, Fall 2003, Spring 2003.*

PHI 3310 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 2003, Fall 1996.*

PHI 3400 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: Spring 2004, Spring 2003, Fall 2002, Spring 2002.*

PHI 3410 Thomas Aquinas (3 cr) *Last Offered: Fall 2005.*

PHI 3500 Freedom Human freedom analyzed from a metaphysical and political perspective; readings from classical and contemporary sources on such topics as determinism, slavery,

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rights, authority and dissent. (3 cr) *Last Offered: Spring 2002, Fall 2001, Spring 2001, Fall 2000.*

PHI 3525 Phil of Human Sexuality Embodiment, the nature of sexuality, the types of love, sexual ethics, marriage, sexual differences, and sexual discrimination. (3 cr) *Last Offered: Spring 2005, Spring 2002, Fall 1998.*

PHI 3600 Philosophy of Art The principles and causes of beauty and art with special reference to the formation of art objects and the cultural context of philosophy and art. (3 cr) *Last Offered: Fall 2004, Fall 2003, Fall 2001, Fall 2000.*

PHI 3610 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 2005, Spring 2004, Fall 2002, Fall 2000.*

PHI 3620 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: Spring 2005, Spring 2004, Fall 2003, Summer 2003.*

PHI 3650 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: Spring 2005, Fall 2004, Fall 2003, Fall 2002.*

PHI 3700 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: Spring 2003, Fall 2002, Fall 2001, Fall 2000.*

PHI 3720 Marx & Marxism Marx on the theories of human nature, freedom and history; related developments in Marxist thought. (3 cr) *Last Offered: Spring 2005, Fall 2001, Fall 2000, Fall 1999.*

PHI 3730 American Philosophy (3 cr) *Last Offered: .*

PHI 3740 Analytic Philosophy (3 cr) *Last Offered: .*

PHI 3750 Mysticism & Philosophy The metaphysical interpretation of God, humans and the 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 2003, Fall 2002, Fall 2001, Spring 2001.*

PHI 3820 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. ethical decisions. (3 cr) *Last Offered: Spring 2005, Fall 2004, Spring 2004, Fall 2003.*

PHI 3825 Technology and 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 2003, Spring 2002, Fall 1996.*

PHI 3850 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 2005, Summer 2002, Spring 2002, Summer 2000.*

PHI 3990 Topics in Hist of Philosophy (3 cr) *Last Offered:* .

PHI 4000 Phil of Social Science The relation of social and natural science, behaviorism, models of explanation, moral and valuational implications of social science. (3 cr) *Last Offered:* Spring 2003.

PHI 4050 Phil of Natural 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 2004, Spring 2003, Spring 1999.

PHI 4100 Plato & Aristotle (3 cr) *Last Offered:* Fall 2005.

PHI 4110 Metaphysics (3 cr) *Last Offered:* Fall 2005.

PHI 4120 Philosophy of Biology (3 cr) *Last Offered:* .

PHI 4140 Phil of Contemporary Music (3 cr) *Last Offered:* .

PHI 4150 Philosophy & Film (3 cr) *Last Offered:* Fall 2005.

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 1998, Spring 1998, Fall 1997, Fall 1996.

PHI 4210 Environmental Philosophy (3 cr) *Last Offered:* .

PHI 4300 Anglo-American Philosophy Major themes and trends in analytic philosophy: Russell, logical positivism, Wittgenstein and present day linguistic philosophy. (3 cr) *Last Offered:* Spring 2000.

PHI 4400 Amer. Indian Thought & Culture Religious and philosophical concepts of personhood, community, and nature; contrast of European and Euro- American Indian philosophies. (3 cr) *Last Offered:* Fall 2002, Fall 2001.

PHI 4500 Asian Philosophies Sources of Eastern philosophies; aspects of Hinduism, Jainism, Buddhism, Confucianism, Taoism, and/or Sufism. (3 cr) *Last Offered:* Spring 2005, Spring 2004, Fall 2003, Spring 2003.

PHI 4600 Psychoanalysis & Philosophy 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:* Fall 2005, Spring 2005, Spring 2004, Spring 2000.

PHI 4610 Philosophy of Mind Philosophical implications of Freudian theory as it relates to the individual and culture; the role of the unconscious; interpretation, structure of the ego, human sexuality and the foundations of civilization. (3 cr) *Last Offered:* Fall 2004, Fall 2002, Fall 2000, Spring 2000.

PHI 4650 Philosophy of Mind The nature of mind, soul, consciousness; the mind-brain relationship; classical and contemporary philosophical approaches; the nature of personal identity and moral responsibility. (3 cr) *Last Offered:* Spring 2005, Spring 2004, Spring 2003, Spring 2002.

PHI 4800 French Existen & Phenom The development of phenomenology and existentialism in post-war France; the challenge to this thought by structuralism. Sartre,

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Marcel, Camus, Merleau-Ponty, Ricoeur, Levinas. (3 cr) *Last Offered: Spring 2005, Spring 2004, Summer 2003, Spring 2003.*

PHI 4850 German Existence & Phenomena 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: Fall 2003, Spring 2003, Fall 1999, Spring 1999.*

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: Spring 2000, Fall 1998.*

PHI 4900 Feminist Theory (3 cr) *Last Offered: .*

PHI 4975 Independent Study & Research Topic chosen by the student and approved by the professor and the chair. (3 cr) *Last Offered: Summer 2005, Spring 2005, Fall 2004, Summer 2004.*

PHI 4990 Independent Study & Research (3 cr) *Last Offered: Fall 2005.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

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. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

PHY 1022 Great Ideas in Physics 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 2005, Spring 2004, Spring 2003, Spring 2002.*

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 2005, Spring 2004, Spring 2003, Spring 2002.*

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 2005, Summer 2005, Fall 2004, Summer 2004.*

PHY 1101 General Physics I Lab Selected experiments in mechanics, heat and sound. Recommended for Biology majors. (1 cr) *Last Offered: Fall 2005, Summer 2005, Fall 2004, Summer 2004.*

PHY 1102 General Physics II A continuation of PHY 1100; light, electricity and modern physics. Recommended for Biology majors. (3 cr) *Last Offered: Summer 2005, Spring 2005, Fall 2004, Summer 2004.*

PHY 1103 General Physics II Lab Selected experiments in light and electricity. Recommended for Biology majors. (1 cr) *Last Offered: Summer 2005, Spring 2005, Summer 2004, Spring 2004.*

PHY 1500 The Concept of Light Historical and analytical survey of the concept of light from classical to modern view points. Open to C&F and Arts majors (fulfills Arts core science requirement when taken with PHY 1501). (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Summer 2004.*

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 C & F 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 C & F and Arts majors (fulfills Arts core science r (3 cr) *Last Offered: Summer 2005, Fall 2004, Summer 2004.*

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 C&F 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 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

PHY 2410 University Phy:Mechanics Vectors, kinematics, and dynamics of particles, rigid bodies, and fluids. Recommended for Science majors. (3 cr) *Last Offered: Fall 2005, Summer 2005, Fall 2004, Summer 2004.*

PHY 2411 Lab: Mechanics Selected experiments demonstrating the fundamental principles of Mechanics and Waves with emphasis on techniques of measurements and data analysis.

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Recommended for Science majors. (1 cr) *Last Offered: Fall 2005, Summer 2005, Fall 2004, Summer 2004.*

PHY 2412 Univ Physics: Elec & Mag Electrostatics, DC circuits, magnetism, and AC circuits. Recommended for Science majors. (3 cr) *Last Offered: Summer 2005, Spring 2005, Summer 2004, Spring 2004.*

PHY 2413 Lab: Elec & Magnetism Recommended for Science majors. (1 cr) *Last Offered: Summer 2005, Spring 2005, Summer 2004, Spring 2004.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

PHY 2415 Lab: Thermodynamics Selected experiments in heat, waves and optics. Recommended for Science majors. (1 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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 2005, Spring 2004, Spring 2003, Spring 2002.*

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. A writing enriched course. Recom (1 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

PHY 2603 Computational Phy Lab II Continuation of Computational Physics I. (1 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

PHY 3311 Electronics Lab Laboratory experiments are chosen to supplement the Physics 3310 lectures and to give experience with sophisticated electronic equipment. A Writing Enriched course. (1 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

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 2005, Fall 2004, Fall 2002, Fall 2000.*

PHY 4001 Elec & Magnetism I Lab Selected experiments in the field. A Writing Enriched course. (1 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2002, Fall 2000.*

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 2005, Spring 2003, Spring 2001, Spring 1999.*

PHY 4003 Elec & Magnetism II Lab Selected experiments in the field. A Writing Enriched course. (1 cr) *Last Offered: Spring 2005, Spring 2003, Spring 2001, Spring 1999.*

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. (4 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2001.*

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). (4 cr) *Last Offered: Spring 2004, Spring 2002, Spring 2000, Spring 1998.*

PHY 4200 Mathematical Physics I Vector and tensor analysis, matrices and determinants, infinite series, functions of a complex variable. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 2005, Fall 2003, Fall 2002, Fall 2001.*

PHY 4301 Experimental Methods I Introduction to experimental methods in Physics. Applications of spectroscopic techniques in nuclear, solid-state, and materials Physics. Detection of particle and electromagnetic radiation, signal processing, spectral analysis and interpretation. (2 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003.*

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 spl (2 cr) *Last Offered: Spring 2005, Spring 2004.*

PHY 5100 Quantum Mechanics Operators, Schrodinger Equation, one dimensional problems, harmonic oscillator, angular momentum, hydrogen atom, scattering theory. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2002, Spring 2000.*

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. (4 cr) *Last Offered: Fall 2004, Fall 2002, Fall 2000, Fall 1998.*

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 2005, Spring 2003, Spring 2001, Spring 1999.*

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: .*

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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: .*

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 Co (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 2005, Spring 2005, Fall 2004, Spring 2004.*

PHY 6700 Supervised Study Physics Same as PHY 6500 with increased number of hours. (4 cr) *Last Offered: .*

PJ 1100 Intro to Peace & Justice Definitions and understandings of concepts such as peace, justice, racism, sexism and classism. Critical reflection on the systematic nature of justice and injustice; strategies and techniques for effective social change. (3 cr) *Last Offered: Fall 2004, Spring 2004, Spring 2003, Fall 2001.*

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 (1 cr) *Last Offered: Spring 1996, Spring 1995.*

PJ 2000 Selected Topics Application of Catholic Social Teaching and the Pastorals of the American Catholic Bishops to issues of systemic justice, social analysis, and political economy. (3 cr) *Last Offered: Spring 2005, Spring 2004, Fall 2003, Spring 2003.*

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: Spring 2000, Fall 1999, Spring 1999, Fall 1998.*

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 p (3 cr) *Last Offered: Fall 2004, Fall 2003, Spring 2003, Spring 2002.*

PJ 2300 The Literacy Practicum Theories of literacy and literacy training. Literacy tutoring at correctional facilities in Philadelphia. Permission of instructor. Service component. (3 cr) *Last Offered: Spring 1998, Spring 1997.*

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 i (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 amon (3 cr) *Last Offered: Fall 2005, Spring 2003, Spring 2002, Fall 2000.*

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 fo* (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

PJ 2993 Internship (3 cr) *Last Offered: .*

PJ 2996 internship (6 cr) *Last Offered: .*

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 th (3 cr) *Last Offered: Spring 2005, Fall 2003, Spring 2003, Fall 2002.*

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 (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: Fall 2005, Spring 2005, Fall 2004, Fall 2003.*

PJ 3300 Modern Peacemakers The life, times, writings, and influence of Mohandas Gandhi, Dorothy Day, Thomas Merton, and Martin Luther King, Jr., emphasizing their nonviolent

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protests against modern forces of racism, militarism and economic exploitation. Guest lecturers. (3 cr) *Last Offered: Spring 2002, Fall 2000, Fall 1997, Fall 1996.*

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 2005, Spring 2005, Fall 2004, Spring 2003.*

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 (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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: .*

PJ 5000 Selected Topics Justice and discrimination in U.S. society from social, economic, political and ethical perspectives. Strategies for the just elimination of discrimination. Topics include civil rights, gender issues of justice, etc. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Fall 2004, Spring 2004, Fall 2003.*

PJ 5300 Race, Class and Gender An integrated and interdisciplinary approach to such questions as: Why are women disproportionately poor in American society? Is equality of opportunity a reality or a myth? What are the continuing effects of racial discrimination in areas of education (3 cr) *Last Offered: Fall 2004, Fall 2003, Fall 2002, Spring 2002.*

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 (3 cr) *Last Offered: Fall 2005, Spring 2003, Fall 2001, Fall 1999.*

PJ 5500 Race and Racism in Amer Film The depiction of African Americans, Latinos, Native Americans, Asian Americans, and Jews in American films from sociological and textual approaches. Attention to producers, directors, and audiences. Film as a cultural document. (3 cr) *Last Offered: .*

PJ 5600 Independent Study Independent Study (3 cr) *Last Offered: Fall 2004, Spring 2004, Fall 2003, Spring 2003.*

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.*

PSC 1100 Intro to American Government Constitutional development; national institutions, federalism, civil rights and liberties; instruments of popular control. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

PSC 1200 Intro 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 2005, Summer 2005, Spring 2005, Fall 2004.*

PSC 1875 Spec Top in Political Science Special topics in Political Science. (3 cr) *Last Offered: .*

PSC 1903 Internship Elective (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

PSC 1906 Internship Elective (6 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

PSC 1909 Internship Elective (9 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

PSC 2000 State & Local Government Constitutions, institutions, instruments of popular control, and intergovernmental relations. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Spring 2003.*

PSC 2100 City and Suburb Politics and problems in metropolitan areas of the United States. (3 cr) *Last Offered: Fall 2004, Fall 2000, Fall 1999, Fall 1998.*

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: Fall 2005, Spring 2005, Spring 2000.*

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 2002, Spring 2000, Spring 1997, Spring 1996.*

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 2004, Fall 2003, Fall 2002, Fall 2001.*

PSC 2300 American Foreign Policy The institutions, processes, and ideas which shape contemporary American foreign policy; the major problem areas. (3 cr) *Last Offered: Spring 2005, Fall 2003, Spring 2002, Fall 1999.*

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 2005, Spring 2004, Spring 2003, Spring 2002.*

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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 2005, Summer 2004, Summer 2003, Summer 2002.*

PSC 2600 Public Policy Theories of public policy making, national public policies, and contemporary issues. (3 cr) *Last Offered: Spring 2005, Spring 2004, Fall 2002, Spring 2002.*

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 (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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: Fall 2005, Fall 2004, Fall 2003, Spring 2003.*

PSC 2750 Black Politics Analysis of black American politics, including ideology, electoral participation, movement politics, and public policy. (3 cr) *Last Offered: Summer 2005, Spring 2005, Summer 2004, Spring 2004.*

PSC 2800 Public Administration Administrative politics, law, and ethics, organizational theory and technical fields, such as budgeting, planning, and personnel. (3 cr) *Last Offered: Fall 2005, Spring 2004, Fall 2002, Spring 2001.*

PSC 2875 Topics in American Government Selected topics of special interest in American Government and Public Law. (3 cr) *Last Offered: .*

PSC 2900 Political Communication The role, behavior and influence of communications in American politics. (3 cr) *Last Offered: Fall 2003, Spring 2003, Spring 2001, Fall 2000.*

PSC 2993 Internship Internship (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

PSC 2996 Internship Internship Work experience in politics. (6 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

PSC 3100 Government & Business The relations between government and business, including antitrust enforcement, regulation versus deregulation, environmentalism and consumerism, and economic policies. (3 cr) *Last Offered: Spring 2004, Spring 2003, Spring 2002, Spring 2001.*

PSC 3200 Supreme Crt, Criminal Justice An examination of the important Supreme Court decisions in the area of criminal justice. (3 cr) *Last Offered: Fall 2005, Fall 2003, Fall 2001, Spring 2001.*

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: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 2004, Fall 2002, Spring 2001, Spring 2000.*

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 2004, Spring 2003, Spring 2002, Fall 2000.*

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 2005, Spring 2005, Fall 2004, Fall 2003.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

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 2005, Fall 2004, Spring 2004, Summer 2003.*

PSC 4100 Political Movements Comparison of civil rights, labor, fascist, environmental and women's movements in their political and historical context. (3 cr) *Last Offered: Fall 2005, Spring 2005, Spring 2004, Fall 2003.*

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: 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 2005, Fall 2004, Spring 2004, Fall 2002.*

PSC 4500 Japan and China Historical and cultural factors explaining Chinese and Japanese political behavior and modern institutions. (3 cr) *Last Offered: Fall 2004, Fall 2003, Fall 2002, Fall 2001.*

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: .*

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 2005, Spring 2003, Fall 1999, Fall 1998.*

PSC 4875 Topics in Inter. Rel. Selected topics of special interest in Comparative Government and International Relations. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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: Spring 2004, Spring 2003, Spring 2002, Spring 2001.*

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 2005, Spring 2005, Summer 2004, Spring 2004.*

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: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2004, Fall 2003, Fall 2002, Spring 2002.*

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: Fall 2005, Spring 2004, Fall 2002, Fall 2001.*

PSC 5300 Democratization in Europe Development of liberal democracy in turn of century Western Europe and end of century Eastern Europe. (3 cr) *Last Offered: Spring 1997, Fall 1995, Spring 1995.*

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 2005, Fall 2003, Spring 2003, Spring 2002.*

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: Spring 2000, Summer 1995, Spring 1995.*

PSC 5650 Peacebuilding in N. Ireland The process of diplomacy and peacebuilding examined from the perspective of two weeks of study and work with community leaders in Northern Ireland. Theories and techniques of political decision-making in international negotiations; community reconciliation (4 cr) *Last Offered: Summer 2004, Summer 2003, Summer 2001.*

PSC 5700 Oil/Power in Middle East International oil policy; economic and political systems of the oil producing states in the Arabian Peninsula, Persian Gulf, and the adjoining states, i.e. the Russia, Iran, Afghanistan, and Pakistan. The foreign policies of the super powers and the regi (3 cr) *Last Offered: .*

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 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: Spring 2005, Spring 2004.*

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: Spring 2005, Fall 2004, Fall 2003, Fall 2002.*

PSC 5950 Russia and Islamic States Four sets of Islamic states: (1) 21 autonomous states within the Russian Federation, about half of which are Turkic and Muslim; (2) Central Asia; (3) Islamic states on the periphery of the former Soviet Union; and (4) in the Middle East. (3 cr) *Last Offered: Spring 1997.*

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: Spring 2004, Fall 2001, Spring 2001, Fall 1999.*

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: Spring 2002, Spring 2001, Spring 2000, Spring 1999.*

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 2003, Summer 2002, Summer 2001, Summer 2000.*

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 2005, Spring 2004, Spring 2003, Spring 2001.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

PSC 6150 Politics and Literature Politics in classical and modern literature. Sophocles, Thucydides, Plutarch, Shakespeare, Twain, Melville, Austen, Huxley, Orwell. (3 cr) *Last Offered: Spring 1999, Fall 1997.*

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 Phil (3 cr) *Last Offered: Spring 2005, Fall 2001, Spring 2001.*

PSC 6250 Jurisprudence The nature and origin of law from historical and/or analytical perspectives. (3 cr) *Last Offered: 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, soverei (3 cr) *Last Offered: Fall 2005, Fall 2002, Spring 2002.*

PSC 6325 Amer Liberal-Conserv The main strands of American liberal and conservative thought and political practice. Rawls, Galbraith, Schlesinger to Goldwater, Kirk, and Buckley. (3 cr) *Last Offered: .*

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 (3 cr) *Last Offered: Spring 2005, Spring 2004, Fall 2002, Spring 2001.*

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 2005, Fall 2004, Fall 2003, Fall 2000.*

PSC 6875 Topics in Political Theory Selected topics of special interest in Political Theory and Behavior. (3 cr) *Last Offered: Fall 2005, Spring 2005, Summer 2003, Summer 2002.*

PSC 6900 Political Sci Seminar Individual research and report on contemporary problems in political science. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

PSC 6950 Ind Study & Research Individual students with specific interests work on a tutorial basis with an appropriate professor. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Summer 2005, Spring 2005, Fall 2004.*

PSY 2300 Perception Theory and application of sensory and perceptual processes such as distance perception, color vision, illusion and deafness. Open to all majors. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

PSY 2400 Cross-Cultural Psychology Theory and research on cultural influences on human diversity in behavior and psychological processes. Satisfies diversity 3 requirement. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

PSY 2500 Psych of Personality Theories, dynamics, and structure of personality. Intended for non-psychology majors. Students cannot receive credit for this course and PSY 5200. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

PSY 2700 Industrial/Organizational Psy Applications of psychological data, theories, research methods, and testing procedures to individuals in organizational settings. (3 cr) *Last Offered: Summer 2004, Summer 2003, Summer 2002, Summer 2001.*

PSY 2800 Human Factors Application of theories of human performance (perception, cognition, and motor control) to the design of products and systems. Writing enriched. (3 cr) *Last Offered: Fall 2004, Spring 2004, Fall 2002, Spring 2001.*

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 2005, Spring 2005, Fall 2004, Spring 2004.

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 2005, Spring 2005, Fall 2004, Spring 2004.

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 2005, Spring 2005, Fall 2004, Summer 2004.

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 2005, Summer 2005, Fall 2004, Summer 2004.

PSY 4000 Intro Statistics Basic concepts, assumptions, and applications of descriptive statistics and inferential statistics. (3 cr) Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.

PSY 4050 Research Methods in Psy Introduction to the reading, design, and reporting of psychological research. Writing intensive. (3 cr) Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.

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 2005, Spring 2005, Fall 2004, Spring 2004.

PSY 4150 Sem Professional Development Overview of ethical and professional issues in psychology. (1 cr) Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.

PSY 4200 Physiological Psychology Theoretical and laboratory examination of basic neural and hormonal processes underlying behavior. (3 cr) Last Offered: Fall 2005, Spring 2005, Spring 2004, Spring 2003.

PSY 4500 Cognitive Psychology Theory and research on human learning, memory, and cognitive processes. (3 cr) Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.

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: .

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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 2005, Spring 2004, Spring 2003, Spring 2002.*

PSY 5500 Abnormal Psychology Classification, etiology, and treatment of mental and behavioral disorders with emphasis on contemporary theory and research. Writing enriched in Fall. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

PSY 5600 Computer Use for Soc Scientist Statistical packages (statistical software) in the analysis of social science data. Prior computer experience not necessary. (3 cr) *Last Offered: Spring 2002, Spring 2001, Spring 2000, Spring 1999.*

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 2005, Summer 2005, Spring 2005, Fall 2004.*

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 rese (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

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: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 2005, Fall 2004, Fall 2003.*

RUS 1124 Intermediate Russian II Continued development of skills employed in Intermediate Russian I. (3 cr) *Last Offered: Spring 2005, Spring 2004.*

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. Writing enriched. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

RUS 1132 Advanced Convers & Comp A continuation of RUS 1131. Writing Enriched. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

RUS 3412 Special Topics Special interest topics in language, literature and culture. Course may be repeated for credit. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Summer 2004.*

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. Writing Enriched. (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. Satisfies Diversity Requirement. Fulfills core requirements for advanced literature. (3 cr) *Last Offered: Spring 2005, Fall 2004, Spring 2004, Spring 2003.*

RUS 4130 The Russian Novel I Major Russian novels of the 19th century, including Pushkin, Lermontov, Gogol, Turgenev, Dostoevsky and Tolstoy. Conducted in English. Writing Enriched. Fulfills advanced literature requirements. (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. Writing Enriched. Satisfies Diversity Requirement. Fulfills advanced literature requirements. (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. Writing Enriched. Satisfies Diversity Requirement. Fulfills advanced literature requirements. (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: .*

SAR 1000 Introduction to Art 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 2005, Spring 2005, Fall 2004, Spring 2004.*

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. N (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 2005, Spring 2005, Fall 2004, Spring 2004.*

SAR 2020 Basic Watercolor Techniques Techniques of transparent watercolor painting with concentration on still life. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Summer 2004.*

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 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

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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 2005, Spring 2005, Fall 2004, Spring 2004.*

SAR 2114 Words & Music: The Art of Song Fundamentals of rhythm, harmony, melody, and formal design will be covered, followed by a student composition. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

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 4007 Icon History and Making History of tradition, spiritual process, formal characteristics, language, cultural and artistic milieu; crafting in the classical, Byzantine-Russian tradition; historical and physical inquiry into iconic imagery in twentieth century visual culture. (3 cr) *Last Offered: Fall 2005, Spring 2005, Spring 2004, Spring 2003.*

SAR 5000 Independent Study (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Summer 2004.*

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 1106 Integ Bus Simulation A team-based simulation utilizing web technology to manage a small electronics manufacturing company, employing the principles learned throughout the Institute. Determination of firm's operating strategy and a selection of its management officers (CEO, C (1 cr) *Last Offered: Summer 2003, Summer 2002.*

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 2005, Summer 2004, Summer 2003, Summer 2002.*

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 makin (5 cr) *Last Offered: Summer 2005, Summer 2004, Summer 2003, Summer 2002.*

SBI 1109 Financial Decision Making I Integrated approach to understanding a firm's value chain. The advantages of a cross-functional approach to running a business, seen through principles of microeconomics, managerial accounting, and operations management. Emphasis on the relationship among (5 cr) *Last Offered: Summer 2003, Summer 2002.*

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 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 2005, Summer 2004.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

SCI 2993 Internship Elective Permission of Program Director. Junior or senior Comprehensive science students with 3.0 QPA only. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Summer 2005, Spring 2005, Fall 2004.*

SOC 1000 Intro to Sociology Introduction to the analysis of social behavior, emphasis on socialization, collective and group behavior. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

SOC 1903 Internship Elective (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

SOC 1906 Internship Elective (6 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

SOC 1909 Internship Elective (9 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

SOC 2000 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 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

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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 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Summer 2005, Spring 2005, Fall 2004.*

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 c (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Spring 2004, Fall 2000, Fall 1999.*

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 2005, Spring 2004, Spring 2003, Spring 2002.*

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: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

SOC 2993 Internship Internship (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

SOC 2996 Internship Internship (6 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Spring 2005, Fall 2004, Spring 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: Fall 2004, Spring 2003, Fall 2001, Spring 2001.*

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 2005, Fall 2004, Fall 2003, Fall 2002.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

SOC 3500 Soc of Gender Roles 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 2005, Spring 2005, Spring 2004, Fall 2003.*

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 2005, Spring 2005, Fall 2004, Summer 2004.*

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 Stratification 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 2004, Fall 2002, Spring 1999, Spring 1997.*

SOC 3950 Soc Change & Mod Society The process of social change by which modern society and its dominant characteristics have developed. (3 cr) *Last Offered: .*

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 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Spring 2005, Fall 2003, Fall 2002.*

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 2004, Fall 2001, Spring 1999.*

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SOC 5100 Contemp Thry & Research Significant contemporary contributions to sociology theory and research. (3 cr) *Last Offered: Fall 2005, Fall 2004, Spring 2004, Fall 2003.*

SOC 5300 Data Analysis-Social Scientist (3 cr) *Last Offered: Fall 2005, Fall 2004, Spring 2003, Fall 2002.*

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: Spring 2005, Fall 2003, Spring 2003, Spring 2002.*

SOC 6000 Independent Study Supervised project or research culminating in research report or major paper. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

SOC 6500 Seminar Advanced course for seniors focusing on particular substantive area; topics rotate. (3 cr) *Last Offered: Fall 2005, Spring 2005, Spring 2004, Fall 2003.*

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 2005, Summer 2005, Fall 2004, Summer 2004.*

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: Summer 2005, Spring 2005, Fall 2004, Summer 2004.*

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 2005, Summer 2005, Fall 2004, Summer 2004.*

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 2005, Summer 2005, Spring 2005, Fall 2004.*

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 1131 Conversation & Composition I Intense practice in conversation and composition with emphasis on developing advanced language skills in Spanish. Course conducted in Spanish. Writing Enriched. Students should have completed SPA 1121 and 1122 or the equivalent. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

SPA 1132 Conversation & Composition II Further practice in conversation and composition with focus on advanced proficiency in Spanish. Course conducted in Spanish. Writing Enriched. Students should have completed SPA 1131 or the equivalent. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

SPA 1133 Business Spanish I Credit documents, contracts, business correspondence, and abundant practice in letter writing. Students should have completed SPA 1131 and 1132 or the equivalent. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

SPA 1134 Business Spanish II Corporations, their organization and function, mortgages, insurance, and taxes. Students should have completed SPA 1131 and 1132 or the equivalent. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2001.*

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 1137 Spanish for Health Professions Medical terminology and idioms with emphasis on communicative competence. Students should have completed 1132 or the equivalent. (3 cr) *Last Offered: Fall 2003, Fall 2000, Spring 2000, Fall 1999.*

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 2005, Spring 2005, Fall 2004.*

SPA 2100 Literary & Cultural Experience A course in Hispanic cultural literacy and critical skills that also develops student's reading ability, vocabulary, and ability of expressing ideas. It is designed to give students a broad understanding of Hispanic cultures that will prepare them for up (3 cr) *Last Offered: Spring 2005.*

SPA 2142 Spanish Culture Civilization and culture of Spain. Students should have completed 1132 or the equivalent. (3 cr) *Last Offered: Fall 2005, Fall 2004, Summer 2004, Fall 2003.*

SPA 2143 Latin American Culture Spanish-American civilization and culture in its manifold aspects. Satisfies Diversity Requirement. Students should have completed 1132 or the equivalent. (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

SPA 2211 Survey of Peninsular Lit The foremost works of Spanish literature from the beginnings to present day. A required course for majors. Writing Enriched. Satisfies Diversity Requirement. Students should have completed 1132 or the equivalent. Fulfills core requirements for advanced (3 cr) *Last Offered: Summer 2004, Spring 2004, Summer 2003, Spring 2003.*

SPA 2212 Survey Latin-American Lit Spanish-American literature from colonial times to the present. A required course for majors. Satisfies Diversity Requirement. Students should have completed 1132 or the equivalent. Fulfills core requirements for advanced literature. (3 cr) *Last Offered: Fall 2004, Summer 2004, Fall 2003, Summer 2003.*

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. Fulfills core requirements for advanced literature. (3 cr) *Last Offered: Spring 2004, Fall 1998, Spring 1997, Fall 1996.*

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. Fulfills core requirements for advanced literature. (3 cr) *Last Offered: Fall 2005, Spring 2004, Spring 2003.*

SPA 2215 Latin American Short Story The origins, development and maturity of the short story in Spanish America. Satisfies Diversity Requirement. Students should have completed 1132 or the equivalent. Fulfills core requirements for advanced literature. (3 cr) *Last Offered: Fall 2003, Spring 2000, Summer 1999, Summer 1998.*

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SPA 2216 Hist of Spanish Language Spanish from its origins to the present. Students should have completed 1132 or the equivalent. (3 cr) *Last Offered: Fall 1996.*

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 the visual arts. From Gonzalo de Berceo to Pablo Neruda. Students should have completed 1132 or the equivalent. Fulfills core r (3 cr) *Last Offered: .*

SPA 2993 Internship (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Summer 2004.*

SPA 2996 Internship (6 cr) *Last Offered: Spring 2005, Fall 2004, Spring 2004, Fall 2003.*

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. Fulfills core requirements for advanced literature. (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 literature. Topics may be repeated for credit. Students should have completed 1132 or the equivalent. Fulfills core requirements for advanced literature. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Summer 2004.*

SPA 3612 Cervantes An interdisciplinary approach to Cervantes's work. Students should have completed 1132 or the equivalent. Fulfills core requirements for advanced literature. (3 cr) *Last Offered: Spring 2005, Fall 2004, Spring 2003, Spring 2002.*

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. Fulfills core requirements for advanced literature. (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. Fulfills core requirements for advanced literature. (3 cr) *Last Offered: Spring 2004, Spring 2003, Spring 2001, Spring 1999.*

SPA 3717 19th Century Drama A critical analysis of representative plays. Students should have completed 1132 or the equivalent. Fulfills core requirements for advanced literature. (3 cr) *Last Offered: Fall 1995.*

SPA 3718 19th Century Novel Reading of novels representing costumbrismo, realismo and naturalismo. Students should have completed 1132 or the equivalent. Fulfills core requirements for advanced literature. (3 cr) *Last Offered: Spring 2002, Fall 1999.*

SPA 3820 Love, Desire and Death Development of spanish poetry concentrating on early modern romanticism and modernism. Students should have completed 1132 or the equivalent. Fulfills core requirements for advanced literature. (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. Fulfills core requirements for advanced literature. (3 cr) *Last Offered: Spring 2005, Spring 2002, Spring 1999, Fall 1996.*

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. Writing Enriched. Students should have completed 1132 or the equivalent. Fulfills core requirements for advanced literature. (3 cr) *Last Offered: Fall 2004, Summer 2003, Summer 2002, Fall 2001.*

SPA 3921 20th Century Drama A critical analysis of representative plays from Benavente to the present day. Writing Enriched. Students should have completed 1132 or the equivalent. Fulfills core requirements for advanced literature. (3 cr) *Last Offered: Spring 2004, Fall 2002, Fall 2000, Fall 1996.*

SPA 3923 The Modern Novel Representative trends in 20th century Spanish novels. Students should have completed 1132 or the equivalent. Fulfills core requirements for advanced literature. (3 cr) *Last Offered: Spring 2000.*

SPA 3924 Spanish Films and Literature Spanish films based on literary works as a medium will be used to better understand contemporary Spanish culture and civilization. Writing intensive. Fulfills core requirements for advanced literature. (3 cr) *Last Offered: Fall 2004, Spring 2000, Summer 1999, Spring 1999.*

SPA 3950 Research Seminar Principles and techniques of literary research. Overview of major Spanish and Spanish-American authors and representative works. Writing intensive. Required for Spanish majors. Students should have completed 1132 or the equivalent. Fulfills core requi (3 cr) *Last Offered: Fall 2005, Fall 2004, Fall 2003, Fall 2002.*

SPA 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: .*

SPA 4110 The Spanish Epic and Ballad Readings and discussions in the popular literature, including the folktale. Course conducted in English. Fulfills core requirements for advanced literature. (3 cr) *Last Offered: .*

SPA 4120 Don Juan The mythic don, his ancestors and descendants in Spanish literature, from Juan Ruiz to the present. Course conducted in English. Fulfills core requirements for advanced literature. (3 cr) *Last Offered: .*

SPA 4130 The Modern Spanish Novel The Spanish Civil War reflected in selected contemporary novels. Course conducted in English. Fulfills core requirements for advanced literature. (3 cr) *Last Offered: .*

SPA 4140 The Latin American "Boom" The contemporary novel and short story: Borges, Cart♦zar, Asturias, Fuentes, Machado de Assis, Rulfo, Garcia Marquez. Course conducted in English. Fulfills core requirements for advanced literature. (3 cr) *Last Offered: .*

SPA 4150 The Arab-Andalusian Legacy Fulfills core requirements for advanced literature. (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 2005, Spring 2005, Fall 2004, Spring 2004.*

STA 2107 Introduction to Statistics I Descriptive statistics, elements of probability, distributions including the binomial, Poisson, hypergeometric and normal; Bayesian inference

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and sampling distributions; confidence intervals; index numbers; use of statistical methodology to solve business (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 Experience The variety of arts and crafts that combine to create theatre. Through hands-on experience, discussion, and performance, the interrelations among dramatic idea, stage direction, acting, design and technical elements that harmonize in a theatrical product (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

THE 2021 Theatre in Philadelphia (3 cr) *Last Offered: Summer 2005, Spring 2005, Summer 2004, Spring 2004.*

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 2005, Fall 2004, Spring 2004, Fall 2003.*

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 2005, Summer 2005, Spring 2005, Fall 2004.*

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: Fall 2005, Spring 2004, Spring 2001, Spring 2000.*

THE 2032 Elements of Dance The broad range of dance styles, dance theory, vocabulary, and body placement. (3 cr) *Last Offered: Fall 2005, Spring 2005, Spring 2004, Fall 2003.*

THE 2033 Advanced Elements of Dance Expanded study of dance styles, dance theory, vocabulary, and body placement. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Spring 2001.*

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 2000.*

THE 2040 Theatre Practicum Significant and responsible participation in the department's production program. (cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Fall 2004, Spring 2003, Fall 2001.*

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 2005, Spring 2004, Spring 2002, Spring 1999.*

THE 3007 Playwriting (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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 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 2005, Spring 2005, Summer 2004, Spring 2004.*

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: Summer 2003, Summer 2002, Summer 2001, Spring 1999.*

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. Inclu (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 emphasi (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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: Spring 2005, Spring 2004, Spring 2003, Fall 2002.*

THL 2050 Old Testament Survey Critical analysis of Old Testament books; Creation, Convenat Ten Commandments, Exodus, Conquest, Prophets, Apocalyptic Literature; historical and archaeological focus; use of textual, form, redaction, source and literary criticism. (3 cr) *Last Offered: Fall 2004, Fall 2003, Spring 2003, Spring 2002.*

THL 2100 Pentateuch and Early History 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 (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: Fall 2004, Fall 2002, Fall 2001, Fall 2000.*

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 m (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Spring 2005, Fall 2004.*

THL 2320 New Testament Letters Critical analysis of Pauline and Catholic epistles; structure, meaning, contiuing vitality and application; use of textual redaction, and literary methods. (3 cr) *Last Offered: Spring 2004, Spring 2003.*

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 (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 Bi (3 cr) *Last Offered: Spring 2005, Fall 2000, Spring 1997, Fall 1995.*

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: Spring 2005, Spring 2004, Spring 2003, Spring 2002.*

THL 2480 Themes in Bible Studies Interdisciplinary approach to biblical texts. (3 cr) *Last Offered: Spring 2004, Summer 1998.*

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: Fall 2004, Spring 2004, Fall 2002, Fall 2001.*

THL 2525 Miracles Mystics Monks Christianization of Europe during the Middle Ages (500-1500) conversionof 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 2005, Spring 2003, Fall 2002, Spring 2001.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

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 other (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 min (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 2005, Fall 2003, Fall 2002, Spring 2000.*

THL 2790 Themes in Patristic Studies Courses of varying content in patristics offered on occasional basis. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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: Fall 2005, Fall 2004, Fall 2003, Summer 2003.*

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 2005, Summer 2005, Spring 2005, Fall 2004.*

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 2005, Spring 2004, Fall 2003, Summer 2003.*

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 a (3 cr) *Last Offered: 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 2004, Fall 2002, Spring 2000, Fall 1999.*

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 p (3 cr) *Last Offered: Spring 2001, Summer 1999, Spring 1999, Spring 1998.*

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 2003, Fall 2002, Spring 2002, Fall 2001.*

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 2001, Spring 2001, Fall 2000, Fall 1996.*

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: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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: Spring 2005, Spring 2003, Spring 2002, Spring 2001.*

THL 3740 Liberation Theologies Theologies emerging from specific struggles for liberation in Latin American, Africa, Asia, and North America; their context, content, and critique. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2003, Fall 2002.*

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: Fall 2002, Fall 2001.*

THL 3795 Themes in Roman Cath Studies Themes of current importance in Catholic theology or practice. (3 cr) *Last Offered: Spring 2004, Summer 2003, Spring 2003, Summer 2002.*

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 2005, Spring 2002, Fall 2001, Spring 2001.*

THL 4200 Ethics of Life and Death Explorations of selected issues in biomedical ethics (e.g., abortion, euthanasia). (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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: Summer 2004, Summer 2003, Summer 2002, Summer 2001.*

THL 4310 War and Morality Just war, pacifism, and feminist critique--three Christian traditions of reflection on ethics and warfare; confluence and overlap across these traditions; close examination of historical illustrations of the conduct of war. (3 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2003.*

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 2004.*

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: Fall 2005, Spring 2003, Fall 2001, Fall 1999.*

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 (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 2005, Fall 2004, Spring 2004, Fall 2003.*

THL 4500 Christian Spirituality The Christian spiritual experience through the centuries. (3 cr) *Last Offered: Spring 2004, Summer 2003, Fall 1997, Spring 1997.*

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: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

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) s (1 cr) *Last Offered: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

THL 4690 Themes: Christian Living Selected topics in christian living. (3 cr) *Last Offered: Spring 2005, Spring 2004, Fall 2003, Spring 2003.*

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: Fall 2005, Spring 2005, Fall 2004, Spring 2004.*

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 2005, Spring 2005, Fall 2004, Spring 2004.*

THL 5160 Islamic Mysticism Islamic Mysticism: sources; development and principles; contribution and influence; cross list with Philosophy. Diversity, concentration or minor in Arab/Islamic Studies. (3 cr) *Last Offered: Spring 2005, Fall 2003, Spring 2000, Fall 1997.*

THL 5170 Islamic Philosophy & Theology Islamic relationalism and the crisis of moderate and con- servative Muslim theologians; the dialectical struggle between Islamic philosophy and theology. Cross listed with Philosophy. Diversity, concentration or minor in Arab/Islamic Studies. (3 cr) *Last Offered: Fall 2004, Fall 2002, Fall 1998.*

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. Cross listed with Philosophy. Diversity, con (3 cr) *Last Offered: Spring 2003, Fall 2000, Spring 1997.*

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: Fall 2005, Spring 2001, Spring 1999, Spring 1998.*

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 2002, Spring 2002, Fall 2001, Spring 2001.*

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 religious in con- temporary Indian and Southeast Asian societies. (3 cr) *Last Offered: Fall 2005, Fall 2003, Spring 2002, Fall 2000.*

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 2004, Spring 2003, Fall 2001, Spring 2000.*

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 2004, Fall 2002, Spring 2001, Fall 1999.*

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:* Fall 2002, Spring 2001, Fall 2000, Summer 1999.

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:* .

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 2005, Spring 2004, Spring 2003, Spring 2002.

THL 5700 Black Religious Experience Black religious experience and heritage; African and Afro-American perspectives. (3 cr) *Last Offered:* .

THL 5800 Religion and Literature Religious attitudes and experience in contemporary literature. (3 cr) *Last Offered:* Fall 2005, Spring 2005, Fall 2003, Spring 2001.

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 the search for the common good; religion (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 2005, Spring 2005, Fall 2004, Spring 2004.

THL 5900 Religion & Psychology Attempts of James, Freud, Jung, Fromm, Allport, Maslow, Erikson and others to relate religion and psychology. (3 cr) *Last Offered:* Spring 1999, Fall 1998, Spring 1997, Summer 1996.

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:* Summer 2005, Summer 2004, Spring 2004, Summer 2003.

THL 5990 Ecumen & Cultural Studies Courses of varying content of ecumenical and cultural studies offered on an occasional basis. (3 cr) *Last Offered:* Fall 2004, Spring 2002, Summer 2001, Fall 2000.

THL 6400 Independent Study Permission of chairperson required. (3 cr) *Last Offered:* Fall 2005, Summer 2005, Spring 2005, Fall 2004.

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 Studie (3 cr) *Last Offered:* .

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VEXP 1000 The Leadership Experience Exploration of leadership and personal growth in the context of residence life experience. (1 cr) *Last Offered: Fall 2005, Fall 2004.*

VEXP 1001 Health & Wellness (1 cr) *Last Offered: Fall 2005.*

WS 2050 Intro to Women's Studies The history and evolution of feminist analysis as a force of history, theory, art, and culture. Critical distinctions between the biology of sex and the social construction of gender. Basic principles of feminist thought, from its origins in the Women's (3 cr) *Last Offered: Fall 2005, Fall 2004, Spring 2004.*

WS 3000 Independent Study Approval of Women's Studies Director required. (3 cr) *Last Offered: Fall 2005, Summer 2005, Spring 2005, Fall 2004.*

WS 5000 Integrating Seminar An interdisciplinary course that focuses on a topic through a methodology that requires Women's Studies minors to provide input from the research areas of their majors. Approval of Director of Women's Studies required. (3 cr) *Last Offered: Spring 2005, Spring 2004, Spring 2003, Fall 2002.*

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