

VILLANOVA UNIVERSITY CATALOG

UNDERGRADUATE STUDIES

2000-2001
Interim Archival Catalog

Villanova University publishes its Undergraduate Studies Catalog in a two-year version. The last catalog was published for 1999-2001, and is still being distributed. This internal archival catalog contains changes made for the academic year 2000-01. These changes are also available on the web version of the catalog. 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.

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VILLANOVA UNIVERSITY
September, 2000

VILLANOVA UNIVERSITY CATALOG

**UNDERGRADUATE
STUDIES**

COLLEGE OF LIBERAL ARTS AND SCIENCES
COLLEGE OF ENGINEERING
COLLEGE OF COMMERCE AND FINANCE
COLLEGE OF NURSING
PART-TIME STUDIES

2000-2001
VILLANOVA, PENNSYLVANIA

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

Prospective students may obtain additional information by writing to the Director of Admissions, Villanova University, 800 Lancaster Avenue, Villanova, Pennsylvania 19085-1699.

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 2000 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 retain as a reference the copy of this *Catalog* in effect during their first year at Villanova, and 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: 2000-2001

(www.registrar.villanova.edu/calmain.htm)

Fall Semester

Aug. 24-27 (Th-Sun)	New Full-time Student Orientation and Registration
August 26	Part-time Studies Saturday Classes begin
Aug. 28 (M)	Classes Begin
Sep. 1 (F)	Last Day for dropping and/or adding classes and for requesting satisfactory/unsatisfactory
Sept. 4 (M)	Labor Day - No Classes
Sept. 7 (Th)	St. Thomas of Villanova Day*
Oct. 13 (F)	Mid-Term
Oct. 16 (M)	Semester Recess
Oct. 23 (M)	Classes Resume
Oct. 27 (F)	Last Day for Authorized Withdrawal without Academic Penalty (WX)
Nov. 21 (T)	Thanksgiving Recess Begins after last class
Nov. 27 (M)	Classes Resume
Dec. 14 (Th)	Final Day of Classes
Dec. 15 (F)	Reading Day
Dec. 16-22 (Sat-F)	Final Examinations (No exams on Sunday)

Spring Semester

Jan. 15 (M)	Classes Begin
Jan. 19 (F)	Last Day for dropping and/or adding classes and for requesting satisfactory/unsatisfactory
Mar. 2 (F)	Mid-Term
Mar. 5 (M)	Semester Recess
Mar. 12 (M)	Classes Resume
Mar. 16 (F)	Last Day for Authorized Withdrawal without Academic Penalty (WX)
Apr. 11 (W)	Easter Recess begins after last class
Apr. 17 (T)	Classes Resume
May 2 (W)	Final Day of Classes
May 3-4 (Th-F)	Reading Days
May 5-12 (Sat-Sat)	Final Examinations (No exams on Sunday. May 6th: Saturday Classes only)
May 19-20 (Sat-Sun)	Baccalaureate and Commencement

*Classes run on an accelerated schedule and finish by 1:30 PM.

Tuesday December 12, will be deemed a Friday Class Day (Day Classes Only)

Tuesday, May 1st will be deemed a Thursday Class Day (Day Classes Only)

Wednesday, May 2nd will be deemed a Friday Class Day (Day Classes Only)

VILLANOVA UNIVERSITY

BACKGROUND

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

In January 1842, the Augustinians resident at 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.

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

College of Liberal Arts and Sciences

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 preliminary 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. Students may 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 Mechanical Engineering. Details on these programs and requirements are to be found in the Part-Time Studies section of this *Catalog*.

INTERNATIONAL STUDIES (www.internationalstudies.villanova.edu)

The Office of International Studies offers to all full-time Villanova students:

- ❑ Information, assistance, and support in completing area studies concentration requirements in Africana Studies, Arab & Islamic Studies, Irish Studies, Russian Area Studies, and Latin American Studies.
- ❑ Information and assistance in planning and completing overseas academic summer, semester, or year programs and exchanges in Europe, Asia, Latin America, Africa and the Middle East.
- ❑ Information and coordination of Villanova Summer Programs overseas located in Athens/Corinth (Greece), Al al-Bayt (Jordan), Bethlehem (West Bank), Cadiz (Spain), Dijon (France), Galway (Ireland), London (UK), Megiddo and Jaffa (Israel), Nizhni Novgorod (Russia), Rome (Italy), Shanghai (PRC), Siena (Italy), Tübingen (Germany), Urbino (Italy), and Valparaiso (Chile). These programs are approximately six weeks in length and offer two courses for six (6) Villanova credits and each has a Villanova faculty program coordinator.

Ordinarily, students study abroad in their sophomore or junior year, with a 2.75 or greater GPA on a 4.0 scale, have good health, and receive the prior approval of the Director of International Studies, their Department Chairperson and their College Dean. All transfer students to Villanova are required to stay on campus for three semesters before leaving for overseas studies.

Villanova University has special exchange relations with Bethlehem University, Birzeit University, University of Cadiz, East China Normal University, European Business School, National University of Galway, University of Glasgow, Jordan University of Science and Technology, King's College London, ESPEME- Lille and Nice, University of Maastricht, University of Nizhni Novgorod, Sultanate of Oman, Center for Education Abroad, Butler University Institute for Study Abroad, Boston University International Programs, the Council on International Educational Exchange, the Institute for the International Education of Students, the Institute for International Education, Lexia International, NAFSA: the Association of International Educators, The School for Field Studies, and the School for International Training. In addition, the office of International Studies sponsors Fall and Spring Orientation seminars, Welcome Back conferences, peer counseling, Overseas Connections, film and lecture series, and special overseas study nights.

Students wishing further information should contact the director of International Studies, Geraghty Hall 1st Floor (610)-519-6412.

**ACADEMIC ADVANCEMENT PROGRAM (AAP)/Act 101
(www.multiculturalaffairs.villanova.edu)**

The purpose of the Academic Advancement Program (AAP)/Act 101 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 recruits 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 3-credit freshman

Villanova University

English course, math, reading/study skills, and general sciences classes, and critical thinking workshops.

The Program is administered by the Office of Multicultural Affairs, 202 Vasey Hall, (610/519-4075).

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 objective of the Unit is to educate prospective officers for the Navy and Marine Corps. Reserve commissions as Ensign or 2nd Lt are awarded upon successful completion of prescribed naval science courses and graduation from the University. These commissioned officers will serve on active duty for a period of four to nine years, depending upon choice of warfare specialty.

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, fees, and a \$200 monthly subsistence allowance. They participate in three summer cruises on board various Navy 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 in the fall semester of their freshman year. Selections are made by the

Professor of Naval Science. Students in the College Program receive no government subsidy until their junior and senior years, during which they receive a \$200 monthly subsistence allowance. They participate in one summer cruise and receive active duty pay while on cruise.

A limited number of 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 Chief of Naval Education and Training (CNET).

In addition to the four-year programs described above, two-year NROTC Scholarship and NROTC College Programs are available. Students must apply for these programs early in the spring semester of their sophomore year (application packages are normally due to CNET 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 options and benefits, 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. 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

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

The Army ROTC Program involves undergraduate courses taken during the freshman 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 a six-week Army ROTC basic camp at the end of the sophomore year. Students in the advanced courses are required to attend a six-week Army ROTC Advanced Camp between their junior and senior years. Students enrolled in the advanced courses receive a stipend of \$150.00 per month and may incur an active duty obligation of up to two 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 their 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 also include payment of certain university fees, a book and school supplies subsidy, and a \$150 per month stipend.

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

Detailed information may be obtained from the Professor of Military Science, Widener University, Chester, PA 19013, (610) 876-2446 or (610) 499-4097.

AIR FORCE ROTC

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

The program of Aerospace Studies offers both two-year and four-year curricula. In the four-year curriculum, a student takes the General Military Course (GMC) during the freshman and sophomore years, attends a four-week summer training program, and then takes the Professional Officer Course (POC) in the junior and senior years. A student is under no contractual obligation to the Air Force until entering the POC or accepting an Air Force scholarship. In the two-year curriculum, a student attends a six-week summer training program

and then enters the POC in the junior year. Students opting for the two-year curriculum must apply for acceptance into the POC by the end of the first semester or quarter of their sophomore year.

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 \$150 tax-free monthly stipend. All members of the POC, regardless of scholarship status, receive the \$150 tax free monthly stipend.

Detailed information may be obtained from the Professor of Aerospace Studies, AFROTC Det 750, Saint Joseph's University, Philadelphia, Pennsylvania 19131, (610) 660-1190.

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 of 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 –12 and 1-4 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 communication services to the entire campus community.

A campus-wide network for data, voice, and video communication provides phones and data 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 facilitates video transmission to and from more than 100 classrooms for implementation of multi-media teaching technology into the curriculum.

UNIT maintains several central computers for academic and administrative use, most of these are SUN Microsystem servers running the SUN Solaris operating system. Critical system resources are redundant to minimize downtime. Central servers are complemented by more than sixty NOVELL and MS-NT servers throughout campus. All central and distributed computers and about 3000 workstations are connected to the campus network providing each user with access to any computing resource. Every faculty and staff member has a PC connected to the campus network. High-speed data connectivity is extended to all residence hall rooms. Dial-up lines plus a Remote Access Service facilitate access to network and World Wide Web resources from off-campus locations.

In addition to many college and department-specific student computing labs, UNIT manages three student labs located, in Mendel, Tolentine, and Bartley with a total of over 200 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 plus course-specific software.

User-ids are assigned to students prior to their arrival on campus which gives them access to email, the WEB 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 on the Web.

The Student Computer Support Center (SCSC) located in Vasey Hall assists students with University promoted notebook computers and other PCs. Technical support is complemented by WWW based documentation. The use of the UNIT managed computing, information, and communication resources are governed by policies included in the Student Handbook and accessible on the University's WWW site from any computer workstation.

Throughout the semester, UNIT offers a wide range of non-credit seminars that cover popular software packages as well as general computing and communication issues. The UNIT section of the University's publication Blueprints keeps the user community informed about new developments, upcoming seminars and other general computing and communication issues.

The UNIT, University Card Office provides students with an all-purpose id card that functions also as a meal plan card, library card, access card to dorms, classrooms and labs, debit card, Smartcard for small purchases and through the University's affiliation with a bank as an ATM card.

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 800,000 volumes, 5,600 current serial subscriptions, approximately two hundred and fifty electronic databases, several thousand full-text electronic journals, and extensive microfilm and audiovisual collections. 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.

A wide range of services are offered including reference, interlibrary loan, circulation, reserve, database management and acquisitions. 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 the academic programs, will ensure that students have the necessary skills for lifelong learning. Quest, a formal information literacy program, developed collaboratively with the Core Humanities Program, instructs first year students on the basic steps necessary to locate and retrieve the correct print and electronic resources in support of their research. Instructional Media Services provides a wide variety of educational technology services to the university community, including individual and group viewing (and listening) facilities for its collection of videotapes, CDs, audiotapes, & laser discs. Other services are available for faculty or students working with faculty members, such as presentation rooms, graphic design, and video editing.

The Library homepage (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. FLASH (Falvey Library Academic SearchH), available on the homepage, offers access on and off campus to VuCat (the online catalog), selected free databases, and to many subscription databases. Approximately fifty public workstations are available to access FLASH, search the Web, send and read email, and conduct word-processing operations. In addition, network ports are available around the building to connect personal notebook computers.

Unique study opportunities are also available at Falvey Library, including 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. Study space is also available in

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the coffee shop, Holy Grounds at Falvey, on the ground floor. The Falvey Mug, available for purchase at Holy Grounds, enables students to take beverages throughout the building.

MATHEMATICS LEARNING AND RESOURCE CENTER (www.villanova.edu/mlrc)

The Mathematics Learning and Resource Center (MLRC) provides an environment where students can work on group projects, study independently, use computer lab facilities and obtain help with freshman and sophomore level math classes. During its hours of operation (Monday - Thursday: 2:30 - 5:00 pm and 6:30 - 9:00 pm and Sunday: 6:30 - 9:00 pm), 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, National Science Foundation, Hughes, Mellon and Ford Foundation. A mentoring program is administered by the University Honors Program, and begins as early as an undergraduate student's first year. In recent years, over fifty students have received formal recognition from these various national scholarship programs.

WRITING CENTER (www.writingcenter.villanova.edu)

Writing Center tutors offer assistance to undergraduates 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 of Old Falvey Library and is open Sunday through Thursday, 1:30- 9:30 p.m., and Friday, 1:30-5:30 p.m. Phone: 610/519-4604.

STUDENT 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 from 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 *The Blue Book: The Villanova University Student Handbook*.

CAREER SERVICES (<http://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 <http://careers.villanova.edu>. These services include a campus interview program with over 350 employers, a resume 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 in Corr Hall, Room 106, offers a number of services. Except for emergencies, appointments are required and can be scheduled either by phone (610/519-4050) or by visiting the Center.

Personal/Psychological Counseling

The Counseling Center helps students deal with personal concerns and decisions by providing a private and confidential setting in which to discuss the emotional impact of events that commonly occur during a student's normal developmental process. Counseling is provided on a voluntary basis. All contacts are completely confidential and are not recorded on the student's university records. Information is not released to anyone without the student's permission. The following services are available:

- ❑ Individual counseling to discuss areas of student concern, to provide emotional support during stressful periods, to help identify and change defeating habits and attitudes, and to increase awareness of alternative, productive behavior.
- ❑ Consultation with organizations, departments, clubs, faculty, and administrators to promote optimal functioning. Individuals may consult a psychologist about how to help a friend or family member who seems to need help.
- ❑ Group formation and programs on themes that interest students. Examples are: eating awareness; coping with the death of a loved one; interpersonal relationships; and time management.

Study Skills Counseling

College of Liberal Arts and Sciences

Counselors are available to help students enhance their study skills and optimize their motivation and success in studying. Students receive help with time management, note taking, effective test-preparation and test-taking, and other skills related to academic performance. Individual appointments are available, as are group workshops, a schedule for which can be obtained by stopping by the Center. No advanced registration is required for workshops.

HEALTH SERVICES

The Health Center is open 24 hours a day and offers physician, nursing and ancillary services to all students. Registered nurses are on duty around the clock, seven days a week, except during undergraduate vacation periods. Physician services are provided Monday through Friday from 1:00 P.M. to 4:00 P.M. by appointment only. A Registered Nurse Practitioner offers daily services from 8:00 AM to 3:30 PM. Gynecological services are also available by appointment.

Medical services also include in-patient care and observation, medical and surgical subspecialist referrals, as well as phlebotomy for comprehensive laboratory evaluation. Prescribed medications, medical specialist referrals and skilled services are the financial responsibility of the patient.

The University Health Center is located in Middleton Hall, 610/519-4070.

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 (610/519-4179). 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 Advisers Office is a service provided by the university to aid foreign students in becoming oriented to the university and the community and assists 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 (<http://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 identify themselves to the Coordinator of Learning Support Services and submit for review current documentation of their disability. 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 first floor of Geraghty Hall. For additional information about our services or assessment of learning disabilities, contact 610-519-5636.

MULTICULTURAL AFFAIRS (www.multiculturalaffairs.villanova.edu)

Through its multi-faceted programs and dimensions (Academic Advancement Program/Act 101, Affirmative Action Program, Volunteer/Outreach Programs, Coordinated Services for the Disabled, Mentoring Programs, Committee on Cultural Diversity, and Multicultural collaborative endeavors), the Office of 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.

Affirmative Action

The Multicultural Affairs Office has been designated as the Affirmative Action/Equal Opportunity Office and has the responsibility of 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, workshop, and guidance on issues relating to sexual harassment and diversity.

Human Services

The Office of Multicultural Affairs coordinates volunteers to provide assistance to those in need. The University, with the active involvement of student volunteers, cooperates with agencies and programs that offer aid to the elderly, the disabled, and the underprivileged in Philadelphia and the suburbs. Student volunteers obtain practical experience in various areas of social justice and responsibility. The Project Sunshine Volunteer commitments provide an average of 31,200 volunteer hours per academic year. The annual Sunshine Day mini-carnival for disadvantaged children and the Saturday Kids-on Campus-monthly program add further hours of outreach and opportunities for students to volunteer. The annual Christmas Giving Program for elderly people or others who are disadvantaged extends the outreach opportunity to the entire Villanova community.

The Office also works with those among Villanova's population who are faced with physical or learning challenges. The Office assists the University community in responding to the individual needs of these students, faculty, and staff members with regard to classroom environment, educational needs, accessibility arrangements, and basic support services.

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), the Band Front, the Villanova Singers, the Women's Glee Club, the Gospel Ensemble, and the Dance Ensemble, and the Student Musical Theater. Each organization is student-run under the musical direction 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 (<http://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 in capacity from home-type buildings for 20 students to modern multi-level structures housing over 500 students. An additional 1200 students reside in on-campus, fully-furnished apartments.

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 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 or removal by way of formal judicial action by the University.

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

STUDENT DEVELOPMENT (www.studentlife.villanova.edu/stdev.htm)

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).

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)

Villanova University

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.

Veterans who will be enrolling in college for the first time should contact their local Veterans Administration Office to make application for a Certificate of Eligibility authorizing them to receive benefits while attending Villanova. This application should be filed at least six weeks before the veteran plans to enter. The Certificate of Eligibility (in duplicate) together with course information must be submitted to the Registrar's Office after registration at which time certification of enrollment will be forwarded to secure payment of benefits to the veteran.

Veterans transferring from another institution are required to complete the VA form ARequest For Change of Program or Place of Training@ and submit the completed form together with course information to the Registrar, who will forward their enrollment certification so that payment of benefits will be authorized while the veterans are attending Villanova.

Other new students (veterans) who register at Villanova without securing the Certificate of Eligibility in advance are required to complete the VA form AApplication For Program of Education or Training@ at registration. This completed application and the enrollment certification form will be forwarded to the VA by the Registrar so that authorization may be granted for benefits while attending Villanova.

Veterans=dependents who are eligible to receive monthly VA payments must report to the Registrar's Office (202 Tolentine Hall) at the beginning of each semester to inform the Registrar of their course information and student status.

Additional information on student affairs and student life can be found in the *Blue Book*.

ADMISSION

(www.admission.villanova.edu)

GENERAL POLICY ON ADMISSION

Villanova seeks to enroll students who excel academically and possess wide interests and positive qualities of character. In selecting members of the 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; 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

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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.

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For Arts and Education Curricula:

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
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.bio.villanova.edu/under/health/text.htm)

Villanova University has Health Science Affiliation programs with a number of institutions including the MCP/Hahnemann 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 15. SAT I or ACT must be taken no later than November 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 December of the senior year.

For Early Action, the completed application must be received by the Office of University Admission no later than December 1st of the senior year. Early Action selectees will be notified January 15. 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. Accepted students who have applied for on-campus residency must return a non-refundable \$400 deposit postmarked not later than May 1. Commuting students must return a non-refundable \$250 deposit postmarked not later than May 1. Notification of acceptance is made to commuting students and applicants to the College of Nursing on a rolling admission basis after January 15.

Students who are admitted and pay the \$400 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:

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- ❑ Obtain applications from the Office of University Admission, Villanova University, Villanova, PA 19085 (Toll Free 1-800-338-7927) or on-line at WWW.Villanova.Edu.
- ❑ Upon receiving the application, the candidate must complete it, enclose a non-refundable \$55 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 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 or money order payable to Villanova University as soon as possible. *All deposits must be postmarked not 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 not 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 December 1st.
- ❑ SAT I or ACT must be taken no later than November 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 not later than July 15 for the fall and November 15 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 3.0 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 2.5 cumulative grade point average.

Transfer credit towards undergraduate degrees will, in general, be granted for appropriate academic work completed with a grade AC[®] (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.

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.

NOTE: Transfer students are eligible for campus residency on a space-available basis only.

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. No need-based financial aid is available to international students from University sources. 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.

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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); 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.

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, 2000-2001¹

UNDERGRADUATE COLLEGES AND PROGRAMS

TUITION (PER YEAR)

College	Freshmen (class of 2004)	Sophomores, Juniors, Seniors
Arts	\$21,760	\$20,760
Commerce and Finance (includes laptop)	\$22,820	\$21,820
Science and Nursing	\$22,320	\$21,320

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Engineering	\$22,740	\$21,740
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FEES

Application Fee (Non-refundable)	\$55 (\$50 for transfer students)
Tuition Deposit (Non-refundable) (Deposit due upon acceptance; credited to account upon registration)	\$400 (\$250 for commuters)
Orientation Fee (New Students only)	\$115
General University Fees	\$150/semester
Room (Depending on Accommodations)	\$1,840-2,690/semester
Board (Depending on Meal Plan)	\$1,000-2,060/semester
Late Registration Fee	\$25
Late Payment Fee	\$50
Returned Check Charge	\$25
Monthly Service fee for Past-due Accounts	\$5/month
Parking Fee (Annually for students using University parking lots)	\$75
Reinstatement fee ²	\$250

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

²A reinstatement fee will be charged to students requesting reinstatement after being officially dropped for failure to complete requirements. Registration requirements include payment or making appropriate financial arrangements with the Bursar's Office. The student must register and is financially responsible for all courses for which he/she originally pre-registered. Other conditions may also apply.

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 (effective Fall 2002).

Villanova will charge 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

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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.

All tuition remission programs are excluded from eligibility to apply to any study abroad programs. A complete copy of this policy can be requested through the office of Vice President for Academic Affairs. This policy is effective in Fall 2002 with the class of 2004. The University reserves the right to change this policy at any time without prior notice.

PART-TIME STUDIES

Application Fee (Non-refundable)	\$25
Tuition (Evening Courses Only)	
Liberal Arts, Mathematics, Education	\$310 (per credit)
Science, Nursing, Non-matriculated, Visitors, Post graduates	\$320 (per credit)
Commerce and Finance ¹	\$345 (per credit)
Engineering	\$445 (per credit)
Tuition (Day Courses Only 1-11 Credits) ²	
Liberal Arts, Commerce & Finance	\$475 (per credit)
Science, Nursing, Non-matriculated, Visitors, Post graduate	\$495 (per credit)
Engineering	\$535 (per credit)
General University Fee	\$150 (day); \$15 (evening)
Technology Fee ³	\$100
Late Registration Fee	\$25
Deferred Fee	\$25
Late Payment Fee	\$50
Reinstatement Fee ⁴	\$250
Monthly Services Fee for Past-Due Accounts	\$5
Returned Check Charge	\$25
Parking Fee ⁵	\$40

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 reinstatement fee will be charged for students requesting reinstatement after being officially dropped for failure to complete registration requirements. Registration

requirements include payment or making appropriate financial arrangements with the Bursar's Office. The student must register and is financially responsible for all courses for which he/she originally pre-registered. Other conditions may also apply.

⁵ Annually for evening students. For students taking day courses, the fee is \$75.

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.

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

Presidential Scholarships

Villanova University offers four-year full-tuition Presidential Scholarships to every incoming class based exclusively on academic merit. The minimum qualification for the scholarship include a secondary school class rank in the top five percent at the end of 11th grade (for unranked students: a minimum GPA of 3.67); a combined SAT I score of a least 1400 (670 minimums in both verbal and math) or an ACT Composite score of 32 or above; and a completed application for Undergraduate Admission received by the Office of University Admission by November 15th. All applicants to the University who meet these criteria will be invited by the middle of January to submit an additional application for the scholarship. In attempting to identify those candidates most likely to make a special contribution to the Villanova community, the Committee bases its decisions on academic promise, demonstrated leadership, initiative, and communication skills. Selections are based exclusively on merit, without regard for race,

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religion, gender, financial need, or secondary school. This award can be applied only to tuition charges billed by Villanova University during the academic year (i.e. during the Fall and Spring semesters). For more information, see the Honors Program section of the Catalog.

Villanova Scholarships

Partial tuition scholarships ranging from \$1,000 to \$12,500 per academic year are awarded through the Villanova Scholars program. The minimum criteria in order to be considered for these scholarships include a secondary school cumulative class rank in the top ten percent (if rank is reported), at the end of 11th grade, a combined SAT I score of 1300 (650 minimum for both verbal and math), and leadership skills demonstrated through high school and community involvement. Villanova Scholars awards must be used for tuition only.

Commuting Scholarships

Partial Scholarships ranging from \$1,000 to \$12,500 per academic year are awarded to outstanding students commuting from their parents' homes. To qualify for this award, students must have a combined score of at least 1250 on the SAT I and must have a cumulative rank in the top 10% of their high school class (if rank is reported) at the end of the 11th grade. Commuting Scholars awards must be used for tuition only.

Presidential Scholarships for Underrepresented Students

Each year, based on the recommendation of the Scholarship Committee, traditionally underrepresented students are offered the Presidential Scholarship for Underrepresented Students. These outstanding candidates must have exceptional high school credentials and must have scored a minimum of 1250 on the SAT I. This renewable award covers full tuition, room and board charges for eight consecutive semesters.

STUDENT FINANCIAL AID

To apply for all types of student aid, prospective students must file the AFree Application for Federal Student Aid® (FAFSA) and the Villanova Financial Aid Application. The FAFSA can be obtained from the high school guidance counselor. To receive priority consideration for financial aid, applicants must file the FAFSA by February 15th. Signed copies of the student's and parent's prior year Federal Tax Returns (no schedules are required) and the Villanova University Institutional Financial Aid Application must be submitted to the Office of Financial Assistance by March 15th.

All returning undergraduate students wishing to reapply for financial aid must file the ARenewal FAFSA® that is mailed to the student's home address on file at the Federal Central Processor. 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 and return it to the Office of Financial Assistance (Kennedy Hall, second floor) with signed copies of prior year Federal Tax Returns (no schedules are required) for both student and parents by April 15. *Late applications will be aided only if funds remain available.*

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

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 a full time undergraduate degree program. All Villanova students must apply for need-based financial aid to be considered for this program. This award can be applied only to tuition charges billed by Villanova University during the academic year (i.e. Fall and Spring semesters).

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 educational institution based on financial need. Only undergraduate degree candidates are eligible. All Villanova students must complete the VU 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 VU 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. A hold may be placed on a student's transcript if the student does not appear for the exit interview or complete and sign all documents. No credits will be placed in the student's account in the Bursar's office until all documents, including promissory note, have been completed by the student borrower and returned to the Office of Financial Assistance.

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 VU 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.finaid.villanova.edu/jobs).

PHEAA Grant

A Pennsylvania State Grant based on financial need for students who qualify for state residence 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 Aover® 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 from their lender or State Higher Education Assistance Agency. They must also file the VU 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 6 months after the student leaves the University or is no longer enrolled at least half time. The student has up to 10 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 is 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.

Changes to processing for Federal Stafford Loan for the 2000-2001 Academic year

Beginning with the 2000-2001 Academic Year, Villanova University will implement changes in the processing of Federal Stafford Loan applications. These changes will include a new Master Promissory Note (MPN), which is required by federal regulations. In addition, the Office of Financial Assistance will certify all Federal Stafford Loans through a pre-certification process. Pre-certification is a method through which Office of Financial Assistance will initiate

the loan process by creating an electronic loan application for all students who have submitted a Free Application for Federal Student Aid.

Master Promissory Note (MPN)

In the past a Federal Stafford Student Loan borrower had to complete a new loan application and promissory note for each year in which they borrowed. Through the use of a Master Promissory Note students will only have to complete one note. In each of the subsequent years that a student borrows, they will be notified of the amount that they are eligible to receive and will only need to confirm their acceptance of the amount. Therefore, you will receive an MPN for the 2000-2001 Academic Year, which you will be asked to complete and return to your lender.

Pre-Certification Listed below are the steps that will be associated with the processing of a Federal Stafford Loan:

1. Student completes the aid application process. This includes submitting the FAFSA by April 15th, submitting the Villanova University Institutional Financial Aid Application, tax forms and W-2's by April 15th.
2. The Office of Financial Assistance will review the results of the aid application and determine the amount of Federal Stafford Loan Eligibility.
3. Each aid 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 will be eligible to receive.
4. Students who previously borrowed a loan processed through the Pennsylvania Higher Education Assistance Agency (PHEAA) will receive an MPN during the summer. This form will be completed and returned to PHEAA.
5. Students who previously borrowed a loan processed through a guarantor other than PHEAA will need to obtain a Master Promissory Note from their lender by June 1st. Complete the MPN and follow the instructions, which accompany the form.

NOTE: Additional information regarding the Federal Stafford Loan Master Promissory Note, and the "Pre-Certification" process will be contained with your notice of aid eligibility which will be sent to students during the summer.

Federal Parents= Loan for Undergraduate Students (PLUS)

Effective July 1, 1993, 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. Applications 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 Villanova Loan

The 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 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 rates and terms of the loan.

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, 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

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, if any amount of money 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 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
- Perkins Loan
- PLUS
- Pell Grant
- 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 this 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 will become part of the normal repayment procedures for the loan program.

CITIZENS AND ELIGIBLE NON-CITIZENS

In order to receive financial assistance, a student must be a U.S. Citizen, a U.S. National, a U.S. permanent resident who has an I-151 or I-551 Alien Registration Card, 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 Financial Assistance administrator at Villanova 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 student aid, nor can those who possess only a notice of approval to apply for *permanent residence* (I-171 or I-464A). *NOTE:* All eligible non-citizens must present their Alien Registration cards in person to the Office of Financial Assistance for verification.

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 parents' and student's U.S. income tax returns, including all schedules, from the prior year.
- (For independent students): signed copy of the student's (and spouse's if applicable) prior year U.S. income tax return.
- A signed Statement of Educational Purpose/Selective Service Registration Compliance form must be submitted.
- If the student or parent 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 and Public Assistance Letters must be submitted to the Office of Financial Assistance.

ACADEMIC POLICIES

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

ACADEMIC 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 semester. 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** with the following exceptions: approved athletic participation, 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 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. Absence from class does not release the student from work assigned.

A first-year student will receive a grade of AXF® (failure) whenever the number of unexcused absences in a course exceeds twice the number of weekly class meetings for the course.

College of Liberal Arts and Sciences

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. Of course, it always is a courtesy to inform one's professors about any absence.

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, also known as the Buckley Amendment, permits its students to inspect their records whenever appropriate, and to challenge specific parts of them when they feel it is necessary to do so. Printed below are the specific guidelines and procedures which are to be followed:

Public Records

Information concerning the following items about individual students is public and may be released or published without the student's consent: full name; address; telephone number; photograph; date and place of birth; major field of study; dates of attendance; degrees and awards received; most recent previous educational institution attended; participation in officially recognized University activities, student organizations, and athletics; and weight and height of members of athletic teams. *NOTE:* students who do not wish such information to be released or made public, may inform the appropriate office in writing at the time the information is originally sought from students.

Confidential Records

All personally identifiable information related to particular students which is used to make decisions about students or for transmittal to others outside the University (other than public records) 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.

A currently or previously enrolled student has the right to inspect and review official records, files, and data directly related to the student as an individual student. 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.

Official records, files, and data to which students are entitled to access do not include:

- Letters of recommendation or statements of reference for students obtained or prepared before January 1, 1975, pursuant to implied or expressed promises of confidentiality or letters of recommendation or statements of recommendation to which students have waived the right of access.
- Employment records of students as University employees.
- Campus law enforcement records held in the Public Safety Office. Clinical, medical counseling, or psychiatric records (these records or copies thereof may be reviewed by a physician or other appropriate professional of the student's choice).
- Financial records of the parents of the student or any information contained therein.
- Private records kept by individual faculty or administrators possibly used as memory aids unless intended for transmittal to others.
- 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

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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 which contain only information relating to 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).

A student is entitled upon reasonable request to an explanation of any information contained in official records directly related to the student. The student has the opportunity for a hearing to challenge the content of such records to ensure that they are not inaccurate or misleading, or otherwise in violation of privacy or other rights; to correct or delete any such inaccurate, misleading, or otherwise inappropriate data; or to insert into the records a written explanation.

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 such hearings. A student may challenge the factual and objective elements of the content of student records but not the qualitative and subjective elements of grading.

Should a student object to items included in his or her personal records, s/he should discuss the objection with the individual responsible for the office where the student record is maintained. If the results are not satisfactory, the student should raise the issue with the individual to whom that person reports. If still unsatisfied, the student may take the case to the appropriate vice-president or designee. The final level of appeal is a formal hearing; to obtain such 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 the Family Educational Rights and Privacy Act.

Students may be invited but not required to waive their right of access to confidential letters of recommendation for admission, honors or awards, or career planning and placement. Students will suffer no prejudice in admission, financial aid, or other University services by reason of not executing the waiver. If the waiver is signed, the applicant may request a list of all persons making confidential recommendations or statements.

Third parties do not have access to personally identifiable records or information pertaining to students as students without the written consent of the student specifying the records to be released and to whom the records are to be released. Excepted from this restriction are:

- ❑ University officials who require access on an internal need-to-know basis 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, Judicial Officers, Counselors, Resident Advisers, Coaches and Admissions Officers.
- ❑ Students in their official capacity as file clerks working in University offices.
- ❑ Disclosure of appropriate academic records to 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).
- ❑ Records released pursuant to judicial order (on condition that an effort is made to notify the student of the subpoena).
- ❑ Records released in connection with the student's application for, or receipt of financial aid.
- ❑ Appropriate federal and state officials or authorities consistent with federal regulations.
- ❑ Organizations conducting studies for, or on behalf of, educational agencies or institutions.

- ❑ Accrediting organizations in order to carry out their accrediting functions.
- ❑ Parents of a dependent student as defined in section 152 of the Internal Revenue Code of 1954.

In case of an emergency, the University may release personal information to protect the health and safety of students. This policy does not preclude any access to student records by authorized federal or state officials in connection with the audit and evaluation of federally supported education programs or in connection with the enforcement of federal legal requirements which relate to such programs. *NOTE:* Confidential information is transferred to a third party only on the condition that such party is informed that he or she may not permit any other party to have access to such information without the written consent of the student.

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.

1. Group departmental examinations should take precedence over any other.
2. Major or required courses should take precedence over electives.
3. 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 is the highest academic grade possible; an honor grade which is not automatically given to a student who ranks highest in the course, but is reserved for accomplishment that is truly distinctive and demonstrably outstanding. It represents a superior mastery of course material and is a grade that demands a very high degree of understanding as well as originality or creativity as appropriate to the nature of the course. The grade indicates that the student works independently with unusual effectiveness and often takes the initiative in seeking new knowledge outside the formal confines of the course.

- A-
B+

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B	is a grade that 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.
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

Villanova University

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.

A student may also receive an N for missing a final examination if the student reports a serious medical reason (or other reason certified by the Dean as acceptable) within 48 hours of the time of the examination. Otherwise an F grade must be reported. The student may report the reason for absence to the instructor, the department chair, or the Dean.

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.
- Failures in the satisfactory/unsatisfactory option need not be repeated.

- ❑ 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.

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.

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 (the Friday following mid-term break), a student may withdraw from a course without penalty and will receive the grade of AWX. 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 AW grade, which is calculated as an AF 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 effect 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
Robert DeVos, Ph.D., Assistant Dean
John A. Doody, Ph.D., Assistant Dean
Catherine M. Hill, Ed. D., Assistant 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 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.

College of Liberal Arts and Sciences

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 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 a 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 judgements, 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

College of Liberal Arts and Sciences

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, Classical Studies, Communication, Economics, English, French, General Arts, Geography, German, History, Honors Program, Human Services, Philosophy, Political Science, Psychology, Sociology, Spanish, 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 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 Minors, Concentrations, and Certificates for additional information related to degree programs.

The College of Liberal Arts and Sciences also offers minors in most of the fields listed above. In addition the College offers minors, concentrations, or certificates in the following fields: Africana Studies, Arab and Islamic Studies, Cognitive Science, Criminal Justice, Irish Studies, Latin American Studies, Military Science, Peace and Justice, Russian Area Studies, and Women's Studies. The requirements for these programs are listed with the departmental programs.

BACCALAUREATE DEGREE REQUIREMENTS

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

- ❑ A minimum of 40 courses and 2 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 below in the section on AMinors, Concentrations, and Certificates.®

THE CORE CURRICULUM

OBJECTIVES

The courses in the Core Curriculum treat a broad range of disciplines, using a variety of approaches and different modes of inquiry. At the same time, the Core strives to ensure depth of study and intellectual sophistication. The purpose of the Core is to achieve a synthesis of knowledge that provides a basis for informed judgement. 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.

In this way the Core 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.

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CORE CURRICULUM GENERAL REQUIREMENTS

All candidates for a baccalaureate degree in the College of Liberal Arts and Sciences must complete the following 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

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.

Core Humanities Seminar (2 courses): During the first year of study, each student must successfully complete CHS 1000 (Ancient, Medieval and Renaissance Thought) and CHS 1001 (Modern Thought: Enlightenment to the Present)

College Ethics (1 course): Each student (normally during the sophomore year) must successfully complete ETH 2050 (Ethical Traditions and Contemporary Life)

Fine Arts (1 course): Each student is required to take one semester of Fine Arts. Art History, Theatre, studio art courses which have a theoretical basis, and courses in music appreciation and film analysis are examples of courses which will fulfill this requirement. Consult the Master Schedule issued each semester at pre-registration for a list of courses that will fulfill this requirement.

Foreign Language (2 courses): In most cases, each student is required to complete at least two courses in the same foreign language at or above the intermediate level. For most students this requirement will involve a two-semester continuation of a language studied in high school. A student may elect to study a new language, which will entail completing two semesters of the language at the introductory level in addition to satisfying the intermediate level course requirement. In these cases, the two introductory level courses will be counted as electives if that language was *not* studied for two or more years at the high school level.

The language requirement may also be satisfied with two semesters of study at the introductory level for Arabic, Chinese, ancient Greek, Japanese, or Russian.

International students (for whom English is a second language) may not choose their native language to fulfill the language requirement. Instead, they may take a total of four English courses (ENG 1050 and three literature courses at the 2100 level or above) to fulfill both the literature and foreign language core requirements. *NOTE: The credit value of language courses varies from three to six credits. Regardless of the number of credits, a language course counts for only one course.*

History (2 courses): Each student must successfully complete HIS 1050 and a second History course with a course number of 2000 or higher.

Literature (2 courses): Each student must successfully complete ENG 1050 and a second literature course with a course number of 2100 or higher chosen from the English departmental course offerings.

Mathematical Sciences/Computing Sciences (2 courses): Students may choose *two courses* in mathematical sciences (MAT) or *one course* in mathematical sciences and *one course* from 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) is not required to take MAT 1325 (Calculus II). *NOTE: Students majoring in a science or those intending to apply to medical, dental or veterinary school must take two semesters of Calculus. Additional information is available from Dr. Friede, Health Sciences Adviser (610/519-4833).*

Philosophy (2 courses): Each student must successfully complete PHI 1050 and a second philosophy course with a course number of 2000 or higher.

Theology and Religious Studies (2 courses): Each student must successfully complete THL 1050 and a second Theology and Religious Studies course with a course number of 2000 or higher. The required introductory course, Theology and Religious Studies 1050, is an academic presentation of Christian thought, suitable for any student. It is normally taken during the sophomore year. In special cases, the following courses may be substituted for this course with permission from the Dean: THL 2800; THL 5400; THL 5800; THL 5900

Social Sciences (3 courses): Each student must successfully complete 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: Economics, Geography, Political Science, Psychology, and Sociology.

Natural Sciences (2 courses with 2 labs): Each student must successfully complete, by the end of the sophomore year, two semesters of natural sciences with accompanying laboratories. 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 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:

- AST 1050/1051 and AST 1052/1053.
- AST 1072/1073 and AST 1074/1075.
- BIO 1505 and BIO 1605, or 1625, or 1655 or 1705. Offerings will vary from year to year.
- CHM 1021/1001 and CHM 1022/1002.
- CHM 1050/1001 and CHM 1051/1002, or 1052/1001, or 1053/1002 or 1054/1002.

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- PHY 1010/1011 and PHY 1012/1013.
- PHY 1020/1021 and PHY 1022/1023.

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:

- AST 2121/2133 and AST 2122/2134.
- BIO 2105 and BIO 2106.
- CHM 1131/1103 and CHM 1134/1108.
- CHM 1151/1103 and CHM 1152/1104.
- PHY 2410/2411 and PHY 2412/2413.

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.

Writing Requirement (8 courses): Each student must take at least four courses which are designated as *Writing Intensive* and four courses which are designated as *Writing Enriched*. These designations will appear in the Master Schedule available during pre-registration each semester. (Students may also be expected to do extensive writing in courses which are not formally designated as writing enriched or writing intensive.)

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

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.

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.

NOTE:

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).

ASSOCIATE DEGREES

Villanova University, through the College of Arts & Sciences, awards the Associate of Arts Degree and the Associate of Science Degree in Natural Science. The Associate Degree Program is designed for students who are not seeking a regular baccalaureate degree, but still wish to follow a specific curriculum. The Associate Program can be completed in half the time it normally takes to complete the baccalaureate program. Students completing the Associate Degree may continue directly toward the completion of the requirements for the baccalaureate degree without any loss of credit or time. Students associated with one of the Affiliation Programs may complete an Associate Degree based on work done at Villanova University.

Associate of Arts Degree

- **Arts courses** (*17 courses*)

- College Ethics (ETH 1050)
- Core Humanities Seminar I & II (CHS 1000 and 1001)
- Fine Arts
- Intermediate Language I & II
- Introductory History (HIS 1050)
- Introductory Literature (ENG 1050)
- Introductory Philosophy (PHL 1050)
- Introductory Theology/Religious Studies (RST 1050)
- Social Science Elective
- 6 additional courses in any department or program within the College of Arts or Sciences

- **Mathematics/Science courses (3 courses in at least two science disciplines, with at least one course with a laboratory segment)**

- Several courses in Mathematics are suitable, as well as any of several year-long Core Science sequences in Biology (and/or Human Anatomy and Physiology I & II),

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Chemistry, Computer Science, and Physics/Astronomy.

Sample Curriculum (many possibilities exist)

FIRST YEAR

First Semester

Introductory English
Intermediate Language I
Mathematics/Science Elective I
Introductory Philosophy
Core Humanities Seminar I

Second Semester

Introductory History
Intermediate Language II
Mathematics/Science Elective II
Introductory Religious Studies
Core Humanities Seminar II

SECOND YEAR

First Semester

College Ethics
Mathematics/Science Elective III
Advanced Elective
Advanced Elective
Advanced Elective

Second Semester

Fine Arts
Social Science Elective
Advanced Elective
Advanced Elective
Advanced Elective

Associate of Science Degree in Natural Science

• **Arts courses** (7 courses)

Core Humanities Seminar I
Introductory History (HIS 1050)
Introductory Literature (ENG 1050)
Introductory Philosophy (PHL 1050)
College Ethics (ETH 1050) or Ethics of Health Care
Introductory Theology/Religious Studies (RST 1050)
Social Science Elective

• **Mathematics/Science courses** (9 courses and associated laboratories in at least two departments)

Any science course **appropriate for a major in any science department** will count. Suitable courses include year-long sequences in Astronomy (AST), Biology (BIO; including Human Anatomy and Physiology I & II), Chemistry (CHM), Computer Science (CSC), Mathematics (MAT), or Physics (PHY). At least **two courses** must be in Mathematics/Computer Science*.

* Students in Affiliation Programs typically will take at least one semester of Calculus (e.g., MAT 1310 and one semester of Statistics (MAT 1230)

• **Electives** (3 courses)

Any course taken from any department or program within the College of Arts and Sciences.

Sample Curriculum

(many possibilities exist; the schedule and the specific science courses listed represent only one possible scenario)

FIRST YEAR

First Semester

Core Humanities Seminar I
 Mathematics Elective I
 Biology 2105
 Chemistry 1151/1103

Second Semester

Mathematics Elective II
 Biology 2106
 Chemistry 1152/1104
 Introductory Religious Studies
 Introductory Philosophy

SECOND YEAR

First Semester

Science Elective
 College Ethics
 Introductory English
 Social Science Elective
 PHY 1100/1101

Second Semester

Introductory History
 Elective
 Elective
 Elective
 PHY 1102/1103

ASSOCIATE DEGREES

Villanova University, through the College of Liberal Arts and Sciences, awards the Associate of Arts Degree and the Associate of Science Degree in Natural Science. The Associate Degree Program is designed for students who are not seeking a regular baccalaureate degree, but still wish to follow a specific curriculum. The Associate Program can be completed in half the time it normally takes to complete the baccalaureate program. Students completing the associate degree may continue directly toward the completion of requirements for the bachelor degree without any loss of credit or time.

Associate of Arts Program (60 credits)

FIRST YEAR

First Semester

Introductory English
 Intermediate Foreign Language I
 Mathematical/Computing Sciences
 Introductory Philosophy
 Core Humanities Seminar I

Second Semester

Advanced Literature
 Introductory History
 Mathematical/Computing Sciences
 Intermediate Foreign Language II
 Core Humanities Seminar II

SECOND YEAR

First Semester

Advanced Philosophy
 Fine Arts
 Social Science Elective
 Advanced History
 Introductory Theology & Religious Studies

Second Semester

Advanced Theology
 Social Science Elective
 Free Elective
 Free elective
 Ethics

College of Liberal Arts and Sciences

Associate of Science in Natural Science (72 credits)

FIRST YEAR

First Semester

CHM 1151, 1103

MAT 1310

Intermediate Foreign Language I

Core Humanities Seminar I

Introductory Literature

Second Semester

CHM 1152, 1104

MAT 1315

Intermediate Foreign Language II

Introductory Theology

Core Humanities Seminar II

SECOND YEAR

First Semester

BIO 2105

PHY 1100/1101

Introductory Philosophy

Intro History

College Ethics

Second Semester

BIO 2106

PHY 1101/1101

Fine Arts

Social Science Elective

Ethics

Associate Degree programs designed for the special requirements of physical therapy, occupational therapy, cytotechnology, medical technology, dental hygiene, and diagnostic imaging/multi competency are also available. Interested students should contact the College of Liberal Arts and Sciences.

Students wishing to continue for a baccalaureate degree need to take the required courses as stated in the current catalogue for the major into which they enroll.

BACHELOR OF SCIENCE COMPREHENSIVE PROGRAM (Dr. Frederick Hartmann, Director)

In addition to B.S. degree programs in each of the sciences (see the appropriate department listings at the end of the College section), the College of Liberal Arts and Sciences offers the Bachelor of Science Comprehensive Program. This curriculum is for the student with a definite interest in science who prefers a broader and more self-directed program than available in the more specialized curricula. The Program is designed for students interested in graduate studies in science and medicine.

The following courses are required of Comprehensive Science majors: BIO 2105, 2106; CHM 1151/1103, 1152/1104; PHY 2410/2411, 2412/13 or 2414/15; MAT 1500, 1505, 2500, 2705 or 4310 or CSC 1051. In addition, Comprehensive Science majors are required to take eight additional science electives to be chosen in consultation with the Comprehensive Science adviser.

Program details are available in the Comprehensive Science Program Office, 451 St. Augustine Center (610/519-4661).

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*.

ELEMENTARY EDUCATION CERTIFICATION -- ROSEMONT COLLEGE

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 General Arts, St. Augustine Center, room 451, in the fall semester of their sophomore year and must have achieved a cumulative grade point average of 2.75. 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:

1. A cumulative grade point average of 2.75 with a minimum grade of C in each required professional course.
2. A cumulative grade point average of 2.75 in the student's major and a recommendation from the Villanova department chairperson.
3. Doctor's certification of physical and mental health.

SECONDARY EDUCATION PROGRAM AND TEACHER CERTIFICATION

Villanova University's secondary teacher education program has been 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 completion of the degree and the National Teachers Examination (NTE) in communication skills, general knowledge, professional knowledge and subject specialization, the student will be eligible for certification. Pennsylvania teacher certification is reciprocal with most other states.

Students in other departments may be admitted to the teacher education program upon the approval of the Undergraduate Committee. Students admitted to the teacher education program must complete the same requirements as 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 2.5 cumulative average in their teaching specialty before student teaching and meet the academic standards of the University.

All Education majors will select a Content Area in which to be certified. 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

College of Liberal Arts and Sciences

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 Office of Part-Time Studies.

EXCHANGE PROGRAMS

Villanova University enjoys cooperative exchange arrangements with neighboring Rosemont College and nearby Gratz College, allowing Villanova students the opportunity to take classes at the other 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 (Dr. Edwin Goff, Director)

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 3.25 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 3.25 QPA, and periodic evaluation and approval by the Honors teaching staff. Program details can be found in 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, St. Augustine Center, Room 415, (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. The following majors offer this option: Art History, Biology, Chemistry, Communication, Computer Science, Economics, English, Geography, History, Mathematics, Philosophy, Political Science, Psychology, and Sociology (Criminal Justice). 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).

NAVAL SCIENCE

Eligibility for a commission in the U.S. Navy, Naval Reserve, U.S. Marine Corps or Marine Corps Reserve, through the NROTC Program, is contingent upon successful completion of required University and naval professional courses of study. Program details are found in the Naval Science course listings section of this *Catalog*.

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:

ACADEMIC STANDING AND ACADEMIC PROBATION

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 Committee recommends corrective actions to the Dean that may range from Letters of Concern to Probation to a Dismissal From the College. Each student deserving corrective action will receive a letter from the Dean's office stating the action taken. While on academic probation, a student's course load may be limited to four courses plus any associated laboratories, *and* the student may not participate in any extracurricular activities. Students may be removed from the Academic Probation List only upon satisfying each of the requirements of the term of probation.

There is no requirement that a student must receive a Letter of Concern or Probation prior to being dismissed from the College of Liberal Arts and Sciences, and possibly from the University. A dismissal from the College may be appealed in writing. Detailed instructions accompany each letter from the Dean.

ADVISING

Every student in the College of Liberal Arts and Sciences is assigned an academic adviser. Before declaring a major, each student is assigned to a specially trained faculty member who serves as the student's pre-major adviser. After declaration of major, advising is done by faculty in the student's major department.

CLOSED SECTIONS

Ordinarily, students will not be permitted to enroll in closed sections. Exceptions to this rule can be made only by the appropriate chairperson and only when a student graduating at the end of the current semester must enroll in the specific section in order to complete his or her primary major. If other sections or other courses are available to satisfy the degree requirements, the exception will not be granted.

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 in both the fall and the spring semesters of a single academic year. All students included on the list will receive a congratulatory letter from the Dean following the conclusion of the spring semester.

GRADUATE COURSES

A qualified Senior with a cumulative QPA of 3.0 may enroll in a graduate course upon obtaining the written approval of the adviser, the department chairperson of the course involved, and the Dean before submitting the request to the Dean of the Graduate School.

Courses numbered 7000-7999 are graduate courses open to qualified undergraduates. Courses numbered 8000-9999 are graduate courses not ordinarily open to undergraduates.

MEDALLION OF EXCELLENCE

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

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

PHI BETA KAPPA

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

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.

SCHOLASTIC LOAD

A student must take a minimum of 12 credits a semester to be a full-time student. A normal scholastic load (usually five courses plus labs) is defined by the program of studies set forth in this *Catalog*. Permission to take one other course in excess of the normal load may be obtained with the written approval of the Dean.

College of Liberal Arts and Sciences

In order to qualify for such approval in the College of Liberal Arts and Sciences, a student must demonstrate academic proficiency of a high order as indicated by a 3.5 cumulative average.

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 as though they were taken during the year. Prior to enrollment in Villanova Summer School, students in the College of Liberal Arts and Sciences must secure an adviser's signature.

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. In all cases permission to enroll in such courses must be obtained from the student's adviser and from the Dean's Office before enrolling in the course(s).

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.

WITHDRAWAL FROM A COURSE

After the Friday following mid-term break, and up to and including the last day of the semester, students may withdraw from a course without academic penalty and receive the grade of "WX" *only* by permission of the Dean of the College. Students may request an authorized withdrawal 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. 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, 105 St. Augustine Center.

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.

SAMPLE CURRICULUM FOR AN ARTS MAJOR PROGRAM

FIRST YEAR

Fall Semester

Core Humanities Seminar*
Introductory Philosophy
Social Science
Language
Mathematical/Computing Sciences

Spring Semester

Core Humanities Seminar*
Introductory Literature
Introductory History
Language
Mathematical/Computing Sciences

SECOND YEAR

Fall Semester

Natural Science & Laboratory*
Fine Arts
Introductory Theology
Elective/Major/Social Science
Adv. Humanities (History/Philos)

Spring Semester

Natural Science & Laboratory*
College Ethics
Social Science
Elective/Major/Social Science
Adv. Humanities (Theol/Literature)

THIRD YEAR

Fall Semester

Major
Major
Advanced Humanities
Elective
Elective

Spring Semester

Major
Major
Advanced Humanities
Elective
Elective

FOURTH YEAR

Fall Semester

Major
Major
Elective
Elective
Elective

Spring Semester

Major
Major
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.

College of Liberal Arts and Sciences

FIRST YEAR

Fall Semester

Core Humanities Seminar*
Major Science
Science or Core
Mathematics
Foreign Language

Spring Semester

Core Humanities Seminar*
Major Science
Science or Core Requirement
Mathematics
Foreign Language

SECOND YEAR

Fall Semester

Major Science
Major Science
Math or Core
Science or Core
Introductory Literature

Spring Semester

Major Science
Major Science
Math or Core
Science or Core
Core Elective

THIRD YEAR

Fall Semester

Major Science
Major Science
Science or Core
Advanced Humanities
Elective

Spring Semester

Major Science
Major Science
Science or Core Requirement
Advanced Humanities
Elective

FOURTH YEAR

Fall Semester

Major Science
Major Science
Science or Core
Advanced Humanities
Elective

Spring Semester

Major Science
Major Science
Science or Core Requirement
Advanced Humanities
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.

REQUIREMENTS FOR MAJORS, MINORS, AND CONCENTRATIONS

Undergraduate Studies

AFRICANA STUDIES
DR. KEITA, DIRECTOR
486 ST. AUGUSTINE CENTER
610-519-4610

Requirements for Concentration:

At present, the Africana Studies program offers twenty courses. The introductory core of the concentration is structured around eight courses which give coherence to the program of study.

- The student must take two courses (6 credits) from the introductory core in two different disciplines. These courses must be selected from the following:
CA 2700 Black Rhetoric
ENG 2505 Black Literature: Poetry
ENG 2510 Black Literature: Novel
ENG-2515 Black Literature: Drama
HIS 2291 Introduction to African History I
HIS 2292 Introduction to African History II
HIS 4022 African-American History to 1860
HIS 4023 African-American History from 1860
- In addition, the minor/concentrator will elect nine to fifteen credit hours, from the following:
AFR 5000 Independent Study
ECO 1130 Economic/Social Issues
ECO 3124 Economics of Underdevelopment
GEO 4200 Geography of Africa
HIS 4171 Third World Revolutions
HIS 4490 Southern Africa
HON 4050 African-American Intellectual History
P J 1000 Race/Gender/Class
PSC 3500 Civil Rights
PSC 4700 African Politics/Culture
PSC 5500 Africa in World Politics
SOC 2700 Race Relations
THL 5700 Black Religious Experience

NOTE: Electives offered will vary from year to year.

ARAB AND ISLAMIC STUDIES
DR. OMRAN, DIRECTOR
486 ST. AUGUSTINE CENTER
610-519-4610

Requirements for Concentration:

- ARB 1111/1112 Intensive Basic Standard Arabic I and II
 - ARB 1121/1122 Intensive Intermediate Standard Arabic I/II
 - HIS 4031 Islamic History and Civilization
 - PSC 4900 Comparative Politics of the Arab States
- OR**
- PSC-5900 Middle East and International Relations

Villanova University

- THL 5150 Introduction to Islam
- AIS 4100 Senior Seminar: Topics in Arab and Islamic Studies
- One elective selected in consultation with the Program Director.

Requirements for Minor:

- ARB 1111/1112 Intensive Basic Standard Arabic I and II
- PSC 4900 Comparative Politics of the Arab States

OR

- PSC-5900 Middle East and International Relations
- THL 5150 Introduction to Islam
- Two electives selected in consultation with the Program Director.

ART HISTORY

DEPARTMENT OF HISTORY

DR. LINDENMEYR, CHAIR

403 ST. AUGUSTINE CENTER

610-519-4660

Requirements for Major:

- AAH 1101 Beginnings to Renaissance
- AAH 1102 Renaissance to Contemporary World
- AAH 2000 Ancient Art
- AAH 2001 Early Christian and Medieval Art
- At least one Renaissance Art course from the following:
 - AAH 2002 Renaissance Art
 - AAH 2003 Age of Rembrandt and Bernini
 - AAH 2008 The Spirit of the Renaissance
- At least one Modern Art course from the following:
 - AAH 2004 Modern Art
 - AAH 2006 American Art
 - AAH 3002 Art of Philadelphia
 - AAH 3003 Romanticism to Post Impressionism
- At least one Studio Art course from the following:
 - SAR 2020 Basic Watercolor Techniques
 - SAR 2021 Basic Drawing Techniques
 - SAR 2022 Basic Oil Painting
- A Seminar course in Art History selected from the following:
 - AAH 4001 American Architecture
 - AAH 4002 Japonisme: Oriental Prints and the Impressionists
 - AAH 4003/4/7 Special Topics
 - AAH 4005 Picasso and Friends
- AAH 4000 Senior Thesis
- At least one upper level (2000-4999) Art History elective.

Requirements for Minor:

- AAH1101, AAH1102 and at least three other courses in Art History
- At least one studio art course.

Undergraduate Studies

ASTRONOMY AND ASTROPHYSICS
DEPARTMENT OF ASTRONOMY AND ASTROPHYSICS
DR. MCCOOK, CHAIR
457 MENDEL SCIENCE CENTER,
610-519-4820

Requirements for Major:

- AST 2120 The Sun and the Stars
- AST 2121 Solar System Astronomy
- AST 2122 Galaxies and Cosmology
- AST 2133/2134 Observational Astronomy Laboratory I and II
- AST 3141 Galactic Astronomy
- AST 3142 Introduction to Stellar Astrophysics
- AST 3152 Fundamentals of Astrodynamics
- AST 4121/4122 Undergraduate Research I and II
- MAT 1500/1505/2500 Mathematical Analysis I, II and III
- MAT 2705 Differential Equations with Linear Algebra
- MET 2001 Meteorology of the Planets
- PHY 2410/2411 University Physics: Mechanics and Lab
- PHY 2412/2413 University Physics: Electricity and Magnetism and Lab
- PHY 2414/2415 University Physics: Thermodynamics and Lab
- PHY 2416/2417 Modern Physics and Lab
- PHY 2601/2603 Computational Physics Laboratory I and II
- PHY 4200/4202 Mathematical Physics I and II
- CSC 4630 Software Development & Systems
- Physics Elective selected from courses above 3000
- Two additional Physics Electives.

It is recommended that these be selected from:

- PHY 4000, 4001 Electricity and Magnetism I and Lab
- PHY 4002, 4003 Electricity and Magnetism II and Lab

Requirements for Minor:

- AST 2120 The Sun and The Stars
- AST 2121 Solar System Astronomy
- AST 2122 Galaxies and Cosmology
- AST 2133/2134 Observational Astronomy Laboratory I and II
- At least three electives from the following courses
- AST 3141 Galactic Astronomy
- AST 3142 Introduction to Stellar Astrophysics
- AST 3152 Fundamentals of Astrodynamics
- AST 4121/4122 Undergraduate Research I and II
- MET 2001 Meteorology of the Planets

Villanova University

BIOLOGY
DEPARTMENT OF BIOLOGY
DR. GARDNER, CHAIR
152A MENDEL SCIENCE CENTER
610-519-4830

Requirements for Major:

- BIO 2105.....General Biology I
- BIO 2106.....General Biology II
- BIO 3351..... Genetics
- BIO 5100..... Senior Seminar
- At least five biology laboratory courses 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.

- CHM 1151/1152General Chemistry I and II
- CHM 1103/1104 General Chemistry Laboratory I and II
- CHM 2211/2212Organic Chemistry I and II
- CHM 2201/2202 Organic Chemistry Laboratory I and II
- MAT 1310/1315..... Calculus for the Life Sciences I and II
- PHY 1100/1102 General Physics I and II
- PHY 1101/1103 General Physics Laboratory I and II

NOTE:*A total of 36 credits in biology courses is required for the major. Majors must complete at least 18 biology credits at Villanova and achieve a minimum GPA of 2.0 in all science and mathematics courses.*

Requirements for Minor:

- BIO 2105.....General Biology I
- BIO 2106.....General Biology II
- At least three additional biology courses (with labs) numbered 3000 or higher.

NOTE:*A total of at least 23 credits in biology courses are required for the minor in Biology. Students must complete at least 12 of their biology credits at Villanova and achieve a minimum GPA of 2.0 in biology courses.*

BUSINESS MINOR
COLLEGE OF COMMERCE & FINANCE
DR. MONAHAN, DEAN
BARTLEY HALL (DUE TO CONSTRUCTION, CALL FOR LOCATION)
610-519-4333

Students enrolled in the College of Liberal Arts and Sciences may seek a general business minor upon application to, and approval by, the Dean of the College of Commerce and Finance. Acceptance is competitive and based on review of original credentials and current cumulative G.P.A. **Please note Business Minors are required to purchase a notebook computer with a configuration specified by the College of Commerce and Finance. Information concerning**

Undergraduate Studies

this requirement may be obtained from the Office of the Dean, The College of Commerce & Finance.

Requirements for Minor:

- MAT 1230/1235..... Introductory Statistics I & II

NOTE: Students who complete a calculus sequence such as MAT 1320/1325 or 1500/1505 as part of their curriculum should substitute DIT 2010 for both of these courses.

- ECO 1001/1002 Principles of Economics I & II
- ACC 1001 Computer Applications & Accounting
- ACC 1101 Principles of Accounting I
- BL 1090 Legal Environment of Business
- FIN 1113 Principles of Finance
- MGT 1102 Organization and Management
- MKT 1137 Principles of Marketing

Students accepted into the Business Minor from the Class of 2001 and beyond are required to participate in the College of Commerce and Finance's notebook computer program in their last two years of study and are encouraged to delay business courses until that time. Advising is available for Business Minor students in the Office of the Dean of Commerce and Finance, Bartley Hall.

CHEMISTRY

DEPARTMENT OF CHEMISTRY

DR. SELINSKY, CHAIR

215A MENDEL SCIENCE CENTER

610-519-4840

The curriculum leading to the degree of Bachelor of Science in Chemistry is highly suitable for students planning to go into the chemistry industry, graduate school or a health science profession such as medicine.

Requirements for Major:

- CHM 1000 Professional Development Seminar
- CHM 1301/1311 Inorganic Chemistry I and Laboratory
- CHM1502/1512 Quantitative Analysis and Laboratory
- CHM 3211/3212 Organic Chemistry I and II
- CHM 3201/3202 Organic Chemistry Laboratory I and II
- CHM 3301/3311 Inorganic Chemistry II and Laboratory
- CHM 3411/3412 Physical Chemistry I and II
- CHM 3401/3402 Physical Chemistry Laboratory I and II
- CHM 3501/3511 Instrumental Analysis and Laboratory
- CHM 4611 Introductory Biochemistry
- MAT 1500/1505 Mathematical Analysis I and II
- PHY 2410/2411 University Physics: Mechanics and Lab
- PHY 2412/2413 University Physics: Electricity and Magnetism and Lab

Villanova University

- Two Chemistry electives with course numbers greater than 3000 along with the accompanying laboratories.

Requirements for Minor:

- CHM 1151/1152 General Chemistry I and II
- CHM 1103/1104 General Chemistry Laboratory I and II
- CHM 2211/2212 Organic Chemistry I and II
- CHM 2201/2202 Organic Chemistry Laboratory I and II
- At least three courses and two laboratory courses higher than 3000.
- An overall GPA of 2.00 must be achieved in Chemistry courses.

Requirements for Concentration in Biochemistry

NOTE: The first two years of this program are identical to the first two years of the chemistry major. The following courses are to be taken during the last two years:

- CHM 3311/3301 Inorganic Chemistry II and Laboratory
- CHM 3411/3412 Physical Chemistry I and II
- CHM 3401/3402 Physical Chemistry Laboratory I and II
- CHM 4621/4622 Biochemistry I & II
- CHM 4603
..... Biochemistry Laboratory
- BIO 2105/2106 General Biology I and II
- A molecular based biology course
- At least one chemistry elective with a course number greater than 3000 along with accompanying laboratories. A graduate course in biochemistry (except CHM 7693 or CHM 7662) may also be taken.

CLASSICAL STUDIES

ADMINISTERED BY THE DEPARTMENT OF CLASSICAL AND MODERAN LANGUAGES AND
LITERATURES

DR. JULIA, CHAIR

DR. HUNT, PROGRAM DIRECTOR

303 ST. AUGUSTINE CENTER

610-519-4680

Requirements for Major:

- At least 12 courses (36 credits) in Latin or Greek. Up to two classics courses (taught in English: archaeology, mythology, etc.) may be included in the 12 course total. CLA 3001 (Independent Study) will be considered a Latin or Greek course when the study is done in one of these languages.

Undergraduate Studies

Requirements for Minor:

- At least six courses (18 credits) in Latin or Greek. Up to two classics courses (taught in English: archaeology, mythology, etc.) may be included in the six course total. CLA 3001 (Independent Study) will be considered a Latin or Greek course when the study is done in one of these languages.

COGNITIVE SCIENCE PROGRAM

DR. TOPPINO, DIRECTOR

331 TOLENTINE HALL

610-519-4739

Cognitive Science is a basic and applied science with the primary goal of explaining intelligent behavior, whether exhibited by humans, animals, or machines. The purpose of the Cognitive Science Program is to offer an interdisciplinary course of study related to intelligent systems emphasizing the perspectives of psychology, computer science, philosophy, and biology.

The program offers both a concentration and a minor to students in all of the University's undergraduate colleges.

Requirements for Concentration:

- All five courses from Categories A and B.
- At least two additional courses from Category C.

Requirements for Minor:

- Two of the three courses in Category A
- At least three additional courses selected from Categories A, B, or C.

Note: Course selections must include approved courses in three of the following four disciplines: Psychology (PSY), Computer Science (CSC), Philosophy (PHI), and Biology (BIO).

Category A:

PHI 4650 Philosophy of Mind
PSY 4500 Cognitive Psychology
CSC 4500 Introduction to Artificial Intelligence

Category B:

CSC 1051 Algorithms and Data Structures I
CGS 5900 Cognitive Science Seminar

Category C:

BIO 4605 Neurobiology
BIO 6509 Directed Research (with Cognitive Science Program approval)
CSC 4170 Theory of Computation
CSC 4380 Information Visualization
CSC 4730 Human-Computer Interaction
CSC 5900 & CSC 5930 Special Topics (with Cognitive Science Program approval)
CSC 5993 Independent Study (with Cognitive Science Program approval)
ECE 3420 Expert Systems Programming
ECE 5445 Introduction to Neural Networks
PHI 2950 Topics in Philosophy (with Cognitive Science Program approval)
PHI 3400 Theories of Knowledge
PHI 4200 Philosophy of Language

Villanova University

PHI 4975	Independent Study & Research (with Cognitive Science Program approval)
PSY 2300 Perception
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
DEPARTMENT OF COMMUNICATION
DR. NANCE, CHAIR
203 ST. AUGUSTINE CENTER
610-519-4750

Effective September 2000, a minimum GPA of 2.50 is required to declare a Communication major. Students not meeting this requirement can petition the Chair for acceptance into the program.

Students interested in the Communication major are welcome to declare their interest and be assigned a faculty advisor.

Requirements for Major:

..... Before declaring a major in Communication, a student must be registered for:

- CA 1000 Survey of Communication Studies
- CA 1100 Public Speaking

The following courses (twenty-four credit hours) are then required to complete the major in Communication:

- CA 5000 Communication Research
- CA 5050 Senior Project
- At least three courses from one of the following Areas (a list of courses in each Area may be obtained from the Communication department):
Rhetoric and Performance Studies
Media and Film Studies
Interpersonal and Organizational Studies
- At least one course from each of the other two Areas.
- At least one additional course from any of the three Areas

Requirements for the Minor:

- CA 1000 Survey of Communication Studies
- Four electives from the Communication departmental offerings.

Undergraduate Studies

COMPREHENSIVE SCIENCES DR. HARTMANN, DIRECTOR 451 ST. AUGUSTINE CENTER, 610-519-4661

Requirements for the 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 courses taken may vary based upon special concentrations selected by the student. The Bachelor of Science Comprehensive Program may not be part of a double major with any other science degree or program. Additional information about this program of study may be obtained from the Director of the Comprehensive Science Program in the Saint Augustine Center.

- CSC 1024 Computing for Scientists
- BIO 2105/2106 General Biology I and II
- CHM 1151/1152 General Chemistry I and II
- CHM 1103/1104 General Chemistry Laboratory I and II
- MAT 1500/1505/2500 Calculus I, II and III
- PHY 2410/2411 University Physics: Mechanics and Lab
 - PHY 2412/2413 University Physics: Electricity and Mag and Lab

OR

- PHY 2414/2415 University Physics: Thermodynamics and Lab
- One mathematics or computer science elective selected from the following:
 - CSC 1051 Algorithms and Data Structures I
 - MAT 2310 Statistics For Experimenters
 - MAT 2705 Differential Equations with Linear Algebra
 - MAT 4310 Statistical Methods
- At least eight science electives and appropriate laboratories chosen in consultation with the student's advisor.

COMPUTER SCIENCE DEPARTMENT OF COMPUTING SCIENCES DR. BECK, CHAIR 161 MENDEL SCIENCE CENTER 610-519-7307

Requirements for Major:

- CSC 1051/1052 Algorithms and Data Structures I and II
- CSC 1200 Computer Organization
- CSC 1300 Discrete Structures
- CSC 1600 Operating Systems
- CSC 1700 Design and Analysis of Algorithms
- CSC 1800 Organization of Programming Languages
- CSC 4170 Theory of Computation
- CSC 4700 Software Engineering

Villanova University

- CSC 4790.....Senior Project
- Four Computer Science electives chosen from the departmental list of approved electives.
- MAT 1500/1505.....Calculus I and II
- MAT 2310..... Statistics for Experimenters
- One two-semester science sequence with co-requisite laboratories chosen from the sequences offered for science majors.
- One additional science course with co-requisite laboratory, if applicable, which is a course for science or engineering majors, or a course with strong emphasis on quantitative methods.
- One additional science or math course at an appropriate level.

Requirements for Minor:

- CSC 1051/1052..... Algorithms and Data Structures I and II
- CSC 1200.....Computer Organization

OR

- ECE 2040..... Fundamentals of Computer Engineering I
- ECE 2490..... Digital Systems and Computers
- CSC 1300..... Discrete Structures
- At least three electives from among approved courses. A list of these courses is available from the Computing Sciences departmental office.

CRIMINAL JUSTICE PROGRAM

DR. WAEGEL, DIRECTOR
204 ST. AUGUSTINE CENTER
610-519-4740

WILLIAM.WAEGEL@VILLANOVA.EDU

The Criminal Justice Concentration is an interdisciplinary program designed to provide students with an understanding of the causes of crime, societal reactions to crime and the nature and application of criminal law.

Requirements: Six courses, including Criminology (SOC 3000), Philosophy of Criminal Justice (PHI 2140), and a course focusing on due process issues from the list below. Students are *strongly encouraged* to take SOC 3000 as their first course.

Requirements for Concentration:

- SOC 3000..... Criminology
- PHI 2140..... Philosophy of Criminal Justice
- PSC 3500..... Due Process Issues - The Supreme Court and Criminal Justice
- SOC 4100..... Criminal Procedure
- At least three courses from among the following:
 - SOC 2200..... Sociology of Deviance
 - SOC 3020..... Criminal Law and the Community
 - SOC 3100..... Juvenile Delinquency
 - SOC 3200..... Penology and Corrections
 - SOC 3300..... Sociology of Law
 - PSC 3600..... Criminal Justice System
 - CJ 3000..... Introduction to Victimology
 - SOC 4100..... Special Topics:Criminal Justice

Undergraduate Studies

ECONOMICS
DEPARTMENT OF ECONOMICS
DR. MATHIS, CHAIR
3017 BARTLEY HALL
610-519-4360

Requirements for Major:

Before declaring a major in Economics, a student should take:

- ECO 1001..... Principles of Microeconomics
- ECO 1002..... Principles of Macroeconomics

In addition, majors must take:

- MAT 1330..... Quantitative Analysis for Business I
(as core math requirement or as an elective)
- MAT 1335..... Quantitative Analysis for Business II
- ECO 2101..... Macro-Economic Theory
- ECO 2102..... Micro-Economic Theory
- DIT 2010..... Business Statistics
- At least five electives from the Economics departmental offerings.

Requirements for Minor:

- MAT 1330..... Quantitative Analysis for Business I
- ECO 1001..... Principles of Microeconomics
- ECO 1002..... Principles of Macroeconomics
- ECO 2101..... Macro-Economic Theory
- ECO 2102..... Micro-Economic Theory
- Two Economics electives from the departmental offerings.

EDUCATION (ELEMENTARY)
OFFICE OF SPECIAL PROGRAMS
DR. SCHREMS, DIRECTOR
451 ST. AUGUSTINE CENTER
610-519-4661

Requirements for Certification:

Students interested in the Elementary Education Certification Program at Rosemont College must talk to Dr. Schrems in the Office of Special Programs in 451 St. Augustine Center prior to the end of the Spring semester of their freshman year. Entrance into the Elementary Education program requires a minimum grade point average of 3.0.

Villanova University

EDUCATION (SECONDARY)

DEPARTMENT OF EDUCATION AND HUMAN SERVICES

DR. NICHOLS, CHAIR

302 ST. AUGUSTINE CENTER

610-519-4620

Requirements for Major:

- Secondary Education majors must satisfy Content Area requirements which are specific to the discipline they wish to teach. See Department Chair for additional information.
- EDU 2201/2202 Social Foundations of Education I and II
- EDU 3251 Psychology of Learning
- EDU 3254 Principles and Techniques of Instruction
- EDU 4245 Reading & Current Issues in Secondary Education
- One of the following: (depending on Content Area chosen)
 - EDU 4281 Methods and English/Communication in Secondary Schools
 - EDU 4282 Methods and Foreign Language in Secondary Schools
 - EDU 4283 Methods and Mathematics in Secondary Schools
 - EDU 4284 Methods and Science in Secondary Schools
 - EDU 4285 Methods and Social Studies in Secondary Schools
- EDU 4290 Philosophy of Education
- EDU 4291 Student Teaching
- EDU 4292 Senior Seminar

Requirements for Minor:

- EDU 2202 Social Foundations of Education II
- EDU 3251 Psychology of Learning
- EDU 3254 Principles and Techniques of Instruction
- EDU 4290 Philosophy of Education
- At least one elective course must be selected from the following:
 - EDU 2201 Social Foundations of Education I
 - EDU 3263 The Problem Child
 - EDU 4245 Reading and Current Issues in Secondary Education
 - EDU 4301 Humanistic Education

ENGLISH

DEPARTMENT OF ENGLISH

DR. CHERRY, CHAIR

402 ST. AUGUSTINE CENTER

610-519-4630

Requirements for Major:

- Two courses in British literature pre-1800 from two of three areas:
 1. Medieval;

Undergraduate Studies

2. Renaissance (to 1649);
 3. Restoration and Eighteenth Century
- Two courses:
 - Option A:
 - One from 19th century American Literature and
 - One from 20th century British/Irish Literature
 - OR**
 - Option B:
 - One from 19th century British/Irish Literature and
 - One from 20th Century American Literature
 - Senior Seminar
 - Six electives chosen from the English departmental offerings numbered 2000 to 4999.

NOTE: The following two courses:

ENG 2101/2102British Literary Tradition I and II

AND

ENG 2103/2104American Literary Tradition I and II

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).

Requirements for Minor:

- At least one course from the British literature offerings. (3000 level courses).
 - At least one course from the American literature offerings (4000 level courses).
 - At least three electives from the English departmental offerings (2000 to 4999).

ETHICS

DEPARTMENT OF ETHICS

DR. BRAKMAN, DIRECTOR

485 ST. AUGUSTINE CENTER

610-519-4780

Requirements for Concentration:

The Ethics Concentration is available to students in all of the University's undergraduate colleges. It gives them an opportunity to pursue in depth an intellectual discipline that studies human character and conduct--who we ought to be and what we ought to do. As an inquiry into what makes life more fully human, ethics includes, but is not limited to, an ability to apply moral theory to decisions about contemporary problems. Thus the purpose of this Concentration is to help students gain skills necessary for raising ethical questions in light of a vision that attunes them both to the dignity of human persons and to the call to honor that dignity by responding to human need. An approach of this sort is integral to Villanova's character as a Christian/Catholic/Augustinian University. The concentration provides four different tracks to accommodate different academic and professional interests. It is, therefore, a concentration allowing students to choose one area of ethical focus. The concentration requires students to take eighteen hours of ethics-related courses, including the Integrating Seminar and fulfillment of the Service requirement.

To qualify for the concentration the student must take:

- ETH 2050..... Ethical Traditions in Contemporary Life
- Two required courses in the selected track
- Two elective courses in the selected track
- Integrating Seminar. This is a capstone course which integrates many of the themes of the concentration.
- Service Requirement: Minimum of 100 hours of volunteer service for the Concentration in one of these three areas:
 - A)..... Hospice Care/care for homeless communities/Habitat for Humanity, etc.
 - B).....education/literacy tutoring, etc.
 - C)..... ecology/environmental advocacy, etc.

TRACK I: ETHICS AND HEALTH CARE

Required Track Courses:

- PHI 2115 Ethics for Health Care Professionals
 - THL 4200..... Ethics of Life and Death
- OR -
- THL 5950..... Death and Dying

Track Electives:

- BIO 3341 Genetics
- BIO 3905 General Microbiology
- NUR 4130 Issues in Health Care Delivery
- NUR 4800 Women's Health Issues
- NUR 4802 Issues and Trends in Gerontology
- PHI 2125 Death and Dying
- PHI 3525Philosophy of Human Sexuality
- PHI 2950 Topics in Philosophy (Feminism, Ethics and Medicine)
- THL 4100..... Christian Ethical Traditions and Contemporary Life

TRACK II: ETHICS, POLITICS AND LAW.

Required Track Courses:

- PHI 3650 Philosophy of Law
- PJ 5000..... Meanings of Justice

Track Electives:

- PHI 2140 Philosophy of Criminal Justice
- PHI 2130Business and Society
- PJ 5100.....Disrimination, Justice and the Law
- PSC 3500 Civil Rights and Civil Liberties
- PSC 3800Environmental Law
- SOC 3000..... Criminology
- SOC 3010..... Crime and Criminal Justice
- THL 4300..... Ethical Issues in Peace and Justice
- THL 4600..... North/South: Development Ethics

TRACK III: ETHICS, ECONOMICS AND PUBLIC POLICY.

Undergraduate Studies

Required Track Courses:

- ECO 4207/PJ 5200.....Poverty and the American Economy
- THL 4320..... The Social Teachings of the Christian Churches

Track Electives:

- PHI 1600Business and Society
- PHI 2130 Business Ethics
- PHI 2400Social and Political Philosophy
- PHI 3820Environmental Ethics
- PHI 2410 Ethics of War
- PHI 2170 Ethical and Social Issues in Mass Media
- PJ 2500..... Education and Social Issues
- PJ 2400 or THL 4350..... Service and Education for Justice
- PJ 3400 or THL 4310..... War and Morality
- PJ 5400 or THL 4340..... Ethics, Justice and the Family
- PJ 5000..... The Meaning of Justice
- PJ 2600..... Catholic Social Thought and Analysis
- PSC 2600 Public Policy
- PSC 3800Environmental Law and Regulation
- PSC 3500 Civil Rights and Civil Liberties
- THL 4600..... North/South: Development Ethics
- THL 4300..... Ethical Issues in Peace and Justice

TRACK IV: ETHICAL ISSUES IN SCIENCE, TECHNOLOGY AND ENVIRONMENT

Required Track Courses:

- PJ 2200..... Caring for the Earth
- PHI 3820Environmental Ethics

Track Electives:

- BIO 3255 Introductory Ecology
- BIO 3351 Genetics
- ECO 1104..... The Environment and the Economy
- HIS 3321 Science and Technology in Modern History
- PHI 2180 Ethics Issues in Computer Science
- PHI 3825 Technology and Society
- PHI 4050 Philosophy of Natural Science
- PHI 2430 Eco-Feminism
- PHI 2150 Engineering Ethics
- PHI 2950 Topics in Philosophy (Philosophy of Biology)
- PSC 3800Environmental Law and Reg.
- THL 4600..... North/South: Development Ethics
- THL 5400..... Science and Religion

FRENCH LANGUAGE AND LITERATURE

DEPARTMENT OF CLASSICAL STUDIES AND MODERN LANGUAGES AND LITERATURES

DR. JULIA, CHAIR

303 ST. AUGUSTINE CENTER

610-519-4680

Requirements for Major:

- Ten courses in French above the intermediate level, including FRE 2144
- FRE 3950 French Research Seminar (one credit)

Requirements for Minor:

- Four courses in French above the intermediate level.

NOTE: Once a sequence in language courses is begun, a student may not revert to a course with a lower course number.

GENERAL ARTS

DR. SCHREMS, DIRECTOR

451 ST. AUGUSTINE CENTER

610-519-4661

Requirements for Major:

This interdisciplinary “Liberal Arts” major affords students the opportunity to pursue a course of studies which integrates a number of disciplines. Students in the program select one of the following three concentrations: (1) Humanities, (2) Social Sciences, or (3) Independent Studies concentration.

- Seven courses (depending on concentration)
- GEN 5001General Arts Seminar

1) The Humanities Concentration

will consist of seven non-excluded upper level electives beyond the core requirements from within the following disciplines: Art History, Classical Studies, Communication, Education, English, French, German, History, Peace and Justice, Philosophy, Theology and Religious Studies, Spanish, Theater, and appropriate honors courses.

2) The Social Sciences Concentration

will consist of 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.

3) The Independent Studies Concentration

enables students to design an intellectually challenging and coherent program while preserving their freedom to define their educational program and goals. Students interested in this concentration will submit to the Director of General Arts an essay describing the goals and proposed program of study for the two-year period.

Undergraduate Studies

NOTE: It is the responsibility of the student to verify with his/her advisor the applicability of a course in the General Arts program before registering for it.

NOTE: The following courses may not be used as General Arts electives:

- Courses numbered 1000 to 1999 (except Art History),
- Studio art courses,
- Science, Computer Science and Mathematics courses,
- Honors courses below 2500,
- Business courses, or Statistics 2107/2108
- Advanced specialized/technical/practicum courses in Communication, Education and Human Services or Psychology 3005.

GEOGRAPHY

ADMINISTERED BY THE DEPARTMENT OF POLITICAL SCIENCE

DR. LEAMAN, PROGRAM DIRECTOR

270 ST. AUGUSTINE CENTER

610-519-4710

Requirements for Major:

- At least two courses from the geography introductory series (1000 level courses).
- At least one course from regional analysis series (3000 level courses).
- At least one course from the geographical techniques series (4000 level courses).
- A seminar or independent study in geography (6000 level courses).
- Any three electives from among Geography departmental offerings.

Requirements for Minor:

- At least one course from the geography introductory series (1000 level courses).
- At least one course from the regional analysis series (3000 level courses).
- At least three electives from the Geography departmental offerings.

GERMAN LANGUAGE AND LITERATURE

DEPARTMENT OF CLASSICAL STUDIES AND MODERN LANGUAGES AND LITERATURES

DR. JULIA, CHAIR

303 ST. AUGUSTINE CENTER

610-519-4680

Requirements for Major:

- Ten courses in German above the intermediate level.
- GER 3950.....Research Seminar (1 credit)

Requirements for Minor:

- Four courses in German above the intermediate level.

NOTE: Once a sequence in language courses is begun, a student may not revert to a course with a lower course number.

Villanova University

HISTORY

DEPARTMENT OF HISTORY
DR. LINDENMEYR, CHAIR
403 ST. AUGUSTINE CENTER
610-519-4660

Requirements for Major:

- HIS 1050 Themes in Modern World History
- At least two United States history courses (1000, 1001, or any 2000 level course).
- At least two advanced European history courses (any 3000 level course). One of the European history courses must be pre-1750.
- At least one Latin American, Middle Eastern, African, or Asian history course (courses numbered 4000 to 4995, including 4995 as appropriate, but excluding 4700).
- HIS 5501 Seminar in Historical Methodology

OR

- HIS 5515 Independent Research
- At least three electives from among the History departmental offerings.

NOTE: *At least half of the courses must be taken at Villanova University.*

Requirements for Minor:

- At least six electives from the History departmental offerings. These six courses may include the courses used towards the core history requirements.

Note: *At least half of the courses must be taken at Villanova University.*

HONORS PROGRAM

DR. GOFF, DIRECTOR
103 ST. AUGUSTINE CENTER
610-519-4650

Admission into the Honors Program is by invitation, or by application to the Director. Students in the Program are expected to maintain a minimum cumulative grade point average of 3.25, to enroll in Honors courses at least every other semester, and to maintain high academic standards.

Honors courses are open to all Villanova students who have a cumulative grade point average of at least 3.0, or who will bring a special expertise to the course, contingent upon class size limitations. Admission to all Honors courses requires the permission of the Director.

Requirements for Major (Arts):

- At least 12 Honors courses, five of which must be upper-level courses (HON 2500 and above) not used to fulfill core requirements. These five upper-level Honors courses will include a sophomore methods seminar (HON 2550 or 2560), three upper-level Honors courses, and a five-credit or six-credit senior thesis.

Undergraduate Studies

Requirements for Major (Sciences):

- At least 10 Honors courses, including the Natural Sciences Seminar (HON 2570), three upper-level courses (HON 2500 and above), and a five-credit senior thesis.

Honors Program Sequence in Liberal Studies (Concentration):

- Eight courses in Honors, including at least three-upper level courses (HON 2500 and above).

HUMAN SERVICES

DEPARTMENT OF EDUCATION AND HUMAN SERVICES

DR. NICHOLS, CHAIR

302 ST. AUGUSTINE CENTER

610-519-4620

Requirements for Major:

A student completing the requirements for a major in Human Services, will have also completed the requirements for a minor in psychology and a minor in sociology.

- HS 2000 Introduction: Principles and Survey of Practice
- HS 2100 Assessment and Referrals
- HS 3000 Laboratory in Communication Skills
- HS 3100 Laboratory in Group Interaction
- HS 3600 Life Skills Planning
- HS 4000 Seminar in Human Services
- HS 4100 Practicum in Human Services
- PSY 1000 General Psychology
- PSY 2200 Developmental Psychology
- PSY 2500 The Psychology of Personality
- PSY 2600 Social Psychology
- SOC 1000 Principles of Sociology
- SOC 2200 Sociology of Deviance
- SOC 2300 Sociology of the Family in America
- SOC 3600 Race and Ethnic Relations
- At least one elective from among the Psychology and Sociology departmental offerings.

Requirements for Minor:

- HS 2000 Introduction: Principles and Survey of Practice
- HS 2100 Assessment and Referrals
- HS 3000 Laboratory in Communication Skills
- HS 3100 Laboratory in Group Interaction
- At least one elective course from the remaining Human Services course offerings.

INFORMATION SCIENCE
DEPARTMENT OF COMPUTING SCIENCES
DR. BECK, CHAIR
161 MENDEL SCIENCE CENTER
610-519-7307

Requirements for Major:

- CSC 1051/1052..... Algorithms and Data Structures I and II
- CSC 1200..... Computer Organization
- CSC 1300..... Discrete Structures
- CSC 1600..... Operating Systems
- CSC 4780..... Database
- ISC 2000..... Survey of Information Science
- ISC 3100..... Information Retrieval
- ISC 3200..... Theory of Information
- CSC 4700..... Software Engineering
- CSC 4800..... Web Application Development
- PHI 2180..... Ethical Issues in Computing
- Four Information Science Electives chosen from the departmental list of approved electives
- MAT 1500/1505..... Math Analysis I and II
- MAT 2310..... Statistics for Experimenters
- One two-semester science sequence with co-requisite laboratory, if applicable, which is a course for science or engineering majors, or a course with a strong emphasis on quantitative methods.

Requirements for Minor:

- CSC/1051/1052..... Algorithms and Data Structures I and II
- CSC 1200..... Computer Organization
- OR**
- ECE 2040..... Fundamentals of Computer Engineering I
- ECE 2490..... Digital Systems and Computers
- CSC 1300..... Discrete Structures
- At least three electives from among approved courses. A list of these courses is available from the Computing Sciences departmental office.

IRISH STUDIES
DR. J. MURPHY, DIRECTOR
402 ST. AUGUSTINE CENTER
610-519-4630

Requirements for Concentration:

- ENG 2500..... The Irish Renaissance
- HIS 3216..... Ireland Since 1800
- At least three courses from the following:
 - AAH 3007..... History of Irish Art
 - ENG 2450..... Irish Literature to 1800
 - ENG 2460..... Irish Poetry Since Yeats
 - ENG 2470..... Modern Irish Drama
 - ENG 2500..... The Irish Renaissance

Undergraduate Studies

LATIN AMERICAN STUDIES
DR. PATNAYAK, DIRECTOR
484 ST. AUGUSTINE CENTER
610-519-4640

Requirements for Concentration:

- At least two Spanish language courses beyond intermediate Spanish.
 - One of the following history courses
 - HIS 4410 Colonial Latin America
 - HIS 4415 Latin American Independence
 - HIS 4420 Latin American Revolutions
 - HIS 4425 Mexico
 - HIS 4495 Topics in Latin American History
 - ECO 4200..... Topics in Economics
- OR**
- PSC 4750 Latin America
 - LAS 1100 Latin American Seminar
 - At least one course in Spanish American literature.
 - Two elective courses on contemporary Latin America.

Requirements for Minor:

- At least two Spanish language courses at the intermediate level or above.
 - One of the following history courses
 - HIS 4410 Colonial Latin America
 - HIS 4415 Latin American Independence
 - HIS 4420 Latin American Revolutions
 - HIS 4425 Mexico
 - HIS 4495 Topics in Latin American History
 - ECO 4200..... Topics in Economics
- OR**
- PSC 4750 Latin America
 - LAS 1100 Latin American Seminar
 - Two elective courses on contemporary Latin America.

MATHEMATICAL SCIENCES
DEPARTMENT OF MATHEMATICAL SCIENCES
DR. STYER, CHAIR
305 ST. AUGUSTINE CENTER
610-519-4850

Requirements for Major:

- MAT 1500/1505/2500..... Calculus I, II, and III
- MAT 2600..... Foundations of Mathematics
- MAT 2705..... Differential Equations with Linear Algebra
- MAT 3300/3305..... Advanced Calculus I and II
- MAT 3400..... Linear Algebra
- MAT 3500..... Modern Algebra I
- MAT 5900..... Seminar in Mathematics

Villanova University

- At least four electives from the Mathematics departmental offerings numbered 3505 or higher.
- PHY 2410/2411University Physics: Mechanics and Lab
AND
- PHY 2412/2413 University Physics: Electricity and Magnetism and Lab
OR
- PHY 2414/2415 University Physics: Thermodynamics and Lab
- One additional science course (with accompanying laboratory, if appropriate)
- CSC 1024 Computing for Scientists (1 credit)

Requirements for Minor:

- MAT 1500/1505/2500..... Calculus I, II, III
- MAT 2600.....Foundations of Mathematics
- At least four elective courses selected from: MAT 2705, MAT 2710 or any Mathematics departmental offerings numbered 3000 or higher.

Note: A student may petition the Mathematics Minor Coordinator to substitute an upper division course in his/her major for one of the four elective courses.

MILITARY SCIENCE
DEPARTMENT OF MILITARY SCIENCE
LTC KIRK LATASHA, USA
VILLANOVA UNIVERSITY/WIDENER UNIVERSITY
610-499-4098

Requirements for Minor:

- MS 101 Introduction to ROTC
- MS 102 Introduction to Leadership Principles
- MS 201 Self/Team Development
- MS 202 Individual/Team Military Tactics
- MS 301 Leading Small Organizations I
- MS 302 Leading Small Organizations II
- MS 401 Leadership Challenges and Goal-Setting Plan
- MS 402 Transition to Lieutenant
- Leadership Laboratory

MODERN LANGUAGES
DEPARTMENT OF CLASSICAL STUDIES AND MODERN LANGUAGES AND LITERATURES
DR. JULIA, CHAIR
303 ST. AUGUSTINE CENTER
610-519-4680

Minors are available in Arabic, Chinese, French, German, Italian, Japanese, Russian or Spanish.

Requirements for Minor (Arabic, Chinese, Japanese and Russian):

- Six courses in the language.

Undergraduate Studies

Requirements for Minor (in Italian):

- Four courses above the intermediate level.

NOTE: Once a sequence in language courses is begun, a student may not revert to a course with a lower course number.

NAVAL SCIENCE
DEPARTMENT OF NAVAL SCIENCE
COL. CLAUER, USMC, CHAIR
101 JOHN BARRY HALL
610-519-7380

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:

- Calculus: At least six credits, approved by Naval Science Advisor. Must be completed by the end of the sophomore year.
- Physics: At least six credits, approved by Naval Science Advisor. Must be completed by the end of the junior year.
- American Military Affairs: At least three credits, approved by Naval Science Advisor.
- Computer Science: At least three credits, approved by Naval Science Advisor.
- English: Any two English courses. At least six credits, approved by Naval Science Advisor.
- NS 0100 Naval Professional Laboratories
- NS 1000 Introduction to Naval Science
- NS 1100 Seapower and Maritime Affairs
- NS 2100 Naval Ship Systems I
- NS 2200 Naval Ship Systems II
- NS 3100 Navigation
- NS 3200 Naval Operations
- NS 4100 Leadership and Management
- NS 4200 Leadership and Ethics

2. Marine Option:

- American Military Affairs: At least three credits, approved by the Naval Science Advisor.
- NS 0100 Naval Professional Laboratories
- NS 1000 Introduction to Naval Science
- NS 1100 Seapower and Maritime Affairs
- NS 3500 Evolution of Warfare
- NS 3600 Amphibious Operations
- NS 4100 Leadership and Management
- NS 4200 Leadership and Ethics

3. Nurse Option:

- English: Any two English courses. At least six credits, approved by Naval Science Advisor.
- NS 0100 Naval Professional Laboratories
- NS 1000 Introduction to Naval Science
- NS 1100 Seapower and Maritime Affairs
- NS 4100 Leadership and Management
- NS 4200 Leadership and Ethics

Requirements for Minor (Navy Option):

- NS 0100 Naval Professional Laboratories
- NS 1000 Introduction to Naval Science
- NS 1100 Seapower and Maritime Affairs
- NS 2100 Naval Ship Systems I
- NS 2200 Naval Ship Systems II
- NS 3100 Navigation
- NS 3200 Naval Operations
- NS 4100 Leadership and Management
- NS 4200 Leadership and Ethics

Requirements for Minor (Marine Option):

- NS 0100 Naval Professional Laboratories
- NS 1000 Introduction to Naval Science
- NS 1100 Seapower and Maritime Affairs
- NS 3500 Evolution of Warfare
- NS 3600 Amphibious Operations
- NS 4100 Leadership and Management
- NS 4200 Leadership and Ethics

PEACE AND JUSTICE

DR. WERPEHOWSKI, DIRECTOR

SULLIVAN -GROUND FLOOR

610-519-4499

The Peace and Justice Program curriculum focuses on components of a moral and just society; reflects on the alternative models for socially responsible resolution of injustice and conflict; and provides opportunities to learn the necessary skills for peacemaking. The Program offers both a Concentration and a Minor.

Requirements for Minor:

To obtain a minor in Peace and Justice a student must complete eighteen credit hours, including:

- PJ 1100 Introduction to Peace and Justice

OR

Undergraduate Studies

- PJ 5300..... Race, Class and Gender
- At least three courses from at least two different Peace and Justice seminar categories (2000, 3000, 4000, 5000),
- Two courses from the Peace and Justice seminars or from those courses from other disciplines cross-listed as Peace and Justice courses.

Requirements for Concentration:

To obtain a concentration in Peace and Justice, a student must complete twenty-four credit hours including all requirements for the minor plus two additional courses from the Peace and Justice seminars or from those courses in other disciplines which are cross-listed with Peace and Justice courses.

PHILOSOPHY

DEPARTMENT OF PHILOSOPHY

FR. MCCARTNEY, CHAIR

108 ST. AUGUSTINE CENTER

610-519-4690

Requirements for Major:

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

- 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 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
An Honors or Philosophy Topics course in this area. (This course must be approved by the Chair in order to fulfill the MODERN requirement.)
- PHI 3010 Majors Seminar: Approaches and Methods
- PHI 6000 Research Seminar
- An additional four electives from the Philosophy departmental offerings.

NOTE: A student with majors in philosophy and another discipline may, with the approval of the Chair of the Philosophy Department, count up to six cognate related 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

DEPARTMENT OF PHYSICS
DR. MAURONE, CHAIR
352A MENDEL SCIENCE CENTER
610-519-4860

Requirements for Major:

- PHY 2410/2411 University Physics: Mechanics and Lab
- PHY 2412/2413 University Physics: Electricity and Magnetism and Lab
- PHY 2414/2415 University Physics: Thermodynamics and Lab
- PHY 2416/2417 Modern Physics and Lab
- PHY 2601/2603 Computational Physics Laboratory I and II
- PHY 3310/3311 Electronics and Lab
- PHY 4000/4001 Electricity and Magnetism I and Lab
- PHY 4002/4003 Electricity and Magnetism II and Lab
- PHY 4100/4102 Mechanics I and II
- PHY 4200/4202 Mathematical Physics I and II
- PHY 5100 Quantum Mechanics
- PHY 5200 Thermodynamics/ Statistical Mechanics
- PHY 5300 Nuclear Physics
- CHM 1103 General Chemistry Laboratory I
- CHM 1151/1152 General Chemistry I and II
- MAT 1500/1505/2500 Calculus I, II and III
- MAT 2705 Differential Equations with Linear Algebra
- At least one elective from the Physics departmental offerings
- Three science courses chosen from science, mathematics, or computer science.

Requirements for Minor:

- Successful completion of an introductory sequence in Physics, plus at least 15 credits from the upper level (above 2417) Physics departmental course offerings.

Undergraduate Studies

POLITICAL SCIENCE
DEPARTMENT OF POLITICAL SCIENCE
DR. GUSTAFSON, CHAIR
202 ST. AUGUSTINE CENTER
610-519-4710

Requirements for Major:

- PSC 1100 Introduction to American Government
- PSC 1200 Introduction to International Relations
- At least three courses from one of the following areas; at least two courses from another area; and at least one course from the remaining area.
- At least one elective from the Political Science departmental offerings.

AREA I:

American government and public law (courses numbered 2000 to3999).

AREA II:

Comparative government and international relations (courses numbered 4000 to 5999).

AREA III:

Political theory and behavior (courses numbered 6000 to 6800).

- PSC 6900Political Science Seminar

Requirements for Minor:

- PSC 1100 Introduction to American Government
- PSC 1200 Introduction to International Relations
- At least three electives from the Political Science departmental offerings above the introductory level.

PSYCHOLOGY
DEPARTMENT OF PSYCHOLOGY
DR.KLIEGER, CHAIR
334 TOLENTINE
610-519-4720

Requirements for Major:

In order to declare Psychology as a major, a student must have received a C+ or higher in General Psychology (PSY 1000), or the student must have attained a cumulative GPA of at least 3.0 at the time of application to the major.

- PSY 1000 General Psychology

NOTE: PSY 1000 is a prerequisite to all other courses in Psychology.

- PSY 4000 Introductory Statistics

NOTE: MAT 1230 (which is also called Introductory Statistics) is a different course AND DOES NOT satisfy this Psychology requirement for Introductory Statistics. The only course which will satisfy this requirement is PSY 4000.

- PSY 4050 Research Methods in Psychology
- PSY 4100 Foundations of Modern Psychology
- PSY 4150 Seminar in Professional Development
- PSY 4200 Physiological Psychology
- PSY 4500 Cognitive Psychology

Villanova University

- At least four electives from the Psychology departmental offerings with the exception of PSY 3005 (Special Topics Seminar).

Requirements for Minor:

- PSY 1000 General Psychology
- At least four electives from the Psychology departmental offerings, with the exception of PSY 3005 (Special Topics Seminar).

RUSSIAN AREA STUDIES
DR. HAHN, DIRECTOR
484 ST. AUGUSTINE CENTER
610-519-4640

Requirements for Concentration:

The Russian Area Studies Concentration was established in 1996 and is open to all students enrolled in the University. The purpose of the concentration is to provide students with a multi-disciplinary comprehension of a complex part of the world. Students enrolled in the concentration will be required to earn 36 credit hours (ten courses) in language, social science and the core seminar. Undergraduates who successfully complete all of the requirements will receive a certificate upon graduation.

- Language: Proficiency in Russian language is required by the successful completion of at least two semesters of Russian at the intermediate level, or by demonstrated proficiency at an equivalent level. Students are encouraged to study in Russia for a summer or semester.
- Electives: Since the Concentration is an interdisciplinary program, students will be expected to complete five courses from the following:
 - ECO 4200
(Economic Transformation in Russia
and Eastern Europe)
 - ECO 4200..... Topics in Economics
(Russia and the World Economy)
 - HIS 3241 The History of Imperial Russia
HIS 3242 The History of
in the Twentieth Century
 - PSC 4401 Politics and Government of Russia
 - PSC 5351 Russian Foreign Policy
 - PSC 5950 Russia's Relations with the Islamic States
 - RUS 1131 Conversation and Composition
 - RUS 1132 Advanced Conversation and Composition
 - RUS 3412 Special Topics in language, literature & culture
 - RUS 4110 Russian Civilization
 - RUS 4120 The Russian Short Story
 - RUS 4130 The Russian Novel I
 - RUS 4140 The Russian Novel II
 - RUS 4150 The Russian Drama
 - SAR 4007 Icon History and Making
 - THL 5510 Religion in Russia

Undergraduate Studies

- Seminar: A 3-credit multi-disciplinary seminar, generally taken in the senior year. Seminars offer an opportunity to synthesize knowledge obtained in the required course and to engage the student in a research project on a topic of particular interest to be shared with fellow students in the program.

SOCIOLOGY

DEPARTMENT OF SOCIOLOGY

DR. WAEGEL, CHAIR

204 ST. AUGUSTINE CENTER

610-519-4740

Requirements for Major:

- SOC 1000.....Introduction to Sociology
- Three courses, which must include at least one from each of the following groups:

THEORY:

SOC 5000.....Nature and History of Sociological Theory

SOC 5050..... Sociological Theory and Public Policy

SOC 5100..... Contemporary Sociological Theory

METHODS:

SOC 5200..... Design of Sociological Research

SOC 5300..... Data Analysis for Social Scientists

SOC 5400..... Applied Research Methods in Sociology

- At least six electives from the Sociology departmental offerings.

Requirements for Minor:

- SOC 1000.....Introduction to Sociology
- At least four electives from the Sociology departmental offerings.

SPANISH LANGUAGE AND LITERATURE

DEPARTMENT OF CLASSICAL STUDIES AND MODERN LANGUAGES AND LITERATURES

DR. JULIA, CHAIR

303 ST. AUGUSTINE CENTER

610-519-4680

Requirements for Major:

- Ten courses in Spanish above the intermediate level including
SPA 2211Survey of Peninsular Literature
SPA 2212Survey of Spanish-American Literature
SPA 3950 Research Methodology

Requirements for Minor:

- Four courses in Spanish above the intermediate level.

NOTE: Once a sequence in language courses is begun, a student may not revert to a course with a lower course number.

Villanova University

THEATRE
DEPARTMENT OF THEATRE
FR. DONOHUE, CHAIR
205 ST. AUGUSTINE CENTER
610-519-4760

Requirements for Minor:

- THE 2019..... Theatrical Experience
- THE 2029..... Fundamental Principles of Acting
- THE 2040..... Theatre Practicum
- THE 3030..... Creativity
- Any two elective courses in Theatre.

For information regarding Studio Art courses, please contact the Department of Theatre.

THEOLOGY AND RELIGIOUS STUDIES
DEPARTMENT OF THEOLOGY AND RELIGIOUS STUDIES
FR. CHAPPELL, CHAIR
107 ST. AUGUSTINE CENTER
610-519-4730

Requirements for Major:

- THL 1050..... Christianity: Traditions and Transitions
- THL 2725/2726..... Christian Classics I and II
- THL 3200..... Understanding Jesus the Christ
- At least one of the following:
 - THL 2050..... Introduction to the Old Testament
 - THL 2300..... Introduction to New Testament
 - THL 2XXX..... Any Scripture course
(permission of Department Chair and Instructor).
- At least one of the following:
 - THL 3100..... Christian Anthropology: God and Humanity
 - THL 3500..... God and the Future of History
- At least one of the following:
 - THL 3300..... The Church: Unity and Diversity
 - THL 3325..... Authentic Life in the Church
 - THL 3400..... Sacraments: Worship and Its Symbols
 - THL 3600..... Christians at Prayer
- At least one of the following:
 - THL 4100..... Christian Ethical Traditions and Contemporary Life
 - THL 4200..... Ethics of Life and Death
 - THL 4300..... Ethical Issues in Peace and Justice
 - THL 4600..... North/South: Developmental Ethics
- At least one of the following:
 - THL 5100..... The Heritage of Judaism
 - THL 5150..... Introduction to Islam
 - THL 5160..... Islamic Mysticism
 - THL 5170..... Islamic Philosophy and Theology
 - THL 5180..... Islamic Political Thought

Undergraduate Studies

- THL 5270..... Religion in India and Southeast Asia
- THL 5280..... Religion in China and Japan
- THL 5285..... The Buddhist Tradition
- At least two elective courses from the Theology and Religious Studies departmental offerings.

Requirements for Minor:

- THL 1050.....Christianity: Traditions and Transitions
- At least five elective courses from the Theology and Religious Studies departmental offerings. All courses required of the major are highly recommended for minors.

WOMEN'S STUDIES

DR. POHLHAUS, DIRECTOR
130 ST. AUGUSTINE CENTER
610-519-7422
GENERAL OFFICE
486 ST. AUGUSTINE CENTER
610-519-4610

Requirements for Concentration and Minor:

- For the CONCENTRATION, students are required to take an Integrating Seminar and seven additional courses of which at least three must be from Category A.
- For the MINOR, students are required to take an Integrating Seminar and five additional courses of which at least two must be from Category A.

CATEGORY A:

CA 4150..... Gender and Communication
ENG 2300..... Women in Literature
HIS 2296..... Changing Roles for Women in American Society
HIS 3361..... Women and Society in Modern Europe
PHI 2425.....Philosophy of Women
PJ 5300..... Race, Class and Gender
THL 5850..... Women in Religion and Society
SOC 3500..... Sociology of Gender Roles
WS 5000.....Integrating Seminar

CATEGORY B:

- Any course not in Category A which is designated Women's Studies (WS) in the Master Schedule.
- WS 3000.....Independent Study (permission of Director required)

NOTE: Students should check with the Women's Studies Program Director to determine which "topics" courses offered by various departments would be acceptable.

COLLEGE OF ENGINEERING

Robert D. Lynch, Ph.D., Dean
Lynda A. Capuzzi, BCE, Assistant Dean
Office: 131 Tolentine, tel. 610/519-4940

Analysis and practical creativity do not preclude emotional fulfillment; they are pathways to such fulfillment. They do not *reduce* experience, as is so often claimed; they *expand* it. At the heart of engineering lies existential joy®

THE CIVILIZED ENGINEER by Samuel C. Florman

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, 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 bachelors 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. All of the College's undergraduate degree programs are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET). In the 1990s, research units were established in the areas of advanced communications and environmental engineering.

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, and by emphasizing the engineering design process. In addition to being

professionally competent, graduates are expected to have an understanding of their professional and ethical responsibilities, the impact of engineering solutions in a global and societal context, and an appreciation of humanistic concepts in literature, the arts and philosophy.

OBJECTIVES

The College of Engineering is committed to providing a modern, relevant, high quality education that prepares its graduates to understand their role in today's and tomorrow's technological society, to make constructive engineering contributions, and provide ethical leadership to the engineering profession. The College pursues these objectives by stressing:

- ❑ The integration of the morality and values of the University's Augustinian heritage into the engineering curriculum.
- ❑ Faculty development by participation in high quality research which contributes to the body of knowledge used by the engineering profession.
- ❑ Emphasis on the engineering design process in order to motivate, stimulate, and educate students. In this approach, the problem solved or the need met is less important than the design process used to develop an optimum solution.
- ❑ A spirit of mutual respect, pride, confidence and cooperation among the engineering faculty, students, and graduates in their pursuit of knowledge and wisdom.

The undergraduate program seeks to develop the following specific attributes in all graduates:

- ❑ An ability to apply scientific and mathematical concepts and principles to solve problems in real-world situations.
- ❑ A fundamental understanding of mathematics, physical sciences and the scientific method.
- ❑ An ability to identify and define a problem, develop and evaluate alternative solutions, and effect one or more designs to solve the problem.
- ❑ An effectiveness in communicating ideas and information.
- ❑ A motivation and capability to acquire, evaluate, and assimilate knowledge and continue the learning experience.
- ❑ High professional and ethical standards.
- ❑ An ability to use computers for communication, analysis and design.
- ❑ An ability to be an effective member of a project team.
- ❑ An appreciation of the interrelationships of people within society and the role of the individual in society.
- ❑ An appreciation of humanistic concepts in literature, the arts and philosophy.

DEGREES OFFERED

The College of Engineering offers full-time (day) academic programs leading to the following degrees: Bachelor of Chemical Engineering, Bachelor of Civil Engineering, Bachelor

of Computer Engineering, Bachelor of Electrical Engineering, and Bachelor of Mechanical Engineering. The College also offers a part-time program leading to a Bachelor of 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. The first two years of study concentrate on mathematics, physics, chemistry, and engineering science, while the last two years stress 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 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 independent study 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 bachelors 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

FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>
CHM 1151 General Chemistry	4
CHM 1103 General Chemistry Laboratory I	1
CHS 1000 ¹ Ancient Medieval and Renaissance Thought	3
EGR 1611 Engineering Analysis	3
MAT 1500 Calculus I	4
THL 1050 Christianity: Traditions and Transitions	3

<i>Second Semester</i>	<i>Credits</i>
CHM 1152 General Chemistry II.....	4
CHS 1001 ¹ Modern Thought: Enlightenment to Present.....	3
EGR 1610 Engineering Design Graphics.....	3
MAT 1505 Calculus II.....	4
PHY 2400 Physics I, Mechanics.....	3

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

DECLARATION OF MAJOR

All engineering students are enrolled in a common freshman year curriculum. Prior to the end of their freshman year all undergraduate 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 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, 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.

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.

Villanova University

The present 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. At least one of these electives must emphasize advanced chemical engineering fundamentals or design. 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).

Program of Studies (for students matriculating prior to Fall 1997)

SOPHOMORE YEAR

<i>First Semester</i>		<i>Credits</i>
CHE 2041	Chemical Process Calculations.....	4
CHE 2011	Introduction to Chemical Engineering.....	1
CHM 3411	Physical Chemistry I.....	3
CHM 3401	Physical Chemistry Lab I.....	1
MAT 2705	Differential Equations with Linear Algebra.....	4
PHY 2402	Physics II: Electricity and Magnetism.....	3
Elective	Humanities/Social Science.....	3

<i>Second Semester</i>		<i>Credits</i>
CHE 2032	Chemical Engineering Thermodynamics I.....	3
CHE 2232	Fluid Flow Operations.....	3
CHE 2022	Statistical Methods of Data Analysis.....	2
CHE 2122	Numerical Methods in Differential Equations.....	2
CHM 3412	Physical Chemistry II.....	3
CHM 3402	Physical Chemistry Lab II.....	1
PHY 2403	Physics Lab for Engineering.....	1
Elective	Humanities/Social Science.....	3

JUNIOR YEAR

<i>First Semester</i>		<i>Credits</i>
CHE 3031	Heat Transfer Operations.....	3
CHE 3131	Chemical Engineering Thermodynamics II.....	3
CHE 3921	Chemical Engineering Lab I.....	2
CHE 4811	Professional Development.....	1
CHM 2211	Organic Chemistry I.....	3
CHM 2201	Organic Chemistry Lab I.....	1
Elective - Technical.....		3
Elective- Humanities/Social Science.....		3

<i>Second Semester</i>		<i>Credits</i>
CHE 3032	Principles of Mass Transfer.....	3
CHE 3232	Dynamic Simulation and Control Applications.....	3
CHE 3922	Chemical Engineering Lab II.....	2

CHM 2212	Organic Chemistry II	3
CHM 2202	Organic Chemistry Lab II	1
Elective - Technical		3
Elective - Humanities/Social Science		3

SENIOR YEAR

<i>First Semester</i>		<i>Credits</i>
CHE 4131	Process Equipment Design	3
CHE 4911	Chemical Engineering Lab III	1
CHE 4831	Chemical Engineering Project	3
CHE 5131	Chemical Reaction Engineering	3
Elective	Technical	3
Elective	Humanities/Social Science	3

<i>Second Semester</i>		<i>Credits</i>
CHE 4812	Seminar	1
Electives	Technical	9
Elective	Humanities/Social Science	3
Elective	Free	3

Program of Studies (for students matriculating in Fall 1997 or later)

SOPHOMORE YEAR

<i>First Semester</i>		<i>Credits</i>
CHE 2041	Chemical Process Calculations	4
CHM 3411	Physical Chemistry I	3
CHM 3401	Physical Chemistry Lab I	1
MAT 2705	Differential Equations with Linear Algebra	4
PHY 2402	Physics II: Electricity and Magnetism	3
Elective	Humanities/Social Science	3

<i>Second Semester</i>		<i>Credits</i>
CHE 2032	Chemical Engineering Thermodynamics I	3
CHE 2232	Fluid Flow Operations	3
CHE 2811	Professional Development I	1
CHE 2432	Modeling and Numerical Methods I	3
CHM 3412	Physical Chemistry II	3
CHM 3402	Physical Chemistry Lab II	1
PHY 2403	Physics Lab for Engineering	1
Elective	Humanities/Social Science	3

JUNIOR YEAR

<i>First Semester</i>		<i>Credits</i>
CHE 3031	Heat Transfer Operations	3
CHE 3131	Chemical Engineering Thermodynamics II	3
CHE 3132	Chemical Engineering Economics	3
CHE 3911	Chemical Engineering Lab I	1
CHE 3821	Professional Development II	2
CHM 2211	Organic Chemistry I	3
CHM 2201	Organic Chemistry Lab I	1
	Elective- Humanities/Social Science	3

<i>Second Semester</i>		<i>Credits</i>
CHE 3032	Principles of Mass Transfer	3
CHE 3232	Dynamic Simulation and Control Applications	3
CHE 3231	Modeling and Numerical Methods II	3
CHE 3922	Chemical Engineering Lab II	2
CHE 3822	Professional Development III	2
CHM 2212	Organic Chemistry II	3
CHM 2202	Organic Chemistry Lab II	1

SENIOR YEAR

<i>First Semester</i>		<i>Credits</i>
CHE 4131	Process Design	3
CHE 4921	Chemical Engineering Lab III	2
CHE 4831	Chemical Engineering Project	3
CHE 4031	Chemical Reaction Engineering	3
CHE 4821	Professional Development IV	2
Electives	Technical	6

<i>Second Semester</i>		<i>Credits</i>
Electives	Technical	9
Elective	Humanities/Social Science	3
Elective	Free	3

BACHELOR OF 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, clean water supplies, treatment and disposal of wastes, offshore structures, and space platforms. Because these projects are often of a magnitude which affect 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 he/she serves.

The civil engineering program prepares men and women confidently to enter the profession as well as to continue into graduate level studies. Emphasis is placed on recognizing societal needs and creative problem solving to meet those needs. The curriculum develops the

concept of design coupled with engineering judgement, enhances communication skills, and stresses computer fluency. The broad-based curriculum permits all students to take at least one course in five traditional civil engineering areas -- structural analysis, transportation, hydraulics and hydrology, geotechnical, environmental -- but also provides flexibility and meets student needs through a selection of electives in the junior and senior years. Under special circumstances, and with the approval of the student's adviser and chairperson, a course taken outside the department may be substituted for the Civil Engineering Elective. Total credits to earn the degree are 136.

Design concepts and methodologies are integrated throughout the curriculum culminating in a senior level comprehensive design team experience. The first semester involves preparing a feasibility study that addresses a specific civil engineering problem. The first semester project is open-ended, incorporating multiple disciplines of civil engineering. The second semester is an in-depth design team experience in specialty areas of civil engineering. Social, political, regulatory, ethical, legal, economic, and technical aspects are examined in these two courses. Field trips, written and oral progress and final reports, project planning procedures, and some practitioner involvement are an integral part of the experience.

Each student is assigned a faculty adviser at the beginning of the sophomore year; the adviser provides academic and career guidance for that student until graduation. Ten civil engineering faculty have earned professional registration.

Program of Studies

SOPHOMORE YEAR

<i>First Semester</i>		<i>Credits</i>
CEE 2101	Engineering Mechanics I - Statics	3
CEE 3702	Civil Engineering Numerical Analysis	3
CEE 2602	Civil Engineering Measurements.....	3
MAT 2500	Calculus III.....	4
PHY 2402	Physics II, Electricity and Magnetism	3

<i>Second Semester</i>		<i>Credits</i>
CEE 2102	Engineering Mechanics II - Dynamics.....	3
CEE 2103	Mechanics of Solids	3
GLY 2805	Geology for Engineers.....	3
MAT 2705	Differential Equations with Linear Algebra.....	4
ME 2950	Materials Testing.....	1
ME 3100	Thermodynamics I.....	3

Villanova University

JUNIOR YEAR

<i>First Semester</i>		<i>Credits</i>
CEE 3111	Fluid Mechanics	3
CEE 3211	Transportation Engineering	3
CEE 3401	Structural Mechanics	3
CEE 2702	Probability in Civil Engineering Design	3
CEE 3911	Fluid Mechanics Laboratory	1
Elective	Theology/Philosophy	3

Second Semester Credits

CEE 3101	Soil Mechanics	3
CEE 3501	Environmental Engineering I	3
CEE 3511	Hydraulic Engineering and Hydrology	3
CEE 3901	Soil Mechanics Laboratory	1
Elective	CEE Design Elective ¹	4
Elective	Theology/Philosophy	3

SENIOR YEAR

<i>First Semester</i>		<i>Credits</i>
CEE 4605	Civil Engineering Design Project I	3
CEE 4701	Economy and Risk	3
Elective	CEE Design Elective ²	4
Elective	CEE Design Elective ²	4
ECE 6020	Introduction to Electrical Systems	3
Elective	Humanities	3

Second Semester

		<i>Credits</i>
CEE 4606	Civil Engineering Design Project II	3
Elective	CEE Elective ³	3
Elective	Free	3
Elective	Theology/Philosophy	3
Elective	Social Science	3

¹CEE students select one from the following design course sequences:

CEE 3224	Transportation Facilities Design	3
CEE 3924	Transportation Facilities Design Laboratory	1
or		
CEE 3422	Structural Design	4

²CEE students select two from the following design course sequences:

CEE 4522	Environmental Engineering II	3
CEE 4922	Environmental Engineering Laboratory	1
or		
CEE 4523	Water Resources Engineering Design	4
or		

CEE 4821 Geological Engineering	4
³ CEE students select one from the following:	
CEE 4225 Advanced Transportation Engineering	3
CEE 4423 Computer-Aided Structural Engineering	3
CEE 4723 Modeling of Civil Systems	3
One of the Civil Engineering Design Course Sequences not selected previously.....	4

BACHELOR OF COMPUTER ENGINEERING

Students in the Computer Engineering program study basic science, mathematics, computer science, electrical engineering, design, and the humanities in order to prepare for a professional career or advanced study in computer engineering or computer science. The computer engineering program includes courses from the programs of computer science and electrical engineering, providing balanced coverage and integration of the hardware and software aspects of computer systems. In addition, this program emphasizes theoretical concepts, laboratory skills, communication skills, computer fluency, simulation skills, and the design process.

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 two-term 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: very large scale integrated (VLSI) circuits, computer communications, software engineering, neural networks, and artificial intelligence.

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, and a business minor. 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 chairperson or the Computer Engineering program adviser.

Program of Studies

SOPHOMORE YEAR

First Semester..... *Credits*

CSC 2070	Algorithms and Data Structures: Accelerated.....	4
ECE 2040	Fundamentals of Computer Engineering I.....	4
ECE 2050	Fundamentals of Electrical Engineering I.....	4
ECE 2409	Fundamentals of MATLAB.....	2
MAT 2705	Differential Equations with Linear Algebra.....	4

Second Semester..... *Credits*

CSC 1300	Discrete Structures I.....	3
ECE 2041	Fundamentals of Computer Engineering II.....	4
ECE 2051	Fundamentals of Electrical Engineering II.....	4
PHY 2402	Physics II, Electricity and Magnetism.....	3
Elective	Social Sciences.....	3

JUNIOR YEAR

First Semester..... *Credits*

CSC 1600	Operating Systems.....	3
CSC 1700	Design and Analysis of Algorithms.....	3
ECE 3420	Expert Systems Programming.....	3
ECE 3480	Digital Systems Engineering.....	4
Elective	Humanities.....	3

Second Semester..... *Credits*

CSC 4700	Software Engineering.....	3
ECE 3240	Discrete-Time Signals and Systems.....	4
ECE 3450	Digital Electronics.....	3
ECE 3720	Engineering Probability and Statistics.....	3
ECE 3951	Computer Engineering Design Seminar.....	2

SENIOR YEAR

First Semester..... *Credits*

ECE 4470	Computer Networks.....	4
ECE 4951	Computer Engineering Project I.....	2
Elective	Technical Elective ¹	6
Elective	Humanities.....	3

<i>Second Semester</i>		<i>Credits</i>
ECE 4991	Computer Engineering Project II.....	4
Elective	Free.....	3
Electives	Technical Electives ¹	6
Elective	Humanities.....	3

¹Technical electives must be chosen from the approved list of computer engineering or computer science courses.

BACHELOR OF ELECTRICAL ENGINEERING

Students in the Electrical Engineering program study basic science, mathematics, engineering science, electrical engineering, design, measurements, and the humanities in order to prepare for a professional career or advanced study in electrical engineering. The program emphasizes theoretical concepts, laboratory skills, computer fluency, communication skills, simulation skills, and the design process.

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 two-term 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: communications and signal processing; systems and control; computer engineering; microelectronics; electromagnetics and applied physics; and digital systems.

Senior electives can also be used to complement the electrical engineering requirements with studies in fields outside of the department. Possibilities include a computer engineering concentration or minor, a computer science minor, a mathematics minor, a physics minor, and a business minor.

All students acquire a working knowledge of computers and their applications by studying algorithms, programming, and the design and interfacing of computers. The microcomputer laboratory program provides hands on experience 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 systems, control, communications, signal processing, and microwave circuits. Selection of specializations and electives requires 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 chairperson or the student's faculty adviser.

Program of Studies

SOPHOMORE YEAR

<i>First Semester</i>		<i>Credits</i>
ECE 2040	Fundamentals of Computer Engineering I.....	4
ECE 2050	Fundamentals of Electrical Engineering I.....	4
ECE 2420	Engineering Programming and Applications.....	3
MAT 2705	Differential Equations with Linear Algebra.....	4
PHY 2402	Physics II, Electricity and Magnetism.....	3

<i>Second Semester</i>		<i>Credits</i>
ECE 2041	Fundamentals of Computer Engineering II.....	4
ECE 2051	Fundamentals of Electrical Engineering II.....	4
ECE 2409	Fundamentals of MATLAB.....	2
MAT 2500	Calculus III.....	4
PHY 2402	Physics Lab for Engineering.....	3

JUNIOR YEAR

<i>First Semester</i>		<i>Credits</i>
ECE 3220	Signal Processing.....	4
ECE 3450	Digital Electronics.....	3
ECE 3500	Electronic Materials and Devices.....	4
ECE 3720	Engineering Probabilities and Statistics.....	3
Elective	Social Science.....	3

<i>Second Semester</i>		<i>Credits</i>
ECE 3550	Analog Electronics.....	4
ECE 3690	Engineering Electromagnetics.....	4
ECE 3770	Electrical Communications.....	4
ECE 3950	Electrical Engineering Design Seminar.....	2
Elective	Humanities.....	3

SENIOR YEAR

<i>First Semester</i>		<i>Credits</i>
ECE 4290	Engineering System Models and Control.....	4
ECE 4950	Electrical Engineering Project I.....	2
Elective	Technical Elective ¹	6
Elective	Humanities.....	3

<i>Second Semester</i>		<i>Credits</i>
ECE 4990	Electrical Engineering Project II.....	4
Electives	Technical Electives ¹	6
Elective	Free.....	3
Elective	Humanities.....	3

¹Technical electives must be chosen from the approved list of electrical engineering courses.

BACHELOR OF 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.

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 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. A concentration requires that the student complete fifteen credit hours of appropriate courses. 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. However, a concentration or minor will usually require taking one or more courses in addition to those needed for the Bachelor of Mechanical Engineering degree.

Throughout the curriculum the technical courses are balanced by a careful selection of humanities and religious studies courses to ensure that the effects of technology on society are given due consideration in design.

3+2 Bachelors-Masters Program.

Any full-time student with an acceptable GPA, normally greater than or equal to 3.00, at the start of the senior year also has the option of pursuing a 3+2 Bachelors-Masters Program. In order to be considered for this program, the student, prior to the beginning of the senior year,

must write a letter to the chairman requesting admission to the program, and must complete an application form for graduate studies in the College of Engineering. Students who are admitted to the program take their three career/ME electives from 7000 level ME courses during their senior year. These three courses also will be counted toward the requirements for a Master of Mechanical Engineering degree. During both the senior year and the fifth year, the admitted student must meet all graduate engineering requirements. Upon completion of all undergraduate degree requirements, the student receives his/her Bachelor of Mechanical Engineering degree, and in the fifth year when all required graduate work has been completed, the student receives a Master of Mechanical Engineering degree. All graduate courses must be taken at Villanova in order to be included in this program.

A faculty adviser is assigned to each student at the beginning of his/her sophomore 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, and completion of degree requirements for graduation.

Program of Studies

SOPHOMORE YEAR

<i>First Semester</i>		<i>Credits</i>
CEE 2101	Engineering Mechanics I Statics.....	3
MAT 2500	Calculus III	4
ME 2500	Mechanical Engineering Analysis & Design I.....	3
PHY 2402	Physics II: Electricity and Magnetism.....	3
PHY 2403	Physics Lab for Engineers	1
CA 1100	Fundamentals of Public Speaking.....	3

<i>Second Semester</i>		<i>Credits</i>
CEE 2102	Engineering Mechanics II - Dynamics.....	3
CEE 2103	Mechanics of Solids.....	3
MAT 2705	Introduction to Differential Equations.....	4
ME 2901	Mechanical Engineering Laboratory I.....	2
ME 2501	Mechanical Engineering Analysis & Design II.....	3
ME 2113	Manufacturing Engineering	3

JUNIOR YEAR

<i>First Semester</i>		<i>Credits</i>
ME 3300	Materials Science I.....	3
ME 3500	Mechanical Engineering Analysis & Design III.....	3
ME 3902	Mechanical Engineering Laboratory II	2
ME 3401	Stress Analysis I.....	3
ME 3100	Thermodynamics I	3
Elective	Theology/Philosophy ³	3

<i>Second Semester</i>		<i>Credits</i>
CEE 3111	Fluid Mechanics.....	3
ECE 6020	Introduction to Electrical Systems	3
ME 3200	Machine Design	4

ME 5202	Vibrations	3
ME 3101	Thermodynamics II	3
ME 3903	Mechanical Engineering Laboratory III	2

SENIOR YEAR

<i>First Semester</i>		<i>Credits</i>
ME 4800	Design Seminar in Mechanical Engineering I	1
ME 4901	Mechanical Engineering Laboratory IV	2
ME 4101	Heat Transfer I	3
ME 4102	System Dynamics ³	3
Elective	Theology/Philosophy	3
Elective	Social Science	3
Elective	ME Elective	3

<i>Second Semester</i>		<i>Credits</i>
ME 4801	Design Seminar in Mechanical Engineering II	3
Elective	Theology/Philosophy ³	3
Elective	Professional Development ¹	3
Elective	Career/ME Electives	6
Elective	Career/ME or Free ²	3

¹Select one of the following: EGR 2001, ME 6621, PHI 1600, PHI 2150, PHI 3820, or PHI 3825.

²This is a career elective for those students pursuing a concentration as described above; for all other students it serves as a free elective.

³See Theology and Philosophy under Humanities and Social Science Electives.

HUMANITIES AND SOCIAL SCIENCE ELECTIVES

Theology and Philosophy

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

- THL 1050 (Christianity: Traditions and Transitions).
- One 3-credit THL course at the 2000 level or above.
- Two additional 3-credit courses chosen from among the following:
 - THL courses at the 2000 level or above
 - Any Philosophy courses, including PHI 2150 (Engineering Ethics)
 - EGR 2001 Engineering: The Humanistic Context
 - Any Peace and Justice Course
 - ETH 2050 College Ethics

Humanities and Social Science

All students select their remaining humanities and social science electives from among the courses listed in this catalog and offered by the following departments. All students must take at least one course from a Social Science Department.

Humanities

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 courses
in native language)
Philosophy
Theatre (except skills courses)
Theology and Religious Studies (2000 and above)

Social Sciences

Economics
Geography
Peace and Justice
Political Science
Psychology
Sociology
Women's Studies (selected courses only)

In selecting their humanities and social science electives, students should select a series of related courses that provide breadth and depth of understanding, rather than a series of unrelated introductory courses. Courses primarily emphasizing skills (such as acting, painting, sculpting, public speaking, etc.) are not acceptable.

SPECIAL PROGRAMS AND OPTIONS

MINORS AND CONCENTRATIONS

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; academic minors in Business, Chemistry, Computer Science, Mathematics, and Physics; the Honors Program; and the Naval Science (NROTC) Program. See details below and in the appropriate departmental listings.

Bachelor of Arts - Dual Degree Program

Under this program it is possible for undergraduate engineering students to earn a Bachelor of Arts Degree in addition to a Bachelor's Degree in Engineering. Depending on the student's engineering major, the student must successfully complete 14 to 17 additional courses beyond those required for the engineering degree. Engineering students wishing to enter this Dual Degree Program must write a letter to the Dean of Engineering requesting admission into the program.

More specific information on this program is available to interested engineering students in the office of the Dean of Engineering.

Business Minor

Students may earn a minor in Business by successfully completing the following eight courses: ACC 1001 or 1101, 1102; BL 1090; ECO 1001, 1002; FIN 1113; MGT 1102; MKT 1137. The mathematics requirements for a Bachelors Degree in Engineering also satisfy the mathematics requirements for the business minor. *NOTE:* some of these courses carry prerequisites. Also, see the college of Commerce and Finance concerning specific requirements for a laptop computer.

Since the number of engineering students in this program is restricted, admission to it is on a limited basis, and *interested students must request admission prior to the beginning of their sophomore year.* All courses for the business minor must be taken at Villanova University. Credit for the above courses may not be obtained by means of the Credit By Examination Program. Additional information on this program is available to interested engineering students in the *College of Engineering Student Handbook.*

Computer Engineering Concentration/Computer Engineering Minor

Students may earn a concentration in computer engineering by successfully completing the following seven courses: ECE 2190, ECE 2420, ECE 2490, ECE 3480, ECE 3490; and two of the following: ECE 5430, ECE 5443, ECE 5447, ECE 5450, ECE 5484.

Students may earn a minor in computer engineering by successfully completing: ECE 2190, ECE 2420, ECE 2490, ECE 3490; and one of the following: ECE 3480, ECE 5430, ECE 5443, ECE 5447, ECE 5450, ECE 5484.

Pre-requisite courses must be satisfied prior to taking a course.

ACADEMIC POLICIES AND 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 Quality Point Average (QPA) of at least 2.00 and a cumulative Technical Quality Point Average (TQPA) of at least 2.00. Technical courses are defined as all engineering, science, and mathematics courses.

ADVANCED ACADEMIC CREDIT

Advanced Placement. Information on advanced placement credit is found in the current issue of the *College of Engineering Student Handbook.*

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 an engineering adviser, who provides career planning advisement and when appropriate, referrals. In addition, the College of Engineering sponsors Fall and Spring Seminars which inform freshmen 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 Assistant to the Dean of Engineering.
- ❑ Advising for upper class engineering students is provided by each of the engineering departments for the students who are majoring in the program offered by the department.

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 Quality 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 Quality Point Average of 3.50 or more 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.

COMPUTING

College and University Computing.

The campus is networked with an ETHERNET backbone which is also linked to the World Wide Web (WWW) and Internet networks. In addition to the several public computing sites located around the campus, the Computer-Aided Engineering (CAE) Centers provide workstations specifically dedicated to meeting the computing needs of engineering students. Access to these workstations is provided 24 hours a day, 7 days a week. The workstations provide network access as well as microcomputer capabilities, using DOS, Windows, Macintosh, and UNIX operating systems.

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 process systems and distillation column design, including AspenTech's ASPEN-PLUS. The departmental computer laboratory also provides a wide range of special-purpose software prepared by the CHE 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's computer facilities include personal computers and associated printers and plotters. A variety of software packages including MATLAB, ANSYS, STAAD-III, HEC-RAS, HEC-HMS, HCS, KERN, and AUTOCAD are used in the curriculum. 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, generation of hydrographs, culvert hydraulics, modeling of river systems, and transportation system planning and simulation of traffic operations.

The **Electrical and Computer Engineering** Department utilizes a Sun file server with Sun workstations and graphics terminals, which are available in the Advanced Computer Systems Laboratory. In addition the department has PC's, HP CAE workstations and a Motorola 68000 microprocessor system. The department software includes UNIX, SMP, ILS, FORTH, HP ECE Design Center software, 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, ALGOR, 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, in recognizing the continued changes globally in both the learning and practicing of the skills of engineering, encourages all its majors to consider studying in an overseas university some time during their four years at Villanova. In 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.

Students may consider applying directly into overseas universities, going through Villanova approved sending institutions, or studying overseas for a year as part of a student exchange, such as the present exchange program with the Victoria University of Manchester in Manchester, UK.

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, St. Augustine Center, Room 415, (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, 12 student group study rooms, and a multi-media lecture hall seating 140. Each of the building's four levels has a student advising room and a conference room.

The **Chemical Engineering** Department maintains modern laboratory facilities to support the Bachelor of 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 Independent Study 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), environmental, geology, structural, measurements, fluid mechanics and hydraulics.

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, Audio, Advanced Electronics, Advanced Computer Systems, Antenna Anechoic Chamber, Antenna Research, Communications, 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, and Wind Tunnel.

SATISFACTORY/UNSATISFACTORY 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; 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 is found under the Grading System policies in the University section of this *Catalog*.

REGISTRATION OPTIONS

Qualified 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 chairperson and other appropriate individuals where necessary, as indicated below.

Engineering students wishing to utilize advanced placement consideration to take more advanced courses in English or Modern Languages may do so upon discussion with the Assistant Dean of Engineering and the chairperson of the respective department offering the course.

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 chairperson and the chairperson 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 chairperson of the department offering the course and the student's department chairperson.

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 Dean of Engineering, or (2) an upperclassman has approval from his adviser and chairperson.

STUDENT ORGANIZATIONS

In order to encourage close contact between our engineering students and practicing professional engineers, the College of Engineering maintains student chapters of the following major engineering societies: American Institute of Chemical Engineers (AIChE), American Society of Civil Engineers (ASCE), Institute of Electrical and Electronics Engineers (IEEE), and the American Society of Mechanical Engineers (ASME). These groups, with the cooperation and support of the faculty and practicing professional engineers, organize and sponsor meetings and field trips of interest to engineering students.

The Villanova chapter of the Society of Women Engineers promotes the social growth and professional development of women in all fields of engineering. VUMES (Villanova University Minority Engineers & Scientists) promotes the social growth and professional development of minorities in the fields of engineering.

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.

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 chairperson.

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 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 the Office of the Dean of Engineering. *NOTE*: only courses in which a grade of AC@ (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 Quality Point Average (QPA) or Technical Quality point Average (TQPA) 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 admission requirements must be fulfilled.

WITHDRAWAL FROM COURSES

Engineering student requests for authorized withdrawal from a course without penalty (WX) will be granted automatically until the Friday after mid-term break. 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 Dean of Engineering 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 chairperson of the department in which the student is majoring. The Dean will inform the student of his decision and the reason for it.

WITHDRAWAL FROM THE UNIVERSITY

Engineering students who decide to withdraw voluntarily from the university must complete and submit a withdrawal form to the Dean of the College of Engineering. Withdrawal forms are available in the Dean's Office. After the form has been submitted, the student may also be interviewed by an administrator in the College of Engineering.

COLLEGE OF COMMERCE AND FINANCE

Thomas F. Monahan, Ph.D., CPA, Dean
Victoria B. McWilliams, Ph.D., Associate Dean
Mohammad K. Najdawi, Ph.D., Associate Dean
Office: LB Tr. #1, Tel. 610-519-4330
Email: patcunningham@villanova.edu

“Rapid changes in contemporary society have forced us to rethink our understanding of the world of business. Even an introductory grasp of business requires an understanding of changing domestic and foreign realities, a broad and flexible intellectual approach, and a sensitivity to complex and challenging ethical issues. The study of business is thus an immensely rewarding activity that prepares the learner for virtually any endeavor.”

HISTORY

The College of Commerce and Finance was founded in 1922. Since that time, it has attracted outstanding undergraduate and graduate students from across the nation and the world. Current undergraduate enrollment is approximately 1900. Graduate enrollment in the MBA program stands at 650 mostly part-time students, while the Master of Tax program, offered jointly with the Villanova Law School, enrolls approximately 200 part-time students. A new masters-level accountancy and an Executive MBA program commence May of 2001 and fall of 2000 respectively.

The undergraduate business and MBA programs of the College are fully accredited by AACSB - the International Association for Management Education. In addition, the accounting program is separately accredited by the AACSB and, as such, is among a select number of collegiate programs so designated.

The College faculty consists of 90 full-time professors, with over ninety percent holding the terminal degree in their area of expertise. Approximately 20 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.

OBJECTIVES

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

DEGREE PROGRAMS

The College of Commerce and Finance awards both undergraduate and graduate degrees signifying the accomplishment of an education that empowers the student to compete effectively in the global marketplace. Attaining a Bachelor of Science degree in Accountancy or Economics; a Bachelor of Science in Business Administration in Finance, Management, or Marketing; a Master of Accountancy and Professional Consultancy, Master of Business Administration, or Master of Taxation degree clearly identifies the holder as a technologically competent, internationally aware, ethically and socially responsive, adaptive problem solver who is skilled in the effective and efficient use of communication arts and strengthened through practical experience.

The keystone initiative of the College's strategic plan, technological competence, is enhanced in several ways during the student's academic experience. ALL INCOMING FRESHMEN ARE ISSUED A NOTEBOOK COMPUTER BEFORE THE START OF FRESHMAN CLASSES. THIS NOTEBOOK COMPUTER IS REPLACED PRIOR TO THE STUDENT'S JUNIOR YEAR TO INSURE THE AVAILABILITY OF STATE-OF-THE-ART TECHNOLOGY. This technology program also provides extensive software programs, technical support, and introductory training. The College is one of a very select number of institutions nationwide providing this level of technology to support its educational programs.

SPECIAL PROGRAMS

BUSINESS MINORS

Business Minors for Students who are not enrolled in the College of Commerce and Finance

1. 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. Generally, students begin their studies in their sophomore year. Enrollment is determined on a competitive basis. Required business courses are: ACC 1001 and ACC 1101; BL 1090; ECO 1001 and 1002; FIN 1113; MGT 1102; MKT 1137; MAT 1230 and 1235. DIT 2010 may substitute for the statistics for students who have completed a calculus sequence. Business minors are required to purchase a notebook computer with a configuration specified by the College. Information concerning this requirement may be obtained from the Office of the Dean, Lower Bartley Trailer 1 (LB Tr.#1).

2. Villanova Summer Business Institute (One full summer - two sessions)

The Villanova Summer Business Institute (SBI) is an innovative, intensive academic program seeking to provide the motivated non-business student with broad exposure to the major foundational areas of business. The College recognizes successful completion of the SBI as a general business minor for Villanova students. One of the Institute's unique aspects is the integrated, cross-functional teaching approach employed throughout. Faculty from the two indicated disciplines are present in all class meetings, thereby effecting an interdisciplinary approach to the subject matter being covered. Additionally, the Institute employs a web based computer simulation to further enhance the learning environment.

Specific course work includes:

BUS 1102 *Integrated Principles of Finance & Financial Accounting (4 Cr)*

BUS 1103 *Integrated Principles of Marketing and Organizational Management (4 Cr)*

BUS 1104 *Integrated Principles of Operations Management and Managerial Accounting (4 Cr)*

BUS 1105 *Integrated Principles of Micro and Macro Economics (4 Cr)*

BUS 1106 *Integrated Business Simulation (1 Cr)*

Applicants must be in good academic standing and have completed 60 credits prior to their enrollment in the SBI. Included within those 60 credits should be MAT 1230, 1250, DIT 2010 - or their equivalent. Those without one of these prerequisite courses may still apply; their acceptance into the SBI will be conditioned upon successful completion of the statistics prep course offered the week before the Institute begins.

Applications are accepted beginning January 2 each year and must be received by April 15. Decisions are made on a rolling basis, so early submission of applications is encouraged. **Space is limited; applications will continue to be accepted until the Institute is full or April 15, whichever occurs first.** Complete details and applications are available from the Director, Villanova Summer Business Institute, (610) 519-4341, or email at sbi@villanova.edu.

Business Minors for Commerce and Finance (C&F) Students

C&F students or graduates of the Summer Business Institute may pursue a minor in the following business areas with the requirements listed.

1. Accountancy: ACC 2310, ACC 2320, plus one additional junior or senior level accounting course.
2. Economics: ECO 2101, 2102 and any two Economics courses above 3000.
3. Finance: FIN 1113 plus any three other Finance courses, excluding FIN 3350 and FIN 3360.
4. International Business: MGT 2410 plus three courses chosen from the following elective courses: FIN 2335, BL 2160, MKT 2280, and MGT 2350. Finance, Management, and Marketing majors must include the international course from his/her major as one of their major courses and any two of the remaining three elective courses. Accounting, Economics, and MIS majors must take any three of the four elective courses. Completion of two semesters of a foreign language at or above the *intermediate* level are required if Italian, Spanish, French, or German is selected; completion of two semester of foreign language at or above the *introductory* level are required if Arabic, Chinese, Japanese, or Russian is selected. An international experience is also required: an approved course-related trip, exchange program, semester abroad, or internship program abroad.
5. Management Information Systems: CSC 1051, DIT 2006, DIT 2165, DIT 2170, and DIT 2175.
6. Marketing: MKT 1137 plus three (3) other MKT courses, one of which must be either MKT 2120 or MKT 2197.

NON-BUSINESS MINORS AND CONCENTRATIONS

C&F students may pursue minors and concentrations in programs offered by other colleges of the University, including the Honors Program. The minors are described in the appropriate section of this *catalog*, and detailed information on the process for approval may be obtained in the departments of the minors being pursued.

HONORS PROGRAM

The Honors Program at Villanova brings together students with strong academic records and dedicated faculty members in challenging seminars that promote diversity and depth of learning. The seminars encourage innovation, development of communication skills, and independent research. Students in the College of Commerce and Finance who are interested in participating in the Honors Program should contact their academic advisors for eligibility criteria and registration procedures. General information about the Honors Program may be obtained from the Dean of the College of Commerce and Finance (LB Tr. #1; telephone 610-519-4330) or from the Honors Program Office (SAC 103; telephone 610-519-4650). A list of Honors arts and business courses, and other information regarding the Honors Program, can be found in the Arts and Sciences section of this *catalog*.

INTERNATIONAL STUDY

The College of Commerce and Finance supports an International Student Exchange Program. Alliances have been developed between Villanova and several international institutions. The International Studies Office Geraghty Hall, 1st Floor; telephone 610-519-6412) provides assistance to students desiring to study in a foreign country, and offers a variety of semester, yearlong, and summer programs. Courses at international universities must be approved in advance by the chair of the student's major department.

VILLANOVA INTERNSHIP PROGRAM (VIP)

The intent of the Villanova Internship Program is to provide meaningful pre-professional work experience for students. The VIP is a partnership among the student interns, the company and supervisor, the sponsoring faculty member and the College of Commerce and Finance. The overriding goal is to better prepare students to compete in the job market. Additionally, students may explore several career fields and make more informed decisions regarding their initial job search. The Office of Business Relations works with students and companies to structure appropriate internship experiences. Students should contact the Office for complete details regarding minimum QPA, application procedures, academic credit, etc. The Office is located in Room 3008, Bartley Hall; telephone 610-519-4341; e-mail cfintern@email.vill.edu.

DEGREES OFFERED

The College of Commerce and Finance offers the following undergraduate degrees: Bachelor of Science in Accountancy; Bachelor of Science in Economics; and, Bachelor of Science in Business Administration.

BACCALAUREATE DEGREE REQUIREMENTS

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

- ❑ Completion of all *core curriculum and academic* major course requirements for the degree with an overall cumulative quality point average (QPA) of not less than 2.00. Students transferring into the College of Commerce and Finance must attain a QPA of 2.0 or better for all work attempted at Villanova University.
- ❑ At least 50% of the business credit hours required for degrees in the College must be completed at Villanova University.
- ❑ The final 30 hours of one's academic program must be completed at Villanova (residence requirement).
- ❑ Students are responsible for the degree requirements as determined for the class in which they would normally graduate. 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.** The staff in the Dean's Office is available to assist the student in making this determination.
- ❑ Discharge of all financial obligations to Villanova University.

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. For example, a student interested in continuing his/her study of a foreign language in freshman year would postpone either BL 1090, ENG 1010, and/or PHI 1050.

FRESHMAN YEAR

ACC 1001 ¹	Computer Applications and Accounting	3 crs.
BL 1090 ¹	Legal Environment of Business and Society	3
CHS 1000 ²	Ancient Medieval Renaissance Thought	3
CHS 1001 ²	Modern Thought: Enlightenment to Present	3
ECO 1001, 1002	Intro to Microeconomics/Macroeconomics	6
ENG 1010 ³	Composition	3
MAT 1330, 1335	Quant Analysis Bus I, Quant Analysis Bus II	6
PHI 1050 ^{3,4}	Intro to Philosophy	3

¹ Students in ACC 1001 in the Fall will take BL 1090 in the Spring and vice-versa.

² Students in CHS 1000 in the Fall will take CHS 1001 in the Spring and vice-versa.

³ Students in PHI 1050 in the Fall will take ENG 1010 in the Spring and vice versa.

⁴ A foreign language (Humanities Elective) can be substituted in freshman year as described above. In addition, an Overload will be permitted for students interested in pursuing a foreign language.

SOPHOMORE YEAR

		<i>credits</i>
ACC 1101	Principles of Financial Accounting	3
ACC 1102	Principles of Managerial Accounting	3
Social Science ⁵	Social Science Elective	3
COM 1101	Business & Professional Communication	3
ENG 1050	The Literary Experience	3
ETH 2050 ⁶	Ethics of Tradition & Contemporary Life	3
HISTORY ^{6,7}	History Elective	3
DIT 2006	Information Systems for MGT	3
DIT 2010	Business Statistics	3
THL 1050	Christianity: Tradition & Transitions	3
Free Elective	Elective	3

⁵ Social Science: Choose from Geography, Sociology, Political Science, or Psychology.

⁶ Economics majors: Students who major in Economics will take two courses in their major (ECO 2101: Macro-Economic Theory and ECO 2102: Micro-Economic Theory) during their sophomore year. For these students, ETH 2050 is taken during the junior year, while the History course requirement is fulfilled during the senior year.

⁷ History: Choose any offering from the Department of History.

JUNIOR YEAR

		<i>credits</i>
ECO 3109	International Economics	3
FIN 1113	Principles of Finance	3
MGT 1102	Organization & Management	3
DIT 1141	Operations Management	3
MKT 1137	Principles of Marketing	3
Major courses		6
Natural Science ⁸	Natural Science Elective	3
Non-Business ^{9/10}	Electives	6

⁸ Natural Science: Choose from AST, BIO, CHM, or PHY.

⁹ Accounting majors: Students majoring in Accounting take a third required accounting course during the junior year in place of a non-business elective course, which is taken during the senior year.

¹⁰ MIS Majors: Substitute CSC 1051 for a non-business elective.

SENIOR YEAR

		<i>credits</i>
Humanities ¹¹	Elective	3
Major courses ¹²		9
MGT 3301	Policy Formulation Administration	3
Social/Natural Science ¹³	Elective	3
Theology	Elective	3
Free Electives ^{14, 15}		9

¹¹ Humanities: choose from Art History, Classical Studies, English, Modern Languages, Philosophy, or Theater.

¹² For ECO majors: a history elective is substituted for a major course.

¹³ Social/Natural Science: choose from Geography, Political Science, Psychology, Sociology, or the Natural Sciences (Astronomy, Biology, Chemistry, or Physics).

¹⁵ MIS Majors: a major course is substituted for a free elective.

¹⁶ ACC Majors: it is recommended that BL 2185 be substituted for one free elective. Students seeking CPA certification in NY or NJ should take an additional finance course to meet the 6-credit minimum finance course requirement in these states.

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. *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 may change without prior notice.* Policies specific to the College follow:

ACADEMIC STANDING AND PROBATION

The academic records of all C&F students will be reviewed at the end of each semester (including summer) by the Commerce and Finance Academic Standing Committee for appropriate action .

Any student falling below 2.0 QPA is automatically on academic probation and is subject to possible dismissal. The Committee on an individual basis determines appropriate action and letters are sent at the end of each semester to the students being reviewed.

A student who is dropped from the College may appeal the decision by submitting additional information to the Committee. This must be done in writing before a specified date.

NOTE: Student-athletes must meet the same criteria.

ADVISING

Students in the College of Commerce and Finance receive career and academic advising through the academic departments of their major either from the Chair or from an assigned faculty adviser. Freshmen (undeclared major) and sophomores who have not declared a major are advised by assigned faculty and peer student advisers. Freshmen advising is coordinated through the Department of Economics, 3019 Bartley Hall, telephone 610-519-4360).

Advising is very important to Villanova faculty. During the semester, faculty members will be available to review tests and examinations, to assist students in understanding material in the course, and to discuss career opportunities in their field of specialty. Appointments with individual faculty members can be arranged with the department secretary or the instructor directly.

CLASSROOM EXPECTATIONS

Faculty members in the College of Commerce and Finance are expected to state on their syllabus at the beginning of each semester policies on such matters as academic integrity, class attendance, frequency of tests and examinations, use of notes and textbooks during examinations, submission and grading of written assignments, and the basis for determining the final grade. The Academic Integrity Policy as noted on each C&F syllabus follows: *The Code of Academic Integrity of Villanova University addresses cheating, fabrication of submitted work, plagiarism, handing in work completed for another course without the instructor's approval, and other forms of dishonesty. For the first offense, a student who violates the Code of Villanova University will receive 0 points for the assignment. The violation will be reported by the instructor to the Dean's Office and recorded in the student's file. In addition, the student will be expected to complete an education program. For the second offense, the student will be dismissed from the University and the reason noted on the*

student's official transcript. Villanova's Code of Academic Integrity is available on the Web at www.VPAA.villanova.edu/academicintegrity/.

COURSES AT OTHER INSTITUTIONS

Prior permission in writing must be obtained from the office of the Dean of the College to transfer courses from other colleges and universities to Villanova. Courses must be basically equivalent to the Villanova course as to content, credit value and objective; and the grade must be a "C" or better. Credits only, and not quality points, are transferable. Students must have a 2.0 QPA to apply for transfer of credit from other institutions.

FAILURE IN COURSES

When a student who has failed a course at Villanova presents evidence of subsequently passing an equivalent course in another institution, the right is reserved to withhold credit until the student passes a qualifying examination set by the department chair and dean of the college.

HONORS AND AWARDS

The **Medallion Awards** for distinguished scholarship and service in the College are conferred annually at a special ceremony during graduation weekend. Other awards by professional organizations and departments are distributed on a regular basis at appropriate times.

Beta Gamma Sigma. 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. Each year qualified juniors, seniors, MBAs, and recent graduates are eligible for membership in Beta Gamma Sigma.

Dean's List. A C&F student achieves the Dean's List with a 3.50 semester average on his/her final grade report for the semester with full-time status. The cumulative average does not apply.

Graduation Honors. Summa cum laude 3.90; magna cum laude 3.75; and cum laude 3.50.

ORGANIZATIONS

The objectives of collegiate education include proper social development and social leadership. Accordingly, Villanova University offers students a variety of extracurricular and co-curricular activities - religious, athletic, social, and cultural. Student activities are under the jurisdiction of the Dean of Student Activities, the Dean's staff, and the Faculty Moderator of the individual organization. C&F sponsors the following organizations: Accounting Society, American *Production and Inventory Control Society, Beta Alpha Psi, Beta Gamma Sigma, Economics Society, Financial Management Association, Gamma Phi Honor Society, International Business Society, Marketing Society, Omicron Delta Epsilon, Economics Honor Society, Pi Sigma Epsilon (Marketing Profession Fraternity), Small Business Consultants, Association of Information Technology Professionals, Society for the Advancement of Management, and Student Chapter – Institute of Management Accountants.

SATISFACTORY/UNSATISFACTORY OPTION

Junior or Senior C&F students with a QPA of 2.5 or better may take free electives on a satisfactory/unsatisfactory basis. Only one satisfactory/unsatisfactory course may be taken per

Villanova University

semester. The “S” grade is the equivalent of a “C” or better. The satisfactory/unsatisfactory grade will be shown on the transcript but will not be reflected in the quality-point average. Failures in the satisfactory/unsatisfactory option need not be repeated. **If the course in question is used to satisfy the requirements for a minor or double major, that course cannot be taken on a S/U basis.** *Note: a student must declare election of the satisfactory/unsatisfactory option by the end of the drop/add period at the office of the Registrar.*

SCHOLASTIC LOAD

A student must take a minimum of 12 and a maximum of 19 credits per semester to be a full-time student. Permission to take fewer than 12 hours may be obtained in exceptional circumstances with the approval of the Dean. No student may take more than one course overload in any semester.

TRANSFER CREDITS

Students planning to transfer to Villanova University’s College of Commerce and Finance should review the section on Transfer Students appearing in this catalog.

TUTORING

Gamma Phi Honor Society provides a tutoring service open to all C&F students. A list of available tutors in various courses is maintained in the Department of Management, Room 3006 Bartley Hall.

WITHDRAWAL FROM A COURSE (WX)

Prior to the stated deadline of the Friday following the semester mid-term break period, a student seeking to withdraw from a course without penalty may do so without question by requesting a WX in the Dean’s office. After that period, the student must fill out a *Withdrawal from a Course Form* and present supportive evidence of reasons other than academic that he/she should be permitted to withdraw without penalty from the course. This form requires the signatures of the instructor, the instructor’s chairperson, and the Dean of the College.

DEPARTMENTS

NOTE: In the courses listed below, the semester listings indicate which semester the course is offered. If there is no semester listing, the course is offered on an occasional basis only.

ACCOUNTANCY

Chair and Professor: Stout

Professors: Bremser, Clay (Emeritus), Derstine, Monahan

Associate Professors: Borden, Dougherty, Emig, Hildebeitel, Licata, O'Mara, Ward

Assistant Professors: Barsky, Catanach, Devine, Frank, Pelesh, Rhoades-Catanach, Stiner, West

Office: 2015 Bartley Hall, tel. 610/519-4340

BACHELOR OF SCIENCE IN ACCOUNTANCY: 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 AACSB--The International Association for Management Education.

Certified Public Accountant Examination: Students planning to sit for the Uniform Certified Public Accountant (CPA) Examination are advised to contact the State Board of Accountancy in the state in which they plan to qualify for specific educational and experience requirements mandated by that state. For example, students who plan to become certified in the states of New Jersey or New York are required to take for credit an additional finance course beyond the single finance course (FIN 1113) required to complete the accountancy major at Villanova University. Information regarding certification requirements can also be obtained at: www.aicpa.org.

150-Hour Program: In January 1988, the general membership of the American Institute of Certified Public Accountants (AICPA) voted to require all new members after the year 2000 to have completed a minimum of 150 semester hours of college/university education. As of today, a majority of states have passed a 150-hour requirement for CPA certification purposes. In December of 1996, the State of Pennsylvania passed a new law that does not require 150 hours of education to sit for the Uniform CPA exam or to become certified in the State. What the Pennsylvania law did do, however, was reduce the experience requirement in half (one year versus two years for candidates who do not have a minimum of 150 credit hours of academic credit). For students entering with the class of 2001 and beyond, Villanova will provide the opportunity to meet certification requirements through an innovative (30 credit hour) Master of Accounting and Professional Consultancy degree program. Additional information regarding this program can be obtained by contacting the department head at david.stout@villanova.edu.

Required courses for the major: ACC 2310, 2320, 2430, 2460, and 2470.

Required courses for the minor: In addition to the 3 accounting courses required by all C&F majors (ACC 1001, 1101, and 1102), Accounting Minors are required to take ACC 2310 and ACC 2320, plus one additional accounting course of their choosing.

BUSINESS LAW

Associate Professors: Kuhn, Rainone, Walsh

Assistant Professors: Cerino, DiLullo

Office: 3015 Bartley Hall, tel. 610-519-4350

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.

DECISION AND INFORMATION TECHNOLOGIES

Chair and Associate Professor: Nydick

Professors: Liberatore, Najdawi, Wolek

Associate Professors: S. Chaudhry, Sipior, Varano

Assistant Professors: Chung, Coughlan, Luo, Otto, Sloane, Wagner, Webster

OFFICE: 3004 Bartley Hall, tel. 610-519-4395

The DIT Major prepares students to better understand and utilize information technology in the management and operation of business organizations. All DIT majors must complete specific courses in Computer Programming, Database Management Systems, Systems Analysis and Design, Data Communications and Networking, Applied Decision Support Systems, and Electronic Commerce.

DIT MAJOR: CSC 1051, DIT 2165, DIT 2170, DIT 2175, DIT 2180, and DIT 2185

DIT MINOR: CSC 1051, DIT 2165, DIT 2170, and DIT 2175 (*All courses required*)

ECONOMICS

Chair and Professor: Mathis

Professors: DeFina, Thanawala, Zech

Associate Professors: Clain, Donziger, Farrell, Giordano, Kroch, Wolnicki, Zaleski

Assistant Professors: Alexandrin, Asher, Casario, Mao, Taylor, Walsh

OFFICE: 3019 Bartley Hall, tel. 610-519-4360

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. Beyond ECO 1001 and 1002 taken in the Freshman year, the major requires 6 credits in micro and macro economic theory (ECO 2101, 2102) taken in the sophomore year and 12 credits chosen from the courses listed below, with course numbers 3000 and above.

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 MAT 1330 and MAT 1335 (Quantitative Analysis for Business) 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; DIT 2010; and 15 elective Economics credits.

MINOR: In order to earn a minor in Economics, students must take MAT 1330 (Quantitative Business Analysis) and complete a total of 18 credits consisting of ECO 1001, 1002, 2101, 2102, and 6 economics elective credits chosen from courses listed below, with course numbers 3000 and above.

FINANCE

Chair and Associate Professor: DeMaskey

Professors: Nawrocki

Associate Professors: Clarke, Cochran, Dellva, Heck, LeClair, McWilliams, Olson

Assistant Professors: Howton, Howton, Matthews, Pagano, Shaffer

Instructor: Heck

OFFICE: 2019 Bartley Hall, tel. 610-519-7395

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 interested 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 and Independent Study.

MAJOR: FIN1113 plus 15 credits including FIN 2227, 2323, and 2114 and 6 credits from other department course offerings except FIN 3350 and 3360.

MINOR: FIN 1113 plus 9 credits from other Finance course offerings except FIN 3350 and 3360

MANAGEMENT

Chair and Professor: Stumpf

Professors: Pearce

Associate Professors: Burke, Tymon

Assistant Professors: Arvanites, P. Chaudhry, Fitzpatrick, Klingler, Rongione

Instructor: Gull

OFFICE: 3006 Bartley Hall, tel. 610-519-6924

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. All Management Majors must complete specific courses in the areas of: Organizational Behavior, International Business, Systems Analysis and Design and two Elective courses from such fields as: Operations Research, Management Practice, Small Business Management, Human Resource Management, and International Comparative Management.

MGT MAJOR: MGT 2155, MGT 2410, DIT 2165, and two (2) MGT Electives.

MARKETING

Chair and Associate Professor: Bonner

Professors: Sanchez, Taylor

Associate Professors: Kuhn, Rainone, Schmitt, Walsh

Assistant Professors: Bang, Cerino, DiLullo, Ellinger, Fontenot, O'Neill

Instructor: Mullen

OFFICE: 3015 Bartley Hall, tel. 610-519-4350

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. All marketing majors must complete specific courses in the areas of marketing research and marketing management, along with electives from such fields as advertising management, buyer behavior, business-to-business marketing, international marketing, marketing of services, retailing management, and sales management.

MAJOR: MKT 1137, 2197, 2375 and 3 Marketing electives.

MINOR: MKT 1137 plus three (3) other MKT courses, one of which must be either MKT 2120 or 2197. Graduates of the Summer Business Institute may also minor in Marketing, with the same requirements.

COLLEGE OF NURSING

M. Louise Fitzpatrick, Ed.D., Dean

Rose M. O'Driscoll, M.S.N., Assistant Dean

Andrea O. Hollingsworth, Ph.D., Director of Undergraduate Program

Office: St. Mary's Hall, first floor, tel. 610/519-4900

"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 MSN 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 received preliminary accreditation from 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.

College of Nursing

Contact Information:

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/nurbd/mainpage.htm>
nursing@pados.dos.state.pa.us

National League for Nursing
Accreditation Commission
61 Broadway
New York, NY 10006
Phone: (212) 363-5555 x153
Fax: (212) 812-0390
<http://www.nlnac.org/index.html>

Commission on Collegiate Nursing
Education
One Dupont Circle, NW, Suite 530
Washington, DC 20036
Phone: (202) 463-6930
Fax: (202) 785-8320
<http://www.aacn.nche.edu/Accreditation/index.htm>

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
<http://www.aana.com/>

American Nurses Credentialing Center
600 Maryland Avenue, SW
Suite 100 West
Washington, DC 20024-2571
202/651-7000
1-800-284-CERT (2378)
<http://www.nursingworld.org/ancc/>

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.

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 late 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 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

Part-Time Studies

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 late decision to study nursing, and mature adults who are studying for their first college degree.

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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
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Villanova University

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.
- 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 senior students are required to participate in a battery of tests to assess nursing knowledge prior to graduation. The cost is assumed by the students.
- 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:

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 2.5 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. 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 including high school, 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 by examination is available through the College of Arts and Sciences for non-nursing courses. See the section on Registered Nurses, below.

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 STANDING AND PROBATION

Standing

For progress toward the Bachelor's degree, students must earn a grade of C or better in all nursing courses. The following regulations are applicable:

- 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.

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

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 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.

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.

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 Undergraduate Program Director or Assistant Dean 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 before submitting a request to the Dean of the Graduate School (see Undergraduate Regulations for course numbering).

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 Manchester College, Manchester, England, and with King's College, London; King's is a constituent college of the University of London. Students in these programs 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.

Part-Time Studies

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 soon 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)

After the Friday following mid-term break, students seeking withdrawals from courses without penalty (AWX®) 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."

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 baby, child, and adult with one man and two-man rescue procedures.
- Current Pennsylvania R.N. License.
- Current Malpractice Insurance Certificate.

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 AC® 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.

VALIDATION EXAMS IN NURSING

Four of the five tests are owned and administered by the Regents 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 the College of Nursing Receptionist in St. Mary's Hall (Tel. 610/519-4900) or from Regents College (Tel. 518/464-8631; Address: 7 Columbia Circle, Albany, NY 12203-5159, www.regents.edu).

The four required Regents exams are:

- Professional Strategies in Nursing (#426)
- Maternal-Child Nursing, Baccalaureate (#457)
- Adult Nursing (#554)
- Health Restoration, Area II (#477)

The passing score for each of these exams is a standard score of 45. Each exam may be repeated once, if necessary. All four Regents 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 3000/3005), 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.

COURSE/CREDIT REQUIREMENTS (136 credits)

Physical Sciences/Math	(25 crs)	Nursing	(71 crs)
Anatomy & Physiology	(6-8 crs)	Regents Exams and/or	
Oganic/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)

Part-Time Studies

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)
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
Fox Chase Cancer Center, Philadelphia, PA
Belmont Center for Comprehensive Treatment, Philadelphia, PA
The Bryn Mawr Hospital, Bryn Mawr, PA
Children's Hospital of Philadelphia, Philadelphia, PA
Crozer-Chester Medical Center, Chester, PA
Delaware County Memorial Hospital, Drexel Hill, PA
Graduate Hospital, Philadelphia, PA
Holy Redeemer Nazareth Visiting Nurse Agency, Philadelphia, PA
Hospital of the University of Pennsylvania, Philadelphia, PA
Jefferson Home Health, Bryn Mawr, Pa
Lankenau Hospital, Philadelphia, PA
Learning Resource Center, College of Nursing
Little Flower Manor, Darby, PA
Main Line Rehabilitation and Nursing Center, Paoli, PA
Medical College of Pennsylvania, Philadelphia, PA
Mercy Fitzgerald Hospital, Darby, PA
Mercy Hospital of Philadelphia, PA
Montgomery Hospital, Norristown, PA
Pennsylvania Hospital, Philadelphia, 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
Saunders House, Wynnewood, PA
Thomas Jefferson University Hospital, Philadelphia, PA

Veterans Administration Medical Center, Philadelphia, PA
Visiting Nurse Association, Philadelphia, PA

Selected school systems, day-care centers, community health centers, senior citizen centers, and industries are also used.

HEALTH AND WELLNESS CONCENTRATION

The Health and Wellness Minor 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 minor 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 minor 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., Assistant Director

HISTORY AND OBJECTIVES

For more than 80 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. Each semester begins with an orientation for all new students to acquaint them with the general regulations and services of the Part-time Studies division and the University. 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 complete a baccalaureate program in five to six years. With permission of the Director or academic adviser, 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 part-time engineering program is accredited by the Accreditation Board for Engineering and Technology, the business programs by the American Assembly of Collegiate Schools of Business, and the computer science program by the Computer Science Accreditation Commission of the Computing Sciences Accreditation Board.

ADMISSION

Application forms for admission to part-time undergraduate study may 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 age 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

Villanova University 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, Information Science, Education (Secondary Education, Teacher Certification), English, Mechanical Engineering, General Arts, History, and Human Services. Note that the part-time engineering program is administered through the College of Engineering.

In addition to the Bachelor's degree, the following programs are available: Associate of Arts, Accountancy Certificate, Business Administration Certificate, Criminal Justice Certificate, Private Security 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 of 40 courses and 2 labs (varies according to major).
- ❑ A minimum of 122 credits (varies according to major).
- ❑ 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 core requirements 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 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 60 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.

<i>Subject</i>	<i>Credits</i>
ENG 1050, Advanced Literature ¹	6
Foreign Language 1121, 1122	6
HIS 1050, Advanced History ¹	6
MAT 1210, 1220, 1230, 1235; or CSC 1010, 1020, 1030, 1040	6
PHI 1050, Advanced Philosophy ¹	6
THL 1050, Advanced Theology ¹	6
ETH 2050	3
Humanities Elective ²	3
Social Science Electives ³	6
Free Electives	12

¹Advanced courses in these subjects must be numbered 2000 and above.

²Humanities Electives: Art History, Classical Studies, Communication, English, History, Modern Languages, Philosophy, Theology and Religious Studies, Theatre.

³Social Science Electives: Economics, Geography, Political Science, Psychology, Sociology.

Part-Time Studies

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>
ACC 1001	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	MGT 2006	3
Social Science ¹	3	DIT 2010	3
CA 1101	3	HISTORY ²	3
ENG 1050	3	THL 1050	3
ETH 2050	3	Free Elective	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
MGT 1141	3	Non-business Electives	6
MKT 1137	3		
ECO 3109	3		

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

SENIOR YEAR

Humanities ⁴	3	THL Elective	3
Major courses	9	Social/Natural Science ⁵	3
MGT 3301	3	Free Electives	6
		Eco 4101	3

⁴Humanities: choose from Art History, Classical Studies, English, Modern Languages, Philosophy or Theatre.

⁵Social/Natural Science: choose from Geography, Political Science, Psychology, Sociology, or the Natural Sciences.

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, and 2320 are mandatory. In addition, students must successfully complete four (4) of the following: ACC 1001, 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 (6 credits) will be allowed in transfer. No other course substitutions will be allowed.

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 1001, 1101; ECO 1001 or 1002; MGT 1102;

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

ACC 1102, 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

Criminal Justice Certificate

Details on the Certificate in Criminal Justice are available in the College of Liberal Arts and Sciences and the Criminal Justice sections of this *Catalog*.

Private Security Certificate.

Details on the Certificate in Private Security are available in the College of Liberal Arts and Sciences and the Private Security sections of this *Catalog*.

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 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 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. 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 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 high 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 his average has fallen below 2.0. If a student is placed on probation his course load may be restricted, and he 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.

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 equivalent to the 65th percentile 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. Terry Nance
Computer Science	Dr. Daniel Hardt/Dr. Lillian Cassel
Criminal Justice	Dr. Stanley Jacobs
Education, Teacher Certification	Dr. Henry Nichols
English, General Arts, History	Mr. James Johnson/Ms. Suzanne Allen
Human Services	Dr. Ken Davis
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 adviser who may be contacted for assistance in making those decisions that affect academic goals. The student should consult with an adviser at least once a semester to insure proper course selection and advancement in his program. *Note: Although advisers 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 adviser. 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.

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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 and 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 Novasis. The Registrar's Office then will send a revised copy of the schedule. If the information is not accurate, the student should contact the PTS office for assistance. *NOTE:* In order not to be charged for a class, it must be dropped officially from the schedule *before* the start date of classes listed in the Academic Calendar.

FINANCIAL PLANNING

Villanova offers several easy-payment options to our students as well as payment by Discover, Visa or MasterCard. Students may also elect to use the deferred payment plan, for a small fee, whereby they pay one-third of the total tuition at registration and the other two-thirds at two different times after the start 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.

A list of scholarships, local and national, for adult part-time students is available in the PTS office.

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. *This is an extremely important procedure.* The student's adviser 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 (St. Clare House, 824 Lancaster Avenue). Further information is available from the University Parking Office (610/519-6990).

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 he or she select courses in accordance with the requirements of his or her program and in consultation with his or her academic adviser.

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 or contact the Part-Time Studies office.

STUDENT PROGRAMS

During the course of both the fall and spring semesters, Part-Time Studies offers programs 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. 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 *Nite Line*, 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 AAdmissions® 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 Assistant 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 Office.

WITHDRAWAL FROM A COURSE

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

Students are required to notify the Part-Time Studies office promptly, either in writing or by completing the appropriate form in the Part-Time Studies office. A phone call to the PTS office is not acceptable. If the student withdraws in person, the date on the form will be considered the

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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.

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